

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town.

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Abstract

Acceptable mobility and the levels of access to off-peak public transportation is a challenge in any society, especially in South Africa. This thesis argues that '*just*' transportation should provide people with the means to life enhancing opportunities regardless of the time of day.

As qualitative research techniques in transport are particularly useful in understanding existing travel behaviour, this study presents a multi-layered qualitative analysis of township-dweller's mobility for discretionary activity participation during off-peak hours in Cape Town. An empirical study is conducted using a case study of the so-called "*amaphela-operated*" Cape Flats neighbourhoods of Nyanga, Gugulethu, Philippi, Heideveld, iKwezi Park ("*Kwezi*") and Khayelitsha in Cape Town. A qualitative analysis of ($n=15$) in-depth interviews and ($n=15$) travel log diaries exhibit the extent and the relationship between mobility, accessibility and transport-related social exclusion in this context.

The thesis proposes a '*just*' analytical framework that is deployed as a lens for analysing and interpreting the data. The findings of the study reveal that trip-making for discretionary activity participation among a vulnerable group is limited not necessarily by choice, but by income constraints, spatial disadvantage, a sense of not belonging to historically Whites-only areas of Cape Town and the aggravation of insufficient frequency of preferred public transportation modes during the evening time. This thesis advocates for the analytical framework's usefulness as a benchmark for the reparation goals set for developmental progress in post-apartheid South Africa.

This study contributes new knowledge by providing detailed empirical insights from the case study of the *amaphela*-operated township area within the Cape Flats. In this thesis, a conceptual framework was developed to understand the current impact of immobility for discretionary trip-making – among paratransit-dependent township-dwellers in Cape Town. In this thesis, theory is recontextualised by combining already well-established concepts and ideas with the outcomes from data gathered from this township setting. This is valuable in providing a conceptual framework for the problem in a peri-urban setting. In this thesis, the conceptual framework contributes to knowledge by broadening our understanding of the vulnerabilities associated with mobility issues and how these issues can exacerbate social exclusion, particularly for township-dwellers. From a methodological perspective, this thesis contributes to a qualitative space-time methodological approach to examine the mobility challenges for peripheralized individuals. Furthermore, this thesis contributes to knowledge by integrating a number of literature domains into one structure, namely the group of literature dealing with Inter-Township and Intra-Township Mobilities, Transport-Related Social Exclusion,

Transportation Poverty, Transportation Accessibility and Behavioural Geography in a Southern African context.

The significance of these findings is that we have a direction - an empirical study - for policy makers and transport planners on how to improve the conditions of people living in the urban periphery. As the conducted research can make a valuable contribution to best practice and to a limited extent to theory, the recommendations of this study call for township-based mobility and township-level transport institutions and systems to become more visible in the context of mainstream transport governance and policy frameworks – at national and municipal levels. Recommendations are also made for targeted public transportation services to improve intra-township travel especially during off-peak hours.

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Glossary of Acronyms

ANC – African National Congress

BRT – Bus Rapid Transit

CBD – Central Business District

CCID – City Central Improvement District

CMA – Cape Metropolitan Area

CoCT – City of Cape Town

DAC – (National) Department of Arts and Culture

DoT – (National) Department of Transport

GABS – Golden Arrow Bus Service

GHG – Green House Gas (Emissions)

MaaS – Mobility As A Service

MBT – Minibus Taxi or Mini-bus Taxi (referred to as paratransit)

NDP – National Development Plan

NHTS – National Household Travel Survey

NMT – Non-Motorised Transportation

NY – Native Yard (of apartheid street naming in the township of Gugulethu, Cape Town)

P1 (to P15) – Participant 1 (to Participant 15)

PRASA – Passenger Rail Agency of South Africa

PT – Public Transport or Public Transportation

PTI – Public Transport Interchange

RDP – Redistribution and Development Programme

RSA – Republic of South Africa

SANTACO – South African National Taxi Council

SDG's – Sustainable Development Goals

Stats SA – Statistics South Africa

WC – Western Cape

Statement of original authorship / Declaration

I declare that the thesis for the degree of Doctor of Philosophy at the University of Cape Town, hereby submitted, has not been previously submitted for a degree at this or any other university, that it is my own work in design and execution, and that all the materials contained herein have been duly acknowledged.

Signed:

(Ayanda Candice Fischer)

Dated

(Rondebosch, Cape Town)

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Chapter One: Setting The Research Agenda

This thesis aims to unpack the challenges of mobility and accessibility for marginalised people who wish to participate in discretionary activities (off-peak public transport times) in Cape Town. The theoretical underpinnings that are central to this thesis are concepts from behavioural geography. Behavioural geography is a sub-discipline of human geography that aims to understand human geographical behaviour. This sub-discipline deploys the methods and assumptions of socio-spatial behaviourism to highlight the cognitive processes involved in an individual's insight into their engagement with their environment (Argent and Walmsley, 2009).

This thesis adopts concepts from behavioural geography to paint a picture of the nuances underlying mobility in townships and to articulate the current state of township residents' participation in evening discretionary activities. In this introductory chapter, the reader is familiarised with the development of this study in order to convince them that this particular case of mobility and social exclusion discussed here is significant. Overall, this chapter defines the original contribution of this thesis to knowledge.

1.1 Background to the Research

The reasons why people undertake a journey are the result of many different aspects, such as distance to opportunities, location or even the personality type of the individual (Martens, 2016). The opportunity to take a trip has not been definitively explored in the literature in terms of the individual's willingness to take a trip (choice) or in terms of the constraint on the opportunity to take a trip (constraint). Investigating leisure or discretionary travel could be one way to get a clearer idea of which of these outcomes lead to more or less travel - and therefore participation.

Consequently, this study explores immobility and social exclusion in the townships by examining township residents' access to public transport to participate in discretionary activities. The study began with the researcher being located in one of South Africa's most beautiful cities, with a rich cultural scene and many tourist attractions. Cape Town, located on the slopes of the Southwestern Cape of Africa, is a growing tourist destination despite topping the list of the world's most unequal cities (Pollio, 2019).

Situating the township-dweller in Cape Town

The city that never sleeps. A phrase you hear again and again when it comes to the city coming to life after dark. When the office buildings in the Central Business District (CBD) empty out and employees can take a break from the day's work, the pubs fill up and the waterfront promenades are once again

populated by pedestrians – runners enjoying the sea breeze. At night, the city transforms into its own personality. If it is the first Thursday¹ evening of a new month, and one is based in Cape Town – one is likely huddled around a clay sculpture in a tiny art gallery in the city, along with hundreds of other locals.

The City of Cape Town (CoCT) is committed to enhancing and enriching public life in the city (Department of Arts and Culture, [DAC], 2013). With this in mind, the City encourages the consumption of culture and offers a variety of free, publicly accessible, socio-cultural experiences and events that take place in the city centre after working hours throughout the year. Some of these events are organised privately but are also open to the public, while others are organised by the city itself. Among “events” include, for example, the “Moonlight Mass Night Cycle”, the Festival of Lights on Adderley Street”, the Cape Town Carnival”, the Full Moon Walk to Lions Head and “First Thursday in Cape Town. However, for various reasons, the city is not able to fulfil all its needs in terms of hosting events. These reasons include the need to prioritise local government spending on region-specific projects that maximise benefits to the public purse, as well as events in the city that enhance the region's reputation in the world in terms of tourism appeal (Booyesen, 2024). Furthermore, cities in South Africa are complex political and social places with nuances that require policy makers to take into account diverse local needs (Robinson, 2008).

This thesis started with a question (see thesis title). From this, further questions arose for the researcher in relation to whether the observations made at a free, relatively safe, public socio-cultural event in the evening hours in the city of Cape Town were indeed a real phenomenon:

- *Why were some races of people represented more prominently than others at First Thursdays?*
- *How did attendees travel to the events that day, and could people from the outskirts travel as they had done?*
- *Are people interested in engaging in leisure and recreation after work hours?*
- *If they are interested, do they experience any hinderances to participate?*
- *And if they are interested, what else are they doing in that time (where are they going? With whom? And with which mode of transportation do they get there?)*

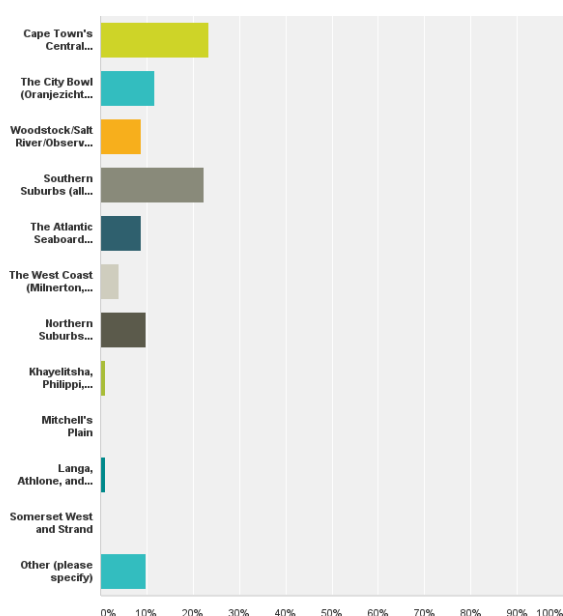
¹ Every first Thursday of the month, Cape Town hosts an open, public and free cultural initiative centred on art galleries and unique retailers in the CBD. On First Thursdays, participating pubs and bars extend their opening hours during this free, public event, which takes place on the first Thursday evening of every new month. The aim is to boost trade for local art galleries, restaurants and pubs around the core of the trendy city centre- (the city in South Africa where the event began). The evening activities are designed to encourage people to explore the city on foot rather than by car and to consume local art and craft offerings – promoting sustainability (First Thursdays South Africa [Thursdays Project], undated).

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Cape Town's famous local event First Thursdays granted a glimpse into the complex social fabric of Cape Town. The results of a First Thursday's survey conducted for a First Thursday's event in November with one hundred and four respondents (Cape Town Central City Improvement District [CCID], 2014) revealed that fifty percent of First Thursdays attendees self-reported to be between the ages of 18 and 24. Fifty-three percent of participants said that they came to First Thursdays by car and forty per cent reported living in the southern suburbs and on the Cape Town Peninsula. Seventy-three per cent said that they enjoyed walking and the atmosphere of the events.

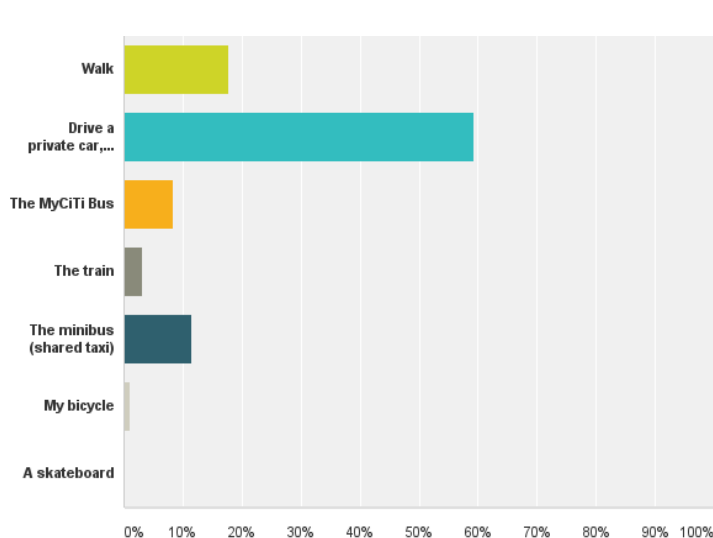
Where do you live?

Table 1: First Thursdays Survey (CCID, 2014)



How will you get home?

Table 2: First Thursdays Survey (CCID, 2014)



What seems to be necessary for social participation (in this case, including participation in evening leisure or recreational activities) is the ability to get there – mobility of some form (Lucas, 2011).

For various reasons, it did not seem to be so easy for everyone to leave work or school and engage in a leisure or social activity in the city. This study therefore asks why there are significantly fewer participants from the townships at this socio-cultural, public and free evening event in the city of Cape Town.

Which are the peripheralized communities of concern?

In South Africa, people belonging to the urban poor tend to be located on the periphery of cities due to the legacy of apartheid, which affects the spatial layout of cities and the relative availability and affordability of housing in the outer suburbs. As a result, mobility and access to transport are critical to their inclusion (Lucas, 2011; Nelson, 2021). With time playing such a central role in a person's ability

to engage socially – for people living so far from opportunity - the challenge of spatial limitation becomes, quite abruptly, an issue of equity in access to public transport after 'core working hours' (Lucas, 2011; Martens, 2016). It is said that acceptable access to public transport during the marginal hours of the day is a challenge in any society (Bocarejo and Oviedo, 2012). This should be a concern for society as a whole, as transport during off-peak times of the day can provide options for better access to opportunities and services and promote inclusive urban development.

In Cape Town the peripheralized communities house a majority of the urban-poor and Black population, found in Langa, Gugulethu, and Khayelitsha. These townships are three of the Black townships located on the Cape Flats, a flat and barren area that is very different from the mountain, vineyard, beach, garden and resort areas that Cape Town is known for. In terms of the Cape Town City Centre, Langa is about thirteen kilometres (eight miles) away, while Gugulethu is about eighteen kilometres (eleven miles) away and Khayelitsha is the furthest at thirty kilometres (eighteen and a half miles) (Greene, 2023).

Nature of transportation in South Africa

Behrens et al., (2015) emphasise that public transport in developing countries is tailored to the needs of the population to a far greater extent than in northern industrialised countries. This is because the high cost of owning a car, combined with the low income of the urban poor in developing countries, means that dependence on public transport is consistently high, even though lower incomes also keep fares relatively low.

Transportation tends to intersect with other aspects of poverty as well – these intersections are particularly deep in the post-apartheid² context (Thomas, 2016). Lucas (2011) claims that the low-income travellers make up the majority of South Africa's urban population. This assertion is also in line with the 2020 National Household Travel Survey (NHTS). According to the NHTS, the percentage of trips taken by household members on a given selected travel day shows that 73,1% of South Africans take a trip on a typical travel day (National Household Travel Survey, [NHTS], Statistics South Africa, [Stats SA] (2020:16). In terms of mode of transport, 17.4 million South Africans walk all the way to their destination, while 10.7 million use a taxi and 6.2 million rely on a car or lorry as a driver to reach their destination (Stats SA, 2020: 1). Of course, these services need to be affordable. Public transport in South Africa relies on operating subsidies to reduce fares and make travelling affordable (Venter,

² Apartheid was a system of racial classification and segregation in South Africa that was enforced by law from 1948 to 1990. It privileged Whites while marginalizing Blacks² with Asian Indians and "so-called coloureds" forming intermediate groups with varying degrees of privilege and marginalization. (Greene, 2023: pp. 67).

2011). In cities where the greatest opportunities are in the city centre, affordability of transport is important for the lower working class and marginalised communities on the periphery of South African cities. This is especially the case because affordable transport is directly related to their access to employment opportunities, essential services and social amenities, which in turn affects their economic wellbeing and overall quality of life. The most heavily subsidised modes of public transport in South Africa include buses and trains, which research has shown to be particularly beneficial to low-income travellers (Venter, 2011). The transport environment in South Africa consists of regulated (municipal public transport systems) and less regulated (informal paratransit³) providers that meet the public transport needs of the masses (Behrens et al., 2015). The main challenges in making public transport more effective are to find solutions for the balance between peak and base traffic and the average demand during off-peak hours (Nielsen, 2005).

What is available to poor people?

Beukes et al., (2011) also claim that the choice of mode of transport depends mainly on income, with low-income people in South Africa relying primarily on public transport and non-motorised transport, while people with higher incomes use private motorised transport. The choice of transport mode in South Africa is largely influenced by travel costs, travel time and the flexibility of households in their choice of transport mode (Stats SA 2020: 5). The main modes of transport (including non-motorised transport) in South Africa include: 1. train 2. bus 3. taxi 4. car driver 5. car passenger and 6. 'walking all the way' (walking from one point to another without using another mode of transport) (Statistics South Africa, (Stats SA): xiii). Stats SA (2015: 18) confirms that more than three quarters of South African households state that their main mode of transport is public transport. Those who used public transport as their main mode of transport mainly used taxis (51.0%), followed by buses (18.1%) and trains (7.6%). While most households from all income quintiles reported using public transport as their main mode of transport, households from the highest income quintile were more likely to rely on private transport, especially as a driver or passenger in a car. Furthermore, employees in households in the lowest income quintile stated that they either walked (48.9%), took a taxi (25.5%) or took the bus (6.9%) all the way to work. Unsurprisingly, households in the highest income quintile reported using a car to get to work (Stats SA, 2015). In 2020, according to the NHTS, the modal split across the country is 11.4 million households using a taxi, 2.1 million households using the bus and 0.5 million households using the train (Stats SA, 2020: 4).

³ Paratransit is "a diverse collection of unscheduled midi- and minibuses known locally as minibus-taxis" (Schalekamp & Behrens, 2013: pp. 185).

What about access to public transportation from the townships is so challenging?

In the past, the South African social engineering agenda aimed to prevent township residents from moving easily within the city, making it more difficult to get out of a township and into the city. An example of this programme is the suburban railway line, which generally runs along the outer boundaries of townships and was mainly used to connect these townships to the city centre of Cape Town (Rink, 2020).

Nelson (2021) explains the implications of this phenomenon in a study examining the relationship between the socio-spatial characteristics of the neighbourhood and the positioning of bus stops within the postal configuration of the city of Cape Town. One of the key findings is that the railway is too far away for people living in neighbourhoods previously designated for black and so-called Cape coloured people in this city. The analysis of the catchment areas of the railway stations has shown that the neighbourhoods in the formerly white affluent areas closer to the city have a relatively complete and well-connected catchment area, while the network in the formerly disadvantaged townships is disjointed and fragmented. Furthermore, the railway lines within the townships had a weak relationship with each other (township to township), but a stronger relationship with neighbourhoods previously reserved for whites. The study emphasises that there are an insufficient number of railway stations in formerly disadvantaged communities and that the stations are poorly positioned, as Rink (2020) found.

Even today, Cape Town's economic wealth is still distributed by race and geographic location, with poorer and denser neighbourhoods located further away spatially (and economically) from the CBD (Nelson, 2021). Figure 1 and Figure 2 below show the intention to strategically place Blacks and so-called Cape Coloureds furthest away from the opportunity-rich city centre (see Figure 1). Figure 2 shows where the boundaries of good opportunities lie in the city, while the low-opportunity, sandy Cape Flats area is demarcated (Turok et al., 2021).

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

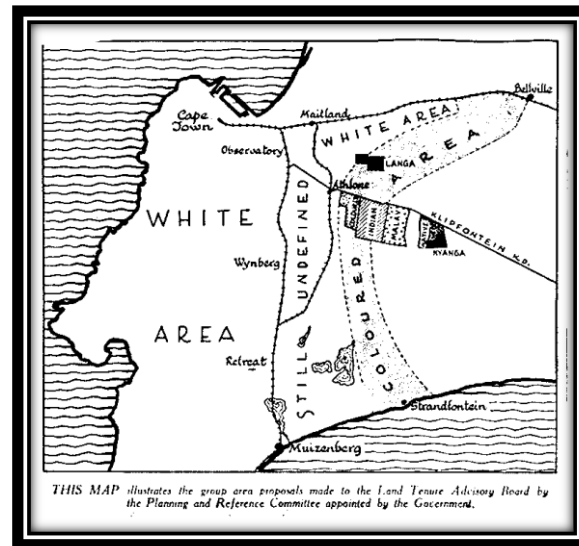


Figure 1: Proposed Group Areas, Publisher - University of Cape Town Libraries, 1950

In Figure 1, a map of Cape Town displays the possible group areas proposed for Whites, so-called Cape Coloured, Indian, Malay, and natives (UCT Libraries, 1950).

In Figure 2, a map of Cape Town shows the state of prosperity and hardship in the city based on economic and racial realities.

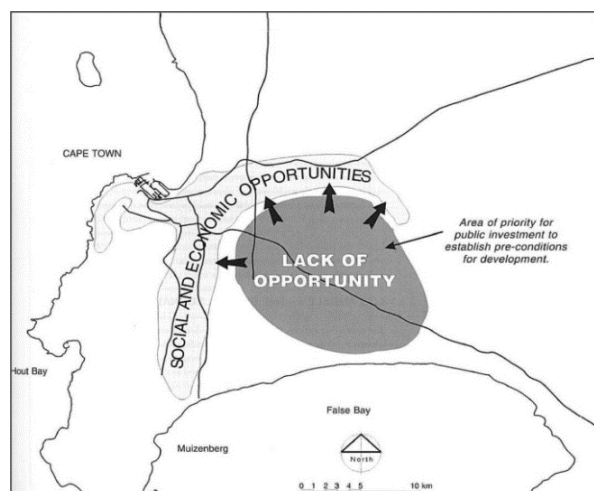


Figure 2: Black Communities Locked Out of Job-Rich Communities, presented in 1993 (David Daniels conference presentation, April 1993, in Turok et al., 2021)

Public transport times into township areas after 8pm

It is difficult to access public transport in Cape Town outside rush hours, especially for people who live far from the city centre (Clark & Crous, 2002). Public transport journey times are important for this study because it is important to understand whether people are able to make a journey throughout the day, even at off-peak times.

Available timetables show that public transport (such as MyCiTi Bus Rapid Transit (BRT) and Golden Arrow Bus Service, [GABS]) from the city centre and northern suburbs is rarely available after 9pm. The MyCiTi bus, for example, is the City of Cape Town's Bus Rapid Transit service, which is part of a larger strategy for integrated public transport in the region (MyCiTi, 2018). For example, the last MyCiTi bus Khayelitsha township of Khayelitsha for the Civic Centre (CBD) at 21h00 on a Sunday and the last MyCiTi bus leaves Khayelitsha for the Civic Centre at 21h15 between Monday and Friday (MyCiTi, 2018).

Similarly, the northern route of Golden Arrow Bus Services - a subsidised service providing scheduled services in the Cape Metropolitan Area (GABS, 2018) - terminates at 9.15pm from Tygervalley to Village 3 (Cape Flats) and arrives at 11.40pm. Outlying areas appear to have better or longer bus connections with each other. Peripheral areas are areas characterised by public transport and significantly longer journey times than inner city areas (Delbosch & Currie, 2011). A journey from Epping Terminus with departure at 22:15 towards Makhaza (Khayelitsha) and arrival at 23:15 is possible from Monday to Friday (GABS, 2018).

Trains are no different, the last Metro Rail train – a government-subsidised passenger and commuter train (Venter, 2014) - leaving the station at 20h18 from the CBD to Kapteinsklop (Cape Flats area), while the last Metro Rail train from Khayelitsha (Cape Flats area) to the CBD leaves at 19h08 (Capetowntrains, 2018). These timetables discussed are only relevant when the trains are actually running - train timetables have become inconsistent.

Mini-bus taxis – which are considered an informal and unscheduled service, despite being the largest shared mode of transport in South Africa (WherIsMyTransport, 2018) - have seen an increasing market share of public transport journeys to work. In metropolitan areas, the market share of minibus taxis for work trips increased by 47 per cent between 1996 and 2003 (Lombard et al., 2007). However, the number of minibus taxis also appears to decrease after ., while the taxis that still operate tend to charge higher fares for journeys after 7pm on weekday evenings.

With this initial information, this thesis has provided a background for this study. This section has introduced the problem of leisure mobility and other life-enhancing (discretionary) options after rush hour for urban dwellers who rely mainly on public transport.

In the following eight chapters, the significant contribution of this thesis to knowledge is presented. Therefore, this study begins with the presentation of the problem statement.

1.2 Problem Statement

This study aims to understand and explain the causes of the phenomenon of immobility in cities - especially when it comes to participation in discretionary activities after rush hour.

This study takes place in one of the 3 largest cities in South Africa – a country recognised as one of the most unequal societies in the world (Bhorat, 2015; Martins, 2006). South Africa has attempted to overcome many of the challenges of apartheid and its colonial past, but the three main challenges to development remain: Poverty, unemployment and inequality (Davids et al., 2009; RSA, 2011). In particular, racial and spatial inequalities in Cape Town are well known and have been mapped (Stats SA, 2011).

Who is most affected by the problem?

The people most affected by this problem are township residents who need mobility to participate in activities after rush hour. The context in which this study is conducted deals with the urban poor, an unequal society, a focus on people who have difficulty reaching essential services and activities, and a focus on people who have difficulty reaching public transport at certain times of the day. According to Muzindutsi and Sekhu (2014:53), factors that influence the well-being of South African township residents include:

“household size, the number of household members employed, the age, educational attainment and employment status of the head of household significantly influence the reported wellbeing status”.

The urban poor in South Africa are significantly affected by transport-related social exclusion due to inaccessibility (they are particularly disadvantaged in terms of utility and spatial bias) (Pirie, 2013). Anecdotally, there still appears to be a community in Cape Town that is excluded from participating in social activities in the city centre, particularly at night (see Table 1 and Table 2), which is most likely related to the socio-economic disparities in the city. These social inequalities can result in people having limited access to the transport network at certain times of the day. Accessibility to the transport network and human wellbeing are underpinned by the goods and services that are essential for a good life and economic and social growth (The Social Exclusion Unit [SEU], 2003). So when people are excluded, they are deprived of their needs to grow economically and socially.

Relevance of this study

Travel behaviour is a complex phenomenon (Heggie & Jones, 1978). In South Africa, the highly geographical nature of transport poses an additional challenge. In many South African cities, the majority of poor urban dwellers do not have easy access to work, education, healthcare, social support

and even visits to family members (Lucas, 2012; Pirie, 2013). According to Hine and Grieco (2003), one of the common approaches to mitigate transport-related distortions such as social exclusion is to improve an area's access to public transport. This study aims to conceptualise participation in discretionary activities in some township areas of Cape Town and to provide empirical information on the mobility challenges faced by township residents when participating in a range of off-peak discretionary activities in a township environment in Cape Town.

The relevance of this study on mobility for discretionary activity participation matters because:

- People need access;
- People need to reach life enhancing opportunities;
- Notwithstanding evening-based leisure activities;
- Because people should be able to access transportation at any point in the day, and;
- This ideal is fair, and just

Aims of the study

This study aimed to cover a few aspects in order to comprehensibly describe the phenomenon. It aimed to understand human experiences inductively and holistically in a context of the amaphela-⁴operated area of the Cape Flats townships, in Cape Town. The aims were also to understand and explain the mobility realities of public transportation-dependent people., to interpret phenomena in terms of the meanings people bring to phenomena in their natural settings, and to secure rich descriptions about the nature of mobility in the *amaphela*-operated area.

The problem is that it is difficult to measure latent demand (*how could one measure unrealised activities?*) and to identify the origin of mobility-related challenges (such as the dichotomy of constraint and choice – see Salon and Gulyani (2010) on mobility constraints in Kenyan slums) to participation in activities for township residents. Therefore, approaches to studying this phenomenon need to be in-depth. For example, it is possible to determine when a person undertakes a journey through surveys, but qualitative data provides additional insight into why a journey is or is not undertaken. The use of qualitative research techniques in the transport sector is therefore particularly useful when it comes to understanding existing behaviour.

Contributing to the existing body of research

The scope of this study is centred on the themes of immobility and social exclusion. In addition, there are overlaps with township-based mobilities; transport-related social exclusion; transportation

⁴ Chapter three of this thesis introduces "*the amaphela-operated area*" (a term coined by Rink, 2022) in greater detail). For this study, this area represents the study site where data was collected in 6 neighbourhoods mostly serviced by the *amaphela* shared mobility taxi who help to fill a *mobility void* in these townships.

poverty; transportation accessibility; and behavioural geography. This study will contribute to the existing body of research describing the state of township-dwelling people's potential and ability to travel for participating in discretionary activities. The case study of Cape Town's urban periphery area exhibits the extent of mobility issues faced by public transportation-dependent users.

This study posits that people should have the ability to access transportation that offers them the means to life enhancing opportunities, regardless of the time of day.

Therefore, this research focuses especially on mobility and accessibility in relation to the urban poor's access to transportation after work hours for discretionary, leisure and social activity participation.

One of the main contributions of this study is a conceptual framework for understanding off-peak public transportation accessibility in Cape Town's urban periphery context. This is done by:

- (1) Building an analytical tool which examines mobility challenges for township-dwellers of the *amaphela*-operated area.
- (2) Applying an interpretivist approach to time geography, where the focus is on narratives that reveal the lived experience tied to spatial and temporal (because the time of day for making a trip impacts people's potential to travel (Brand et al., 2019) and accessibility issues.
- (3) The study is interdisciplinary – with an explanation for why this particular research needs an interdisciplinary approach, and why the researcher is the one doing it.

1.3 Study Objectives

Against the backdrop of the problem of understanding mobility issues associated with township residents' participation in off-peak leisure and other life-enhancing activities in Cape Town, – this study is organised into five specific objectives:

- 1.3.1. To determine the nature of social exclusion in Cape Town's township areas.
- 1.3.2. To understand how public transportation-dependent people's potential to travel during off-peak times impacts their access to places for leisure and other life enhancing opportunities.
- 1.3.3. To analyse and visualise township-dweller's ability to travel by applying person-based accessibility measures.
- 1.3.4. To document township-dweller's travel behaviour and perceptions of out-of-peak travel ("latent demand" needs) for accessing life-enhancing opportunities
- 1.3.5. To conceptualize township-dwellers' potential to travel for accessing leisure and other life enhancing activities during off-peak time in Cape Town.

1.4 Research Questions

Furthermore, this study has established four specific research questions, to answer this principal research question:

How might mobility for discretionary activity participation for township dwellers be linked to transport-related social exclusion?

Specific questions:

- 1) What is transport-related social exclusion in the context of Cape Town's township areas?
- 2) How does the land-use transport system allow township-dwelling citizens to travel in their city and do different non-work-related activities in the city?
- 3) How can this study ascertain in-depth and detailed travel information from township-dwelling individuals regarding their experiences with accessing public transportation in Cape Town?
 - How to infer levels of transport-related social exclusion from qualitative data analysis?
 - Can a person-based accessibility analysis approach best reveal the extent of existing spatial-temporal accessibility challenges in Cape Town's township dwelling communities?
- 4) Could the patterns for trip-making for so-called "discretionary activities" among township-dwelling public transportation users be revealing decisions of choice, or, of constraint?

1.5 Significance of the Study

Importance of the research question

This study is necessary because there is a need to broaden understanding in mobility and accessibility research, especially with regard to people's lived experience. Human spatial behaviour is complex. The ultimate goal of transportation in a society is to make it easier for travellers to reach desired goods, services and activities. Achieving this goal requires a deeper understanding of the complexity of people's use of the transport network and of spatial behaviour and patterns.

Why this research matters

Cape Town – and South Africa as a whole – faces a very particular challenge when it comes to meeting transportation needs, especially for the poor (Khosa, 1997; Walters, 2001; Clark and Crous 2002; Lucas, 2011; Schalekamp and Behrens, 2013; Pirie, 2013; Venter, 2014). This research is important because it is important to know how the transport system works under the specific conditions. People are the ones who use transportation and the system must work for their lifestyles and take into account the different activities they indicate as important to them. It is important to talk to passengers to find out what they want. This thesis that 'transportation should offer people the opportunity to improve their lives, regardless of the time of day, and asks this question: *what could that look like today and what does a just framework look like in South Africa?*

Significance of the findings

This research adds to the literature for studies on trip-making within township environments and the associated challenges (from the perspective of commuters). Authorities could catalogue mobility needs by area or region of townships in Cape Town and plan accordingly if the delivery of transportation services is to be meaningfully improved.

This study will be furthermore significant as it will:

- Understanding the nature and extent of issues of mobility and accessibility in the context of townships in Cape Town;
- Making recommendations to affect policy decisions in land use – (public) transportation;
- Empowering township dwellers, by giving a voice to vulnerable groups in Cape Town society by speaking to people “on the ground”, and;
- Raising the profile of the issue of immobility and social exclusion.

How this research transforms theory

This thesis is dedicated to the theoretical areas of behavioural geography. It seeks to understand human spatial behaviour and the impact of immobility on township residents' participation in discretionary activities. The theoretical title of the thesis combines three main concepts, namely mobility, accessibility and social exclusion. These concepts fit well together and are well linked given the nuanced context in which this study takes place (as explained in the background section of this Chapter 1). This research is necessary and changes theory because transport policy and transportation have varying impacts on different social groups (Becker and Gerike, 2008). Building an analytical framework that recontextualises ideas of 'transportation justice' and combines temporal geography measures and redress aims, means developing a way to analyse mobility for participation in discretionary activities for people 'stuck' on the periphery of the city in a new way. This thesis develops its own framework because Martens (2016) writes from a perspective that looks at transport justice from the northern hemisphere. This study aims to re-contextualise - and build on - the author's ideas by modifying and borrowing from the philosophies of existing South African policy.

Furthermore, this thesis deploys an analytical approach from time geography to observe travel patterns and identify possible constraints to participation in discretionary activities on the edge of the township. It also considers the relationship between the concepts of mobility, accessibility and social exclusion in this context. The concepts are measured with a focus on the aspects listed below, which are explained in section 2.3.1 of this thesis, as follows:

- Spatial and temporal aspects of township-dwellers mobility
- Transportation disadvantage

- Mobility in a township context
- Discretionary activity participation
- Latent demand or unrealised activities

In order to look comprehensively at the issue of human spatial behaviour and to understand the impact of immobility on township residents' participation in discretionary activities, – this thesis proposes a research approach that combines detailed travel diary information of the study sample and an in-depth interview method. In-depth interviews provide an inductive approach to obtain descriptive information that enables interpretations about the phenomenon under study.

Explaining the generalizability of the research

For this study, the thesis relies on a data set sampled from Cape Town's urban periphery area. This study is limited in that findings cannot be generalised outside the study sites where the research was carried out.

1.6 Theoretical Overview

As this thesis begins the process of conceptualising this study, this section is intended in particular to help define the problem. This thesis outlines the theoretical designation for trip-making among township-dwellers, for participation in discretionary activities, after peak-time hours – from the Cape Flats area of Cape Town.

The theoretical designation of the thesis connects three main concepts – namely, mobility, accessibility, and social exclusion. These concepts best fit the study of “*man and environment*” (behavioural geography). These concepts are a good fit too as they are knitted together given the nuanced context in which this study takes place.

This thesis explores the causes for peripheralized people's immobility, as well as their participation in discretionary activities after peak times in Cape Town. Causes for non-participation or for unrealised activity participation therefore may help explain the phenomenon of township-based immobility and social exclusion – particularly where evening-based discretionary activities are concerned. For instance, exclusion linked to transportation isolates individuals, as emphasised by Schwanen et al., (2015: 125), extending its impact to further marginalise users in various aspects such as social life - encompassing social ties and activities - as well as cultural life - including public debate, arts, and media - further exacerbating the disadvantage. Therefore, applying suitable measures and approaches for studying issues that consider spatial as well as temporal constraints to people's mobility for taking part in necessary or desired activities – especially at night-time – is ideal.

The thesis identifies a form of analysis then, that is the best approach to be applied for observing: (i) trip-making patterns, (ii) as well as observing possible constraints for, (iii) participation in discretionary activities, (iv) from the township fringes. In this research, such an analysis dually permitted observation of the interconnectedness of the three main concepts in an empirical setting that will be discussed in detail later.

In this section, then, the thesis unpacks the meanings for each concept and explains how they are represented in the world. Consequently, the thesis situates the study in the literature by introducing the main theoretical concepts and linking them to the given research questions of this study.

This is described in the section to follow.

Accessibility – characteristics, definitions, and measures

One of the aims of this research is to answer research question number three (RQ 3), which asks: *How can this study ascertain in-depth and detailed travel information from township-dwelling individuals regarding their experiences with accessing public transportation in Cape Town?*

More specifically, this study seeks to warrant responses to these questions:

- How many levels of transport-related social exclusion be inferred from qualitative data analysis?
- Can a person-based accessibility analysis approach best reveal the extent of existing spatial-temporal accessibility challenges in Cape Town's township dwelling communities?

Therefore, one concept that helps to understand and investigate these questions is the concept of accessibility.

Origins and definitions of accessibility

Hansen (1959) first discussed the concept of accessibility and the usefulness of accessibility measures as a means of assessing people's ability to improve their lives (Ding et al., 2015). Since then, the concept has evolved. The concept of accessibility began to gain traction as a policy goal in the 1960s as the UK government addressed the impact of social exclusion (Farrington & Farrington, 2005). Although the concept of accessibility was originally introduced in transportation planning literature, it is inherently interdisciplinary and is used in various academic fields such as urban geography, network and spatial economics, regional science and geographical analysis. There are many ways to understand accessibility and many different interpretations of accessibility that cover different aspects of the notion of accessibility (Bocarejo et al., 2016). As it is a concept that is used in many scientific fields, from transport planning to urban planning and geography (Geurs & Van Wee, 2004; Geurs, 2006),

there cannot be a clear definition of the concept of accessibility as it overlaps with concepts from different research fields (Farrington & Farrington, 2005).

Some definitions include:

Hansen (1959: 73):

"In general terms, accessibility is a measurement of the spatial distribution of activities about a point, adjusted for the ability and the desire of people or firms to overcome spatial separation."

Kwan & Weber (2003: 341):

"Accessibility has traditionally been conceptualized as the proximity of one location (whether zone or point) to other specified locations."

Páez, Scott & Morency (2012: 141):

"Accessibility, defined as the potential for reaching spatially distributed opportunities (for employment, recreation, social interaction, etc.), can be considered one of the main outputs of spatial development, the joint result of a transportation network and the geographical distribution of activities."

Bakker et al., (2014) explain that the concept of accessibility allows researchers to focus on the proximity of people to opportunities and evaluate the effectiveness of the transport system in getting people to their desired destinations. It also evaluates the ease with which individuals can reach facilities and services (in terms of geographic match between origin and destination) by combining land use and multimodal transport characteristics into a single metric. Martens et al., (2012) state that access refers to the ease with which people can reach destinations from a particular location in space. However, there is general agreement in the accessibility literature that the concept of accessibility should reflect the ability of passengers to easily reach desired goods, services and activities. This is the goal of transportation.

Temporal accessibility

There are two main types of accessibility⁵: positional and personal (Luis, 2002). Temporal accessibility falls into the first category of "positional accessibility" (ibid.). The 'simple' explanation of temporal accessibility is that it is about whether people can undertake a journey (accessibility) and whether it can be undertaken within an acceptable or reasonable time frame (Ashiru et al., 2001). Temporal

⁵ There are several different aspects of accessibility discussed more in depth in section 1.8. For the purpose of this study, the focus is mainly on spatial and temporal accessibility.

accessibility also refers to journey duration and indicates that a journey is undertaken at certain times of the day (Luis, 2002). For the purposes of this study, temporal accessibility is discussed in terms of whether or not people can make a journey during the day. This includes periods of the day that are not peak hours (off-peak or non-regular).

In conclusion, this study deployed the concept of accessibility to understand issues related to township-dweller's mobility conditions for discretionary activity participation. To this end, this thesis adds a time geography approach. Figure 3 reveals how this concept fits into the study of mobility issues for discretionary activity participation. The incorporation of a time geography method in this thesis is explained and discussed in section 1.8.4.

Social Exclusion – characteristics, definitions, and measures

The first research question (research question one, RQ1) posed in this study is: *What is transport-related social exclusion in the context of Cape Town's township areas?* The theoretical underpinnings of this thesis are inextricably linked to the main questions of the study. Therefore, the concept of (transport-related) social exclusion helps to unpack and analyse this question more comprehensively.

Social Exclusion beginnings

Accessibility is actually a component of social exclusion. Social exclusion is a multifaceted issue that affects overall human well-being (Henderson & Thomas, 2002).

The concept of social exclusion began to emerge in Europe in the early 1980s (Hodgson & Turner, 2003; Lucas, 2012), and in 1997 the UK established the Social Exclusion Unit (SEU), which became a policy centre for tackling social exclusion (Stanley, 2007). Transport became one of the SEU's first areas of interest (ibid.). A comprehensive report on transport and social exclusion became the defining point for work in this area (Social Exclusion Unit 2003), as it "established a link between the exclusion of people who do not have access to a car and their needs in terms of education, employment, access to health and other services, food shopping, and sport, leisure and cultural activities" (Stanley, 2007: 3). Barriers to accessibility focus on the availability of transportation, the cost of transportation, safety and security (Stanley, 2007). They also include barriers such as travelling distance, as people on low incomes find it more difficult to travel to work than those on higher incomes (ibid.).

Exclusion

The concept of social exclusion has been gaining profile for some time. Lucas is a respected scholar who has made a significant contribution to the understanding of social exclusion and the disadvantage of marginalised groups in society (see Lucas et al., 2001; Lucas, 2004; Lucas, 2006; Lucas, 2011, among

many other works). In a 2012 essay, the author first outlines the beginnings of the discourse on transport-related social exclusion and transport disadvantage in the UK and explains how new studies on transport-related social exclusion (TRSE) have drawn increasing attention to this area of research, which is linked to poverty, transport-related disadvantage, access to key services and economic and social exclusion. The author unpacks the theories and core definitions that are part of the social exclusion paradigm. In this work, the author presents empirical research on transport-related exclusion and critically reviews progress in some key areas of policy and practise in the UK and Australia. Nevertheless, this thesis to encourage scholars concerned with social exclusion to think more broadly about what inclusion means for access to life-enhancing opportunities (in this case, particularly for peripheralized), including in relation to transport. For example, it is not just about employment, education or healthcare, but also about access to leisure and discretionary activities. This study argues that access to transportation should enable people to take advantage of life-enhancing opportunities regardless of the time of day and spatial inequalities in the city.

The concept of social exclusion has various philosophical origins, which have different meanings for different people (Schwanen et al., 2015). Social exclusion is initially understood as the lack of participation in various opportunities for individuals, households and neighbourhoods, and it changes over time (ibid.). Lucas (2012) states that there is no single correct view of the concept of social exclusion, but that it describes more than just people's poverty and encompasses a multidimensional and multi-layered concept of disadvantage. The Social Exclusion Unit (2003) asserts that social exclusion and transport are linked, as transport provides commuters with the opportunity to access vital services and socio-cultural activities.

Hodgson and Turner (2003) argue that the concept of social exclusion is very rich and speaks of the complexities associated with being poor, which are also relational in nature. The authors see a relationship between individuals, institutions and others and believe that public transport also has aspects of social exclusion that are an implicit communication about the social value of transport users themselves. Schwanen et al., (2015: 125) affirm that the effects are far-reaching and further marginalise transport users:

“the lower levels in the evolving hierarchies of access to, participation in, and autonomy with regard to, economic life (including finances, employment and education), political life (including policymaking and governance), social life (including social ties and activities), cultural life (including public debate, arts and media) and health (both physical and mental)”

The concept of social exclusion is particularly useful for policy making. Hodgson and Turner (2003) say that social exclusion forces policy makers to focus less on affordability and reducing the cost of using the transport system (through subsidies and discounted fares) and more on empowering users to achieve a range of activities, engaging in decision making and managing the impacts of the transport system, and broadening the discussion to transportation.

In conclusion, this thesis deployed the concept of social exclusion to unpack issues related to township-dweller's mobility conditions for discretionary activity participation. This understanding is achieved by outlining the key ideas relating to the role of activity participation and the implications of unrealised activity participation, particularly for peripheralized communities. Figure 3 exhibits how this concept fits into the study of mobility issues for discretionary activity participation.

Mobility – characteristic, definitions, and measures

In peripheralized areas where transportation infrastructure is inadequate, marginalised populations - often characterised by lower income levels - can face barriers when it comes to accessing important and life-enhancing opportunities and activities (REF). Therefore, transport and mobility are interlinked and can contribute to social exclusion by affecting an individual's access to key services and participation in the community. In particular, when social exclusion occurs, limited access to reliable transportation can lead to isolation, resulting in limited social interaction and participation in the community.

In addition, the cost of transportation and the availability of affordable and convenient options can affect a person's ability to participate fully in chosen social activities. transportation is crucial for promoting inclusion and reducing inequalities in social participation and access to important opportunities - such as education or employment. For this reason, mobility is an important topic and helps to define the theoretical foundations of this study.

One of the main research questions (Research question two, RQ2) that this thesis sought to answer queried: *How does the land-use transport system allow township-dwelling citizens to travel in their city and do different non-work-related activities in the city?* The concept of mobility is best suited to help unpack, understand and investigate this question.

Definition of mobility

The simplest definition of mobility is humans' independency from geographical constraints (Kakihara and Sørensen, 2001), allowing people to be easily be moved from one place to another. Mobility refers to the ability to move or be moved freely and easily. In the context of transportation, it includes

various modes of movement, such as walking, cycling, driving or using public transportation (McKay, 2019). Mobility is mainly concerned with the geographical movement of people (Kakihara and Sørensen, 2001). The ability of people to move spatially represents the most important part of mobility in our social lives and is evident, for example, in international travel in the twentieth century (Kakihara and Sørensen, 2001).

Through their joint work, Mimi Sheller and John Urry have made an important contribution to the conceptualisation of mobilities and new mobilities. Two important publications that deal with these concepts are "The New Mobilities Paradigm" (2006) and "Mobilities and Futures" (2016). In "The New Mobilities Paradigm" (2006), Sheller and Urry present a ground-breaking perspective for the study of mobility. They argue for a move away from traditional approaches that focus exclusively on transportation and movement. Instead, they propose a broader view that considers the intricate connections between the various forms of mobility in contemporary society. This work establishes the idea of a "mobility paradigm" that emphasises the fluid, dynamic and interconnected nature of modern mobility. Building on their work, Sheller and Urry further develop the concept of mobilities in "Mobilities and Futures" (2016). This publication explores different pathways and potential future developments in mobilities, taking into account the evolving ways in which people and objects move. The authors look at the impact of technological advances, social change and environmental concerns on the way mobilities are experienced and conceptualised.

Main debates in Mobility

The debates about mobility are manifold. On the one hand, the concept is at the centre of studies on the geographical movement of people (Kakihara and Sørensen, 2001) and on the complexity of the efforts required to move people. Mobility as a service makes sense where travelling is seen as a benefit. Therefore, efforts have been made to emphasise measures that make connecting and using multiple transportation accessible and equitable for all – but above all, seamlessly independent of owning a private car (Watkins, 2018).

However, the new mobility paradigm represents a change in the way we understand and analyse mobility. Traditional approaches have often focussed on fixed infrastructures and established transportation systems. The new mobility paradigm extends this perspective to the diverse and dynamic ways in which people move in modern societies. The work of Sheller and Urry (2006; 2016) collectively contribute to the understanding of new mobilities by emphasising the need to go beyond conventional analyses of transportation. They encourage scholars to consider the social, cultural and technological dimensions of contemporary mobility and to recognise that mobility is not just about physical movement, but is closely interwoven with wider societal changes and futures.

Characteristics of mobility

Public transportation, which is the main focus of this study, stands for mobility that is shared by many users (collective mobility) (Watkins, 2018). This concept lends itself to this study to make sense of seemingly chaotic contexts – environments with unregulated forms of mobility; environments with commuters mostly tied to minibus taxis - which are themselves an 'unscheduled' form of transportation.

The concept of mobility and the new mobility paradigm have had a decisive impact on public transportation not only in South Africa, but worldwide. The impact of this concept on public transportation in South Africa is nuanced. The key principles of the new mobility paradigm provide a framework that recognises the diversity of people's mobility practises and lived experiences (Sheller and Urry, 2006). In the South African context, these principles can significantly influence and reshape public transportation strategies, taking into account the country's unique socio-economic and cultural landscape.

Multiplicity, as a principle, encourages planners to recognise and take into account the different mobility practises in South Africa. Given the country's diverse tapestry of socio-economic backgrounds and cultural contexts, planners must recognise the myriad ways in which people move. This involves accounting for factors such as income levels, cultural practices, and varying accessibility needs (Sheller and Urry, 2006). By recognising and accommodating this diversity, public transportation solutions can be tailored to meet the specific needs of different communities.

The second principle, fluidity, emphasises the dynamic and evolving nature of mobility patterns (Sheller and Urry, 2006). This dynamism is particularly important for South Africa as economic activity, urbanisation and societal changes are constantly influencing the way people move around. Planners need to adopt flexible approaches that can adapt to changing circumstances to ensure that transportation solutions remain effective and responsive to evolving mobility patterns.

Embodiment, the third principle, calls for an understanding of the embodied experience of mobility that is interwoven with social, cultural and economic factors (Sheller and Urry, 2006). In the South African context, this means recognising the impact of historical and socio-cultural factors on mobility practises. Planners need to consider how people's movement experiences are shaped by their cultural background, economic situation and broader societal influences.

The application of these principles in South Africa's public transportation landscape emphasises the importance of the transportation network. The new mobility paradigm recognises the importance of

such informal systems that are prevalent in the country, including minibus taxis and shared transport. The inclusion of all types of transportation (formal or informal) in broader transportation planning ensures that the unique characteristics of the South African mobility landscape are effectively addressed.

Furthermore, mobility is inherently linked to social justice (Sheller and Urry, 2006). Planners must address accessibility issues to ensure that public transportation is available and affordable for all segments of the population. This includes considering the needs of marginalised groups and people with limited access to formal transportation services. By prioritising social equity, the new mobility paradigm provides a pathway to inclusive transportation solutions that meet the diverse needs of South Africa's population.

Technological innovation, another aspect of the new mobility paradigm, holds significant potential for improving public transportation in South Africa. Technologies such as mobile apps for ride-sharing or real-time transit information can significantly improve the efficiency and user experience of public transportation, reflecting the dynamic and technology-driven nature of today's mobility practises.

Finally, the new mobility paradigm encourages the consideration of environmental sustainability in mobility planning. In the South African context, this means promoting greener transportation options such as the BRT system and reducing the environmental impact of transit systems. By incorporating sustainable practises, planners can hopefully contribute to both better mobility and a healthier environment (Sheller and Urry, 2006).

Overall, the new mobility paradigm challenges traditional views on transportation planning by emphasising diversity, fluidity and the embodied experience of mobility. In the South African context, this means recognising and including the informal transportation sector, addressing social justice issues, utilising every available technology and promoting environmental sustainability within the public transportation system as much as possible (Sheller and Urry, 2006).

Mobility Justice

In the contemporary discourse on transportation and social justice, the work of Sheller (2018) proves to be an important contribution to the mobility discourse. Sheller (2018) addresses the complicated relationship between mobility, politics and social justice in a time of extreme inequality. Moving beyond traditional transportation studies, Sheller (2018) asserts that the politics of movement play a crucial role in shaping and maintaining social inequalities. This enquiry encompasses not only how

societies manage mobility, but also how they regulate it, extending the analysis to broader societal implications.

Sheller (2018) critically examines the contemporary landscape of mobility, taking into account factors such as climate change, political upheaval and global migration. The author argues that the extreme circumstances necessitate a reassessment of mobility practises and policies to keep pace with the growing challenges faced by individuals and communities.

The author argues for a comprehensive concept of justice in mobility and emphasises that justice should go beyond physical access to transportation. The author's argument is based on recognising and addressing historical and structural inequalities embedded in transportation systems in order to ensure fair and equitable outcomes for all (Sheller, 2018).

The work of Sheller (2018) takes a global perspective and looks at how mobility is interconnected worldwide. By examining how different societies deal with the challenges of mobility, the author emphasises the importance of understanding the different contexts in which mobility justice must be pursued. Environmental sustainability is a central theme in Sheller's work, in which he examines the environmental impact of different mobility practises. Similar to other scholars, Sheller calls for a shift towards sustainable and environmentally friendly transportation solutions to combat climate change, which is an essential aspect of achieving mobility justice (Sheller, 2018).

Sheller's mobility justice has implications for academia, policy and activism as policy makers are challenged to rethink existing transportation policies and bring them in line with principles of equity and sustainability (Sheller, 2018). This includes prioritising public transportation, reducing dependence on fossil fuels and incorporating social justice considerations into future urban planning. Sheller's interdisciplinary approach prompts researchers to build bridges between fields such as sociology, geography and environmental studies. This promotes a more holistic understanding of mobility justice and recognises its interconnectedness with wider social issues. The concept of mobility justice fits this study as it seeks to shape conversations and actions aimed at transforming the way societies move in the 21st century – given the unequal impact of issues such as access to resources, climate change and poverty globally.

Measures

Mobility measures concern "the connection from one service to another" (Watkins, 2018: 56). It is also about the measurement of efficient exploitation of resources; public transportation services being pleasant; enjoying trustworthy schedules; accessing lower travel costs; lower trip distances; and

overall increased system welfare (Kaddoura et al., 2020). For this study, mobility is about moving people by physical and transportation means to access important opportunities.

Therefore, the concept of mobility is used in this thesis to understand issues related to the mobility conditions of township residents for participating in discretionary activities by discussing the challenges faced by transit users in the periphery of the city. Figure 3 shows how this concept fits into the study of mobility issues in participating in discretionary activities.

Measuring The Impact of Unrealised Activities – A Time Geography Perspective

Why a space-time analysis helps to study mobility for discretionary activities in this context

Finally, this study aims to answer the fourth research question (RQ4), which is: could travel patterns for so-called 'discretionary activities' among urban public transportation users indicate choices or constraints? To answer this question comprehensively, thesis a spatio-temporal approach to analysis, which is most appropriate as the interrelated concepts shown in Figure 3 (namely mobility, accessibility and social exclusion) all underlie the study of mobility problems in participation in discretionary activities. The causes of non-participation or unrealised participation in activities can therefore help to explain the phenomenon of immobility in cities – especially when it comes to discretionary activities after prime time.

Time geography says that people usually consider three main dimensions when planning an activity. These are constraints that people must consider, and Van Wee and Witlox (2021:3) claim they are:

“capability constraints (biological, mental and instrumental limitations), coupling constraints (because people need to come together at specific times and often also in certain places), and authority constraints (authority-induced constraints to access, for example, because of restrictions on store open hours)”.

The following discussion delves deeper into the main components of accessibility and relates to the study of space-time analyses to understand unrealised activity participation.

Main components of accessibility and its measures

The authors Geurs and Van Wee (2004) have provided the most comprehensive discussion of accessibility components and how they can be applied and measured. According to Geurs and Van Wee (2004), accessibility has four main components, namely:

- **Land-use** (which focusses on location, spreading and transport demand and supply),
- **Transportation** (looks at transport cost, travel time, the transport system),

- **Temporal** (features time constraints of participant and of the network),
- and the **Individual component** (concerned with subjective needs and capabilities, physical needs and resources)

These components are applied in many ways, but generally fall under either infrastructure-based measures (e.g. trying to identify the best locations for key facilities such as schools, hospitals, large administrative centres and recreation centres), people-based measures (e.g. taking into account the characteristics of the individual) or use-based measures (usually analysing the economic benefits from access to opportunities). Accessibility measures come in many variations, which are adapted and used according to the needs of a study (Pirie, 1979). Neutens et al., (2010) mention that studies evaluating changes in service provision tend to rely on, for example, distance, gravity or cumulative opportunity measures of accessibility. Pirie (1979) provides one of the most comprehensive overviews of the various measures of accessibility. According to Pirie (1979), the distance measure focuses on measuring accessibility from one place to another based on the physical separation between two places. He argues that physical distance, time or cost distance can be used to measure separation (Pirie, 1979). The gravity measure combines characteristics of the land use and transport systems, and any change in either system results in a change in accessibility at any point within the area of the system. Pirie (1979: 300) claims that: *"To measure the total accessibility of all opportunities, the total number of opportunities at all nodes in a given area must be discounted by the sum of the distances between the reference node and all other nodes"*. In Cape Town, for example, the Bus Rapid Transit (BRT) brings Khayelitsha (located on the edge of the Cape Flats) and the centre of Cape Town closer together by implementing a gravity-based passenger transport solution.

Pirie (1979: 301) says that the cumulative opportunity measure "indexes the accessibility of different opportunities according to the number that can be reached from the starting point of interest within certain distances or times". Gravity and cumulative opportunity measures are useful as measures of place accessibility because they indicate changes in the accessibility of different places as well as the effects of competition on access to urban opportunities according to Kwan & Weber (2003). Other measures are topological measures that usually refer to the presence and number of connections between network points (Pirie, 1979). Both the distance measure and the topological accessibility measure consider accessibility as the proximity of places. Then there are nodal measures, where the impedance function takes the form of an indicator function reflecting the presence or absence of a network connection between two nodes. They are useful to address accessibility issues within transportation or information networks (Kwan & Weber, 2003).

The discussion of temporal accessibility emphasises the importance of studies focusing more on exploring person-centred accessibility by linking the dimensions of temporal accessibility and inclusive accessibility in transportation, as people experience different levels or variations of accessibility throughout the day. In particular, this discussion has shown that accessibility can be time-dependent (i.e., bus schedules can influence a range of factors related to people's transit) and can be influenced by space and time (i.e., there are differences in people's spatiotemporal constraints as subgroups of a population exist at different spatiotemporal scales). In addition, time is often found to influence the accessibility of transport modes and the choice of transport mode.

An example of this is the study by Ma et al., (2022), which uses Geographic Information Systems (GIS) and spatial syntax analysis to investigate whether there is a correlation between the tourism industry in Phoenix Ancient Town (China) and the morphology of the city. These tools are used to measure the distribution and discover the correspondences between the tourism industry and the spatial morphology of a city. The results of this study reveal spatial correlations related to the distribution of tourist attractions and transport accessibility. They also found that the hotel industry gradually declined as newer commercial buildings were developed. The contribution to knowledge that this study makes is an analysis of theoretical significance as it extends the methods used to study spatial morphology and in-tourism to the sample region. This study thus emphasises the importance of studying spatial structures in cities and their impact on tourism. It also emphasises the usefulness of geographic and especially spatial accessibility as it can have an impact on how people use space.

How and why are space-time geography measures implemented for understanding mobility issues?

The application of appropriate measures and approaches suitable for this study includes methods from the field of space-time geography. In space-time geography, accessibility is studied in the form of person-based measures and combines transport and land use components to determine a person's ability to participate in necessary or desired activities. Studies applying space-time geography include research such as social exclusion studies (Schönfelder & Axhausen, 2003), segregation studies (Kwan, 2013; Farber et al., 2013; Wissink et al., 2016), wellbeing and quality of life studies (Currie et al., 2009; McQuoid & Dijst, 2012) and even work-life balance (Arentze et al., 2009). Other authors recognise the use and adaptation of space-time geography methods to investigate person- or individual-related accessibility constraints, such as Kwan and Weber (2003). Kaza (2015) describes that the application of time-geographic concepts and measures has been used in some studies to argue for a person-based accessibility perspective that can fluidly describe personal planning constraints for individuals in accessing opportunities while accounting for temporal changes in space.

Transport poverty is a real challenge in South Africa (Venter and Behrens, 2005; Lucas, 2012; Pirie, 2013; Rink, 2020 and 2022). In terms of accessibility, much of the transport discourse focuses on the ability of the universal transport system to provide people with the opportunity to reach places for education, healthcare and employment. Participation in activities other than work, school or healthcare is equally important to overall human well-being (Alkire, 2002), but has rarely been studied from a transportation, let alone in the context of human development and transformation. It remains unclear to what extent people, particularly those living in townships, are restricted in their access to discretionary activities, let alone how this can be measured. This is the central challenge of this thesis.

Motivation for the use of space-time analysis in this study

To reiterate the purpose of non-participation or unrealised participation in activities for this study – accessibility can be difficult to measure adequately, especially measuring latent demand with quantitative measures. It is also difficult to get in-depth information about people's lived experience when relying only on traditional measures of accessibility. A qualitative approach can help to tackle the analysis of the dichotomy of compulsion and choice.

Horton and Reynolds (1971) further discuss concepts of geography by relating its usefulness in the study of people's ability to perform activities to the recognition of the limitations imposed on people's accessibility by time and space. They note that temporal geography views spatial and temporal constraints as equally limiting to achieving a better quality of life. This research aims to critically examine the experiences of a majority of people from low-income areas such as the townships of Cape Town.

The majority of poor city dwellers rely on the minibus-taxi system to meet the transportation needs of the masses (Behrens et al., 2015). The low-income city dwellers who rely on public transportation (which includes the minibus taxi) are unable to take advantage of many inner-city leisure facilities and other life-enhancing activities, partly because they are spatially disadvantaged as they live in the peripheral areas of the city. This has an impact on people's travel options – especially for activities in the city.

The application of a spatio-temporal geographical approach is therefore suitable for investigating issues such as the spatio-temporal constraints on people's daily mobility – especially at night time (Yun, 2022). It is a useful concept as it provides important links transportation to activities and understanding the different access needs of different people from similar environments. This approach is also the most appropriate because it can provide disaggregated data on the travel paths of individuals from households within township areas and help to identify new ways to improve

individual accessibility. The disadvantage of this approach, however, is that the full space-time approach consequently requires large amounts of data that can only be implemented thoroughly with great effort. Geurs & Van Wee (2004) note that personalised measures require detailed and extensive data, while Kaza (2015) notes that this type of data is difficult to obtain.

To summarise, the theoretical title of thesis three main concepts, namely the concepts of mobility, accessibility and social exclusion. These concepts fit well together and are interlinked given the nuanced context in which this study takes place (which is discussed in the background section of this Chapter 1). Therefore, a qualitative space-time analysis is the best approach for observing travel patterns and possible constraints to participation in discretionary activities on the township fringe, noting the intertwining of these concepts in this context. This is due to the spatial disadvantages that may be associated with living on the outskirts of the city, and not only the spatial constraints but also the time constraints that are seen as limiting the achievement of a better quality of life.

Methodological Weaknesses in Accessibility Studies

The accessibility measures and components mentioned here have weaknesses. The shortcomings are mainly related to the way accessibility is measured. First, most of the components used to measure accessibility can be combined, and the studies that dominate the discussions on accessibility look at the land use and transport components (Hansen, 1959; Vandenbulcke et al., 2009; Bocarejo et al., 2016; Gehrke & Clifton, 2016). Sometimes it is also a combination of the above-mentioned components and the single component (Miller, 1999; Kwan, 1998; Bocarejo et al., 2016; Cascetta, 2016). Rarely do studies include the temporal component (Ashiru et al., 2001; Kwan, 2000; Kwan, 2013; Neutens et al., 2010). Furthermore, affordability is not mentioned in Geurs and Van Wee's (2004) discussion of accessibility measures and components, although much work has been done in this area (Gomez-Lobo, 2007). For example, Geurs and Van Wee's (2004: 129) diagram 'Relationships between the components of accessibility' does not include affordability. Meanwhile, Páez et al., (2012) recognise that accessibility measures in relation to person-based measures also include travel costs (which are determined by the spatial distribution of travellers and opportunities), depending on aspects such as different modes of transportation and inherent differences in the mobility of people.

Furthermore, some scholars have noted that accessibility studies tend to view the concept as a largely spatial problem (see Okafor, 1990, Kwan & Weber, 2003, Kwan, 2013), in part due to the difficulties researchers encounter in trying to define and get a handle on the concept. According to Geurs and Van Wee (2004), infrastructure-based accessibility measures are easy to interpret because they focus on aspects such as average speed on a road network, but they fail to assess the impact of land use and

transport policy plans on accessibility. This measure lacks the land use component as well as temporal and individual elements and leads to inaccurate or even misleading results. Many researchers tend to look at physical accessibility when considering access to opportunities. In general, measures of accessibility rarely include all of the components listed by Geurs and Van Wee (2004) in one measure. An example of this is the gravity adjustment made by the Bus Rapid Transit (BRT) between Khayelitsha and the CBD in Cape Town. Whilst it aims to bring the options closer in terms of distance, it does not take into account later evening service in terms of time.

Other methodological disadvantages include the difficulty of measuring all components simultaneously. While Geurs and Van Wee (2004) point out that one should be aware of the consequences of ignoring one or more of the criteria for measuring accessibility, they also recognise that it would be almost impossible to apply all the criteria for measuring accessibility in order to obtain accurate results. Geurs and Van Wee (2004) argue that the availability and complexity of data pose a challenge for measuring accessibility of individuals, as they usually refer to small regions and subgroups of the population. The measures are generally applied and interpreted and say nothing about individual or personal accessibility. Kwan (2013) gives three examples of how measures of place accessibility that focus on distance, transport and land use components do not accurately reflect the accessibility constraints of individuals. First and foremost, Kwan (2013) argues that they attribute the same level of accessibility to different individuals in the same zone, even though the experiences of these individuals suggest otherwise. Next, they ignore the fact that many journeys that contribute to individual accessibility are undertaken as part of the sequential unfolding of a person's daily activity programme, and focus too much on assessing accessibility based on a single reference location such as the home. Finally, Kwan (2013) argues that these measures do not take into account the impact of space and time constraints, which can result in many opportunities in the urban environment being inaccessible to an individual. The lack of acceptable activity-based transport models that can link daily activity patterns to the long-term spatial behaviour of households and businesses is also of interest to the authors (Geurs & Van Wee, 2004). On the other hand, usage-based accessibility measures are generally unable to account for the spatio-temporal constraints of individuals (Geurs & Van Wee, 2004).

Why the temporal dimension is ignored in accessibility studies

Ding et al., (2015) claim that extant literature discussing “*by transit*” measure of accessibility is still insufficient in terms of considering the temporal dimension, where studies include temporal dimensions, they are technically complicated when calculating temporal accessibility. Such calculations require detailed information about the social and demographic sectors of the study area

as well as good knowledge of the timetable, as well as complicated algorithms to calculate travel cost matrix for all demand points. This largely explains why many researchers ignore the temporal dimension when calculating transit accessibility.

Studies dealing with temporal accessibility mainly look at accessibility either to transport, accessibility by transport or focus on a model of *land use and temporal accessibility* (e.g. a temporal organisation for the provision of services such as access to public facilities, operating hours, etc.). Neutens et al., (2010) state that accessibility measures or approaches such as distance, gravity or cumulative opportunities are common and can be categorised as accessibility measures for places. As the study of accessibility is usually based on the combination of some accessibility components (e.g. the combination of land-use and people-based accessibility measures), the authors argue that these measures can be used to include a temporal dimension. For example, changes in the proximity of services to the homes or workplaces of individuals or households could be analysed by assessing the opening or closing of service businesses within an urban area or changes in travel times due to new transport infrastructure or increased road congestion. Time accessibility can be applied in many studies – but it is still neglected.

Conclusion

In this section, the main theoretical perspectives related to the main research questions of this thesis have been addressed. Based on three main concepts - namely the concept of mobility, accessibility and social exclusion - this thesis develops a theoretical model (see Figure 3) that represents the conceptual aspects to be analysed in this thesis.

Therefore, the concepts that will be measured to assess the mobility and accessibility transportation to participate in discretionary activities after peak hours in a South African context are included in an analytical framework in section 2.3 of the thesis. The concepts are listed as follows:

- a space-time approach to accessibility measurement based on – transport, land use, individual to organisational factors
- transportation disadvantage
- mobility in a township context
- discretionary activity participation
- latent demand and or unrealised activity participation

How does this research fit into existing research?

These concepts were deployed to explain what is happening on the ground – drawing on the interview data. This is possible because these concepts help to theoretically underpin frame the thesis. They form the scaffolding on which an investigation can be built. The theoretical foundation helps to create the “framework for analysis” in section 2.3 of this thesis by outlining measures that can be adapted to the context of the study.

Main research gaps identified

This thesis aims firstly to fill a research gap related to transport-related social exclusion by proposing an equitable and inclusive urban transportation framework to address spatial imbalances and social exclusion in Cape Town. This is the contribution that qualitative mobility studies need to make according to Ward and Walsh (2023). Secondly, this thesis addresses the issue of unrealised participation in activities when the issue of mobility is not adequately addressed in people's lives. Interpretations in the literature on mobility inequality, for example, are seen as biased and misrepresentative of the important contributions that informal place-based transport systems make, as they focus heavily on the contexts of developed countries (Wong, 2018). Describing mobility inequality using a dataset from the urban periphery of Cape Town can help provide nuance from developing countries.

Some gaps are identified in the literature that point to the need for more in-depth studies that can better measure and understand urban mobility.

Hidayati et al., (2021) point out two key gaps that fit into this section. The first is that studies on mobility equity tend to be either quantitative or qualitative, but not mixed. Second, these studies ignore the usefulness of using spatial analyses to examine mobility inequalities. The authors clarify that for them, mobility inequality has both intrinsic and extrinsic factors – which requires studies with customised approaches for each context (for a holistic understanding).

Therefore, the authors claim that while quantitative approaches to studying mobility problems provide extensive data sets to quantify the problem state and usually lead to generalisable study results, the disadvantage is that a nuanced understanding of the impact of the problem is rarely provided and these extensive data sets are not always easy to obtain. While qualitative data collection approaches can provide nuance and in-depth perspectives, they have the disadvantage of being labour intensive and offering limited opportunities for replicability. In particular, Hidayati et al., (2021) note in studies exploring mobility inequalities that there is a lack of inclusion of spatial methods of analysis.

Incorporating a qualitative and spatial approach to researching mobility inequalities can enable more targeted analysis and measurement.

Furthermore, the limits of knowledge thesis in this thesis relate to methodological gaps for non-recurrent transit times in the day using a qualitative space-time approach – in terms of access to discretionary activities. Current methods represent aggregate, numerical approaches that say nothing about the lived experience (such as importance for trip making, access to desired places (latent demand) and travel behaviour in general).

Research shows that it is methodologically difficult to analyse temporal accessibility or individual accessibility using the typical accessibility measures described by Geurs and Van Wee (2004). Therefore, some research has focussed on the geographical coverage of services, while others have focused on the affordability of services – these aspects have been given more prominence as markers of the impact of accessibility. Fundamentally, however, studies of mobility are inadequate without a temporal accessibility perspective. And yet, temporal accessibility is particularly important in a world where many transport services are provided by informal providers who do not rely on a timetable (as is the case in the peri-urban areas of Cape Town). Kwan (2013) emphasises that studies looking at interventions to improve accessibility have been slow to focus on examining the experiences of different groups of people in society. Kaza (2015) notes that not enough studies looking at accessibility measures actually capture the lived experiences of commuters.

Consequently, this thesis deployed a qualitative space-time method (as appropriate or appropriate to the interpretivist epistemology chosen) to collect and analyse data using interviews and travel diaries from 15 respondents from the Cape Flats area of Cape Town. This thesis draws on this approach to address gaps in knowledge by:

- Contribute to addressing the empirical gaps in the literature for lived experiences and travel behaviour of township-dwellers
- Contribute to addressing methodological gaps for studying non-recurrent transit periods using a qualitative space-time approach
- Contribute to addressing the knowledge gap on understanding mobility for discretionary activity participation, in particular

In the following section, a clarification of key concepts is undertaken.

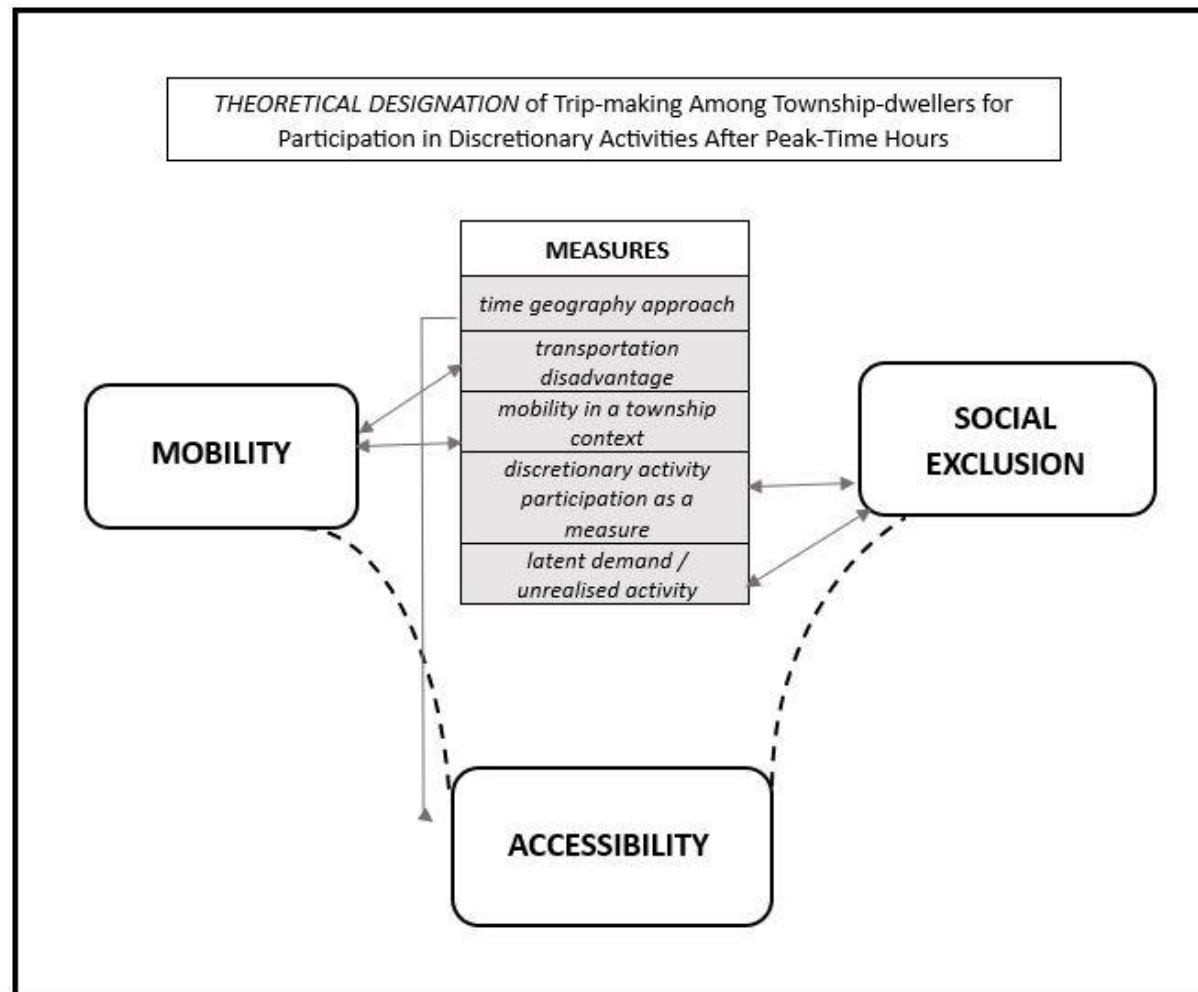


Figure 3: Theoretical Framework (SOURCE OWN)

1.7 Clarification of Key Concepts

Setting Study Definitions Ahead of Analysis

The clarification of key terms used in this thesis is crucial and useful to define each concept for empirical observations that can be applied in the real world.

Off-peak periods

This refers to the “non-rush periods of the day when travel activity is generally lower, and less transit service is scheduled. Also called “base period”” (APTA, 1994:20). This concept may be used interchangeably with “non-recurrent periods” or “evening-time” in this thesis.

Non-recurrent periods

The base-period, according to the American Public Transportation Association (APTA, 1994:4) is the “period between the morning and evening peak periods when transit service is generally scheduled on a constant interval. Also known as “off-peak period”. Any reference made to “non-recurrent periods” in this study will refer to this definition.

Off-peak times in paratransit

As far as minibus taxis are concerned, 19:00 to 22:00 is the evening off-peak time for minibus taxis (Plano et al., 2019) and 18:00 to 20:00 is the late-night time (Masuku, 2018).

Periphery of a city

These are the “fringe areas which are characterized by poor walk accessibility, little or no public transport and travel distances which are much longer than inner-urban areas” (Delbosch & Currie, 2011: 1131). In this thesis, the Cape Flats area is considered the peripheralized area of focus, where the *amaphela*-operated area is embedded.

Socio-cultural events

Sociocultural events are events that include both social and cultural aspects. Schlenker et al., (2005) refer to the characteristics of socio-cultural events and say that such festivals and events, for example, capitalise on cultural heritage, promote intercultural exchange and social interaction (with visitors or with the host community or region). Sociocultural impact, an area of research that has been extensively studied, can change a societal value system as well as individual behaviour, social relationships, lifestyles, forms of expression and community structures, according to Page et al., (2001). For the purposes of this study, socio-cultural events refer to all public events that take place, particularly in the city, and that facilitate both social engagement and some aspect of

cultural consumption – mainly for recreational enjoyment. In Cape Town, for example, the city is open to cultural consumption and offers a variety of free, publicly accessible, socio-cultural experiences and events that take place in the city centre after working hours throughout the year. Some of these events are privately organised but also open to the public, while others are organised by the city itself. Among these “events” is the “Moonlight Mass Night Cycle”, “Festival of Lights on Adderley Street”, “Cape Town Carnival”, “Full Moon Hike up Lions Head and “First Thursday’s Cape Town”, for instance.

Life-enhancing opportunities

Life-enhancing opportunities refer, among other things, to activities related to education, such as attending night school, taking courses in educational institutions. The concept of life-enhancing opportunities also refers to health services such as visiting a hospital or clinic. In addition, this concept refers to leisure activities that go beyond the socio-cultural activities mentioned above, such as attending a football match, playing an extracurricular sport or participating in a leisure club (i.e., church choir, band practise, etc.). These are the experiences that enrich a person’s life so much that they should definitely take part in them.

Public Transportation

Statistics South Africa (2015: xiii) defines public transport as “All transport services for which passengers made payment, including trains, buses and taxis” and non-public transportation is defined as “Any mode of travel except public transport.” (ibid). The main modes of transportation (including non-motorised transport) in South Africa are characterised as: 1. Train, 2. Bus, 3. Taxi, 4. Car driver, 5. Car passenger, and 6. “Walking all the way” (Walking from one point to another without any other form of transport) (Stats SA: xiii).

Core work hours

In this study, the term “core working hours” refers loosely to the daily working hours of employees from 9 am to 5 pm. This study assumes that the notion of core working hours (such as 9 am to 5 pm) has been influenced by technological developments which mean that individuals may work longer hours because they take work home” with them or answer emails from work while at home (see Spector et al., 2004).

Township-dwellers

Here the researcher refers specifically to people who live in a township. Normally, a township refers to a Black suburb on the outskirts of the city that was created under apartheid (Kimemia & Annegarn, 2011). The researcher includes the greater “Cape Flats” area in this clarification of key concepts under

the term “township-dwellers”, meaning suburbs which are not only Black, but include “so-called-Cape-So-called Cape Coloured” suburbs along the Cape Flats. The Cape Flats in the city of Cape Town refers to the sandy expanse that separates from the wealthy northern and southern suburbs (De Swardt et al., 2005). This includes Mitchell’s Plain, Bishop Lavis, Steenberg, Hanover Park, Bonteheuwel, Manenberg, Elsies River – which are predominantly “so-called-Cape-so-called Cape Coloured” suburbs, and then there’s Khayelitsha, Nyanga and Langa – being predominantly Black suburbs (Capeflats.org, 2014).

Lokshini (slang – lokshin’)

This refers to the township. It is a slang word in South Africa which is derived from the word “location”.

1.8 Methodology

This section deals with the research methodology deployed in this study. Babbie and Mouton (2001) explain that researchers deploy a variety of methods and techniques in empirical research, which vary depending on the task at hand. Methodological approaches refer to assumptions, values and principles that underlie the methods and techniques used in the social research process (Tutty et al., 1996).

This thesis envisages the attainment of meaning and is concerned with meaning-making related to individuals ease and ability to reach desired destinations during off-peak periods in the day. It attempts to understand the existing state of affairs by investigating and conceptualising mobility and accessibility for township-dwellers from Cape Town’s fringe area as they partake in discretionary activities after peak-times. Doing so warrants that the study meets its aim of obtaining a holistic view of the situation, as opposed to minimising to simple elements only.

The aim of this section then is to further probe with higher order questions – such as, *why?* – and to link the study’s epistemology, ontology, and methodology in the subsequent section.

1.8.1 Research approach and design

The research design combines the theory discussed in section 1.6 with the methodology that will now be discussed. The primary aim of the methodology section is to enable the thesis to answer the research questions.

Case Study Design

The aim of this study is to make observations and gain an understanding of the problem of mobility when participating in discretionary activities after rush hour in Cape Town. To achieve the objectives, this study employed a descriptive and interpretative case study design that was analysed through qualitative means. Epistemological and ontological assumptions embedded in the research question initially guided the choice of design and data collection strategies. In this case, this study investigated the unknown. Ontologically, this study aims to establish the existence of a phenomenon in this world.

The results of case studies conducted in South African townships are usually not generalisable, which deters the applicability of the research findings on a broader scale (Yin, 2009). Furthermore, concerns are raised about the potential stereotyping of townships, which underlines the importance of nuanced and context-sensitive approaches to avoid reinforcing existing prejudices. Therefore, a more reflexive approach was more helpful for the researcher to examine the shortcomings of such an approach.

Interpretivist Approach

Epistemologically, this study takes an interpretivist approach, a research science that utilises qualitative and naturalistic approaches (Ritchie et al., 2013). The nature of enquiry in this study aimed to understand human experience inductively and holistically in a context-specific setting (ibid). In light of this philosophical position, the research questions set for this study were qualitative in order to capture and explore meaning, process and context whilst investigating, explaining and understanding the problem. This approach informed the methods of the study to understand and explain the reality of the people being studied (Creswell, 1998; Schwandt, 2001).

The context in which this study was conducted focuses on the urban poor, in an unequal society, on people who have difficulty reaching essential services and activities, and on people who have difficulty using public transportation at certain times of the day. A qualitative approach was the most appropriate as it aimed to understand phenomena in depth and in specific contexts. Ritchie et al., (2013) emphasise that qualitative research design adopts a flexible research strategy that conducts naturalistic investigations in the real world, rather – than using experiments and manipulations (as is common in purely quantitative studies). The aim is to interpret phenomena in terms of the meanings that people attach to things in their natural environment, at a particular time and in a particular context. This approach provides rich descriptions – the finer details that may be omitted when using purely quantitative approaches. This approach is in marked contrast to quantitative approaches. Babbie and Mouton (2001) argue that the qualitative researcher wants to observe events and actions

as they happen, without intervening or interfering – which is in contrast to the quantitative researcher who seeks to control environments and settings with an aim to predict and explain behaviours.

How does behavioural geography fit into qualitative epistemology?

Behavioural geography recognises the complexity of behaviour and accepts the need for interdisciplinary discourses. It draws upon research findings in sociology or psychology – therefore, embracing an interdisciplinary approach to studying “man and environment” (Argent and Walmsley, 2009). Behavioural geography focusses on the rich variety of human behaviour, outlining that the way people behave is mediated by their understanding of the environment in which they live or by the environment itself with which they are confronted (ibid.).

Behavioural geography, therefore, deploys a disaggregate approach. Behavioural geographers focus on the cognitive processes underlying spatial reasoning, decision making and behaviour of individuals (Argent and Walmsley, 2009) specifically.

Furthermore, the epistemological assumptions for this research fit the purpose of the study (and the prevailing tenets of behavioural geography) in terms of the extent to which accessibility measures in particular are understood to have no temporal dimension (discussed in section 1.6). Looking at Geurs and Van Wee's (2004) account of accessibility measures, this is absent from all of the measures listed. The epistemological assumptions for this study are important because this study also aims to analyse spatio-temporal accessibility qualitatively. This study also seeks to explain the off-peak mobility behaviour of township residents (“latent demand”) to access activities. This type of information required in-depth interviews with targeted commuters.

The value of qualitative research

This study was much required as it offered a different approach to travel behaviour research, which usually deals with quantitative cross-sectional studies (Røe, 2000; Næss et al., 2018). While questionnaires for surveys are too similar to tick boxes – without the possibility of follow-up and therefore without deeper insights - the collection of disaggregated data would be time-consuming. For example, this type of data collection means that long interviews could not be conducted as quickly as a survey, and cleaning up the data required first converting the interviews into verbatim transcripts, which would take up to 8 hours per script for a one- hour interview. However, the in-depth nature of the interview data not only provided information about the subject, but also answered the question of why. For example, it was possible to find out when a person took a trip through surveys, but qualitative data also provided an understanding of why a trip was or was not taken.

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Consequently, the qualitative methodology for this study needs to capture actual behaviour and conduct an in-depth investigation to gain contextual insights into off-peak mobility and access to public transportation in the townships of Cape Town. The qualitative approach, traditionally rooted in phenomenology or interpretivism, is emphasised below in relation to this particular study.

Table 3: Interpretivist Approach For This Study (SOURCE OWN)

Qualitative Approach	Description
Detailed descriptions of social reality	Using an in-depth approach to discuss township-dweller's needs and experiences in relation to mobility and public transportation accessibility when participating in discretionary activities after peak times in Cape Town. This is a critical feature as "new meaning can be obtained by laying bare the essential aspects of a particular experience and describing what are the common, key elements that make up that experience" (Schwandt, 2001:191).
Inductive logic	Theories are built from the ground up – laying a foundation for "inductive reasoning" – there is no prescribed formula applied, respondents contribute to knowledge with no expected outcome.
The study of relatively unknown phenomena	The nature and the extent of mobility inequities for, and/or consequent exclusion of township-dweller's accessing public transportation for discretionary activity participation during off-peak periods are not yet fully understood.
Flexible, and not fixed	The researcher relies on participants' own words for insight into the issue.
Rich, detailed and specific	The data collection tools used offer only a guide for every discussion – there are no "yes" or "no" answers. Instead, the discussion is open-ended and goes in-depth. The information is nuanced.
Holistic System	The phenomena being studied is most likely to be embedded in a social system with other equally challenging issues.

How could qualitative research be useful in transport studies?

The deployment of qualitative research techniques in transport is useful particularly in relation to understanding existing travel behaviour, especially on the individual level (Røe, 2000; Clifton and Handy, 2003). It is valuable to understand what meanings people attach to their use of transportation

systems (Amaratunga et al., 2005). Jones (1979: 59) claims that "it is not always reasonable to assume that revealed behaviour reflects choice preferences — people may be forced to respond to conditions in a way contrary to their wishes".

1.8.2 Sampling

This study employed in-depth interviews to understand evening-based mobility and accessibility issues. It furthermore used travel log data to allow more depth in understanding mobility and accessibility challenges causing peripheralized people's exclusion from engaging or participating in society.

Sampling Technique

A purposive sample was selected for this study - focussing on characteristics that are included in the sample and fit the objectives of the study. Thus, respondents were intentionally selected, and selection within the population of interest was guided by factors such as:

- Individuals forming a segment of people living especially within the *amaphela*-operated area of the Cape Flats area in Cape Town;
- Individuals who tend to require mobility at some level;
- Individuals who tend to make use of a particular transportation service;
- Individuals who tend to participate in some form of discretionary or leisure or social activity;
- Or, individuals who tend to voice a desire to participate in evening-based discretionary activities while primarily relying on a public transportation services;
- And, individuals who showed interest to be interviewed for the study.

Recruitment

Firstly, some of the interviewees were contacted via social networks (such as Instagram, Facebook and WhatsApp – in some cases). The researcher observed individuals from the selected township areas who frequently posted pictures or information about participating in discretionary activities online. In other cases, initial contact with potential participants came through word of mouth among colleagues and fellow students in the Department of Civil Engineering at the University of Cape Town.

Sampling was then carried out using the snowball method. Once study participants had agreed to recommend other potential individuals with a similar profile to themselves for participation in the study, – these individuals were contacted directly by the researcher to determine their interest in participating in the study.

The inclusion of a wide range of socio-demographic and socio-economic diversity factors within the population of interest was considered as far as possible. Among the distinguishing characteristics considered were:

- employment status,
- all racial groups found in the study area were considered,
- the study included students,
- included social grant dependent people,
- the study included all genders,
- it included private car owners as well.

Ensuring Sample Fit

In the interview schedule (appended at the end of this thesis) there are sections which demonstrated the fit of participants, such as section C, *"private time vs social time"* (taken from Sorokin and Merton, 1973), in questions 1 to question 5.

The majority of participants stated that they use public transportation to engage in a variety of day-to-day activities outside of their homes. Going to the mall to shop, going to church, and eating lunch or dinner out were all common activities among most of the participants. So, while some reported preferring to stay at home for most of their evenings, they reported going on occasion for community meetings (participant 15); visiting with friends in the neighbourhood until late in the evenings (participant 5); needing to travel late at night for late shifts (participant 9).

1.8.3 Data Collection

The aim of data collection is to gather information that facilitates data analysis in order to achieve the objectives of the study. Again, two approaches were required to answer the research question and achieve the objectives of the study. On the one hand, the study envisioned gaining an in-depth understanding of the dimensions of mobility and accessibility associated with the experience of participating in after-peak leisure activities for township residents in Cape Town. Secondly, time-geographic constraints, transport use and justification, levels of accessibility and information about the built environment were captured among township residents who participated or intended to participate in leisure activities. Conducting the research in this way enabled a comprehensive understanding of the problem.

The face-to-face interviews provided contextualised and detailed accounts of mobility challenges, including social, environmental and temporal challenges. Due to their in-depth nature, the face-to-face interviews could enable the researcher to map places where:

- Respondents have had the most difficulty accessing public transportation between particular periods in the day;
- Respondents' needs for better transportation servicing or network inclusion;
- Respondents' desire to attend socio-cultural or recreational activities and other life enhancing activities in relation to where their current neighbourhoods' location is and the available transportation services.

Meanwhile, data from the travel diaries allowed respondents to spatially locate their experiences or activity, providing a time period for each location where they completed an activity.

The process of data collection was systematic, to ensure accuracy. To this end, the thesis presents the measures that were implemented in this study to follow-up with the aforementioned study needs:

(A) Face-to-Face Interviews

In this case, this study sought descriptive, inductive methods to understand how people made sense of their world, through the voice of the people themselves. The use of in-depth interviews therefore helped to obtain information from respondents that was not easily obtained through statistical analyses or questionnaires.

The collection of interview data for this study was organised with the help of an interview schedule. One of the challenges of conducting interviews is that they are conducted under the naïve assumption that the researcher wants to achieve understanding through dialogue and discussion. Interviews should not be seen as informal chats with the interviewees. Rather, they are data collection tools that can be used to get to the bottom of a range of research questions (McGrath et al., 2019).

A number of guiding criteria were followed while designing the schedule. While quantitative studies typically use fixed metrics – due to the need for a specific definition to enable measurement and operationalisation – this contrasts with qualitative techniques, which aim to generate a more holistic understanding of the issues under investigation in an open-ended way (Saldaña, 2015). A qualitative approach adheres to comprehensive descriptions of experiences and situations, rather than having people respond to a series of standardised questions, as would be the case in purely quantitative studies.

Interview Schedule

The face-to-face interview schedule covered a few aspects, namely analysing mobility and the factors of social exclusion experienced by the individuals. For example, mobility within the township context was discussed, as well as issues related to transport disadvantage. In this study, social exclusion is

discussed in terms of unrealised activities and discretionary activities based on respondent's experiences. For accessibility at the individual level, the schedule aims to investigate spatial and temporal constraints for activities. It aims to examine the time available for activities, e.g. the activities a person can participate in at a given time. The face-to-face interview schedule also aims to investigate the constraints on an individual's freedom of action in their environment, i.e. the location and duration of fixed activities, for activities and travelling. These criteria are modelled on Geurs and Van Wee's (2004: 129; 130) analysis of person-based accessibility measures.

The face-to-face interview schedule applied these criteria surrounding the theoretical framing outlined in section 1.6 by broadly setting out themes linked to the research question and the study objectives as well. The face-to-face interview schedule, therefore, contained five sections with the following themes:

Section A – *"Introduction"* (and activity)

Section B – *"Access to public transportation from different neighbourhoods around Cape Town"*

Section C – *"Limitations in accessing public transportation"*

Section D – *"Private vs. Social Time"*

Section E – *"Close"*

Data Collection Apparatus

- (i) A recording device (Dictaphone) was used during the in-depth interviews to ensure accurate analysis later on for the research.
- (ii) The travel log diary relied on a pen-and-paper format, where respondents filled in their daily activities⁶ on a form which they received upon consenting to participating.
- (iii) Thereafter a tablet computer, as well as a hard copy of a map of Cape Town, was used during the interviews with respondents to show the locations of their activities throughout the city.

(A) Travel Log Diary (TLD)

The travel diary was used to record the movements and activities of each interviewee over a period of three days. This form of data collection helped to focus the study on the topic of mobility and to bring together factors of transportation such as transportation, public transportation and factors of inclusion. This was the basis for developing a data collection format that encouraged study participants to reorganise their daily activities with these factors in mind. However, this study recognised that there could be issues with TLDs – such as the reliability of information retrieval and

⁶ Respondents' typical activities for a week (that is one workday and two weekend day's). One typical working day was presumed unlikely to vary too drastically from Monday to Friday.

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the quality of data collected from informants when relying on the travel diary data collection method (Crosbie, 2006).

Activity travel diary log form

Fifteen participants from a township area (the *amaphela*-operated area) in Cape Town were asked to complete a self-reported activity-travel diary as follows:

The "Travel Diary Log Form" followed a diary format where respondents would log up to five main activities per day. On the "Travel Diary Log Form" (see Figure 5 below), activities were defined as journeys for going shopping, visiting with family or friends, church attendance, tertiary attendance, travel for work – and so on. Each respondent was asked to fill in three days' worth of loggings. The three days were made up of one weekday, and two weekend-days to capture an ideal and typical respondent's week of travel.

Participant 13

University of Cape Town
Centre for Transport Studies
Project: "Moving in the City"
Course: CIV 6000W
Student Researcher: Ayanda Fuma
Travel Diary Log Form

Hello! Thank you for undertaking to be a travel diary respondent for project "Moving in the City".

Instructions:

- Please fill out the below form, recording your daily travel in pen (black or blue ink).
- For your 3-day logging, use the format "1 weekday and 2 weekend days" (For example, it can be: Friday, Saturday and Sunday; or Saturday, Sunday and Monday).
- An "activity" should be, for instance: shopping, visiting with family or friends, church attendance, tertiary attendance, travel for work – and so on.
- Please give as many details as possible per activity.
- Please be as accurate as you can (see "Note" for prompts).

Personal Details:

Pseudonym (this is a fake name): *Participant*

Where were you recruited? *At work*

Which neighbourhood are you from? *Guguletu*

How old are you? Please circle: *18-30 yrs* / 31-45 yrs / 46-59 yrs / 60 years and older

Day One
Day of the week: *Week day*
Time: _____
Activity One: _____
(Note: Please include information about how long each "trip" took you, what your location was from start to end, how much it cost you, why you had to make the trip and mode of transportation used)
(R150 per week)
Leave home 6am at work 6:50
After work shopping R10 to Clarendon

Activity Two: _____
Time: *Weekend*
(Note: Please include information about how long each "trip" took you, what your location was from start to end, how much it cost you, why you had to make the trip and mode of transportation used)
Walk to mall (somewhere Clarendon)
Typically → R10 from Guguletu to Bellville
Relatively → R20

Activity Three: _____
Time: _____
(Note: Please include information about how long each "trip" took you, what your location was from start to end, how much it cost you, why you had to make the trip and mode of transportation used)
Church Saturday
Visiting friends within Guguletu
Kulshriker, Kumbur
→ chooses to have car below
→ likes to hike, camping
→ Participant does avoid visiting friends and family simply because using taxi's means many exchanges

Figure 4: Travel Log - Participant 13

For the three-day log, participants were requested to complete a form (Figure 4 above) during the interview rather than taking the sheets home and completing them at home. This method warranted that the researcher received all responses rather than relying on responses being returned at a later date. Additionally, three days were not considered too long to mitigate problems with defective recall. Prior to the interview, participants were informed about what to expect during their interview.

This allowed them to arrive with a certain expectation and talk about how they travelled that week or on that particular day.

For the collection of travel data, the interview also included a section on the collection of travel data using a paid online tool ("Maptionnaire"), which helps to collect and store data such as map information provided by the research participants (Hämäläinen, 2017). In this case, the tool was not used to interpret or create models using the data, but only to store the data (see data collection procedure 4 in Figure 5 below).

RESEARCH PROCEDURES - Combining Approaches to Collect Data

The flow of interview data collection went like this:

Recruited respondents (n=15) from six township areas in Cape Town were recruited for a sit-down one-hour long interview and asked to first recall a three-day travel diary. The travel diary logs relied on a pen-and-paper format, where the interviewer filled in their daily activities on a form which they received upon consenting to participating in the study. Thereafter an in-depth interview commenced. The last section of the interview relied on a mobile tablet displaying a map of the research participants' city. Respondents were then asked to locate the areas they make trips to for a particular activity (including for leisure, or where they would like to go) on a map. A hard copy print out of the same map was also brought into the interviews as an alternative to the digital map. Map data is a useful form of data collection in survey's (Kahila-Tani et al., 2016), - this helped with contextualising the interview revelations regarding activity locations.

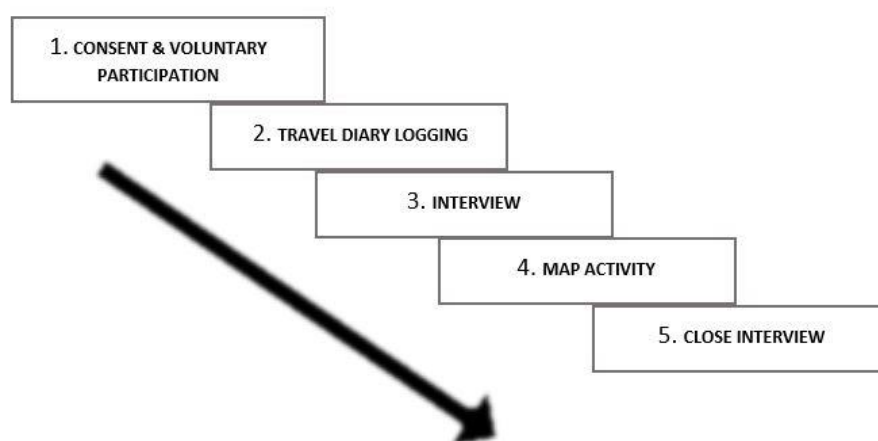


Figure 5: Data Collection Procedure (SOURCE OWN)

1.8.4 Data Analysis

Analysing In-depth Interview Data

In this study, qualitative research methodologies were employed to solicit primary data. The qualitative interview data collected was first transcribed (verbatim), then analysed applying manual thematic coding of the first 5 transcripts (transcript 1 to 5). Once the main themes were decided on, 10 more transcripts were analysed using Atlas.ti version 9 software package. An iterative (see Figure 6 below) thematic data analysis approach was deployed to provide a comprehensive account of their perceptions of commuting from the townships relying predominantly on public transport.

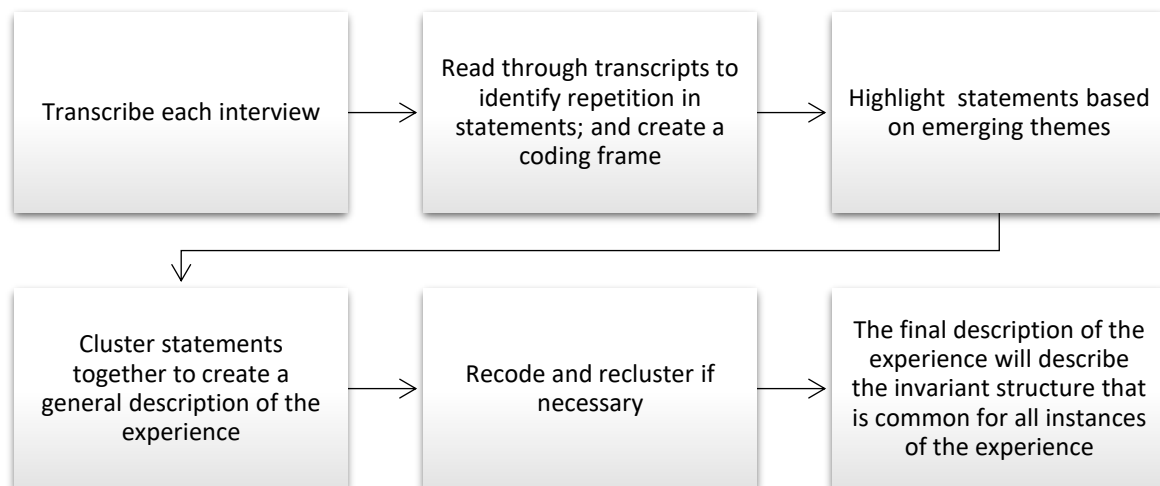


Figure 6: Interview Data Analysis Process (SOURCE OWN)

The thesis developed a framework which identified categories in the data to help organise for analysing. Section 4.3 in chapter 4 provides an in-depth break-down of the data analysis process for the in-depth interviews.

Analysing Travel Log Diary Data

This thesis developed a framework for analysing data from research participants' travel loggings. Travel logging data was gathered from the same data set located in the *amaphela*-operated area of the Cape Flats townships in Cape Town. A reminder to the reader that data was gathered in two parts: 1. through the travel log diary; and 2. through the responses given during the mapping section captured in the interview ("section D" in the interview schedule).

The framework combined space-time geography concepts and applies them to a qualitative narrative data analysis technique. The travel log diary data is analysed using a qualitative space-time geography approach. This approach essentially combined qualitative narrative data analysis techniques and mapping respondent's activity locations using an open-source geographic information system (GIS) platform. This method will simply be referred to as a "qualitative space-time analysis" henceforth.

The framework assessed person-based or constraints-based spatial temporal accessibility markers. Adopting principles from other disciplines (such as Geography) within the social sciences is an enriching approach that benefits knowledge production (Steinberg and Steinberg, 2005).

How This Study Adapts an Analysis

When extrapolating the data, the main information collected was centred on any description related to travelling. The addresses given for places, the start times of the journey, the duration of the journey, the choice of mode of transport, the length of stay for an activity and preferences (such as the ideal time to travel, the desired locations for discretionary activities and the choice of mode of transport for weekday and weekend). The mobility data of the individual respondents was then summarised and analysed. These summaries were presented in the form of short narrative paragraphs. A map was created using Google My Maps. This enabled a visual representation of all the nodes that a person indicated they visit. The aim was to explore people's space-time constraints in a qualitative way.

Which other studies in transportation use a small case study (≤ 20 subjects) with in-depth interviews and travel diary information and focus on low-income persons?

This forms the qualitative space-time analysis for the travel diary segment, following McQuoid and Dijst's (2012) study on emotionally sensitive temporal geography. Their study aimed to capture the emotional components of the space-time pathway by conducting a case study with a single mother in San Francisco (USA). The authors were able to capture the complex space-time organisation of their respondent's daily life by using a mixed methods approach. McQuoid and Dijst (2012) used an approach consisting of qualitative interviews, car photography and travel diaries. The space-time path of the travel diary was visualised using GIS software. These were accompanied by discussions about the embodied and emotional experiences of daily life.

Analysing Travel Data - Approaches in time geography

Activity-spaces

The use of time-geographical methods is useful for analysing both spatial and temporal constraints on people's daily movement and activities. An example of the time-geography methods and concepts that can be useful for this study is the activity space concept (very well described in Ellegård and

Svedin, 2012). The activity space concept is a theoretical construct that goes back to the Swedish geographer Hägerstrand (1970). Hägerstrand (1970) claimed that individuals' daily movements in space and time are restricted to several space-time prisms, which are usually connected by a series of constraints (Burns, 1980). Hägerstrand's theoretical approach recognises that all human action is fundamentally composed of temporal and spatial dimensions that are closely interrelated (Burns, 1980). The use of activity spaces serves to visualise and analyse travel behaviour in its spatial context by measuring the distribution and extent of places that are part of a person's daily interaction (van Dijk & Krygsman, 2017: 2). There are a few ways to understand the concept of activity spaces. Some of these definitions are described below. Definitions of activity spaces:

Schönfelder and Axhausen, (2003):

"Activity space is that part of the environment which a traveller is using for his or her activities" (pg. 4),

and

"Activity space is that part of the daily environment which is used by a traveller" (pg. 6),

and

"In activity spaces, travellers choose routes through time and space to meet their obligations, needs and desires" (pg. 7)

Most agree that activity-spaces reveal the travel patterns where people try to perform various task through time and space.

Who has used activity space concept in transport?

Studies looking at travel behaviour and literature discussing transportation geography often use activity spaces to assess individuals' regular activities in time and space (Patterson & Faber, 2015). The use of activity spaces has many applications, such as:

- (a) understanding travel behaviour,
- (b) understanding the factors influencing the indicators themselves,
- (c) the demonstration of GIS tools to calculate them,
- (d) calculating accessibility to opportunities,
- (e) the comparison of different calculation methods and
- (f) identifying segregation and exclusion

(Taken from: Patterson & Faber, 2015: 688).

Studies that have employed the activity-space concept include Axhausen (2008) who studied the travel necessary for building and maintaining the social capital of a network employing activity-space concept, and Kwan (1998) who applied time-geography measures such as activity-spaces in a study

which developed two alternatives for overcoming some of the difficulties involved in the use of conventionally limited integral measures of accessibility. Meanwhile, Weber and Kwan (2002) use potential path areas (PPAs)⁷ to measure individual space-time accessibility in order to realistically evaluate individual accessibility within cities, Miller (1991) develops a framework which describes how to use GIS to calculate PPAs and to use these to model accessibility, and Faber and Páez (2011) in the interim use a theoretical argument which is inherently from time-geography to argue that accessibility is hampered by traffic congestion and the dispersion of activities, making people's access challenging. In addition, Kamruzzaman and Hine (2012) analyse the relationship between the size of the activity space and transport disadvantage in rural areas using the activity space concept. In transportation planning, for example, Schönfelder and Axhausen (2003) operationalise the activity space concept using an ellipse⁸ measure to identify people at risk of social exclusion, while Neutens et al., (2012) use potential trip areas to examine the variability of person-based accessibility over a week. In this way, they are able to empirically support the conceptual argument in favour of including time in accessibility measures. Thus, the use and application of time-geographic concepts and measures to transportation accessibility and a variety of other social and transport network challenges at the person level is common and provides detail when examining the journeys of people who rely on public transportation.

The diagram below depicts the "spatial distribution of those locations a traveller has personal experience (*contact*) with" (Schönfelder and Axhausen, 2003: 7). The below figure reveals an example of what an individual's movements within an environment may look like when modelled.

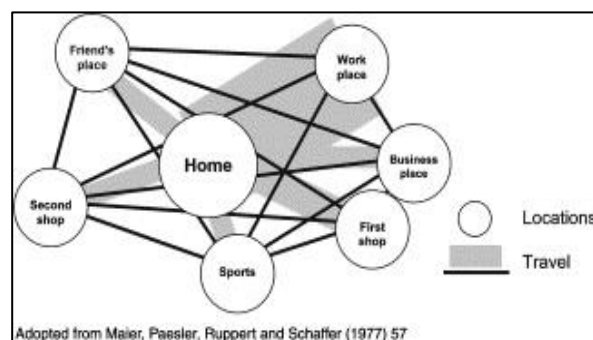


Figure 7: Simplified activity space representation

⁷ According to Patterson and Faber (2015: 679), potential path areas (PPA's) refer to "the spatial extent of where individuals can participate in activities subject to time and other".

⁸ Confidence ellipse is used to describe the activity locations that are distributed in space, the size of which indicates the dispersion of desired locations. The confidence ellipse measure is based on activity space oriented research and is often used in biological habitat research to analyse competition and density effects of animals' space usage (Schönfelder & Axhausen, 2003).

Figure 7: Simplified activity space representation

Incorporating temporal accessibility measures

Neutens et al., (2014) proposes and implements person-based, time-specific indicators of accessibility. The authors aim to proffer a method to assess the accessibility levels of subgroups of the population at various spatiotemporal scales. The purpose of their paper is to demonstrate how indicators such as person-based, time-specific indicators may help with the understanding of how spatial patterns of accessibility of subgroups within the city evolve over time as a consequence of differences in space-time constraints. Firstly, the authors want to deal with the analysis of space-time paths, and then with individuals' ability to participate in desired activities - studied through accessibility analysis. To measure person-based space-time accessibility at a particular time of the day, the authors employ time geography's concept of the Space-Time Prism (STP) for its elegant construct to integrate the spatial and temporal constraints on activity participation and can be implemented at the individual level in a Geographical Information System (GIS).

Using longitudinal data from activity and travel diaries of men and women, they analyse the differences between subgroups in accessibility during several time intervals over a whole week and a time-use survey. The authors find that in the city of Ghent (Belgium), male and female adults with different occupational status (i.e., full-time, part-time, and unemployed) may have significantly different levels of accessibility due to different time use patterns during the daily cycle. Other results demonstrate that different population groups can have significantly different levels of accessibility during the daily cycle due to differences in their time behaviour.

Kaza (2015) claims that location-based accessibility studies often ignore the temporal component. Kaza (2015) aims to show that this ignorance is underpinned by larger theoretical assumptions. This paper aims to challenge such theoretical frameworks to uncover the role of accessibility in the location choice and spatial structure of places by examining how periodicity and breaks in transit accessibility patterns come about. Kaza (2015) explains that some theoretical frameworks treat the distance between two fixed points as constant, which leads to ignoring the diurnal and seasonal changes in accessibility. This, the author argues, points to the need to consider the effects of the volatility of a location's accessibility. Furthermore, opportunities have their own daily rhythms, which may or may not coincide with the rhythms of transportation networks, affecting accessibility. First, different accessibility measures are conceptualised and the location-based accessibility measures are combined into a single framework. Then, the author modifies this framework to show that time can easily be included and how the method can be applied to much of the United States. Finally, a specific case is selected for two regions in North Carolina. The results show that in a quarter of the localities significant

changes are observed during the day, while in the remaining localities the changes are minimal, mainly due to poor transport accessibility. It is also argued that volatility should not be trivialised, but that its impact on mode choice, location choice and thus on the spatial structure of cities should be acknowledged.

1.8.5 Data Presentation

Interview Data

The interview data involves a thematic presentation with direct quotations. Presenting the data in this manner “allows the reader to judge the transferability of the interpretation and also the results, thereby also increasing dependability”, to quote Ponelis (2015:524).

Additionally, this thesis presents a 'quotes by code' table in chapter four. This table allows the reader to follow and observe how the data is extrapolated – linking each quotation to a code and corresponding theme and presenting the depth by presenting the value for the number of times a quotation fed into a particular segment of the table. Furthermore, this table allows the reader to see the relationships between code groups and codes.

Travel Log Diary Data

The travel data was synthesized from the logging diaries as well as from section D in the interview schedule (the “mapping” section during the interview) into narrative paragraphs. The information is also visualised into a map on “google My Maps” to represent trips respondent's make throughout the Cape Metropolitan Area, (CMA).

Photography or Observation

The author undertook to generate “own-sourced” images on location. Observations and descriptions of the evening-based shared paratransit service “twelf-down” (discussed in chapter three) particularly required photographic verification, as there is no real scholarly information on this form of evening paratransit.

1.9 Situating The Researcher

Reflexivity is used by a wide range of scholars - particularly qualitative researchers - who routinely use reflexivity as a methodological tool to better “represent, legitimize, or call into question their data” (Pillow, 2003: 176). The practice of using reflexivity in research warrants neutrality. Pillow (2003: 179) argues that focussing on developing reciprocity with research subjects like hearing, listening, and equalising the research relationship demonstrates doing research “with” instead of “on” participants.

To this end, the researcher outlines her concerns and how she tackled doing research in conjunction *with* respondents – rather than *on* them.

Researcher position and background

The researcher recognises not many who are considered “the researched” may one day become “researchers” themselves. This makes the researcher particularly thoughtful regarding how this gradual shift in position has influenced interpreting this piece of work as well as how this position has influenced conducting the investigation for this study.

As the “researched” the researcher refers to an upbringing where the primary contact with individuals from the academy was often through medicine, at a local clinic in Gugulethu “KTC”. Or when serious tests for childhood sicknesses had to be carried out – that would take place at the Red Cross Children’s Hospital in the affluent suburb of Rondebosch, Cape Town. These “white saviours” represented getting healthy or being in a state of wellness. In terms of research, these “white saviours” would recruit African mothers for conducting trials on the African children's little bodies for “lifesaving” medicine. They were of demiGod status. "And they chose us! They wanted to make us better. They cared about us! The demiGods spoke no word of isiXhosa, so our mums would prompt us to speak English so the doctor could know how to help. Consent for any testing was either verbal or presented in long worded documents in English (but mum only had a “Bantu” education up to standard 9)".

It is important to contextualise this history and include it here. The more the researcher has changed his position, the clearer it becomes that the demigods who were kind enough to mingle among the locals were themselves ordinary people. In the early nineties, the townships were particularly taboo due to the unrest that prevailed in the country – and in the run- up to the dawn of a new democracy in South Africa. So these ordinary people simply did what was necessary, within a framework that allowed such work at the time. This brings us to the next point.

Transport might not be medicine (in that there is more concern with mobility within, and accessibility of the built environment in which people live in rather than the bodies that people live in), but they are both crucial for the people and development of this country. It is against this chequered, uncomfortable and yet eye-opening history that the researcher is acutely aware of the importance of conducting research in an ethical and consensual manner – for the benefit of all. It is this researcher’s history which has cemented the notion of doing research *with people*, instead of doing research *on people*. Therefore, the researcher views herself as an instrument in the research process where the participants are also part of that research process. The participants (respondents) share, then they

receive feedback for their further input and then the researcher must disseminate the study that emanates from their collaboration.

Insider knowledge

The researcher is aware that this study can contribute to improving people's lives in terms of transport accessibility in the townships. Therefore, this personal historical knowledge has an impact on the researcher's sense of the use of language in research administration, awareness of cultural norms, thoughtfulness about the impact of symbolic violence on research practise and the power dynamics between the 'researcher' and 'the researched'.

How the researcher interacts with the respondents:

Language

The main language of the interviews was IsiXhosa (also the researcher's mother-tongue). Although, many of the younger respondents were bi-lingual and spoke English – the choice was always for a respondent to make, and their level of comfort was of utmost value to the researcher.

Discussion

The discussion followed a semi-structured approach. This means that the interviewees were not necessarily asked questions, but that a topic was raised on which the interviewee expressed their opinion. Sometimes, when interviewees were not as forthcoming (perhaps due to time constraints as some interviews took place during lunch breaks at work), the researcher reassured the interviewee about the length of the interview or revisited sections of the interview that had previously been skipped (to take the pressure off and keep the momentum going).

Culture, gender, and race

As the researcher is umXhosa, there are unspoken hierarchical social norms that are acted out – regardless of the position in life a person is in. For example, as a younger woman, the researcher is considered inexperienced if she is sitting opposite an older woman. Therefore, the researcher must practise “ukuzithoba” (being submissive, humble or in a state of acquiescence) as a sign of self-respect and respect for elders. This is tricky in some cases, especially when one has some expertise over the other, who is considered more experienced in life. However, this is an unspoken act of mutual respect that does not detract from a discussion for the purpose of data collection, regardless of the balance of power.

It is the same with men. The researcher tended to rephrase “you” “ to “buthi” as a sign of deference for an older man to the researcher.

Direct eye contact was sometimes difficult to achieve or maintain (apart from interview conversations with respondents who were considered relatively equal or neutral in terms of social status). The researcher is aware of the offence that direct eye contact with elders represents, as this is culturally seen as disrespectful and an act of defiance (as the inferior party feels they are treating an elder as an equal by making and maintaining direct eye contact). The researcher solved this problem by carrying a pen to take notes during such an interview (as the focus was mainly on the sheet of paper and not on the interviewee).

The researcher was aware that the presence of a French intern assigned by the department, who came along to help conduct the final part of the interviews (the digital mapping section), – made for a beguiling presence in the townships. While the intern enjoyed the novelty of standing on the sandy street of a township, possibly for the first time in his life–, the local children who surrounded us while we waited for an Uber poked and prodded the intern (almost as if they were checking to see if he was made of flesh and bone like them). Then they asked him for money – funnily enough, not the researcher!

On the occasions when we had completed data collection in one township or another, the Uber drivers, who were usually reluctant to travel to the township, often expressed relief when they learnt at the pick-up point that they would be carrying a European or Western-looking passenger. This was probably because it reassured them that our journey would take us out of the townships and into affluent neighbourhoods where the drivers could continue to pick up passengers. If it had only been the local, black female researcher, there would have been an assumption (or fear) that the researcher was driving deeper into the township world – and consequently she would be left behind in search of customers. This is just an observation – the researcher never asked the drivers about this.

The research relationship:

Symbolic violence

We will refer to the act of power between researcher and research here as “servitude”. We have chosen this word because it seems appropriate given the historical exploitation of Black bodies for the advancement of science and the growing economies of scale in human history – without adequately acknowledging this contribution or source. Slavery is our interpretation for this section. As for the balance of power, this changed for the researcher depending on the participant. As some of the interviewees were very interested in the topic, they tended to speak almost without prompting and without interruption, as if the researcher was there to take minutes for a meeting. The researcher was therefore there to fulfil the respondents’ desire to voice any complaints related to public

transportation, no matter what. This allowed the researcher to really step back and become a tool for data collection. With other respondents, the researcher felt she was [unintentionally] exercising a kind of absolute authority bestowed upon her by the university, which influenced the way in which responses came guardedly from the mouths of some participants.

To counteract any feelings of discomfort or thoughts of coercion, – the researcher pointed out an ethical prologue at the beginning of the interview (before the interview was recorded) so that the interviewee knew that they had the option to change their mind about participating or to end the interview at any time. The interviewees were not forced to take part in the interviews. Sometimes in this context, people need to be constantly reminded of the ethical framework surrounding their participation in research of any kind. This is the case because South African blacks have passed down through generations a sense of obligation of subservience to government departments, university authorities or even church authorities – structures that still have political or social influence in black communities today.

Setting my questions:

The researcher set her questions and “probing” based on the literature she found regarding the phenomenon of opportunities for township-dwellers to access public transportation during off-peak periods in the day. It would only be apparent during the discussions with participants what underlying assumptions she made – and she would amend with each learning opportunity. Below, she articulates the assumptions she was conscious of.

Valuing the research participants

The reason why the experiences of township residents are important is primarily because they are experts. Even their daily observations of things that happen around them (and not to them) provide valuable insights, because they provide new information that you can only know if you are in that situation every day. This is the lived experience.

Even though the researcher grew up in a township – she only moved away fifteen years ago and now even has the status of a car driver (instead of a paratransit dependent). So the reports of new shopping mall names and new street names, as well as the modernisation or standardisation of *Amaphela*, the upgrading of taxi ranks and where or when new settlements have sprung up that have gradually emerged in the townships is a phenomenon that the researcher was unable to contribute a current insider's perspective on at this point.

The information shared in the interviews is treated as truthful or noteworthy as long as it is the legitimate experiences of the people. This is important because it helps us to expand our knowledge of the everyday experiences of using public transportation infrastructure and of the people whose needs we are trying to meet.

1.10 Study Limitations

As with any study, there are some limitations to this research. Possible limitations of the research study in terms of research design, sample, data collection and data analysis are discussed below. Limitations of the research design: The foreseeable limitations of the study in terms of research design may lie in the subjective nature of the research. Qualitative research is questioned in terms of objectivity as its purpose to gain productive data lies in the researcher's ability to experience intersubjectivity - gaining trust and rapport to get as close as possible to the respondent (Babbie & Mouton, 2001). Section 1.11 outlined how the researcher will deal with such questions.

Limitations of Sampling: This research had a total sample size of fifteen respondents from township area households. The sample was limited to Cape Town only and did not include other regions of the country. Were it possible (in terms of time and budget), this study would benefit to draw comparisons of similar experiences for township-dwellers to access public transportation during non-recurrent periods in the day in other cities across South Africa, as it may have painted a wider picture of the challenges linked to mobility, accessibility and social exclusion.

Sample size is limited, therefore more respondents for future or longitudinal study could provide more data and insights regarding mobility.

Limitations of Generalizability of Study: This study covered only those individuals interviewed for the purpose of critical exploration of their experiences with mobility to places for leisure and recreation (discretionary activities) within the public transportation framework available within their communities.

Limitations of Data Collection: Respondents were asked to recall their past activities while they sat in an interview. This could be a limitation as memories would vary from respondent to respondent. However, the researcher observed that their account about their day-to-day need for mobility did not contradict much (especially those that are employed or students) as they repetitively commute every day of the working week to get to jobs and school. Therefore, their routes are most likely etched to memory which is as accurate as can be under the circumstances.

For the face-to-face interviews, it was challenging to record the information by writing the responses by hand therefore a recording device was used. The disadvantage with using a recording device was that it would intimidate the respondents when they knew they were being recorded. There were limitations also in terms of time management as the respondents would discuss topics up to a given time frame for each section. The interviewer was critical to the process of correctly extracting information from respondents, in a timely and thoughtful manner. The researcher had previous research interviewing experience and would conduct all the face-to-face interviews herself. A further limitation with regards to data collection was the apparatus used. The researcher collected some data using a mobile tablet in interviews. The purpose was to display a map in aid of reconstructing daily activities. However, the respondents needed help in most cases to find their exact locations on a map.

What worked and didn't work in data collection?

- Section C, question two (participants stumbled sometimes on this question). The researcher should have worded it differently;
- Respondents could read the map without too much trouble;
- Respondents were mostly confident in their answers – this was possibly tied to commonalities between the researcher and interviewees such as language, race, familiarity (contact made through a common network or referrals from respondents' friends) and wisdom about nature of research ahead of interview (pre-arranged)

Data Collected in August 2018 – An official university leave of absence (LOA) was granted in 2019 for health reasons (a strict university regulated leave where no further work may be carried out during such time as leave is granted). On return to COVID-19 in 2020, registration for full-time studies was delayed, resulting in further restrictions on resuming working on the research. In 2021, upon return, the researcher had to be reacquainted with the work and forge on to submit in 2022/2023.

However, the problems of paratransit dependence for accessing life enhancing opportunities are a long-standing battle of survival for many people in urban areas of South Africa - and especially in the townships. They are not unique and by no means true only for the time the interviews were carried out. The data set used for this study is insightful and true to the main challenges confronting commuters even in 2022 (see reference “*NEWS 24 (2022)*”, a new publication around August-September, updating on *amaphela* strikes which took place in Cape Town in that year).

Limitations of Data Analysis: The scientific process of data analysis (for the content analysis of face-to-face interviews) was a meticulous and repetitive exercise. If not adequately clarified, and if each step was not properly documented through-out the process, there would have been a risk that the themes and categories selected by the researcher from the texts could compromise the integrity of

the study. The researcher employed data verification methods discussed in further detail in the ensuing section 1.11 to prevent any confusion.

Issues Encountered

It would be quite complicated to visualise the time-space prism of an interviewee over the course of a day or a week. It would also be challenging (given the limits of my expertise) to develop even prisms that reflect movements between spatio-temporally more or less fixed, semi-fixed and flexible activities in a diagram or on a map, let alone to show how such patterns are related between groups of interviewees living in different parts of the township (semi- and or informal and flexible) mobility operation area. Instead, respondents' temporal-geographical constraints, use of transport modes and their justification, levels of accessibility, mobility within and outside township areas, and information on the built environment among township residents are summarised. This approach was helpful in visualising where respondents go on a map.

Limitations of the Study Area: This relates also to the nature of conducting face-to-face interviews in contexts of townships in Cape Town. Due to particularly high levels of poverty and unemployment, people are unlikely to have a landline phone at home, nor do they have credit/airtime or internet data to communicate via a mobile phone for long distance calls or telephone interviews. Transporting people to a safe location for the interview involves costs and labour that cannot always be financed. For this reason, the researcher worked as best as possible with limited resources to conduct fifteen in-depth, focused, face-to-face interviews with township residents in their homes, at their workplace, or at a café near their workplace. The researcher made every effort to ensure safety for herself, the subjects and the researcher's assistant.

1.11 Ensuring the Quality of the Research

According to Morse et al., (2002: 9,10), data verification is the mechanism used during the research process to ensure the reliability, validity and rigour of a study. Babbie and Mouton (2001: 646, 648) state that reliability is the "quality of measurement methods that suggests that repeated observations of the same phenomenon would have yielded the same data each time" and that validity is "a term that describes a measurement that accurately reflects the concept it is intended to measure". The verification of data is therefore an important part of the research process.

Babbie and Mouton (2001: 276) also believe that the work of Lincoln and Guba (1985) has made the greatest contribution to trustworthiness in qualitative research. They developed four constructs

appropriate to the qualitative paradigm, namely: credibility, transferability, dependability and confirmability, to ensure thorough objectivity.

Credibility

Credibility aims to prove that the reality that respondents present as their own actually exists and has not been invented. This study draws on empirical studies of a similar nature, in which parallels found are discussed and analysed in order to verify the compatibility between the data obtained from the interviewees and what is already known about this reality. To ensure credibility, the data can only be transferred if, in addition to the individual data points, the adequacy of the data as a whole is also assessed (Babbie & Mouton, 2001). The use of a recording device also ensured the appropriateness of the reference, however intrusive it may be (Babbie & Mouton, 2001: 277). In addition, the research utilised methods such as dense description (seen in Chapters 4 and 5), reflexivity (in Section 1.9), saturation (in Section 4.3) and external checks (through sharing and exchanging raw data with carers).

Dependability

Dependability refers to the fact that a study can be replicated with a certain probability, so that the results would be similar if the study were repeated with the same or similar respondents (Babbie & Mouton, 2007). The research conforms to this form of review in that it follows a systematic process of data collection methods (using an interview schedule and travel diary form) and data analysis methods (maintaining consistency in linking themes and categories in a uniform way with all interviews using established scientific approaches to analysis). There is also the opportunity for scrutiny of the study as the research is conducted under the supervision of two university supervisors who confirm the validity and reliability of the study by monitoring the documentation and checking the coherence of the data, findings and interpretations – which they have access to at any point in the research process (Babbie & Mouton, 2001).

Confirmability

Confirmability is the point at which the findings are obtained as a result of the investigation and not the bias of the researcher (Babbie & Mouton, 2001). Consequently, an audit attempt can be conducted to eliminate any biases and a check can be made to see if the conclusions are supported by their investigation (Lincoln & Guba, 1985, cited in Babbie & Mouton, 2001). The inquiry audit (Lincoln & Guba, 1985), an investigator reviews the documentation of critical events and a running record of the investigative process (Babbie & Mouton, 2001). In this study, it is mandatory that all raw data (all interview recordings, activity and travel diary logs and subsequent transcripts) as well as the proposal with the research theories, all interviews used for the pilot study and the interview schedule are

submitted to the university supervisors. (Feedback was sent by letter to respondents to confirm the preliminary results that were available at that time. Respondents could comment in writing on personal data errors or on all aspects of the study and subsequent findings).

Generalisability

The aim of this particular study was not to provide generalised results that apply in all contexts, but to provide a description that applies in the context under investigation. Therefore, this study was also limited in that the results could not be generalised outside the study sites where the research was conducted.

Generalisability refers to the extent to which findings based on the study's sample are useful to a broader population in society (Polit & Hungler, 1991). This study relied on a sample size of no more than fifteen men and women from the *amaphela*-operated area in Cape Town. This sample was enough as it allowed this study to carry out an in-depth investigation – inquiry regarding time; effort; and cost for reaching destinations for this sample.

This study therefore had to use this sample to illustrate what mobility disadvantages look like and whether or not they play a role in the social exclusion of this illustrative sample.

In this case, partial generalisations to similar populations may be possible, but even this should not be the main concern of qualitative research.

1.12 Ethical Considerations

This study was awarded ethical clearance from the Faculty of Engineering and the Built Environment (UCT) with reference number 20180627.

De Vos (2002) claims that ethics is a set of principles that are widely accepted. These principles provide rules and behavioural expectations for proper conduct towards subjects and respondents, employers, sponsors and other researchers, assistants and students. Babbie and Mouton (2001) state that the researcher has the right to seek the truth, but not at the expense of the rights of others in society.

Informed consent

Respondents were informed about the nature of the study, the topic and the expectations of recruitment. Respondents were also reminded of the requirements of the study at the beginning of the interview. This is important as participants need to have a complete overview of what they are getting into. Therefore, before the study began, the researcher informed participants about the

hazards, consent, the nature of the study (what the study was about) and a step-by-step breakdown of the sections of the one-hour interview. Respondents were also asked to read and sign a letter giving their consent to participate in the study (in English and isiXhosa). Verbal consent was also given before the interview began.

Avoidance of Harm

Even if this study did not intend to put anyone at risk of physical harm or injury, – there was always a need to avoid possible emotional damage. Participants taking part in a one hour interview could have been forced to deal with issues that they were not prepared for prior to the interview. During the interview, participants were informed of their right to terminate the interview if they felt distressed by the questions. The interviewee was advised to seek free counselling from LifeLine Western Cape.

Referral

Even if no harm was intended to the participants during the interview (the questions were simple and not intended to cause psychological harm), a possible unforeseeable danger cannot be ruled out in any type of research. Due to the nature of the research, where participants were asked to provide personal accounts of their lives and income, as well as intimate details about the “quality” of their lives and personal relationships, it was possible that unintended trauma or psychological consequences would occur during data collection. In such a case, the interviewer would first pause the interview, attempt to contain the situation, and then make arrangements for a referral that provides the necessary resources for the participant's benefit.

Deception of Subjects

As this study was not an experimental treatment, there were no control groups and no placebo control groups, there was no intention or need to deceive the participants. The aim of this study was to obtain truthful and detailed information about participants' experiences of accessing public transportation after peak hours in their neighbourhoods. Therefore, deceiving participants in research is not only unethical and puts subjects at risk, but would also serve no purpose in this particular study. Unintentional deception of the subjects was also prevented as much as possible by giving the participants as much information as possible about the study at three points: first, at recruitment; second, when confirming the time and date of the interview; third, at the beginning of each interview; fourth, at the end of the interview, where respondents were often given the opportunity to ask further questions and encouraged to add any additional information they had omitted; and fifth, respondents were sent a letter with the preliminary results of the study – an opportunity to confirm the purpose of the study.

Voluntary participation

The participants took part in the study voluntarily. The participants were not forced to participate by the researchers, nor was any coercion exerted on them to ensure their participation. It was made clear to research participants from the outset that they had the right to discontinue the survey without negative consequences should they wish to do so at any time. Voluntary participation was also important for the integrity of the research. Participants who are forced to participate against their will are likely to provide useless data due to their lack of interest in the research topic. It was therefore the duty of the researchers to ensure that participation was voluntary by promoting the study in a way that.

Anonymity and Confidentiality

Babbie and Mouton (2001: 523) say that anonymity is given when "the researcher cannot identify a given response with a given respondent". In this study, participants were asked to choose a pseudonym for all interviews. This ensured that everything discussed during data collection remained anonymous. Confidentiality means that the researcher could identify a particular person's answers but undertook not to do so publicly (Babbie & Mouton, 2001). Confidentiality was crucial for this type of research as respondents were revealing personal information about their lives and those of their family. Breaching this confidentiality had consequences as it could jeopardise the study and raise doubts about its ethical content and the integrity of the researcher.

Gaining Permission

The consent of the respondents is communicated before the start of the survey and agreed with the respondents. During recruitment, participants are briefly introduced to the topic and asked to indicate whether or not they are interested in participating – provided they fulfil the criteria of the study (e.g. demographic information).

Maintaining Subject's Privacy, Anonymity and Confidentiality

Respondents' personal information was protected and treated with sensitivity as best as possible through accurate management of respondents' data.

Management and record-keeping of data

- Apart from their original consent document and the interview recording (where the names are stated) interviewees thereafter were identified only by sequence of their participation (i.e., first interviewed individual became "participant 1")
- Signed consent forms were stored in a folder under each participant's pseudonym on the researcher's personal computer (PC)

- Each interview was recorded using a mobile phone device and a Dictaphone then later coded (i.e., "Participant 1") and stored in a folder under each participant's pseudonym on the researcher's PC
- Each transcript was stored in a folder under each participant's pseudonym on the student researcher's PC

Participants were informed that their identity may be disclosed to the university supervisors. The supervisors of this study received a copy of each consent form, interview recording and transcript. Therefore, the identities of the interviewees were disclosed insofar as the researcher was responsible (in terms of the statement of purpose) for the integrity of the research and the disclosure of sources to the supervisors. However, respondents were assured that their data would not be disclosed (to third parties) by the researcher – as they had not consented to multiple third parties having access to their personal data for use outside of this study.

1.13 Organisation of thesis

In this section, the thesis approach to organising knowledge is laid out.

This study presented the research agenda for investigating the mobility and accessibility of places for leisure and other life-enhancing off-peak opportunities in a township neighbourhood in Cape Town. This chapter set out the research problem and objectives of the study and explained how these objectives were to be achieved.

Statement of original contribution to knowledge

This study makes an original contribution to knowledge by providing an in-depth understanding of the nature of the temporal dimensions of accessibility for township-dwellers in Cape Town by utilising narrative data to explain the extent of the problem. This study has developed a "*just*" analytical framework for understanding the phenomenon of reduced travelling as a result of time-related constraints for mobility using paratransit from Cape Town's Cape Flats townships. In doing so, this study has re-contextualised theory by combining already well-established concepts with the findings of the analysed data to develop a conceptual framework that expands our appreciation of how issues of immobility may exacerbate social exclusion for township-dwellers in Cape Town. Furthermore, this study employed a qualitative methodology (in particular, an interpretivist epistemology) to collect and analyse data through interviews and travel log diaries from fifteen respondents from the Cape Flats in Cape Town. This opportunity provides a chance to contribute to filling the yawning methodological knowledge gaps in the study of non-recurrent transit periods in the day using a qualitative space-time approach – especially with regard to accessing discretionary activities. Furthermore, this study contributes to knowledge by bringing together a range of literature into one structure, namely the

body of literature dealing with inter-township and intra-township mobilities, transport-related social exclusion, transportation poverty, transportation accessibility and behavioural geography in a South African context.

Now, a brief outline of the rest of the thesis agenda will be explained –

Chapter Two: This thesis integrates its literature analysis into the entire document in order to provide the reader with a comprehensive overview of the phenomena analysed. Therefore, thesis theoretical and empirical literature is distributed throughout the document. Nevertheless, most of the literature synthesis on the topic takes place in chapter two. Further reviews of the relevant literature and the 'research gaps' are presented in the preceding and following sections and chapters of this document. This approach to organising knowledge is common in the humanities and theoretical social sciences to make a significant and original contribution to new knowledge.

Chapter two therefore conceptualises mobility for participation in discretionary activities in the context of the urban periphery of Cape Town. To this end, the discussions are divided into three main sections, which in turn are subdivided into smaller sections summarising the relevant literature. In the final section of this chapter, a "*just*" framework for the analysis is developed.

Chapter Three: Chapter three introduces the case study area of the *amaphela*-operated area by discussing the common characteristics among six township neighbourhoods in the Cape Flats of Cape Town. The main modes of public transportation in the area are presented. The contribution to be made in this chapter is to add to the knowledge of the *amaphela* network operating area and to highlight an informal evening shared mobility service offered to workers commuting from the CBD to the townships.

Chapter Four and Chapter Five: Chapters four and five present the empirical analysis by presenting the characteristics of the interviewees and analytical tools such as the coding tree. The analytical framework in chapter four utilises a data extraction table based on emergent themes or categories. In chapter five, the analytical framework uses synthesised summaries of the travel logs. The final section of the analyses contains the rationales that summarise the key contributions from the analysis.

Chapter Six: Chapter six presents the most important results and links them to the research questions and study objectives. The most important results are discussed in the conclusion, where they are compared with the most important concepts in the theoretical overview.

Chapter Seven: Chapter seven contains a discussion of the issues uncovered in the previous chapter. In this section, the results of the empirical case study are discussed and related to the literature review and the theoretical framework. The results are discussed in relation to the theoretical framework and the usefulness of the methods used in the study. Finally, this section presents the main contributions of the thesis and discusses their implications.

Chapter Eight: Chapter eight concludes this study by explaining the answers to the research questions and the objectives. This section identifies the original contribution to knowledge and discusses the significance of this contribution, emphasising the limitations for the expansion of research in the future.

Chapter Two: Conceptualising Mobility for Discretionary Activity Participation in Cape Town's Urban Periphery Context

What is the case for the research?

Transportation is a crucial factor for individuals to make a living and achieve social inclusion. This study is about the fact that people should be able to move around and have access to transportation at any time of the day. People who rely on public transport and live on the outskirts of the city are at risk in terms of mobility and accessibility. The design of spaces in the city and land use for transportation in the city should be reasonable at worst and not lead to increased vulnerability for people.

Overall, this thesis presents relevant discussions on this topic in the style of a consistently integrated literature review. In this chapter, the thesis is divided into three main parts, which are further subdivided into smaller sections summarising the literature on the following topics:

- Spatial planning in South African cities;
- The effects on accessibility and public transportation;
- Discussing urban mobility and inequality;
- Perspectives on time use and activity planning;
- Discussing social exclusion in the urban periphery context;
- Transportation justice and redress in South Africa's context.

The discussion in the above sections forms the conceptualisation of mobility for participation in discretionary activities in this thesis.

2.1. Movement and the Ability to Travel for Public Transport-Dependent People

In this section, travelling is considered from the periphery of the city to illustrate the spatial and equity challenges still faced in Cape Town. The reason this thesis focuses on this topic is because the way urban geographies are constructed has an impact on how transportation is utilised. Take the example of the study by Chen et al., (2021), which examines the influence of the built environment on taxi ridership using heterogeneous data from multiple sources. Their data comes from critical indicators related to the economic aspect, intermodal connectivity and land use in Shanghai. Their study is based on a positivist paradigm that aims for generalisability and uses modelling to capture spatial and temporal heterogeneity characteristics. The results suggest that built environment factors have a significant impact on urban taxi demand and that the spatial context should not be ignored. The knowledge contribution of this study provides valuable insights for future urban and transportation planning.

This thesis articulates the impact of urban geography on mobility and the ability of black township residents to travel. In the following, a concept of mobility in the peripheral areas of Cape Town is presented.

2.1.1. Spatial Planning and The Transportation Landscape in South Africa

It would be difficult to talk about the impact of colonial-transportation infrastructure and apartheid in the city of Cape Town (or indeed in South Africa) without referring to the capitalist development aspirations of the apartheid regime – and also the impact on contemporary urban life. Race and class were a factor in the South transportation landscape that segregated commuters along these lines (Rink, 2022). Much of the history of transportation policies that operated in South Africa during the apartheid regime was covered in the “background” section of this thesis. In the following paragraphs will introduce the reader to the important issue of 'space' and how it fits into this discussion.

A social geography perspective on “space” and the link to current mobility issues

It has been argued that the idea of space and what happens in a space is not entirely haphazard, but rather a deliberate execution of ideology and politics to achieve a particular outcome (Lefebvre, 1977).

Figures 1 and 2 in the first chapter of this thesis show the division of Cape Town into geographical areas according to racial groups, which was established during apartheid in South Africa. The result of the ideology-led configurations of certain spaces, particularly during apartheid in South Africa, meant that some people were intentionally classified by race and deliberately placed in urban conditions that continue to have a profound impact on how people live and move in a space today (Lefebvre, 1977:341).

Apartheid spatial planning is arguably a classic example of the way in which the social power relations of capitalism are inscribed in the urban socio-spatial landscapes of the world (Brenner et al., 2009). According to Harvey (1990):

“Spatial and temporal practices are never neutral in social affairs. They always express some kind of class or other social content and are more often than not the focus of intense social struggle.” (p.239, in Zieleniec, 2018).

There is at least some consensus on this statement because, for Lefebvre (1977), ideology cannot be separated from practice, as those responsible for planning and organising space tend to design and

create space based on a particular idea about people's access to services and social, economic and spatial resources (Lefebvre, 1996, in Zieleniec, 2018).

The idea that space is political – and deployed as an instrument of oppressive regimes – provides insights into apartheid spatial planning and how it no longer functions in a democratic country. For it made urban space a place where the uneducated lower working class in barren land on the outskirts of the city were deliberately and successfully kept out of opportunities by specific laws. These laws were abolished through civic action and political change. Today, cities should be made for people (Brenner et al., 2009) – so that they can flourish.

In the next section, the thesis will inspect how this has unfolded in South Africa, looking at the impact of racially biased and capitalist focussed city planning on transportation.

2.1.1.1 A History of Transportation in South Africa

The characterisation of space as a political and ideological dimension helps to understand how transportation was first conceived in South Africa and the extent to which it was intended to improve mobility for the end user. Essentially, South Africa's history of forced relocation and race-based segregation policies during colonialism and apartheid shaped the country's cities and influenced the cost and duration of travel for non-whites (Kerr, 2017).

How capitalism has impacted the development of transportation in South Africa

A direct link can be established between transportation infrastructure and planning in South Africa and the colonial capitalist endeavours of the colonial elite to create wealth. Diamonds were first discovered in South Africa at the end of the 19th century, leading to rapid urbanisation and transportation development of transport to cope with the rapid economic growth of the time (Ramela, 2018). As part of this rapid industrialisation, 4000 miles of railway lines were built within 30 years to enable the transport of minerals from Johannesburg to the port cities (Wilson, 2009).

With the increasing extraction of raw minerals and the transportation of these raw minerals overseas, transportation became the fastest growing profession of the time (Herranz-Loncán and Fourie, 2018) - dominated by white men, who made up a large part of the transport and communication labour force (Ramela, 2018). Raw and finished products from the mineral revolution led to the development of land transportation, air transportation and the need for transportation.

By 1910, a significant transport infrastructure was firmly established, with the railway in particular increasing labour productivity between the years 1873-1905 (Herranz-Loncán and Fourie, 2018). The

result of the mining boom in South Africa meant that rail transport was favoured for the economic development of the colony to bring labour and other necessary goods to the country's mining centres (ibid.). During this period, the Transvaal Boer Republic became the richest state in Africa, supplying more than a quarter of the world's gold (ibid.).

South Africa's exports to the world increased, impacting economic growth and increasing GDP, with the railway responsible for an increase in per capita income in the Cape of up to 30 per cent between 1875 and 1905 (Herranz-Loncán and Fourie, 2018). The export of minerals was favoured in government policy - which excluded the export of agricultural goods from the eastern regions of the country, where predominantly black people lived in the Transkei. The mining centres, meanwhile, benefited from the development of the railway from the western parts of the colony.

This increase in productivity due to the mineral boom required more labour than ever to keep up. During this time, South Africa attracted many migrants who came in search of work opportunities in the flourishing mines and associated industries. A series of new laws were enacted to counter the rapid colonisation of South Africa. In the late nineteenth century, laws were introduced that forced mainly African men from the "native reserves" into the colonial labour economy – for example, on white- owned farms and mines. Laws such as the Glen Grey Act (1894), the Hut Tax and the Poll Tax systematically Blacks land (Bouch, 1993). Until 1911, black Africans dominated the low-paid jobs in mining and agriculture.

Towards Transit Segregation Laws

An important impact on the mobility of the lower working class and poor Blacks is still visible in South Africa's cities today, was the invention of mobility bans specifically for the black population. In 1923, the Urban Areas Act was introduced, which aimed to drastically restrict the movement of black people in urban areas (Bähre, 2014). Government policy was so biased against the free movement of Black people that it even distinguished (through policy mechanisms such as "Section 10" rights) which types of Black people were allowed to stay and work in the cities and which were forever excluded from the cities and their opportunities – a distinction between the rights of rural and urban Africans (Bähre, 2014).

Around 1913, further laws were passed to restrict land ownership, freedom of movement in the cities and the employment of native Blacks. Political instruments such as the Native Land Act stipulated that Blacks were not allowed to own land, even in black territories allocated by the government. The Native Urban Areas Act No. 21 of 1923 (which later became the Natives (Urban Areas) Consolidation Act No.

25 of 1945) was introduced, which enforced strict rules on the movement of black men, especially between rural and urban areas.

Until 1948, the apartheid policy of racial segregation continued to divide South Africans into racial categories (Whites, so-called-Cape-Coloureds, Asians or Native) in order to further sanction the settlement of Blacks in the cities by forcibly relocating urban Blacks to working-class areas on the periphery of the city. The first such forced relocation of Blacks took place in 1948 when eighty thousand Blacks were herded into the south-western periphery of Johannesburg in the Gauteng province, now known as SOWETO (Woolf and Joubert, 2013).

Segregation often meant that the individual races were kept together and settled closer or further away from the urban zone depending on their skin colour. The establishment of buffer zones was therefore clearly demarcated and was intended to keep Blacks away from the economic zones (Kerr, 2017).

The role of transportation in South Africa's past, especially public transport such as trains and buses, was primarily for economic development. Particularly during the apartheid era, the transport of workers from the periphery to the economic centres of the cities increasingly became the focus of resistance movements such as the Umkhonto we Sizwe (MK for short) and the Azanian People's Liberation Army (APLA), the military wings of the African National Congress (ANC) and the Pan Africanist Congress (PAC) respectively. There were regular attacks on bus services and railway lines to sabotage the interests of white capital using black bodies (Woolf and Joubert, 2013).

But socially, too, transport developed into a demarcation of the classes. As much of the wealth was already circulating among the white colonial elites, public transportation became synonymous with low-income non-whites, as most white households usually had two private cars. Therefore, many of the attacks on public transport went unnoticed by whites, further distancing them from the realities around them during the apartheid years (Woolf and Joubert, 2013).

Over time, public transportation underwent a systematic separation of mobility according to racial-based policies of carriage, race-based routes, and transportation compartments by race (Pirie, 2015).

2.1.1.2. Transport Geography in South Africa

In South Africa, job opportunities are generally located far away from the township areas in the periphery of the cities, thus continuing the patterns from the colonial and apartheid era for the labour mobility of Blacks. This historical deprivation of mobility is accompanied by other vulnerabilities of economic, spatial and social marginalisation (Pirie, 2013).

Spatial inequality is reflected in the distances between the peripheral homes of non-whites and the opportunities available in the white city centre and suburbs. Poor blacks and so-called Cape coloureds have to travel more arduous distances every day to take advantage of their opportunities. As discussed in an earlier section of this chapter, transportation and mode choices were also shaped by race and class. One result of this unequal transportation landscape was the emergence of low-cost, flexible paratransit transport for the urban poor (Rink, 2020).

However, the dominant means of public transport in the country is the 16-seater minibus taxi. Minibus taxis were officially recognised after 1985, following the development of the 1985 White Paper on National Transport Policy (Walters, 2013: 42). Thereafter, the minibus taxi industry, which is mainly operated by Black and so-called Cape Coloured people, grew exponentially and consolidated its position as the dominant public transportation service in all provinces. In fact, "an estimated 65% of all commuter journeys are made in taxis, with the number varying according to local conditions" (Arrive Alive, 2011a, in Walters, 2013: 42), and there are between 120 000 and 140 000 taxis in the country, with the largest concentrations in urban areas (Walters, 2013: 43).

Minibus taxis have long been perceived negatively because they do not adhere to traffic regulations and also due to the industry being allowed to continue functioning without paying any taxes. Walters (2013: 43) confirms this perception by stating that "there is little effective governmental control over the industry by ways of fares (the market and intensity of intra- and inter-modal competition determines fare levels), and the effective enforcement of road traffic laws governing vehicle road worthiness, driving techniques".

The existence of the mini-bus taxi industry during apartheid and into the new era has had a lasting impact on the mobility culture in marginalised urban areas. The neglected low-income earners provided an opportunity that an organised and coordinated federation of taxi associations turned into a lucrative, exclusively black-owned organ of mass public transportation. The organisation, now called the South African National Taxi Council (SANTACO), is officially recognised by the government as the legitimate industry representative of minibus taxi operators (SANTACO, 2022). It could be argued that the organisation has taken responsibility for the transformation of public transportation.

The Impact of Systematic Discrimination and Marginalisation

The decades-long systematic marginalisation of Blacks and the so-called Cape Coloureds in South Africa based on racialised policies of discrimination in the country is demonstrably at the root of the country's transport problems and spatial inequalities (Walters, 2013). Nevertheless, racial segregation in the city centre (which remains majority wealthy white) persists under the new government and no

new social housing has been built in the city centre since 1994 (Bernardo, 2017), further exacerbating inequalities in the city (Sinclair-Smith and Turok, 2012). As mentioned in an earlier paragraph, transportation a challenge for the country. Some of the main issues are the growing demand for private motor vehicles in South Africa, the growing population which will only increase the demand for car ownership (Luke, 2018) and the poor spatial planning in major cities due to apartheid era policies.

Mass Transit Opportunities

There are a few modal options for mass transit in South Africa. For mass transit or public transportation, usually the options are metro bus, metro rail transit, and mini-bus taxis. According to PRASA (2010, IN Walters, 2013: 37) "a total of 2.2 million passenger trips are operated daily via Metrorail Monday to Friday" (PRASA & 2010, p. 12) making it the third largest public transport operator in SA.

These modes of transport are often favoured by the lower working class, who often do not have access to a private car. Mass transport is cheaper and is considered better for the environment – a belief that became evident in South Africa with the introduction of the Bus Rapid Transit (BRT) system. The BRT system was touted as a possible solution to reduce the burden of greenhouse gas emissions in the transport sector, improve public transportation, increase mobility and create a more efficient and sustainable mode of commuting, and was introduced in the hope of becoming the standard for public transportation use, especially for the wealthy. In South Africa, the introduction of a bus rapid transit system was officially endorsed in the DoT Public Transport Strategy and the Public Transport Strategy Action Plans of 2007 (Walters, 2013: 41). The two most notable systems currently running in the country are the "Rea Vaya system in Johannesburg and the MyCiTi in Cape Town" (Walters, 2013: 41).

In general, this is seen as a good development for the country (especially if the main goal is to reduce emissions from cars, but maybe not if you are trying to promote inclusive transport systems). However, there are a few issues that need to be considered with the project. Firstly, these buses are located in the Cape Town region in predominantly affluent neighbourhoods where most residents have access to private vehicles and are therefore not reliant on using the buses as regularly and as opportunistically as originally planned. This means that in this case the buses do not fulfil their function of reducing greenhouse gas emissions. Another problem is the fact that "there are "a large number of taxi operators serving sections of the same routes", which can lead to conflicts between the minibus taxi operators and the new system, which can prove unmanageable (Walters, 2013: 42).

2.1.2. "Off-peak" Public Transportation Accessibility in Cape Town

This section covers ideas about time use and activity scheduling. This section looks at the mobility modes from the township as well as discusses accessing public transportation for activity participation.

Time use and activity planning

The model for activity or travel scheduling was initially conceptualised by Miller (2005). Activity scheduling is a process where "Individuals organize themselves...to obtain social, psychological and economic benefits of interaction" (Roorda et al., 2009: 218). Activity planning is linked to three concepts, firstly relating to household decision making, secondly to the notion that decisions made in the household affect resource utilisation, constraints and utility, and thirdly mediated by the concept of stress (Roorda et al., 2009). Martens et al., (2012) point out that time and the use of time is fundamentally associated with order. This order and schedules help people to plan their social lives, even though time is one of the biggest constraints in the social world (Zerubavel, 1980).

Time and Society

While the goal for transportation is to meet the needs of the urban poor (Martens, 2016), – planners are to some extent influenced by the "economic actors" (CBD stakeholders; formal institutions of the economy), as the location of businesses, their need for labour, the determination of work start times – all these factors influence transportation planning in a city. Wellman (2015) points out that public [transport] administrators wield some power over the lives of the urban poor, as the decisions they make are critical in determining where and when public transport-dependent populations can access social resources such as jobs, schools, social services and recreational opportunities. This could be an indication of the bureaucratic nature of political decisions, which tend to have long-lasting effects on people.

Determining the "Off-Peak Period" - How Might Paratransit be Scheduled?

Scheduling in transportation is a method that has been used to ensure conformity and rules (Desrosiers et al., 1995). According to Crainic and Laporte (1997), time constraints and schedules are executed for efficiency. Scheduling allows a reasonable planning of journeys, ensures a certain degree of reliability and serves as a method to control the volume of transportation services at a given time. In view of this, it is a method that can be inflexible (as it is predetermined and predetermined) and does not take into account external factors, such as the unavailability of transportation during non-recurring periods of the day, which could leave some people stranded. transportation and times in transport can be found mainly in the freight and logistics literature, where the emphasis is on making profits and maintaining a competitive position in the market for transport companies (see Desrosiers

et al., 1995; Crainic & Laporte, 1997). As in most societies, public transportation in Cape Town follows a model where the transportation, taking people to and from work. According to Clark and Crous (2002), the high utilisation of public transport in Cape Town leads to a high degree of overcrowding.

Furthermore, in urban contexts, it has been argued that social exclusion is exacerbated when there is an inadequate supply of transportation services (Dodson et al., 2006).

Ding et al. (2015) develop an argument that focuses on the need for transit accessibility to take into account the transit timetable and consequently become time-dependent. They reason that the maximum passenger capacity of a transit station is determined by the timetable. The accessibility of transit refers to 1) "*to the transit*" and 2) "*with the transit*". In the first case, Ding et al., (2015) explain that the evaluated subject is the transit facility, e.g. a station or a transit line. It is about factors that influence the accessibility of the transit service or transit facility. These factors include: the distance to the transit station, the length and width of the walking connection, passenger behaviour influenced by walking time, and the service level of the transit facility. In the second case, "*per transit*", the evaluated subject is the transit user. This measure focuses on the level of convenience of accessing the transit service from a particular facility. At the same time, the service characteristics of the transit system are treated as a key factor affecting the "*per transit*" measure. Service characteristics typically include travel time (or distance), number of transfers, fare cost, and travel time. An important factor related to measuring transit service is the "availability" of transit service among different groups of passengers. "Availability" has become a key indicator of the level of service provided by the transit system.

The authors claim that passengers choose the departure time according to their own needs, which change over time. Therefore, the authors propose two new methods to evaluate the accessibility of transport. A typical working day is divided into three periods according to the local bus timetable. Within each period, the ratios between bus supply and demand by stop are calculated and then summarised in the traffic analysis zone (TAZ). Their approach is based on the traditional two-step floating catchment area (2SFCA)⁹ and gravity method. The current methods are implemented to evaluate the bus accessibility of Xiamen City, China. The empirical findings show that fluctuations in travel demand and the passenger carrying capacity of bus stations in different time periods make the

⁹ The two-step floating catchment area method (2SFCA) is used in studies to measure spatial accessibility. It essentially consists of two steps, the first of which aims to determine the relationship between supply and demand for each supply point in a catchment area, and the second to calculate the accessibility of the demand point. However, the spatial and temporal dimensions of accessibility are rarely considered simultaneously. This is often observed in studies that focus on access to healthcare (Ding et al., 2015).

bus accessibility significantly differ throughout the city. They also reveal that bus accessibility based on the extended 2SFCA model are equivalent to that based on the extended gravity model, when the total demand is relatively lower than the total passenger carrying capacity of a bus station.

With this section, this thesis has established a basis for the availability and multimodal nature of transportation in Cape Town and discusses the timing and planning of public transportation.

2.1.3. Mobility & Accessibility – The Impact of Unrealized Activities

This section looks at the role of geographic location and the availability of affordable off-peak public transportation in Cape Town.

Why is accessibility relevant for understanding the state of township-dweller's mobility?

In reviewing the literature on the causes of the unrealised activities of those excluded from transport, some of the studies focus on mobility for access to economic, educational or health services – rather than mobility for participation in discretionary and leisure (or non-work) activities. Those that do look at measuring activity participation then tend to focus on modelling simulations of travel. There are not enough studies looking at accessibility measures that capture the lived experiences of commuters (Kaza, 2015). Studies looking at accessibility measures have been slow to focus on examining the experiences of different groups of people in society in relation to accessibility (Kwan, 2013).

So let us start with a discussion of what accessibility can contribute to this debate. Accessibility is usually seen as a spatial issue, even if the temporal dimension of accessibility is ignored (Kwan & Weber, 2003). The reason for this may be that decision makers are able to make direct changes to improve accessibility through infrastructure improvements rather than influencing individuals. Furthermore, it is difficult to obtain data to calculate personal accessibility constraints (Kaza, 2015). Nevertheless, accessibility measures and their components should be able to provide some level of depth of analysis and complexity, especially because human spatial behaviour is so complex and individual (Kwan & Weber, 2003). Kwan and Weber (2003) state that accessibility assessment methods are inadequate in terms of understanding individual experiences. They argue that such measures should keep pace with developments in the processes underpinning contemporary urban design and the increasing importance of information and communication technologies (ICTs) in people's daily lives. Part of the reason for the inertia is that land use and infrastructure policy plans are often assessed against accessibility measures that are easy for researchers and policy makers to interpret, such as traffic volumes or travelling speeds on the road network. Essentially, transport is about getting

people from one point to another, so the focus is usually on the performance of the system rather than the experience of the traveller.

The implication is that inaccurate measurement of accessibility could lead to more disadvantage – such as misunderstanding the causes of problems like unrealised participation in activities.

Clear Cases for Spatial-Temporal Accessibility Disadvantage

Burger and Christian (2020) conducted a study in which they analysed the progress that has been made in terms of access to healthcare since the introduction of democracy in South Africa. The authors note that despite the government's aim to improve access to healthcare for the poorest and most marginalised, – health outcomes remain polarised, unequal and unjust. In terms of access to healthcare, affordability limits access as travelling costs are simply too high given the distances some people have to travel, particularly in the underdeveloped parts of the country. The opening hours of facilities also have an impact on individuals, creating an additional burden and inconvenience.

Bocarejo & Oviedo (2012) claim that part of the challenge in addressing accessibility, for example, is that the measures used specifically for mobility planning do not know how to address social equity. They use an approach that relies on quantitative methods to understand the challenges of urban mobility. They claim that most mobility planning assumes benefits in terms of social equity, but there are no specific or solid indicators to measure how they can contribute to promoting better access to opportunities, especially for the most vulnerable populations (Bocarejo & Oviedo, 2012). The authors use 'accessibility to work' to assess transport inequalities by developing a methodology that uses the concepts of accessibility and affordability as a complementary means of evaluating public transport investments. This approach will be used to identify transport disadvantages and prioritise projects in mobility planning.

The authors use "*accessibility to work*" as an indicator of the difficulty of accessing transportation for work purposes, based on the calculation of accessibility to the labour market for different zones of a given city. They introduce a barrier function by obtaining the characteristics of time and percentage of income spent on access to work from transportation surveys. They believe that this approach helps to better define "real accessibility" to the labour market. A stated preference survey is then conducted to determine the desired effort in both variables (time and percentage of income). The "job accessibility" in this new situation was then calculated. Bocarejo & Oviedo (2012) calculated a third type of accessibility by also using "standard" values for travel time and expenditure budget. In this study, the methodology is then applied to evaluate different policy measures in Bogota. Applying this methodology in this setting, they observe changes related to changes in the fare structure of the

existing public transport system by proposing the development of cross-subsidies and an evaluation of the impact of the development of a new Bus Rapid Transit line. In the end, they find that depending on population, location and purchasing power, the impact of a redistributive fare in terms of accessibility to the labour market may be greater than the expansion and improvement of the public transport network. Other results show that accessibility is higher in rich neighbourhoods because the time and budget spent on commuting is lower, and that accessibility is lower based on willingness to pay or international standards. Furthermore, in poor neighbourhoods, lowering fares led to better access than increasing speed at a higher cost.

So, by applying different approaches and measures may lead to better policy outcomes and provide an understanding about disadvantages experienced.

Mobilities

A perspective on mobilities that emphasises the role of social networks in travel decisions is discussed. This type of research discusses how changes in transport can be linked to and influenced by wider changes in the values and practises developed by societies. In one such study, Cairns et al., (2014) examine the sociological contributions to the literature on travel and mobility – driven by the belief that institutions, cultures and societies have the potential to change in relation to travel behaviour. They highlight four main themes that emerge from the mainstream transport literature on behaviour change and emphasise the importance of understanding the broader contexts in which travel decisions are made. The four main themes are, firstly, the focus on travel 'practises' as social entities with their own dynamics rather than individual behaviours. Secondly, it is about the changing nature of society and what this means for travelling. Thirdly, the topic of car dependency is analysed and interpreted. Car dependency has many aspects, according to the authors. The authors focus on some of these, such as ethical, experiential and emotional dimensions associated with car use, the symbolic role of the car in an increasingly consumerist society and the role among different cultures. The final theme looks at the 'new mobility paradigm', which emphasises issues such as the link between travel and new technologies and the importance of social networks that influence travel decisions. The authors point out that changing travel behaviour requires not only individual behaviours but also changes on a number of social levels.

The use of mobility as a concept in this study

Mobility includes different ways of getting around, e.g. walking, cycling or using transportation (Vella-Brodrick and Stanley, 2013). Transportation mobility in particular expands the ability of individuals to

perform important tasks outside their immediate environment, such as commuting to work and obtaining necessary goods (Vella-Brodrick and Stanley, 2013).

This study deals with mobility in the context of physical and transport mobility - which refers to the movement of people, goods or information and is of immense importance in the context of transportation systems and infrastructures (Potgieter, undated). In a country like South Africa, which is characterised by high levels of poverty, unemployment and inequality, the definition and understanding of physical mobility becomes critically important.

In a country struggling with poverty, unemployment and inequality, physical mobility becomes a critical factor influencing access to essential services, education, job opportunities and community engagement. In the South African context, addressing the pervasive socio-economic challenges requires a comprehensive focus on transport mobility or physical mobility. The impact of transportation mobility on vital services such as healthcare, education and employment underscores the need to improve physical mobility to reduce barriers to access, especially in marginalised areas. Given financial constraints, ensuring affordability of transportation to reduce socio-economic inequalities and create equal mobility opportunities. Furthermore, the focus on physical mobility emphasises the urgent need for equitable transportation systems, which play a crucial role in bridging accessibility and opportunity gaps among socio-economic groups. In essence, this approach recognises the central role of transportation in providing not only access to basic services, but also equal opportunities for individuals and communities to engage in economic activities and social participation.

Understanding mobility is important for this study in order to conceptualise mobility before introducing the framework. In the analytical framework of the study, the concept of mobility is in line with the theoretical discussions presented in the literature review. Both components serve different but interrelated purposes in the research process. The applied analytical framework establishes a clear link between the selected theoretical concepts and the research objectives. It ensures that the selected approaches effectively address the specific questions of the study and make a coherent and logically developed contribution to knowledge.

The conceptualisation of mobility, both theoretically and empirically, informs the selection and adaptation of theories for the applied analytical framework. This symbiotic relationship between the literature review and the analytical framework enhances the theoretical foundation of the study and contributes to a significant, original insight into mobility and justice in the South African context.

Travel behaviour for work

Another factor that influences travel decisions, especially for people in marginalised areas, is related to the location of opportunities. What is becoming a pattern for travelling out of the townships is that new businesses are choosing to operate in premises that are far from the CDB – making transportation an imperative. This could be a new, atypical direction for urban growth developing as a decentralised pattern (Kerr, 2017).

In South Africa, due to the former regime's separate development directive, the distance between the place of work and many households have guaranteed longer travel time into the busy city centers for most of the peri-urban working population. Compound the spatial planning in South African cities with a very rapidly growing population. The United Nations states that in "countries of the South, urban population growth is five to eight times faster than in industrialized countries" (UN, 2007, in Lefevre, 2010: 2). This rate of population growth places huge demand on private motor vehicle ownership for travel due to its convenience. The challenge here is that "urban spatial structures have a lifetime and resilience far greater than those of buildings" (Lefevre, 2010: 2) and it will take a very costly, [carbon-intensive] and demanding process to consolidate this historic miscalculation.

However, as distances between home and work are important for ease of travel – Kerr (2017) argues that moving business out of city centres is not necessarily bad for all poor households - this could increase the likelihood of longer commutes for residents of large communities.

Segregation of people in transport: the effects

An important part of the understanding of social exclusion is embedded in segregation research. There is work in this area that emphasises that segregation is multidimensional and dynamic. This is emphasised by the use of non-quantitative methods for social research in the transport sector. A paper by Wissink et al., (2016), for example, is embedded in discourses on urban segregation, social networks and mobility in the context of broader social and political-economic processes in society. The authors recognise that there are unequal urban infrastructures and physical mobilities within and between cities. They review related work from eight papers that contribute to the topic of urban segregation and mobility and report that they used multiple methods to access and analyse their data – such as empirical material collected using smartphones, in-depth interviews and ethnographic research methods. One of the main points of this paper is the call to understand urban segregation as a multidimensional event. The authors also note that aspects such as residential location and neighbourhood remain important as everyday activities, social networks and physical mobility interact in a broader context of unevenly connected urbanity.

Global examples of mobility challenges

Transportation: Costa et al., (2021) provide a quantitative assessment of access to public transport and private motor vehicles in seven medium-sized Brazilian cities using a Google Maps Distance Matrix API to estimate travel time more realistically. The aim of this study was to identify spatial gaps in transport provision and understand how to improve accessibility to the urban fringe. The study found notable intra-regional differences in accessibility to city centres (or CBDs) by public transport and private car, providing a scientific basis for the socio-spatial distribution of public transport services. This study is an example of a positivist approach to understanding mobility gaps. The study complements other studies using computerised data models and can be generalised to a larger proportion of the population.

Stachyra and Roman (2021) are also interested in mobility equity and conducted a study among the residents of Warsaw to determine their satisfaction with public transportation and its accessibility. The authors used a survey that analysed the perceived accessibility of public transport and determined user satisfaction. This study has implications for the city administration to improve the function of public transport as it was able to identify where service is lacking. The authors call for an expansion of research in the area of equality, as they claim that this is socially necessary.

2.1.4. Conclusion

A few things stood out from this discussion. This section dealt with travelling from the periphery of the city. The discussion included the prevalent modes of transport from the townships into the city. The spatial planning of the city is seen as part of the problem, – which is structural. Therefore, transport is potentially a huge leveller here, potentially bridging the gap between residents and opportunities

This discussion in this section, has also helped to create an understanding of mobility issues and to look at them from a historical perspective. In addition, parts of this section have discussed the temporal challenges and spatial challenges simultaneously and identified the dominant modes which help township people get from one place to another given the low wage of this population (this particular discussion of transit modes for peripheralized communities is discussed further in chapter 3).

Consequently, the section moved to determine the idea of off-peak times and scheduling of public and thinking on time and activity scheduling.

2.2. Framing The Notion of “Exclusion” In An Urban Periphery Context

The aim of this section is to examine transport-related social exclusion in an urban fringe area of Cape Town that is characterised by being – predominantly black, poorer, with lower participation in City of Cape Town-sanctioned evening events such as First Thursday, and with a population that relies heavily on paratransit. Paratransit is informal, in need of reform and often involves problems with safety and unreliability (International Labour Organization, [ILO], 2003)

This section will therefore attempt to provide a view for how this notion of exclusion may present in an urban periphery context.

An appraisal of the literature within mobility and social exclusion discussions

While Chapter 1 introduced a discussion of transport-related social exclusion, this thesis presents the work of other researchers who have established a link between transport-related disadvantage, social exclusion and well-being. Social inequalities are also part of this discussion and show how important mobility is as a driver of social exclusion. The issue of mobility is therefore very complex and requires a comprehensive understanding of the issues involved. Here, mobility is discussed in the context of other forms of disadvantage. In addition, scholars make a link between social exclusion and transport-related disadvantage, so this section presents the approaches of key authors to the study of mobility inequalities and social exclusion.

Currie et al., (2009), for example, report on the results of a study conducted in a large city, a region and rural Victoria, Australia. The study is part of an international research project investigating the links between transport disadvantage, social exclusion and well-being. The aim of the study was to provide a basis for planning to address the gaps identified in the study and to monitor performance in addressing these gaps. The focus of the study is to examine the knowledge associated with social exclusion and transport by quantifying the social and behavioural impacts of a lack of public transport and the nature of the social wellbeing benefits associated with improving services. The approach adopted in this study is quantitative and utilises GIS techniques to objectively assess relative needs and service levels. Preliminary research findings include visible gaps in public transport provision.

Stanley (2007), for example, analyses the significance of mobility as a driver of social exclusion. The study is based in Australia and analyses transport policy on the basis of a three-year study by the Australian Research Council. The Australian study in this particular paper seeks to understand the interface between mobility and other forms of disadvantage. The author makes some important links to understanding social exclusion and its relationship with mobility. These include the notion that

social exclusion occurs on a continuum and that people are often excluded in multiple domains. The author also notes that social exclusion is linked to other conditions and is mutually reinforcing. Therefore, addressing mobility problems has a domino effect as it inevitably leads to an improvement in other aspects of poverty or disadvantage.

Schwanen et al., (2015), for example, discuss in an article the usefulness of the concept of social capital to understand the links between social exclusion and disadvantage in transport. They critically analyse the ability of the concept to reduce social exclusion and disadvantage in transport. The authors outline a number of different pathways for researchers, emphasising the contrasting characteristics of social capital as a tool for social change and the maintenance and creation of social inequalities. They analyse the extent to which recent transport-related literature supports or rejects the pathways outlined, and important avenues for future research are identified.

Some argue that the dominant research practises in urban transport contributes to social cohesion and mobility inequities and that part of the reason for this is due to the fact that research methodologies are too technology "fixated". For instance, Miciukiewicz and Vigar (2012) propose elements for a new urban mobility agenda to address mobility challenges and to improve the fostering of urban social cohesion. Firstly, they argue that there is no real definition of social cohesion in transport research and policymaking. This contributes to the way it is investigated and understood by transport planners. For them, social cohesion is "a four-dimensional *problématique* embracing socioeconomic, cultural, political and socio-environmental dimensions" (Miciukiewicz & Vigar, 2012: 1942). Secondly, they suggest that current research on urban transportation are exacerbating urban mobility challenges because the relationships between society, land use and transport are multidimensional and rising unevenness in the distribution of mobility opportunities across space and social strata continues instead.

In this paper they further argue that a new direction would much better embed social cohesion in transport research and policy to examine the social, cultural, political and spatial conditions and opportunities arising from urban mobility. They encourage the development of new context-sensitive methods, such as exploring the diversity of urban contexts through qualitative approaches to transport network assessment. The authors argue that transport researchers currently focus largely on technological approaches that are fragmented, promote 'techno-modernist' policies, and pursue policy-orientated transport research that aims at predominantly technology-led solutions to societal and social problems. The authors argue that a broader urban mobility agenda could be more sensitive to socio-political contexts and promote social cohesion as a central component not only of mobility policy, but also of research and professional and academic practise. Their main aim is therefore to

provide ideas for transdisciplinary transport research that could work towards a more cohesive urban society. Their methodological approach in this paper reviews the current work being done in the field of urban mobility and social cohesion studies. Their analysis is based on a review of the multidimensional relationships between society, land use and transport that emerge from the unfinished agenda for transport research and policy. The authors recommend a transdisciplinary project that brings together academic, policy and practitioner communities in a shared learning process to strengthen the cohesion of urban society.

Other studies in this area of research simply want to inform policy. These studies may be about understanding needs and improving services, linking social wellbeing, transport and social exclusion using GIS methodology. For example, Currie et al., (2009) report the results of a study conducted in a major city, a region and rural Victoria, Australia. The study is part of an international research project investigating the links between transport disadvantage, social exclusion and well-being. The aim of the study was to provide a basis for planning to address the gaps identified in the study and to monitor performance in addressing these gaps. The focus of the study is to examine the knowledge associated with social exclusion and transport by quantifying the social and behavioural impacts of a lack of public transport and the nature of the social wellbeing benefits associated with improving services. The approach adopted in this study is quantitative and utilises GIS techniques to objectively assess relative needs and service levels. Preliminary research findings include visible gaps in public transport provision. This work by Stanley (2007) and Currie et al., (2009) has been important in presenting key concepts to understand the challenges and inform policy on issues of urban mobility, transport-related social exclusion and accessibility for the urban poor.

There is also research that takes a critical review of transport and social exclusion. This research usually presents concepts and different perspectives on reducing social exclusion and transport disadvantage. These studies are useful to get a sense of the current literature and the important debates on transport disadvantage and social exclusion. For example, Schwanen et al., (2015) discuss in an article the usefulness of the concept of social capital for understanding the links between social exclusion and transport disadvantage. They critically analyse the ability of the concept to reduce social exclusion and disadvantage in transport. The authors outline a number of different pathways for researchers, emphasising the contrasting properties of social capital as a tool for social change and the maintenance and creation of social inequalities. They analyse the extent to which recent transport-related literature supports or rejects the pathways outlined, and important avenues for future research are identified.

2.2.1. Inclusion and Participation

This section briefly discusses the link between inclusion, participation and accessibility in order to define the concept of exclusion in the context of the urban periphery. It is important to understand

where and how opportunities are distributed in a city and how this can affect the inclusion and participation of people who are at risk of being restricted from their social participation.

Inclusion is part of a healthy society. Transportation can play a role in bringing 'the marginalised' closer to opportunities that promote better inclusion (Lucas, 2019). Access to good transportation is underpinned by the goods and services that are essential for a good life and economic and social growth (The Social Exclusion Unit [SEU], 2003), so people who are excluded are deprived of their needs for economic and social growth. Furthermore, social exclusion is a multi-faceted problem that affects overall human well-being (Henderson & Thomas, 2002). The fundamental feature of transport should therefore focus on providing people with access to life-enhancing opportunities such as healthcare and education (Lucas, 2006) in order to increase well-being.

In relation to participation in social life, Lucas (2019) also makes some notable observations in relation to social participation and inclusion, such as the fact that exclusion from social participation is exacerbated by increasing inequalities in transport; issues of immobility also reduce social participation; characteristics such as gender and age can sometimes also impact on participation (in some cases, particularly for women and older people). In addition, social participation can be affected by factors such as time poverty - particularly for those who regularly spend excessive amounts of time travelling to their daily activities (Lucas, 2019).

Activity participation

The most common method for assessing activity-travel behaviour is based on the activity-based paradigm (Van Wee and Witlox, 2021). The usefulness of activity-based assessment for monitoring travel is best summarised by the following lines:

"Activities can be spatially localized or not and or are time constrained or not, leading to more, less, or no travel. When bounded in space and time, choices relating to trip destinations, means of transport, routes, and timing are subject to individual, household, and broader societal perceived constraints, opportunities, preferences, attitudes and social norms" (Van Wee and Witlox, 2021:2).

Van Wee and Witlox (2021) investigate activity-travel behaviour after the COVID-19 pandemic. The approach used in their study is a combination of theories and concepts from the fields of economics, psychology, sociology and geography, whereby the authors create a theoretical model that explains which variables would reduce people's activity and travel behaviour. They hypothesise that COVID-19 will have a long-term impact on activity-travel behaviour in order to reshape public spending on

transportation for the future. They use a theoretical framework of analysis that contributes to understanding the complexity of activity travel in a post-Covid era.

In addition, individuals with greater social participation and social accessibility may experience a greater quality of life, associated with having more effective functioning of relationships in society including deriving resources from an individual's social network (Carrasco et al., 2008).

In addition, there are factors that can encourage participation in certain leisure activities and increase their attractiveness – for example, where and how opportunities are distributed in a city. Zhao et al., (2022), for example, present a study that makes a methodological contribution to knowledge by analysing the relationships between luxury hotels and urban structures. Zhao et al., (2022) analyse the spatio-temporal characteristics of luxury hotels in the city of Shanghai. The aim is to analyse the relationships between the distribution of luxury hotels and exogenous (regional) determinants of the urban sub-districts in which the luxury hotels are located. Their approach follows a model that uses geographic information systems (GIS) and the multiscale geographically weighted regression (MGWR) model. Their results show that the spatio-temporal development of luxury hotels (in Shanghai City) from 1995 to 2015 exhibits a clustering trend. The reason for the current distribution of luxury hotels in this region is mainly due to the average price of a room per night, the natural attractions of the place and the proximity of conference venues.

In particular, social and cultural experiences are considered important for human well-being, social health and improving quality of life through mobility (Carse, 2011; Centers for Disease Control and Prevention, [CDC], 2013). In Armenia, Alberini and Longo (2006) attempted to determine the value placed on the preservation of four heritage sites by conducting a survey of visitors to the sites. They found that the four sites surveyed had high amenity value and that conservation programmes and initiatives were needed to enhance the cultural experience or simply make it easier for respondents to reach and spend time at the monuments. Han and Patterson (2007) state that participation in recreational activities has a positive impact on an individual's mood and emotions. The authors also claim that people need positive affective states (such as leisure experiences) for their psychological, social and physical health and well-being in terms of their overall health and well-being.

However, participation depends on a variety of factors, such as money, the individual's time budget and influencing factors such as safety, social justice in the provision of services and socio-demographic information (Neutens et al., 2010).

Social Capital

Henderson and Thomas (2005) view social capital as networks of trust within a community and in the relationships between people and institutions. They argue that social capital fills a gap in community development theory by demonstrating the intangible outcomes of community development.

According to these authors, social capital is an essential component of community or neighbourhood work, as voluntary contributions of local people's time and energy are crucial for effective engagement (Henderson and Thomas, 2005).

Coffe (2009) identifies three main components of social capital - general trust, norms of reciprocity and networks. She characterises social capital as a social resource that binds citizens together and promotes their collective pursuit of common goals. In heterogeneous communities, building social capital is more difficult because people have more trust and feel more comfortable interacting with people who are similar to them in terms of race and ethnicity (Coffe, 2009).

Neighbourhood work, according to Henderson and Thomas (2005), aims to build on weak or neglected notions of social capital, emphasising the importance of enabling, facilitating and promoting collective action. Cohesion and participation at different levels play a crucial role in social capital, as community work depends on the participation of people who are important members of other local informal networks. Community work is described as both inward-looking, focusing on a neighbourhood or community of interest, and outward-looking, engaging with local authorities and voluntary organisations (Henderson and Thomas, 2005).

In his 1998 article, "Social Capital: Its Origins and Applications in Modern Sociology," published in the *Annual Review of Sociology*, Alejandro Portes offers a comprehensive overview of social capital. Key insights include the definition of social capital as resources within social networks, its historical development, forms categorized as obligations, information channels, and social norms, and its applications in diverse sociological contexts (Portes, 1998).

The applications of social capital in modern sociology include community development, education, migration and integration, economic development, and health and well-being. In community development, social capital is analysed to understand its role in fostering cooperation, resource sharing and collective problem solving. Education research examines how family and community connections influence academic success, while migration and integration studies examine the impact of social networks on adaptation. Economic development studies focus on how trust networks contribute to business success and innovation. In health sociology, the influence of social support, community ties and trust on individual health behaviour and well-being is studied (Portes, 1998).

The article by Portes (1998) on social capital serves as a fundamental source for understanding the origins and theoretical dimensions of this concept. The practical applications of social capital in modern sociology span various fields and offer valuable insights into the dynamics of communities, education, migration, economic development and health. Researchers continue to draw on the

concept of social capital to unravel the complex interplay between social networks and societal outcomes. In this study, the relationship between social capital, discretionary travel and social exclusion is conceptualised. This conceptualisation draws attention to several key dimensions in which social capital influences discretionary travel and contributes to potential social exclusion.

In terms of access to information related to participation in social activities, social capital can play a crucial role in influencing travelling. Individuals with strong social ties often benefit from access to information about social events, employment opportunities and various activities. This information, obtained through social networks, can have a significant impact on discretionary travel decisions. A lack of social capital can limit this access, leading to reduced participation in discretionary travel and possible social exclusion (Putnam, 2000).

The link between social capital and discretionary travel also extends to the resources within one's social network, including transportation resources. Those with higher levels of social capital may have access to a range of transportation options, such as friends or family members with cars, knowledge of efficient public transportation or the ability to carpool. When this social capital is limited, it can lead to barriers to transport that hinder participation in discretionary travel and contribute to social exclusion (Lin, 2002). Social capital includes social support networks that provide emotional, instrumental or informational assistance. Strong social ties serve as a safety net in times of need. In the context of discretionary travel, individuals with strong social support networks may feel more encouraged and supported to engage in activities. Conversely, limited social capital may result in a lack of encouragement or practical barriers, potentially leading to exclusion from certain social activities (Putnam, 2000; Lin, 2002).

At the community level, social capital influences relationships, trust, reciprocity and co-operation. Individuals with strong ties to the community are more likely to travel at their own discretion for community events or activities, such as community-based organisations or faith-based organisations in the community. A lack of social capital at the community level can lead to feelings of alienation, which limits travel and contributes to social exclusion (Putnam, 2000; Lin, 2002). The impact of social capital on cultural participation is evident as it influences an individual's engagement in cultural activities. Higher social capital can lead to people travelling to cultural events, museums or artistic performances due to the influence and shared interests in their networks. Lower social capital can lead to less utilisation of such opportunities, contributing to exclusion from cultural participation (Bourdieu, 2018).

Social capital can contribute to the development of inclusive institutions within a community. Inclusive institutions promote social cohesion and equal opportunities. Communities with higher social capital are more likely to have inclusive institutions that facilitate discretionary travel for all members. Lower social capital may be associated with less inclusive institutions that restrict access to transportation and contribute to social exclusion (Putnam, 2000). Understanding this intricate interplay informs policies and interventions aimed at reducing social exclusion and improving social equity in the context of discretionary travel. By recognising the central role of social capital, policy makers can develop strategies that foster stronger social ties, transportation barriers to transport and promote inclusive institutions to ensure equitable access to leisure opportunities for all members of the community (Sen, 2000; Woolcock, 2000).

While the social capital framework can offer valuable insights into the dynamics of discretionary travel and social exclusion, it is important to recognise some criticisms of this approach. In general, this approach can have problems with oversimplifying societies, especially when societies are not always homogeneous. Putnam (2000), for example, expresses concerns about the possible oversimplification of complicated social interactions. Putnam's critique suggests that reducing complex social relationships to quantifiable quantities within the framework of social capital may overlook the diversity of individual experiences within communities. Furthermore, Lin (2002), a key figure in social capital theory, provides theoretical foundations of social capital with insights that illuminate the limitation of the framework by highlighting the potential homogenisation of communities through a predominant focus on social networks. This perspective risks oversimplifying the diverse dynamics within particular groups, argues Lin (2002).

There are also practical issues when considering social cohesion, particularly for policy making in relation to the exercise of discretionary activities and social inclusion. Bourdieu (2018) also emphasises that the framework tends to reinforce existing inequalities and fails to adequately consider wider structural factors that influence social exclusion. Rose's (1990) exploration of governmentality adds another layer to the critique by pointing to potential ethical concerns related to inequality and systemic thinking. The social capital framework, Rose argues, can inadvertently exploit social networks for research purposes, raising issues of privacy and jeopardising the ethical integrity of studies. Goffman's (2016) symbolic interactionism, discussed in "The Presentation of Self in Everyday Life", emphasises the static nature of measurement within the social capital framework. Goffman's findings suggest that (depending on how the approach is applied) the framework may only capture a snapshot in time and overlook the dynamic and evolving nature of social networks and relationships. Sen's (2000) capability approach, meanwhile, criticises the narrow focus of the social

capital framework on structural factors that contribute to social exclusion. Sen calls for a broader consideration of the socio-economic, cultural and institutional factors that can influence travel behaviour and social exclusion.

Woolcock (2000), who addresses the challenges of measuring and applying social capital in development contexts, also offers a nuanced critique and encourages reflection on the difficulties of quantifying and measuring social capital due to the subjective nature of social relationships. Taken together, these scholars provide valuable insights that enrich the discussion on the challenges associated with the social capital framework when discussing discretionary travel and social exclusion.

2.2.2. Discretionary Activity Participation

In this section, links are made between mobility and participation in discretionary activities. This section looks at the opportunities for people in society to engage in activities, taking into account the constraints that affect people's level of transportation, including time and space constraints.

Leisure-based domestic tourism

Domestic tourism did not experience a change in terms of racial diversity until the 1980s, when a significant group of Black domestic leisure tourists arrived as a result of the desegregation laws (Musavengane, 2019). As this was mostly seen among middle-class Blacks, this idea reinforces the notion that leisure and recreation can only be enjoyed by the elite in Black communities and not by people from the lower working class. This is the basis for classism – the idea that Blacks who engage in tourism are seen by others as more educated in recreational pursuits or as belonging to a higher class. Musavengane (2019) claims that some black South Africans associate travelling or tourism with finding a job, relocating or visiting home during the holiday season. Furthermore, Musavengane (2019) states that the predominant factors that affect poor Blacks' participation in domestic tourism for leisure purposes include historical laws that restrict Black people's freedom, socio-economic factors such as a single-income household that does not have sufficient funds for excursions, and the fact that the majority of Black South Africans do not have access to tourism resources.

The work of Musavengane (2019) is important because it makes several contributions. Firstly, it is important because it shows that marginalised or township people are interested in engaging in discretionary activities – including those that require mobility or effort to get to activities at night and not just evening activities. Secondly, it emphasises the need for reliable and affordable public transportation for longer distance leisure and recreational activities for tourism in South Africa.

Access to informal paratransit for long-distance tourism can be of great importance for the social development of underserved township residents - the work of Musavengane (2019) leaves no doubt that this is important.

Contributions from studies in China

Lu et al., (2022) conducted a quantitative study that showed that outdoor activities and participation in recreational activities are important to people. A study was conducted that aimed to explore the spatio-temporal variations associated with outdoor recreation activities. The aim of the study was to address the challenges associated with the increasing demand for nature experiences and connection to nature, especially after the COVID-19 pandemic. This study has contributed to the policy direction of nature-based recreation, as regional authorities can support spatial planning for urban recreation and promote the management of nature-based recreation in the highland regions of China.

Ma and Xiu (2021) conducted a study using quantitative research methods (sightseeing and mobile phone signal data collected through questionnaires) to determine the leisure behaviour of Shenyang residents in space and time. The aim of the study was to understand how the organisation and design of urban leisure activities can be improved to ensure the quality of life of urban residents in the region. The results of this study highlight some important criteria for place-based leisure engagement by residents. Point-of-interest data and mobile phone signal data provided extensive information for spatial analysis, community recognition, and assessment of distances, flow patterns and community structures for recreational activities.

The results show that Shenyang residents mainly shop in shopping centres, supermarkets and parks during their leisure time. In addition, the travel cost of peripheral residents to access centrally located leisure activities was higher than that of residents in central areas. The contribution to knowledge in this study reflects the emphasis on human spatial practises within urban space. This study contributes to urban leisure space structure and behavioural geography.

These studies are important to contextualise disadvantage and help by providing a broader perspective to the incident of spatial and temporal dimensions created in the urban space that influence peripheralized residents' accessibility for participation in social and cultural activities in areas harder to normally access.

Linking Mobility, Accessibility and Social Exclusion

When it comes to the notion of late night transit, it is easy for some to understand the transportation and economy binary, where better mobility for late shift workers, for example, can be associated with thriving economic outcomes (Yun, 2022). However, it can be argued in this thesis that better mobility options at night for leisure and recreational activities can also be beneficial to society in many ways. However, the assumption that higher levels of accessibility will lead to greater participation in activities and therefore a reduction in social exclusion is not necessarily correct (Luz et al., 2022).

Scholars such as Lucas (2006) state that the functional dimension of transport is crucial to the realisation of people's needs and that the availability or unavailability of transportation people's life chances. Martens (2015) explains that a transport network must ultimately (1) enable travelling to desired destinations and (2) should allow people to participate in activities outside the home, and that its functional dimension is indeed to enable people to pursue their desired activities (see also Martens et al., 2012). In terms of well-being, social engagement and opportunities for leisure or socio-cultural participation can improve an individual's life (Han & Patterson, 2007). Time also plays a crucial role in an individual's access to social engagement, despite spatial constraints on access to public transportation after 'core working hours.

Transport plays an important role in getting people to sports, leisure and cultural activities (SEU, 2003). Frank et al., (2006, in Martens et al., 2012: 686) recognises that transport is important in enabling people to reach family and friends and to access leisure and recreational opportunities. This is seen as part of general wellbeing and human development. For people who come from low-income households, this realisation is not always self-evident. In India, for example, Zuidgeest et al., (2013) found that low-income people in India experience high levels of social exclusion as they are forced to travel long distances to and from their low-paid jobs every day.

While the above scholars make it clear that adequate access to public transportation is associated with improved quality of life and human dignity, these goals can only be fully realised by Cape Town's urban poor if their realities are taken into account. Given the spatial arrangement of townships in the city, where predominantly black, poor people live in underserved and crime-ridden communities, there are serious transportation accessibility issues, particularly after peak working hours in the City of Cape Town. This study is fundamental as a good quality of life means that individuals are able to achieve a degree of harmony between personal (e.g. raising children, maintaining social and family contacts) and professional goals because they have sufficient time to do so (Haselsteiner et al., 2015).

In Cape Town, transport gets people to work - individuals rely on it to access social and economic benefits; transport is an important factor in efficient production in society. Transport is also planned. Its temporal arrangement controls transportation dependent on public transport in space and time. The challenge in South Africa is that people take longer to get to work and are likely to spend hours in overcrowded transport (Clark & Crous, 2002; Venter, 2011). Because of the way South African cities, and Cape Town in particular, are designed, it is difficult for some locals to participate in social activities such as watching the full moon from Lions Head with other Capetonians. In reality, these activities are reserved exclusively for the more privileged citizens. In particular, these experiences seem to be

reserved for people with financial means, people who have access to private transport and people who work close to home (such as in the Cape Town CBD).

The cost of travel

The lowest income households in the country are reported to spend too much of their disposable income on transportation costs (Bateman, 2015). Affordability has different meanings depending on what people earn, where they live and what they expect (Venter & Behrens, 2005). Statistics South Africa calculates affordability by dividing household travel costs for public transport by per capita income (Stats SA, 2015). In terms of affordability, transportation should only amount to 10% of commuters' disposable income (Bateman, 2015), which is also in line with the 1996 White Paper (Venter & Behrens, 2005). However, Statistics South Africa (2015) confirms that two-thirds of low-income households spend 20% of their monthly per capita income on public transportation, while less than 3% of high-income households spend more than 20% of their monthly per capita income on transport. Despite subsidies designed to reduce the cost of travelling, poorer households still appear to spend a significant amount on travel.

According to Schönfelder and Axhausen, (2003:4) –

“...socially excluded persons are also excluded from certain parts of the environment, mostly through the high generalised costs they face in reaching particular locations, or any location for that matter. The lack of exposure to certain places is linked to lower chances in the job markets, more restricted social networks”.

The above discussion has highlighted the factors that influence participation in activities and engagement in discretionary activities. In summary, low-income township residents have limited opportunities to go up the hill or walk in their town in the evenings when public transportation is inadequate and unsafe for travelling from the Cape Flats to town. It can also be difficult to find time for leisure activities in the evenings when work and home are so far apart.

2.2.3. Conclusion

The aim of this section is to describe transport-induced social exclusion in the context of the urban periphery of Cape Town. Firstly, this section defines key terms related to mobility from peripheral areas and transport-related social exclusion. Social exclusion has then been contextualised to provide an understanding of the nature of the problem and to illustrate the relationship between the concepts by linking them to mobility to participate in discretionary activities.

ANALYTICAL FRAMEWORK

Reconstruction and Development Programme (RDP) of 1994 declared that:

"The needs of women, children, and disabled people for affordable and safe transport are important. Adequate public transport at off-peak hours, and security measures on late-night and isolated routes, must be provided". (ANC, 1994: 38)

2.3. Framework for Analysis

In the following section, this thesis suggests a framework which is cognisant of the context and applies a justice angle for understanding the phenomena discussed in this thesis.

The analytical framework or analytical instrument serves as a lens to return to once the data has been analysed and the main arguments have emerged from the data analysis chapters. The lens of the analytical framework is used to assess the extent to which the data collected has deepened understanding of the causes of immobility of people in marginalised areas for discretionary activities especially related to off-peak leisure activities in Cape Town.

This lens has contributions made to it.

The theoretical framework of the study contributes to the lens and uses concepts inspired by the principles of behavioural geography. The theoretical contributions provide benchmarks that become the primary analytical units against which the results of the data are evaluated. The analytical units include the goals of restorative justice and transport justice, as well as temporal geography measures. Finally, this thesis examines public transportation mobility and social exclusion of people in marginalised areas. This knowledge is essential as it provides insight into the state of development progress in South Africa to date. It provides clarity on the extent of progress that has been transportation in the post-apartheid state.

This framework helps to create a conceptual framework that diagrams the causes of immobility and social exclusion, – thanks to the clear theoretical concepts that are strongly represented a priori in the data collected.

2.3.1. Introduction

Space in Cape Town and South Africa has been shaped and moulded by political, social and legal measures - even before the democracy of 1994. Colonialism and apartheid spatial planning deliberately segregated the races and reserved the urban periphery for the poorest who are furthest from opportunity. Marxian scholars have argued about the role of time, scheduling and clock time – which they argue cannot be separated from the commodification of labour (Sorokin and Merton, 1973; Zerubavel, 1980; Roorda et al., 2009 and Snyder, 2013). This thesis has uncovered the outcomes of spatial challenges and how the colonial-apartheid era public transport developed to relocate labour from the outskirts of the city – relying on an ill-conceived rail network and a class and race-based mass transit system that does not meet the needs of users. The theoretical overview and discussion of the

literature has helped us understand how this situation came about, particularly in terms of spatial challenges.

It is well known that it is difficult to get from the periphery of the city to the workplaces etc. that are located within the CBD (Lucas, 2011; Næss et al., 2018; Nelson, 2021; Vanderschuren et al., 2021; Chikengezha and Thebe, 2022; Ward and Walsh, 2023). Urban spatial planning is part of the problem, and it is difficult to remedy when the problem is structural – transport is the only equalising factor here – but transport has some shortcomings as it does not properly equalise spatial inequalities in cities. This thesis aims to investigate this problem and find a way to analyse the problem taking into account all the components involved.

Framework Deduced from the Literature

The thesis ties to areas of theory based on behavioural geography. This thesis attempts to understand human spatial behaviour in order to capture the effects of immobility of township residents. In the theoretical overview (Chapter 1), the meaning of each concept – mobility¹⁰, accessibility and social exclusion – is discussed. To this end, their meanings are unpacked and how they are represented in the world is explained. Building on this, this thesis now develops a method for analysing mobility for participation in discretionary activities for people 'stuck' on the periphery of the city.

First, the concept of time – from a sociological point of view – is explained in order to lay the foundation for thesis original ideas of this work at the end of this section. The geography of space and time is a powerful analytical tool to explain both human behaviour and the effects of transport networks in space on human interactions with activities. A space-time framework based on the concept of space-time geography in identifying the possibilities and choices offered by the physical, institutional or geographical context (Hägerstrand, 1970).

When people are deliberately (institutionally, legally, socially, spatially) pushed far away from opportunities (with life-enhancing effects), they can experience social exclusion. As South Africa has been in transition since the advent of the new democracy in the early 1990s, this thesis should consider metrics that relate to this demand. This thesis therefore considers the policy transportation

¹⁰ For the purpose of this study, mobility refers to physical and transport mobility. Therefore, this study considers the capability and ease with which individuals can move or travel to reach their intended destinations, using various modes of transportation such as walking, driving, flying, cycling, or any other available means. This encompasses the freedom and convenience of navigating through different physical spaces, enabling individuals to accomplish their objectives or fulfil their needs.

the Reconstruction and Development Programme (RDP), which ushered in a new era of redistribution in South Africa and specifically aimed at fair and equitable transport.

More specifically, this section will develop a “just” analytical tool, combining transport justice, time geography measures and redress aims. The concepts to be measured are:

- Spatial and temporal aspects of township-dwellers mobility – how long it takes to travel, where they go and what modes of transport get them there – including: transport, land use, individual to organisational factors (to ascertain who is likely exposed to spatial and temporal disadvantages when travelling to participate in discretionary activities).
- Transportation disadvantage (in the domain of this study it is understood to mean accessing life enhancing opportunities). This measure specifically deals with public transportation with shortfalls, which should otherwise contribute to safety, affordability, convenience of travel for township-dwellers.
- Mobility in a township context – For this measurement aspects of the environment from which people travel is important. Specifically issues such as long commutes; poor connectivity; transport deserts; poor accessibility Impediments are looked at.
- Discretionary activity participation as a measure of township-dwellers being able to get to opportunities, to reach important services, participate in community life with ease, and dealing with impediments of having to travel.
- Latent demand or unrealised activities – For this measure, where people are located, conditions in their environment, and the amount of potential people have to participation in society and activities is assessed.

2.3.2. Transportation Justice Principles

The concept of transportation justice fits well into this analytical framework. The aim of this framework is to create a structure of redress and justice that reflects the values of fairness for the benefit of a resilient society. Transportation justice examines the inequalities faced by different groups in the transportation system. It discusses the idea of 'mobility as a right' as a means of ensuring that everyone is an active member of society. The primary factors that this concept interacts with relate to areas such as transportation spending, bus or transit connections, transport-related accidents, the environment and traffic volumes (Martens, 2016).

This thesis aims to provide a comprehensive overview of the topics of mobility and inclusion. Firstly, the origin of the concept of transportation justice is explained so that the reader knows where this analytical framework mainly draws its inspiration from, and so that he or she knows that others are already thinking about issues similar to those addressed in this thesis.

Transportation Justice

Transportation justice is a *principles-based* transport planning process. It is concerned with fairness, focussing on the distribution of the cost and benefits derived from transportation planning. It is a concept which prompts questions related to equity in transport planning.

Transportation justice draws on ideas from the field of social justice. It offers a new paradigm for transport planning that sees it as the responsibility of government to provision transportation for everyone in society to overcome all historical social inequalities (Martens, 2016). Martens argues that the planning of recent decades has been environmentally unsustainable due to policies that have over-promoted car dependency. This development has led to problems such as congestion and pollution – and transportation planning (although taking accessibility and sustainability into account) still does not fulfil any form of transportation (Martens, 2016). Martens (2016) proposes that the principles of transport justice should be introduced as a standard for future transport planning.

Principles of justice for transportation planning

Martens (2016: 174) develops equity principles for a transportation planning framework (see these principles adopted in Figure 8). These principles were developed to guide transportation systems in a fair way.

However, the researcher would suggest that these principles are good – but for this particular context, and given the historical focus on reparation that did not materialise as planned, – this study proposes a version that incorporates the RDP's own goals and then this study proposes to expand the framework that takes into account the principles of contemporary geography.

The point of this study is that access to public transportation should enable people to improve their lives regardless of the time of day. Therefore, this study focuses particularly on time accessibility in terms of access to transport for the urban poor after working hours or off-peak hours to organise leisure and social activities as they deem fit.

Social exclusion is a multifaceted issue that affects overall human well-being. Transport plays an important role in enabling people to access things and fulfil practical needs. The literature available to date focuses on the role of transportation in people's access to life opportunities such as healthcare, education, employment, recreation and leisure activities. The literature emphasises that the urban poor are significantly affected by social exclusion (particularly disadvantaged in terms of utility and spatial bias) due to their inaccessibility. This research has shown that the most disadvantaged people in society, who tend to live far from jobs and spend a significant proportion of their disposable income

on transportation (and yet are categorised as "poor"), are the most likely to face spatio-temporal accessibility problems.

2.3.3. Transformation & The RDP

Transformation for redress

According to Hoppe et al., (2014), transformation is a process of change. As a concept, according to (Soudien, 2010), it is a demographic intervention to redress imbalances related to markers of inequity (such as race, class and gender) specifically aimed at increasing representativeness figures. As an ideological process, transformation aims to address issues related to privilege and power within a society. The main objectives are the redistribution of power and the reorganisation and implementation of social inclusion processes.

Transformation and economic issues

This thesis posits that, given the fact that the focus on reparation is not yet satisfactory, there is still room for a strategy of reparation, especially transportation. At the moment, it can be observed that the economic situation of the formerly disadvantaged people in South Africa is not what one would have expected after the dawn of a new democracy. A study conducted in recent years states that 59% of the country believed that their economic situation would likely remain the same or even worsen over a two-year period in 2019 (Patel, 2021). This information is important because at the end of 1994, the then new government created policies that were supposed to change the circumstances for the previously disadvantaged groups who suffered from the worst legal, economic and social prejudices. Instead, the policies have so far failed to adequately increase employment opportunities, enhance wellbeing or promote inclusion (Patel, 2021).

Redress aims and transportation

Change in transportation of finding alternative development paths, which presupposes a perception of change as a process of actively shaping and realigning the system by anticipating and overcoming future challenges Hoppe et al., (2014).

Transformation agenda and transportation: redistribution – meeting the basic needs of people

Transportation policy for the marginalised during the apartheid era had many problems that made transport more expensive and prolonged for commuters coming from the outskirts of the city. The Reconstruction and Development Programme (RDP) attributes the unsafe rail links, long walking distances, unregulated minibus taxi industry, poor road safety and unsustainable features primarily to transportation of the time (Reconstruction and Development Programme, [RDP], ANC, 1994).

The importance of the Freedom Charter of 1955, which explicitly enshrines the provision of adequate public transport for all urban dwellers, shows transportation an important historical role in the townships (Orcutt, 1997).

Spatial Planning and Reconstruction and Development Programme (RDP)

One of the ANC's biggest selling points was to remedy the situation through policy. The big policy, the RDP, – aimed to redistribute quality water, electricity, healthcare, housing and land reform (the government benefits that had pushed poor non-white people further into poverty). To address spatial inequities after 1994, the RDP provided for initiatives to bring the poor closer to their means through settlement planning. The government sought to address the housing shortage through extensive subsidies (ANC, 1994).

But this approach was not without its problems - large numbers of affordable homes for the urban poor are often built on cheap land that is far from desirable locations and jobs (Bikam, 2016; Plano et al., 2020). So, these attempts did not fulfil the vision that had been sold.

Transportation and GEAR

While the liberation movement recognised that transportation was a basic human right and a social service – it was also understood as an issue in need of serious transformation transportation policy and its framework began to weaken. The ruling party sought to create a new economic framework that would ensure fiscal stability while upholding the ideals of reconstruction (Khosa, 1997). In 1996, the ANC introduced the Growth, Employment and Reconstruction (GEAR) policy. This policy began the market-orientation of public transport in South Africa through the macroeconomic approach of the GEAR policy. Transportation also part of the broader neoliberal logic, which meant a move away from the principle of basic needs in line with the development plan for the country. Policies such as the White Paper on Transport Policy (Department of Transport, 1996, in Khosa, 1997) aimed to promote competition in operations and public services in the transport sector and reduce government involvement (Khosa, 1997).

For transportation, for example, the policy stipulated that all freight and passenger transportation be operated on a commercial rather than a social basis, and in the case of bus services in particular, all operators in the sector had to put their subsidised services out to competitive tender. The idea was to open up the sector to previously disadvantaged operators (Walters, 2013). The impact of a market-led shift in transport policy, set out in the White Paper on Transport Policy (1996), attracted some criticism, firstly because of the loss of jobs in sectors such as bus transport (Barrett, 2003). Secondly,

this new approach opened the door to further problematic reorganisations in future transport policy that would see passengers and public transport users as 'customers' and 'clients'.

Therefore, thesis must therefore address the question of what might be an appropriate response or remedy to the inequalities that have characterised transportation in South Africa. The relevance of the concepts discussed above is important as the context of the study belongs in a post-apartheid society. Post-apartheid South African politics has moved towards reparations (see major policies in South Africa such as RDP, GEAR, NDP). However, something is not working or not working effectively enough in the South African transportation system. Some scholars argue that reforms in the minibus taxi industry are needed to improve transportation (Sebola, 2014; Plano, 2019). But people's travel behaviour and experiences are important for the necessary change. Therefore, the information from the in-depth interviews can provide important insights into the design and structures of a changed mobility plan for vulnerable people in the urban periphery of South Africa. Change is necessary because people want change and experience frustrations that need to be addressed. Patel (2021) claims that in South Africa, fourteen per cent of people are willing to use political coercion or violence when the opportunity presents itself – while fifty-four per cent of people who have used violence in the past additionally report frequent loss of income.

History has a great influence on people's behaviour (Soudien, 2010). Consequently, transportation and the system of transport services for the public must be adapted to the new situation. Transformation in this context requires decision philtres that are aware of an ongoing - not static - process of change that can be driven by socio-economic and political drivers according to the objectives set (Soudien, 2010).

2.3.4. Towards a “*Just*” Analytical Framework

This framework or tool will serve as the analytical framework to which we will return in chapter six (Section 6.7) and chapter seven (Section 7.4) of this thesis - once the data have been analysed and the main arguments have emerged from the analysis in chapter four and chapter five. In order to assess the extent to which the data collected can contribute to understanding the mobility of people 'stuck' in the periphery of the city, we will refer to the analytical framework. This analytical tool will help to establish a link between the research questions, the theoretical basis, the analytical tools used in this thesis and the main themes that emerged from the data.

This thesis takes the perspective that '*just*' transportation should offer people the means to life enhancing opportunities regardless of the time of day. So, *what could that look like today and what does a just framework look like in South Africa?* This thesis is not the first to ask this question.

Thanjekwayo (2018) made attempts too to reconfigure the transport justice approach to fit a more local context, by creating a set of questions that need to be address.

The concepts of this framework are taken from the discussions in Chapter 1 (Section 1.6) and are based on the principle of disaggregation of human spatial behaviour (behavioural geography), looking in particular at the concepts of mobility, accessibility and social exclusion.

Social inclusion is linked to structural factors related to the marginalisation of certain groups in urban areas (Henderson and Thomas, 2002: 8). In unequal societies such as South Africa, social exclusion is a common occurrence as the past structures of apartheid are still very much entrenched. The use of social inclusion strategies makes sense here as they aim to combat inequalities and create a greater sense of social cohesion. Social inclusion aims to empower individuals to take control of their own lives. According to the Combat Poverty Agency (2000) (in Henderson and Thomas, 2002: 8), social inclusion is rooted in a broad understanding of citizenship that recognises people's right to influence and participate in the decisions that affect them, and to have their views and experiences heard and taken into account. Community development (participation in civic community activities) may be a means or process by which people can achieve this right, for example.

Furthermore, A transportation system "is fair if, and only if, it provides a sufficient level of accessibility to all under most circumstances" (Martens, 2016: 215). Accessibility is important to this study. By applying a space-time approach for accessibility, this thesis hopes to analyse the mobility of township-dwellers or vulnerable urban-periphery based individuals from one location to the next.

This thesis advances that any approach to fair and equitable transportation should at least attempt to address the spatial challenges in South Africa's cities. It should also prioritise the travel needs of users as much as possible (taking into account people's travel experiences, their time budgets and their social and economic obligations). Although the country's history of structural problems is not easy to overcome (the places and focal points of opportunity remain in the more privileged centres of the cities), the principles of reparation and change as presented at the beginning of the new democracy should be revisited. The analytical framework of this thesis attempts to do this to some extent.

This framework is appropriate because – reparation is important when it comes to marginalisation, the principles are already present in policy, so this thesis to provide recommendations for application that are straightforward, not too theoretical and fit well with the contexts.

Framework for analysis

The research relates to areas of theory based on behavioural geography. This thesis attempts to understand human spatial behaviour in order to capture the effects of immobility of township residents. In the theoretical overview (Chapter 1.6), this thesis discusses the meaning of key concepts – mobility, accessibility and social exclusion. By unpacking their meanings and explaining how they present themselves in the world, this thesis can build on this – to develop a way of analysing mobility for participation in discretionary activities for individuals who are 'stuck' on the periphery of the city, incorporating these concepts and then:

- Two main commands (such as transport justice instructions and RDP instructions for equitable and fair transportation) are joined into one centre (a combination of the two streams of instructions – adding principles from space-time analysis (time geography) as well);
- The centre is the feature and basis for the thesis' framework for analysis;
- It consequently forms the “just” analytical tool developed, combining transport justice elements, time geography measures and RDP policy redress aims.

There is a need to create an adapted framework because – Martens (2016) writes from a perspective of the northern hemisphere, this thesis on the other hand aims to re-contextualise his ideas and build on it with tweaks taken from existing policy philosophies. Oviedo and Attard (2022) argue that globally, research focussing on redistribution and equity for assessing urban transport decision-making tends to come from the global north – presenting a conundrum for directions in emerging nations with differing complexities for urban development.

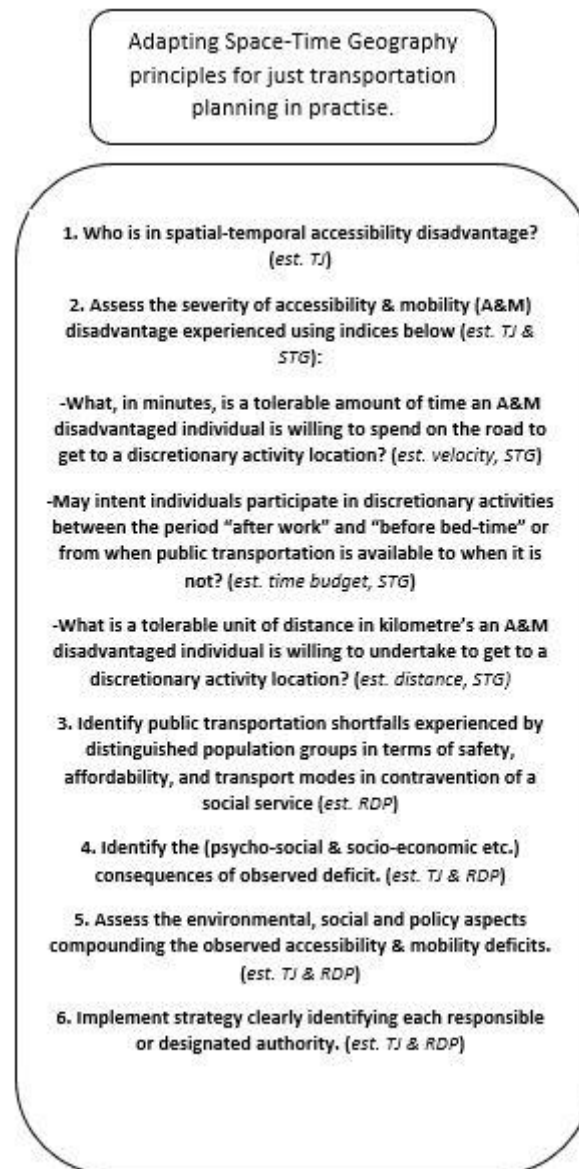


Figure 8: Framework for Analysis Segment

NOTE: Transport Justice (TJ), Space-time Geography (STG), Reconstruction and Development Programme (RDP)

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

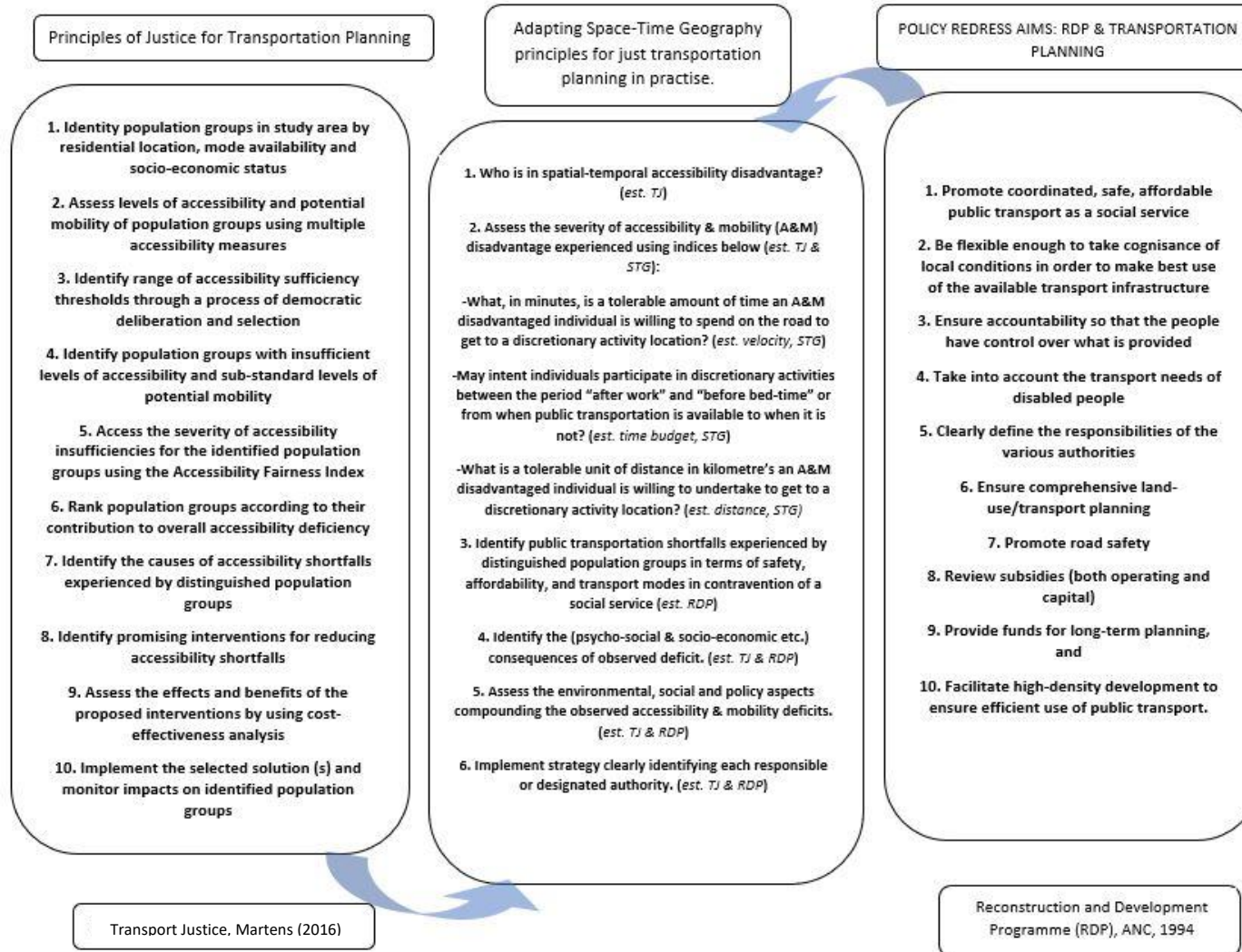


Figure 9: Framework for Analysis (SOURCE OWN)

2.4. Conclusion

Chapter two attempted to conceptualise mobility for participation in discretionary activities in the context of the urban periphery of Cape Town. This conceptualisation describes a phenomenon that is related to the field of immobility and social exclusion studies.

The discussion in this section is organised into three main parts, each containing smaller discussion sections. This has helped to organise the ideas that make up the conceptualisation in this chapter.

The discussion of movement and the ability to travel for public transportation-dependent people revealed some important things. Most disadvantaged people in society tend to live far from places of work and spend a considerable amount of their disposable income on transportation (yet are still categorised as "poor") – they are also the most likely to be confronted with mobility and accessibility challenges. This section additionally emphasised the link between concepts such as mobility, accessibility and social exclusion by examining the concepts in relation to public-transportation dependent township-dwelling persons' ability to participate in discretionary activities that take place during the evening time.

The subsequent discussion centred on defining the concept of exclusion in the context of the urban periphery. In this section, the study summarised the literature to show that the recognition of exclusion of poor urban dwellers from access to life-enhancing opportunities due to social and spatial biases is a problem, even in other parts of the world. In this section, the problems related to transport-related social exclusion and accessibility for people who rely on public transportation.

This thesis then moves towards developing a just analytical framework. This framework is developed to assess the township-dweller's reaching evening-based activities. This is not a simple matter - there are nuances. Participation depends on a variety of factors, and there are also factors that influence evening mobility for activity participation – especially for township-based individuals.

The solution is to adapt transportation justice (Martens, 2016) to better fit the analysed environment. The combination discussed in this section considers accessibility - presented as a good standard of justice (the idea that everyone has a right to a sufficient level of accessibility) - and reparation - which is appropriate given the context, historical heritage and spatial nature of the urban area under study.

The next chapter presents the reader with a case study in which an incident of immobility and social exclusion can be observed in Cape Town, South Africa.

CASE STUDY

"The right to the city is like a cry and a demand...[and]...cannot be conceived of as a simple visiting right...It can only be formulated as a transformed and renewed right to urban life."¹¹

¹¹ (Lefebvre, 1996 :158, in Zieleniec, 2018:11)

Chapter Three: Introducing The *Amaphela*¹²-Operated Area

3.1. Introduction

The previous chapter presented a concept of mobility for participation in discretionary activities in the urban periphery of Cape Town. This thesis advances that transportation, particularly during off-peak hours, is an unmistakable need that must be addressed in South Africa. The selected literature has discussed the critical role of geographical or spatial distribution of opportunities, while understanding the complexity of the transport system in getting people to their desired destinations.

This chapter will give the reader a case study for where an incidence of immobility and social exclusion may be observed in Cape Town. This will be achieved by presenting an empirical setting concerning, particularly, geographically affixed immobility and inaccessibility experiences for township-dweller's participation in evening-based discretionary activities. This way, the reader follows the journey of how this study contributes new knowledge. By using this particular case of the *amaphela*-operated area in this thesis, this research provides fresh, detailed empirical insights that enlighten the reader on the status quo. Secondly, in this chapter, the thesis presents two more neighbourhoods that interact within the operational network of the *amaphela*, which have not featured quite so prominently before in the literature. Third, this chapter specifically provides another key contribution to knowledge by presenting a form of shared transit for evening-time or off-peak time ushering peri-urban Blacks between Cape Town CBD and the townships of the *amaphela*-operated area. The *amaphela*-operated area in the Cape Flats is chosen owing to its status as a fringe area in the city and because it helps to highlight the stark place-based "*mobility void*" (Rink, 2022:238) in the area. The *amaphela* taxis form one of the study area's primary unique transportation modes that were consciously chosen for this study.

¹² *Amaphela* refers to a 4 to 6-seater form of paratransit that provides township dwellers in some neighbourhoods of Cape Town with flexible, inexpensive, and comfortable transportation within the township area (Rink, 2020:232). Further to the areas listed in this thesis from now on, the *amaphela* also operate in Cross Roads and Philippi East in Cape Town. The *amaphela* operators belong to the "Kiki-Murray" taxi association which is affiliated to one of the largest mini-bus taxi organisations in the Cape, namely, the Cape Amalgamated Taxi Associations (CATA). Additionally, the *amaphela* mostly fill a gap in the public transport market for communities along the cape flats area of Cape Town.

3.2. Research Area



Figure 10: Research Area, Cape Town (Western Cape), SOURCE OWN

Cape Flats, CAPE TOWN¹³

This study focusses on the Cape Flats area of Cape Town. The area selected for data collection is characterised by a lack of transportation services within the infrastructure-poor and transport service-poor township areas. The Cape Flats area has been characterised by low service provision since its inception in the 1970s (Rink, 2020). The purpose of the Black townships in the Cape Flats of Cape Town was to serve as a residential community for cheap labour (Mabin and Smit, 1997, in Rink 2020) to serve White capitalist interests.

This study area is important in that it represents *amaphela's* area of operation, which includes the communities of Gugulethu, Nyanga, Crossroads (including New Crossroads), Luzuko, Philippi and Samora Machel. This term was coined by Rink (2020) who presented a detailed phenomenological study of the *amaphela* shared mobility service from the perspective of owners, drivers and users. This area of operation to include two more neighbourhoods, namely: Heideveld and “Kwezi”. Although *amaphela* do not officially operate in these neighbourhoods, – commuters can still easily access their services as they operate on the outskirts of the Heideveld and “Kwezi” neighbourhoods.

Amaphela are a form of shared taxi service which operates in the communities of Gugulethu, Nyanga, Crossroads, Lower Crossroads, Luzuko, Philippi and Samora Machel Black townships in Cape Town. In

¹³ As of the time of writing this thesis, the finalized and latest 2023 census data by specific neighbourhoods discussed in this chapter had not yet been published publicly.

spite of the flexibility of routes, *amaphela* taxi routes are gazetted (South African Gazette Applications concerning Operating Licences, Government Gazette vol. 600, no. 38881, 19 June 2015, p. 175), so therefore "routes are clearly and meticulously defined, as evident in the description of 'Route S98 from Nyanga to Phillipi Station in the 2015 Government Gazette: From Nyanga Station Taxi rank (Eastern Side) situated off Station Road, right into NY3, right into NY1, proceed straight along NY1, left into NY3 which becomes Koornhof Street, which becomes 3rd Avenue, right into Emms drive, proceed straight over Lansdowne road straight into Amsterdam Street, proceed straight along Amsterdam Street which becomes Ingulube Street to Phillipi Station Taxi rank and return along the same route.'" (Rink, 2022: 238).

SERVICE DELIVERY

The townships in the Cape Flats have basic government services such as running water, electricity, refuse collection, public schools and some clinics and district hospitals. Further details on the level of services in each area can be found in section 3.2. Overall, services are provided in this area, however, there have been some protests in the past against the provision of services (particularly in relation to the provision of toilets in informal areas), suggesting that what is provided is inadequate (some important work has been done in the last decade and a half on protest actions related to dissatisfaction with services in South Africa. See Alexander, 2010).

CRIME STATS

The South African Police Service's crime statistics for the fourth quarter [April to June 2022] shows that the number of contact offences, murders and assaults (including sexual assaults) in the Gugulethu and Nyanga neighbourhoods is high. Although the figures are slightly lower this time, these neighbourhoods – especially Nyanga – have been the murder capital of the country for some time (South African Police Service, [SAPS], undated).

3.2.1. Nyanga

Out of the fifteen research participants, two females came from Nyanga.

NYANGA

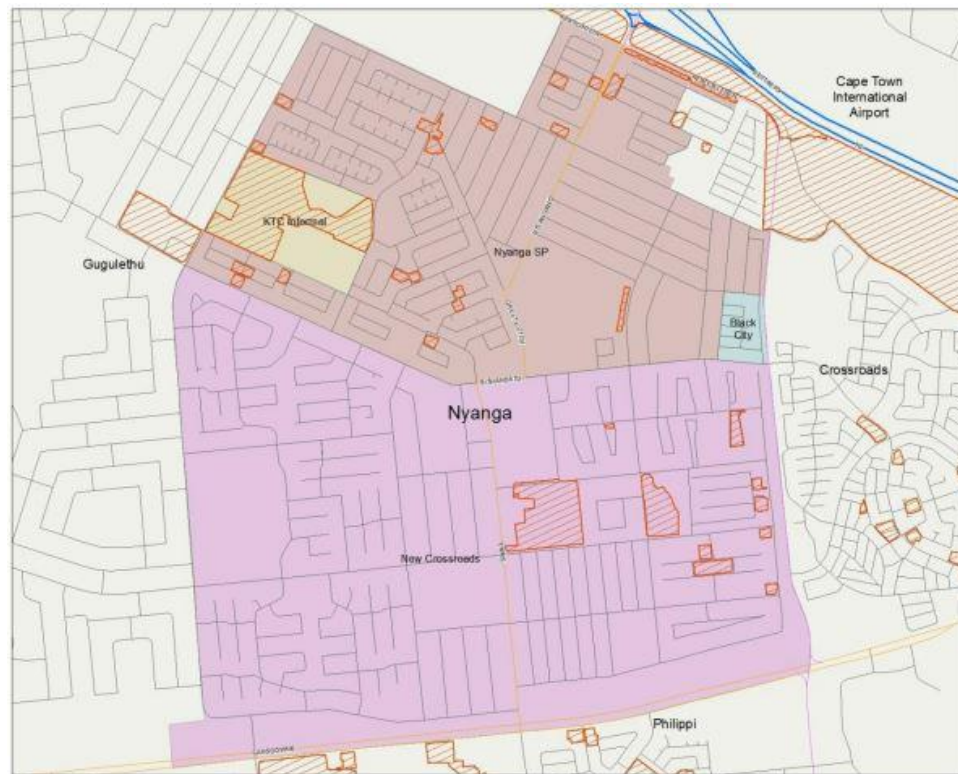


Figure 11: 2011 Census Suburb Nyanga, (City of Cape Town [CoCT], 2013)

According to the 2011 Cape Town Census data from Statistics South Africa (City of Cape Town, July 2013), Nyanga comprises the following sub-localities: Black City, KTC Informal, New Crossroads and Nyanga SP. In 2011, the population was 57 996 with 15 993 households and an average household size of 3.63. The population is predominantly black African (99%). Thirty-one per cent of the population aged 20 years and older have completed tertiary education. Half of the labour force is employed (55% of people aged 15 to 64). The average salary is R3, 200 (in 2011), with 74% of households earning this amount or less per month. Sixty-seven per cent of households in Nyanga are formal dwellings and seventy-nine per cent of households in the area have piped water in their homes or yards. The proportion of households with public sewerage and flush toilets is 81%. Households in Nyanga are 95% dependent on electrification in their homes and 95% of households have their rubbish collected once a week.



Figure 82: Nyanga Terminus, An Interchange for GABS & MBT's (SOURCE OWN, TAKEN: 13.09.2022)

3.2.2. Gugulethu

Out of the fifteen research participants, six females and one male came from Gugulethu.

GUGULETHU

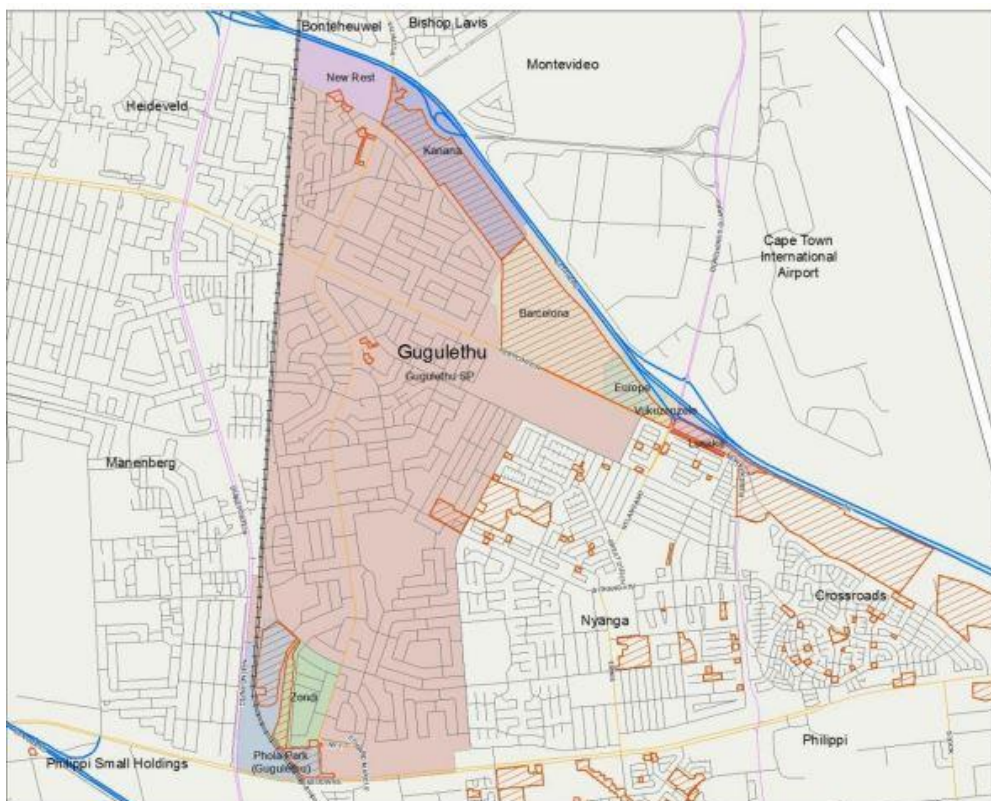


Figure 13: 2011 Census Suburb Gugulethu, (City of Cape Town [CoCT], 2013)

According to data from the 2011 Cape Town census taken from Statistics South Africa (City of Cape Town, July 2013), Gugulethu comprises the following sub-localities: Barcelona, Europa, Gugulethu SP, Kanana, Lusaka, New Rest, Phola Park (Gugulethu), Vukuzenzele and Zondi.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

In the 2011 census, the population of the Gugulethu suburb was 98 468 and the number of households was 29 577. The average household size was 3.33. A household is defined as a group of people living together and sharing food or other essentials, or a single person living alone (Statistics South Africa, 2011). The population is predominantly Black African (99%). Thirty-seven per cent of the population aged 20 years and older have completed matric. Sixty per cent of the labour force is employed (more than half of people aged 15 to 64). The average wage is R3, 200 (2011), with 71% of households earning this amount or less per month. Fifty-two per cent of households in Gugulethu are formal dwellings and fifty-eight per cent of households in the area have piped water in their homes or yards. Households with public sewerage and flush toilets account for 60%. Households in Gugulethu are 97% dependent on electrification of their dwelling and 89% of households are serviced by refuse collection once a week.



Figure 94: Gugulethu Square - An Interchange for MBT & Amaphela (SOURCE OWN, TAKEN: 13.09.2022)

3.2.3. Philippi

Out of the fifteen research participants, one female and one male came from Philippi.

PHILIPPI

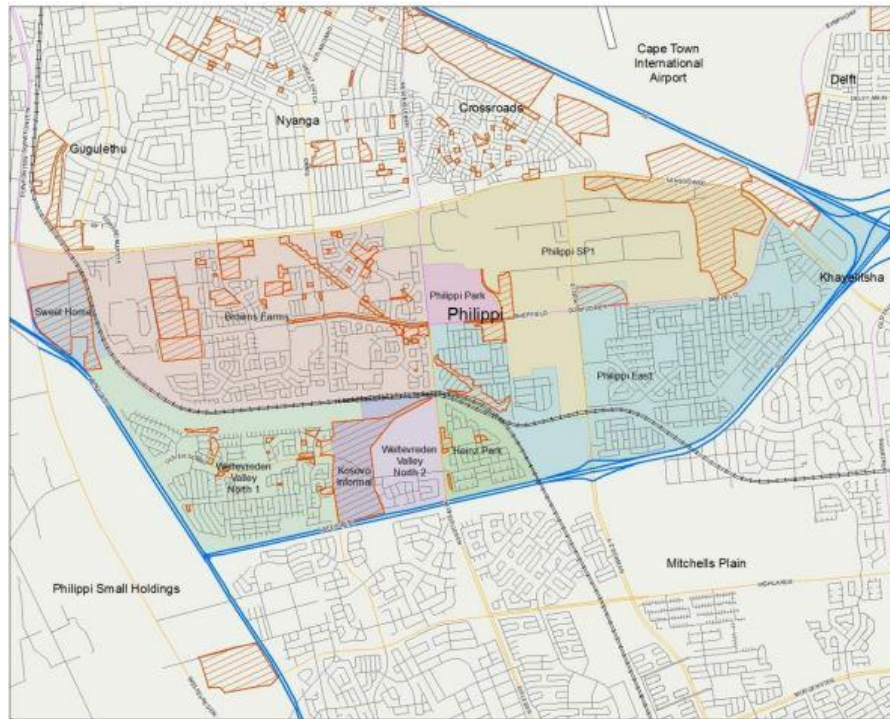


Figure 105: 2011 Census Suburb Philippi, (City of Cape Town [CoCT], 2013)

According to the 2011 Cape Town census data from Statistics South Africa (City of Cape Town, July 2013), Philippi comprises the following suburbs: Browns Farms, Heinz Park, Kosovo Informal, Philippi East, Philippi Park, Philippi SP1, Sweet Home, Weltevreden Valley North 1, Weltevreden Valley North 2.

In 2011 the population of 2011 Census suburb Philippi was 191 025 and the number of households was 61 797. The average household size was 3.09.

The population is predominantly Black African (94%). Thirty-two per cent of the population aged 20 years and older have completed tertiary education. Sixty-two per cent of the labour force is employed (more than half of those aged between 15 and 64). The average salary is R3, 200 (in 2011), with 78% of households earning this amount or less per month. Forty-four per cent of households in Philippi are formal dwellings and sixty-seven per cent of households in the area have piped water in the home or yard. Households with public sewerage and flush toilets account for seventy-seven per cent. Households in Philippi are eighty-six per cent dependent on electrification in their homes and eighty-four per cent of households have rubbish collected once a week.

3.2.4. Heideveld

Out of the fifteen research participants, one female came from Heideveld.

HEIDEVELD

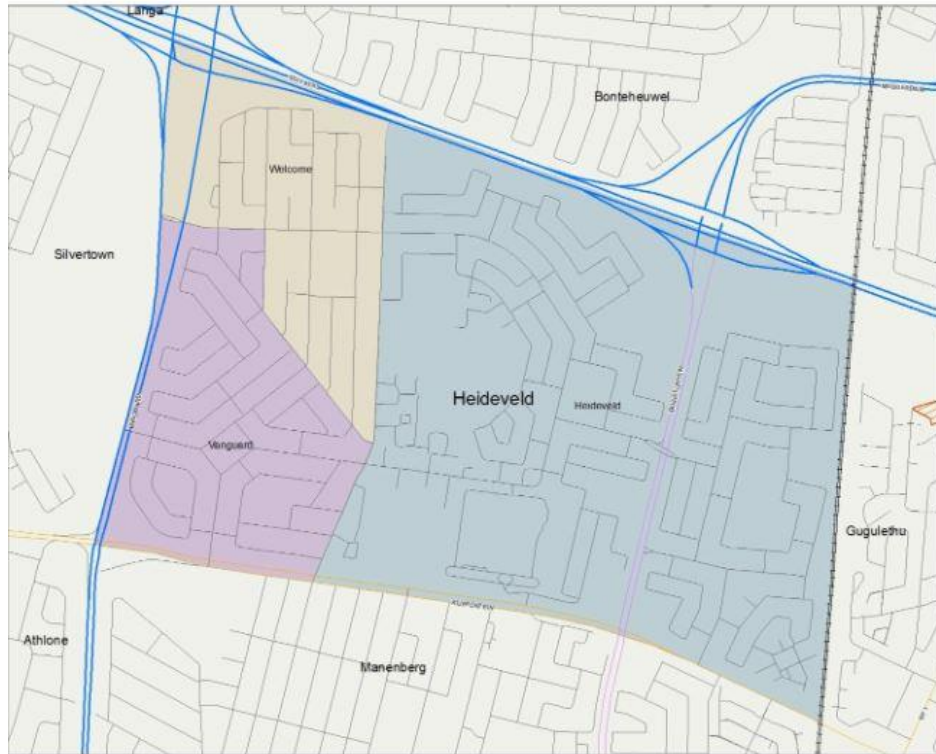


Figure 116: 2011 Census Suburb Heideveld (City of Cape Town [CoCT], 2013)

According to the 2011 Cape Town Census data taken from Statistics South Africa (City of Cape Town, July 2013) Heideveld includes the following sub-places: Heideveld, Vanguard, Welcome.

In 2011 the population of Heideveld was 21 288 and the number of households was 4 503. The average household size was 4.73.

The population is predominantly Cape Coloured (92%). Thirty-one per cent of the population aged 20 years and above have completed Matric. Seventy per cent of the labour force is employed (persons aged 15 to 64 years). The average salary of R3, 200 (in 2011), is earned by forty-seven per cent of households earning this amount or less per month. Ninety-two per cent of households in Heideveld are formal dwellings and ninety-nine per cent of households in the area have plumbing in the home or yard. The percentage of households with public sewerage and flush toilets is ninety-six percent. Households in Heideveld are ninety-nine percent dependent on electrification of their home and 99.8% of households have their rubbish collected once a week.



Figure 17: A minibus taxi exits Heideveld (SOURCE OWN, TAKEN: 13.09.2022)

3.2.5. iKwezi Park

Out of the fifteen research participants, one female came from iKwezi Park. iKwezi Park is a suburb which is part of Khayelitsha. The census data for iKwezi Park are included in the Khayelitsha data which follows this section.

From a socio-economic perspective, iKwezi Park is considered a suburb within the townships. Many of its residents are professionals – such as nurses, teachers and government employees. The neighbourhood is attractive because it is a quieter area (e.g. no *amaphela* vehicles pass through this neighbourhood) and the appearance of the houses and streets in this neighbourhood is tidier.

IKWEZI PARK

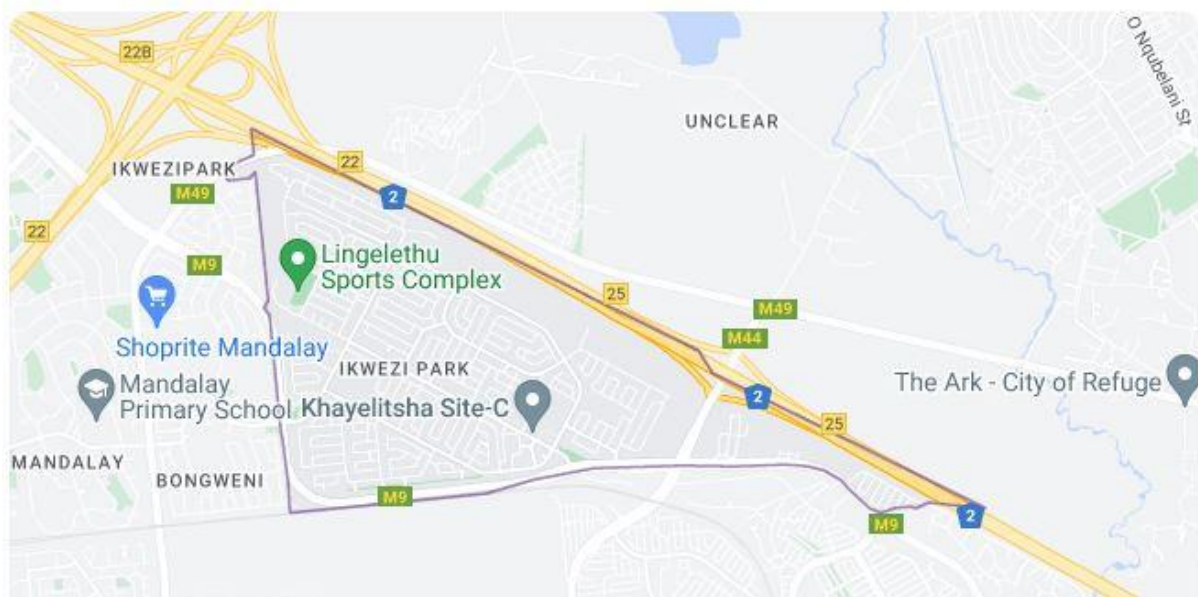


Figure 128: iKwezi Park, Google Maps (Retrieved: 03.11.2022)

3.2.6. Khayelitsha

Out of the fifteen research participants, two females came from Khayelitsha.

KHAYELITSHA



Figure 13: 2011 Census Suburb Khayelitsha (City of Cape Town [CoCT], 2013)

According to the 2011 Cape Town Census data from Statistics South Africa (City of Cape Town, July 2013), Khayelitsha comprises the following sub-localities: Bongani TR Section, Bongweni, Ekuphumleni, Graceland, Griffiths Mxenge, Harare or Holomisa, Ikwezi Park, Khayelitsha SP, Khayelitsha T2- V2b, Khayelitsha T3-V2, Khayelitsha T3-V3, Khayelitsha T3-V4, Khayelitsha T3-V5, Mandela Park, Monwabisi, RR Section, Silver Town, Solomon Mahlangu, Tembani, Town 3, Trevor Vilakazi, Victoria Mxenge, Village V1 North, Village V1 South, Village V2 North, Village V3 North, Village V4 North and Washington Square.

In the 2011 census, the population of the Khayelitsha suburb was 391 749 and the number of households was 118 809. The average household size was 3.30. The population is predominantly Black (99%). Thirty-six per cent of the population aged 20 years and above have attained tertiary education. Sixty-two per cent of the labour force is employed (people aged 15 to 64). The average salary of R3, 200 (in 2011), is earned by seventy-four per cent of households earning this amount or less per month. Forty-five per cent of households in Khayelitsha are formal dwellings and sixty-two per cent of households in the area have piped water in the home or yard. The percentage of households with

public sewerage and flush toilets is seventy-two percent. Households in Khayelitsha are eighty-one per cent dependent on electrification of their homes and eighty-one per cent of households have rubbish collected once a week.



Figure 20: Khayelitsha's Site C Taxi Rank (SOURCE OWN, TAKEN: 13.09.2022)

3.3. Main Public Transportation in the Area

This section will provide a brief clarification for the main offerings of public transportation in the study area as reported by the study's respondents (see Table 12).

3.3.1. Golden Arrow Bus

GOLDEN ARROW BUS



Figure 21: Nyanga Terminus - A GABS loads passengers at Nyanga East's busy PTI (SOURCE OWN, TAKEN 13.09.2022)

Golden Arrow Bus Services (GABS) receives government subsidies and has been providing public transport services in Cape Town for 160 years. GABS currently operates 1,035 buses during peak hours in the suburbs of Cape Town and serves 1,300 routes in the greater Cape Town area (Houston, 2014).

Golden Arrow has been the official vehicle operator (VOC) for the City of Cape Town's MyCiTi service since 2013. Through its subsidiary Table Bay Rapid Transit (TBRT), it operates long-distance transport on the Atlantic Corridor from Table View to the CBD as well as transport from the CBD to Sea Point and Camps Bay. (GABS, UNDATED).

3.3.2. *Amaphela*

AMAPHELA



Figure 142: *Amaphela* wait for passengers and pick-up passengers in Gugulethu Square, Gugulethu (SOURCE OWN, TAKEN 13.09.2022)

Amaphela are a township-based informal ride-sharing mobility service. *Amaphela* (the plural of singular “iphela”), is the isiXhosa¹⁴ name for the cockroach insect. *Amaphela* is a low-cost local mode of transportation flexible paratransit within the township network, offering both drivers and passengers socio-economic connections and opportunities beyond the outskirts of Cape Town. *Amaphela* taxis – just like their namesake, the insect - travel the roads in search of passengers and are primarily confined to their area of operation in the townships of the Cape Flats (Rink, 2020). Some of the problems faced by the *amaphela* include punitive measures by the authorities (confiscation of vehicles), disputes, violence and crime (News24, 2022).

¹⁴ isiXhosa is one of the three dominant languages spoken in the Western Cape. The other two languages are English and Afrikaans.

3.3.3. Mini-bus Taxi

MINIBUS-TAXI



Figure 23: Minibus taxi's queueing in Nyanga East PTI (SOURCE OWN, TAKEN 13.09.2022)

The minibus taxi (MBT) is also known as 'Chiva bus' in Colombia, 'Tap-tap' in Haiti, 'Matatu' in Kenya or 'Trotro' in Ghana" (Dzisi, 2022: 19). The South African minibus taxi industry is the most popular form of public transportation in the country, transporting between sixty-eight and seventy per cent of South African commuters every day (Walters, 2001). The minibus taxi industry supports the country's formal economy by providing users with public transportation for travelling to work, school and other purposes. The majority of minibus taxi passengers are Blacks who mostly live in the peripheral township areas. This type of transportation was developed during the apartheid era – in areas where black people were underserved (Rink, 2020).

In terms of government rebates, support and subsidies – the MBT industry does not receive any form of government subsidy. In the past, the government had implemented some programmes to promote vehicle safety (Taxi Recapitalisation Programme (TRP), Republic of South Africa [RSA], 2016) and local programmes to promote the safety and efficiency of public transport (The Blue Dot Taxi pilot project – 30 November 2022 ended). Other forms of public transportation receive government subsidies (such as rail, bus and BRT). Some emphasise that the achievements and failures plaguing the minibus taxi industry require collaborative policy approaches and deliberate implementation to reform the sector (Geldenhuys, 2008; Plano et al., 2019).

Some of the biggest controversies in the industry are related to violence, especially when rival competitors vie for routes, constantly flout traffic laws and resist formalising their business, even though this could give them better government support (Barret, 2003, Van Schalkwyk 2008).

3.3.4. "Twelf-Down"

The colloquial term "Twelf-Down" taxi refers to the taxis that run door-to-door in the late evening, serving routes from the CBD to Cape Flats neighbourhoods such as Langa, Gugulethu, Khayelitsha and smaller townships in between. It aims to fill the gap in public transportation for workers who finish work around 9.30pm to 10.30pm and beyond. This service has been in existence for (+/-) 15 years or more (it is not clear exactly when it started) – there is no real information about this service in the literature. It is therefore also unregulated and has the characteristics of informal and unregulated transit – in that there is no formal timetable; vehicle safety and standardisation of vehicles used is questionable; vehicle capacities or loads are a matter for the local "manager" who sets the right of way rules or manages the queue of vehicles. The location of the Twelf-Down taxis is at the Golden Arrow bus station in Cape Town's CBD area. The service is aimed at night shift workers (e.g. security guards, nurses, cleaners) as well as employees in the tourism (hotel industry) and hospitality (e.g. food and beverage industry employees) transportation from their workplace. However, this service is also available to the general public. Fares are difficult to ascertain – respondents reported paying between R30 and up to R70 per journey for a twelve-seater taxi. However, the fare is a flat fare (a fixed or set fare) and does not vary depending on the departure points. Any deviations from the route are usually discussed with the driver before the start of the journey.

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Figure 154: TOYOTA VENTURE - A typical vehicle used for the 'twelf-down' shared evening paratransit (SOURCE OWN, TAKEN 22.10.2022)



Figure 165: GOLDEN ARROW BUS STATION - A well-lit environment that alerts customers that operations are open and adds the security measures for night shift workers (SOURCE OWN, TAKEN: 22.10.2022)



Figure 26: SERVICE SPAN: This picture was taken at 10:45 PM as the station was at its busiest (SOURCE OWN, TAKEN: 22.10.2022)

3.4. Conclusion

A statement on the significance for presenting a case study based in this area

The *amaphela*-operated area consequently forms the localisation parameter for our investigation. This area symbolises the local mobility problems that people in this area are confronted with. The selected neighbourhoods are connected by the *amaphela* network, by the shared burden of ineffective paratransit, and have similarities in the socio-economic composition of their neighbourhoods. Since the purpose of this study is to understand and address the problem of evening mobility and accessibility for township residents to participate in recreational activities, the *amaphela* is the only one of the transportations in the townships that may only be used in these townships – where it fills a mobility gap. Therefore, it is appropriate to delineate the study area based on their operational network, especially when it comes to the inclusion of public transportation.

The study area was introduced in this chapter. This study examined the socio-economic situation of the 6 neighbourhoods included in the study. The main modes of transportation used by the respondents in the study were then presented.

Chapter Four: Exploring After Peak Time Discretionary Activity Participation Among Township-Dwellers – A Case of Discontentment, or one of Detachment?

4.1. Introduction

The previous chapter has discussed the *amaphela*-operated area in the Cape Flats, which forms the empirical setting from which subsequent data was collected. Participants voluntarily agreed to be interviewed, with the understanding that this study would be shared with them once all data analysis and report writing were completed.

In this chapter, the reader is introduced to the analysis of the empirical narratives. A profile of the interviewees in the study is then presented. The results of the data analysis are subsequently presented. In addition, the reader is presented with a systematic account of the participants' views as they relate to each topic discussed. These views are then further supported by the literature. In this thesis, the data from the in-depth interviews is presented in such a way that the reader witnesses how the participants' views were interpreted and how these views are 'corroborated' by other published empirical work. This ensures that the conclusions from this thesis are credible and that this research can be replicated.

The final section of this chapter draws the most important conclusions from this analysis. Consequently, we take this analysis one step further by categorically assigning the participants' views to the interpretations of meaning-making.

4.2. Profile of Respondents

Respondents were selected from a number of neighbourhoods within the Cape Flats districts of Nyanga, Gugulethu, Philippi, Heideveld, "Kwezi" and Khayelitsha in Cape Town. These neighbourhoods are considered part of the *amaphela*-operated area as defined by Rink (2020). Ultimately, fifteen interviewees made up the group of interviewees. The ages of the interviewees ranged from 18 – 30 years and 46 – 59 years. Fourteen of the participants identified themselves as "black" or "African", while one interviewee identified as "so-called Cape coloured". The gender ratio was two men to thirteen women. The occupations of respondents varied – there was a mix of students, unemployed, contract or temporary workers as well as administrators, managers, and HR professionals.

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Table 4: Profile of Respondents

Demographic data of participants															
	P 1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15
Age	31 to 45yrs	18 to 30yrs	18 to 30yrs	18 to 30yrs	46 to 59yrs	18 to 30yrs	18 to 30yrs	46 to 59yrs	46 to 59yrs	46 to 59yrs	46 to 59yrs	18 to 30yrs	31 to 45yrs	31 to 45yrs	46 to 59yrs
Sex	Female	Female	Male	Female	Female	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female
Race	Black	Black	Black	Black	Black	Black	Coloured	Black	Black	Black	Black	Black	Black	Black	Black
Address	2	2	2	2	1	2	3	1	4	2	4	5	2	6	6
Family Status	Single/1 child	Single	Single	Single	Single/1 child	Single/1 child	Married/2 children	Married/2 children	Married/2 children	Single/4 children	Single/1 child	Single	Single/1 child	Single	Single/children
Income Bracket	R17000 to R25000 pm	R5000 to R7000 pm	R3500 to R5000 pm	R3500 to R5000 pm	R17000 to R25000 pm	R7000 to R17000 pm	R17000 to R25000	R7000pm to R17000pm	R7000 to R17000 pm	R1600 pm	R17000 to R25000	R3500 to R5000 pm	R17000 to R25000 pm	R17000 to R25000 pm	R3500 to R5000 pm
Employment status	Receptionist	Learnership	Student/Casual Jobs	Student	Receptionist	Administrator/Student	HR Administrator	Administrator	Warehouse Assistant	Unemployed	Receptionist	Student	HR Administrator	Manager	Cleaning Staff
Desired Off-peak Leisure Activities	Wine Tasting/	Visiting relatives/ Wine Tasting/ Shopping/ City Night Life	Cooking Class/City Night life	First Thursdays/ City Night Life/Visiting Friends & Relatives	Gym/B&B in Langebaan or Greyton	CPUT NIGHT SCHOOL	Somerset mall Shopping/ Travel abroad	Visiting friends & family (longer stay)	Langebaan (long stay with family)	Desire to take kids on outing out of the township for a day	Visit Simonstown or Tokai just to see it for the first time	To spend longer time with friends in Gugulethu Township	Organising Church camps and hikes outside of the township area	Visiting friends & family (Parklands) / Montclair Khayelitsha)	she would go to town with her kids and leave whenever they wanted

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*Note: **Neighbourhood Number** 1: Nyanga East, 2: Gugulethu, 3: Heideveld, 4: Philippi, 5: "Kwezi"; 6 Khayelitsha;*

Age categories: 18 – 30 yrs; 31 – 45 yrs; 46 – 59 yrs; 60 yrs old and above

Income (Pay Scale): R3,500 to R5000; R5000pm to R7000pm; R7000pm to R17000pm; R17000pm to R25000pm; R25000pm to R35000pm; Above R35000pm

4.3. Emergent Themes

Themes or Code Groups Identified

Fifteen interview procedures were conducted, focussing on a data set from six locations in the Cape Flats region of Cape Town, namely: Nyanga, Gugulethu, Phillipi, iKwezi Park ("Kwezi" for short), Khayelitsha and Heideveld. This thesis on a thematic analysis of the transcribed interview data, which required the development of a thematic framework for analysis (data extraction table) consisting of themes, codes and categories. Thematic analyses are the development of classification systems for data that lead to themes and categories that allow the researcher to identify common themes and patterns in the data (Saldaña, 2015).

Five main themes¹⁵ emerged during the analysis for this section. These were identified as follows:

- Life Enhancement or Well-being
- Temporal Accessibility
- Impediments to Access Adequate Transport
- Social Exclusion and,
- Aspirational

These themes emerged from a process of reading and re-reading the transcripts, taking notes during the interviews, and re-listening to the interviews – all in order to detect recurring themes and themes that emerged from the interviews. Qualitative analyses look for patterns in the data and examine the relationships among the data to enable interpretation or sense-making (Tutty, Rothery, & Grinnell, 1996).

After the first interview, some themes were already clear – consequently, the process of refining the main themes and separating categories that emerged during the process began. The codes were developed in an unfolding, free process – the answers given during the interview formed the basis for codes and categories that helped to develop a systematic method of extracting in-depth information from the data. The data extraction table is a description of each code group, code and category in tabular form. This table served as a guide for analysing the responses from the personal interviews.

The data extraction table also shows the reader how to follow the hierarchies and connections made between codes, categories and sub-categories. Organising a table formatted in such a manner allows

¹⁵ "Themes" and "Code Group" are used interchangeably. They are one and the same – simply referred to as when appearing in the "Data Abstraction Table" – then the themes are listed as "Code Group".

further depth in detail for the codes. That means that within a code group, the sub-codes and sub-categories may interact to show relationships with each other (which is depicted in...).

The researcher was able to structure conceptualisations that consider the data as a whole as a way of providing explanations for what was observed – through the organisation and analysis of text, the repetition of patterns and the identification of connections between the data (Tesch, 1990).

Below, the data extraction table is presented, along with a key or inset explaining the code definitions.

When will the 'lokshin' MyCiti bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Table 5: Data Extraction Table or Coding Table (SOURCE OWN)

CODE GROUP	CATEGORIES	CODE	SUB-CODES
Life Enhancement/ Well-being	Actual Activity Domain	Familial or Community Leisure or Social Recreational or Cultural Livelihood or Educational	[Social] Connection
Impediments to Access Adequate Public Transportation	Comfort Fragmented Network	Crime or Safety Transport Scarcity Affordability	Distance
Temporal Accessibility or Scheduling	Repeat Activities Space-Time-Paths Transport-dependent Activity	Convenience Necessity	
Social Exclusion	Once-off Activities Potential or Desired Activities		
Aspirational	"If Then, But Only When" Phrases		

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Table 6: Explanation of Codes (SOURCE OWN)

	CODE	COMMENT
○	<i>actual evening activity domains</i>	Participants describe out-of-home activities that they currently engage in during the evening period and require long-distance travel or rely on PT which is or isn't available. These activities form part of individuals' growth and personal development.
○	Aspirational	The theme <i>Aspirational</i> considers participants' re-imagining of a situation that currently may not be or isn't their reality.
○	<i>comfort</i>	This code describes the challenges related to travelling experienced by participants, particularly dependent on weather conditions, built environment and locale circumstances while making a journey.
○	<i>convenience</i>	This code considers travel decisions made by participants based on ease, availability and affordability of the mode of transportation, as well as a given destination
○	<i>familial/community</i>	Trips that involve visiting and being in proximity to loved ones and close contacts are discussed in relation to travelling.
○	<i>fragmented network</i>	Participants rely on a dis-jointed public transportation network. They describe their daily PT exchanges by mode.
○	<i>if then, but, only when</i>	This code looks out for phrases such as: "I'd like..." "Better if..." and "...rather than..."
○	Impediment to Accessing Adequate PT	These are the challenges, that making gaining access to, and using public transportation particularly difficult.
○	<i>leisure/social</i>	This category explores which out-of-home (and home-based) activities respondents go to / get up to for leisure and socializing.

When will the 'lokshin' MyCiti bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

○	<i>Life Enhancement or Improved Well-being</i>	This theme focusses on participants views of qualities or interactions that enhance the quality of their lives.
○	<i>necessity</i>	These are the mandatory journey's - not making these journeys could cause disruption to life
○	<i>once-off activities</i>	Special events that take place, or activities that may only be conducted on occasion - given a particular constraint.
○	<i>potential/desired evening activities</i>	Participants describe where they would like to go, given a particular time of day and the spatial challenges currently preventing their participation in certain participation.
○	<i>recreational/cultural</i>	This category explores respondents' various ways to engage in social or cultural activities, and the impact it has in their lives.
○	<i>repeat activities</i>	These are the more predictable (usual) and repetitive journey's for maintaining livelihood.
○	<i>Social Exclusion</i>	This theme unpacks levels of accessibility in relation to levels of activity participation and satisfaction for participants.
○	<i>Temporal Accessibility or Scheduling</i>	This theme considers how time scheduling/available time budgeting throughout the day, affords commuters a workable arrangement of life, as well as considers the constraints to activity participation that it presents.
○	<i>space-time path</i>	Respondents account a particular place and a given time doing an activity
○	<i>social connection</i>	Includes social participation, deriving some social link of significance
○	<i>transport-dependent activity</i>	This code applies to participants' needs to be mobile by vehicular means to conduct important tasks.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Deciding on Themes

The “*data extraction illustration*” below exhibits all the push factors participants cited during the interview. Raw data from the interviews were organised into sub/codes and categories which in turn fed directly into each of the themes.

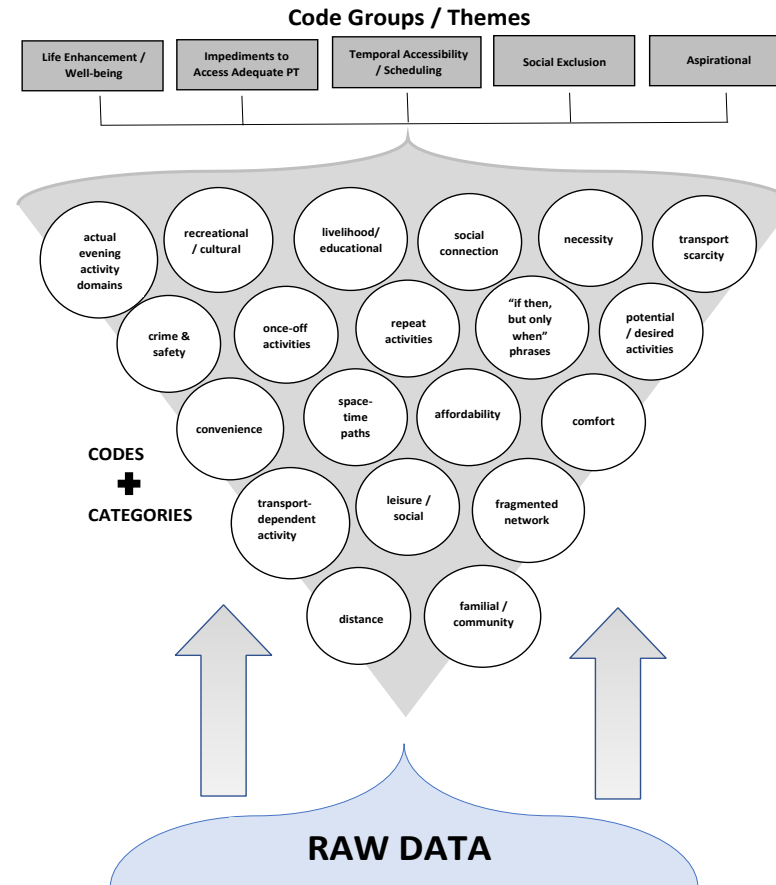


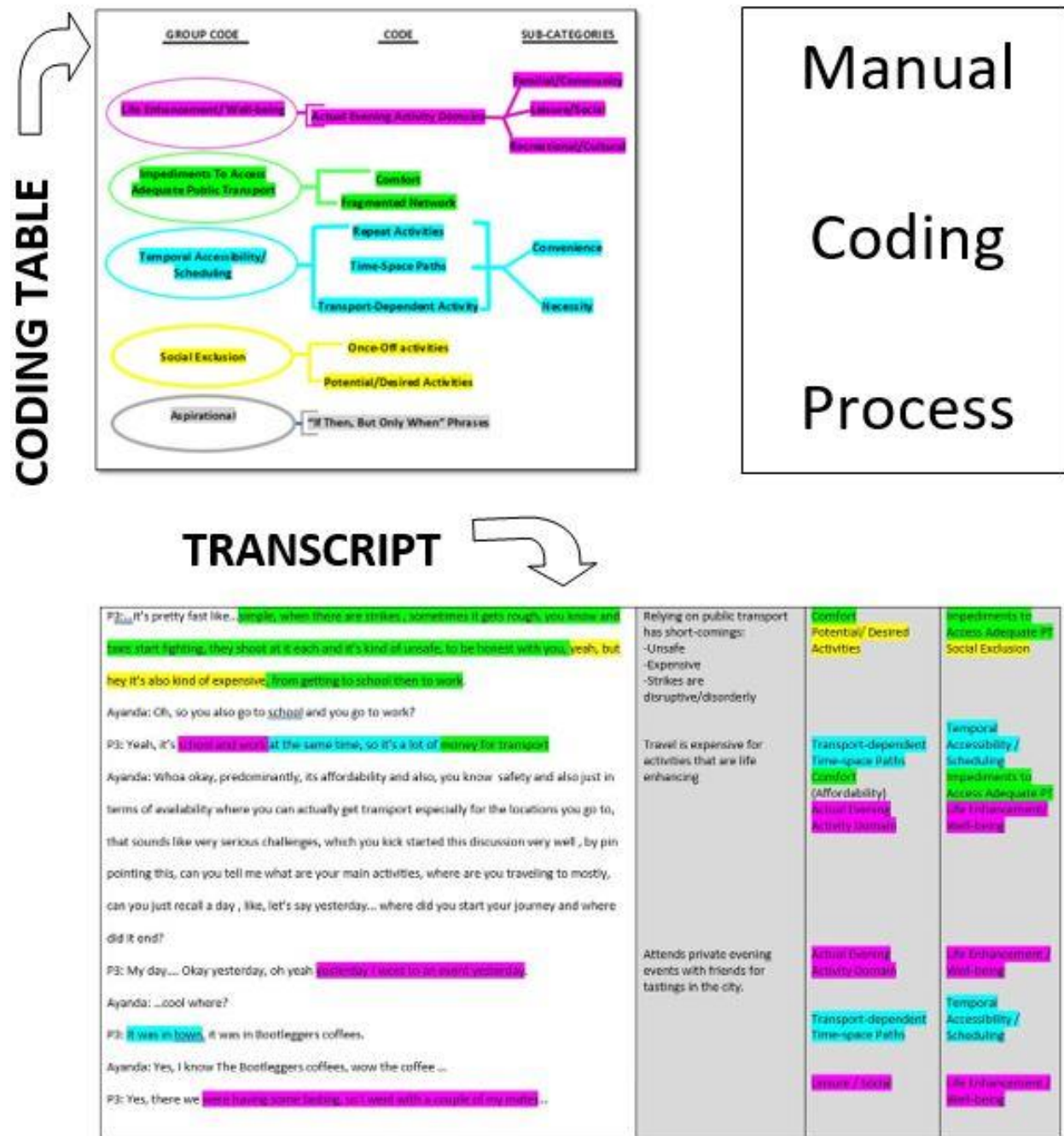
Figure 27: Data Extraction Illustration (SOURCE OWN)

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Applying A Thematic Analysis - Process of manually coding transcripts

Figure 6 in Chapter 1 highlights the interview data analysis procedure applied in this study, which followed the steps highlighted by Saldaña (2015: 8).

Once the codes and categories were developed, these were applied to the transcript where a colour coding frame correlated to each theme. This process was manually applied to interview one through to interview five. Below is an illustration of the manual coding process:



On the left-hand side of the transcript, the researcher applied the codes accordingly, line by line (where applicable), using a highlighter in each colour for the mention of a particular code. The three columns on the right hand side were divided into: "Comment", "Code or subcategory" and "Code group". Here the relevant code (from the coding table) was noted and any supporting information was provided in the 'Comment' column. This stage was particularly helpful in developing and refining the final coding technique. This stage also helped the researcher to become more familiar with the data before proceeding with software to analyse the data.

ATLAS.ti - Computer-assisted qualitative data analysis software

The manually created coding frame was then transferred to Altals.ti. The data extraction was used electronically for coding with the software Atlas.ti version 9 of the Computer Assisted Qualitative Data Analysis Software (CAQDAS). Transcript 6 to transcript 15 were coded and analysed in Atlas.ti version 9. The software chosen allows the transcript data to be organised in preparation for analysis and a thematic analysis to be performed, just as with manual coding. However, the software does not analyse the data, as the analytical work is the responsibility of the researcher.

Atlas.ti is a particularly useful tool for analysing text data, as it provides a simplified representation of the relationships among codes. The diagram created by Atlas.ti shows at a high level how codes can interact to show relationships with each other. (Frieze, 2021:27). In Atlas.ti you can organise the data in a software. Take participant 1 as an example of how you can not only capture the coding in the software, but also explore the relationships between the codes. A common method for this is to visualise the data in a Sankey diagram.

Using the software to query the data

For example, the researcher used the data from research participant one to demonstrate the visualisation of a Sankey diagram with CAQDAS. Below, for each table cell containing a value, an edge is displayed between the diagram nodes (entities). The thickness of the edges corresponds to the cell values of the table. Cells with the value 0 are not displayed in the Sankey view.

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Table 7: Sample from Participant 1's Data Analysis Process in Atlas.ti: Visualising Code Relationships in Atlas.ti

	Aspirational 4	Impedimen... 5	Life Enhanc... 8	Social Exclu... 9	Temporal A... 5
actual eve... 2			1		
comfort 13	1	3	2	1	1
convenience 4		1	2		
familial/co... 0					
fragmente... 5		3	2		1
leisure/soc... 7			1		
necessity 5		1	1		1
once-off a... 1			1		
potential/... 4	2		1	7	
recreation... 2	1		1		
repeat acti... 1	1		1		
time-spac... 18			1		
transport-... 5		2	2		1

Displaying code interactions

Dominant factors can stand out and give an idea of the biggest contributors related to mobility, accessibility and the challenges of social exclusion for township residents. It is easier to recognise patterns in the data and connections. Below, the width of the graph is proportional to the quantity represented in the cells above. The researcher was able to make interpretations about the relationships observed.

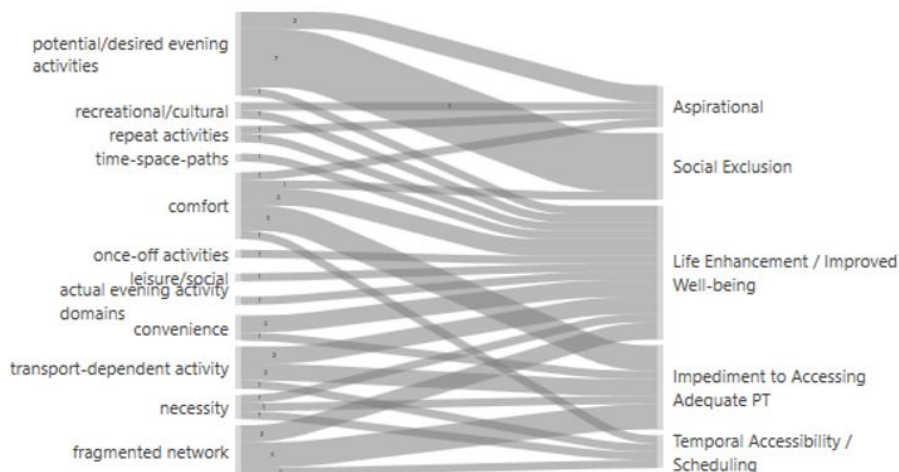


Figure 29: Participant 1's Sankey Diagram in Atlas.ti

So, for instance, responses that fed into the code group “life Enhancement or improved Well-being” reveals complex mobility relationships that are largely connected to “comfort”, “fragmented network”, “convenience”, “transport-dependent activities”. The starkest relationship is between “potential or desired evening activities” and code group “Social Exclusion”. Making interpretations

about the relationships observed in participant one's analysis using CAQDAS, may be backed up by adding direct quotations taken from the interview (Forman and Damschroder, 2008).

Presenting the analysis in this way and the usefulness of using Atlas.ti CAQDAS ensured that a wider audience could follow the data analysis process deployed in this study. This was particularly helpful in this examination of transportation in Cape Town. In addition, presenting an analysis in this way provides a deep insight into the data used and demonstrates a comprehensive research approach to this study.

Reaching Saturation

The use of a small sample in this study allowed for an in-depth, verbatim review of the data to understand people's meaning (Amarantunga et al., 2005). However, sample size in qualitative studies depends on many factors. Typical sample sizes in studies using qualitative interviews are usually between fifteen and twenty participants. When analysing the interviews, up to twenty per cent of the interview data is already coded (Baker and Edwards, 2012; Johnson et al., 2007; and Mason, 2010, in Kriukow, 2017). This supports the notion that sample size sometimes has no real detriment to the quality and depth of insights gained from a small in-depth interview data set.

The following table is taken from Sebele-Mpofu (2020) and summarises some of the selected studies that have been conducted on saturation and the suggested sample sizes. This reflects a similar pattern to the saturation justification for this thesis.

Table 4. Studies on Saturation in Qualitative research, suggested sample sizes and rationale		
Sample size	Rationale	Researcher
12 semi-structured interviews	Convenient sampling, initial sample based on suggestions by Mason (2010)	(Constantinou et al., 2017)
6 to 12 interviews	More comprehensive data can be collected from in-depth. Small samples more appropriate in homogeneous sample and experts in the field	(Guest et al., 2006; Kuzel, 1992)
5 interviews for code saturation and more interviews in order to achieve saturation on meanings	Code saturation Meaning Saturation	(Hennink et al., 2017)
25 to 200 interviews	Open ended surveys	(Tran et al., 2017)
6 interviews	Large samples could compromise credibility and contextualisation of data and quotations	(Morse, 2000)

For this study, saturation was determined to have been reached on the basis of:

Theoretical saturation – The researcher reached a point while sampling and after reviewing the first five interviews (and by reviewing “fieldwork reports” kept), where theoretical concepts were clear

and presented strongly in the data collected. This led to the notion that the critical dimensions of identified theories had been fully reflected by the data set at this point.

Data saturation (with sampling) – During the fieldwork, the researcher realised that certain questions produced the same or almost identical answers. The researcher felt that saturation was reached at the point where the participants' answers were frequently repeated. This pattern can be seen in the table below.

Table 8: Contributions of participants to themes:

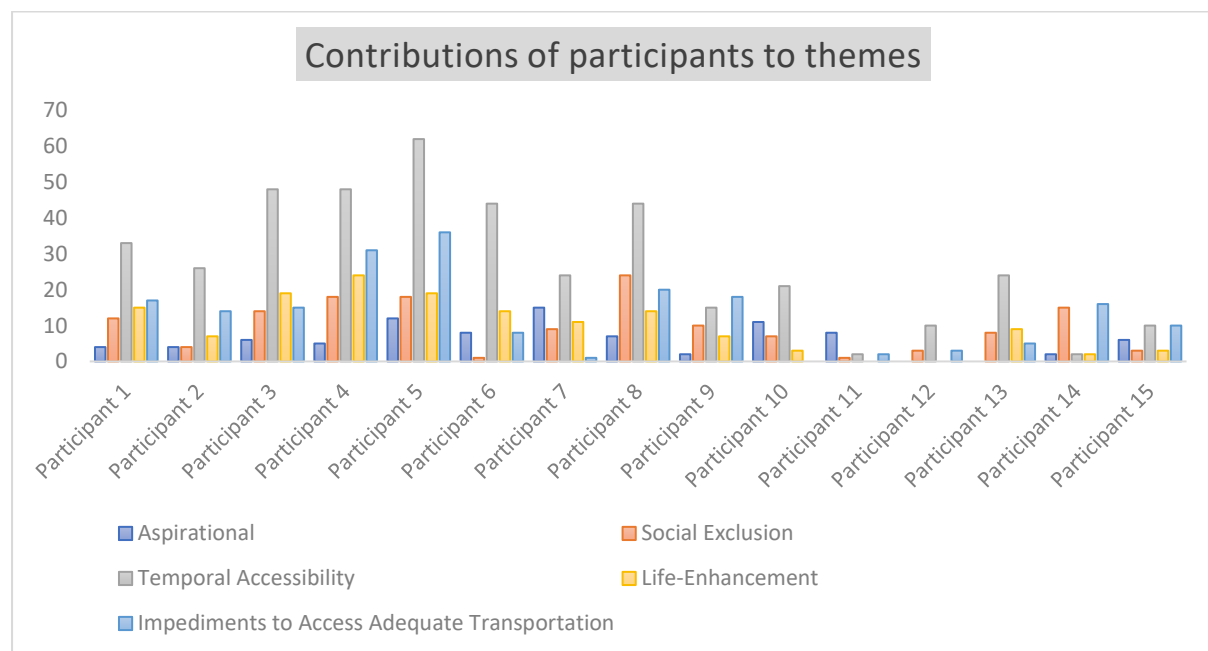


Table 8 above exhibits the participants' contributions to the individual topics. A trend is clearly recognisable. While new topics are repeatedly raised and contributed by respondents one to eight, – essentially no new information was added thereafter. In addition, the intensity of the disclosures on the individual topics decreased after participant ten and increased again until participant thirteen. Between participants fourteen and fifteen, push factors were increasingly discussed again – but no longer with the same intensity as at the beginning of the survey (participants one to eight).

"Quotes By Code" Table

The "quotes by code table" is a presentation of the analysis of the interviews. The study's data analysis yielded five main themes, namely: life enhancement or well-being, impediments to accessing adequate transportation, temporal accessibility, social exclusion and aspirational. The table below depicts the number of quotations that were assigned to each of the themes below. This depicts the depth of each code or category in relation to the themes identified.

Table 9: Quotes By Code Table, Values

(CODE GROUPS) → (Sub/CODES or and Categories) ↓	LIFE ENHANCEMENT or WELL-BEING	IMPEDEMENTS TO ACCESS ADEQUATE PUBLIC TRANSPORT	TEMPORAL ACCESSIBILITY or SCHEDULING	SOCIAL EXCLUSION	ASPIRATIONAL
actual evening activity domains	18	2	3	3	1
affordability	3	10	15	16	1
comfort	5	16	1	17	5
convenience	7	8	10	8	14
Crime/safety	2	10	2	9	10
distance	4	5	2	7	1
familial or community	13	8	16	2	4

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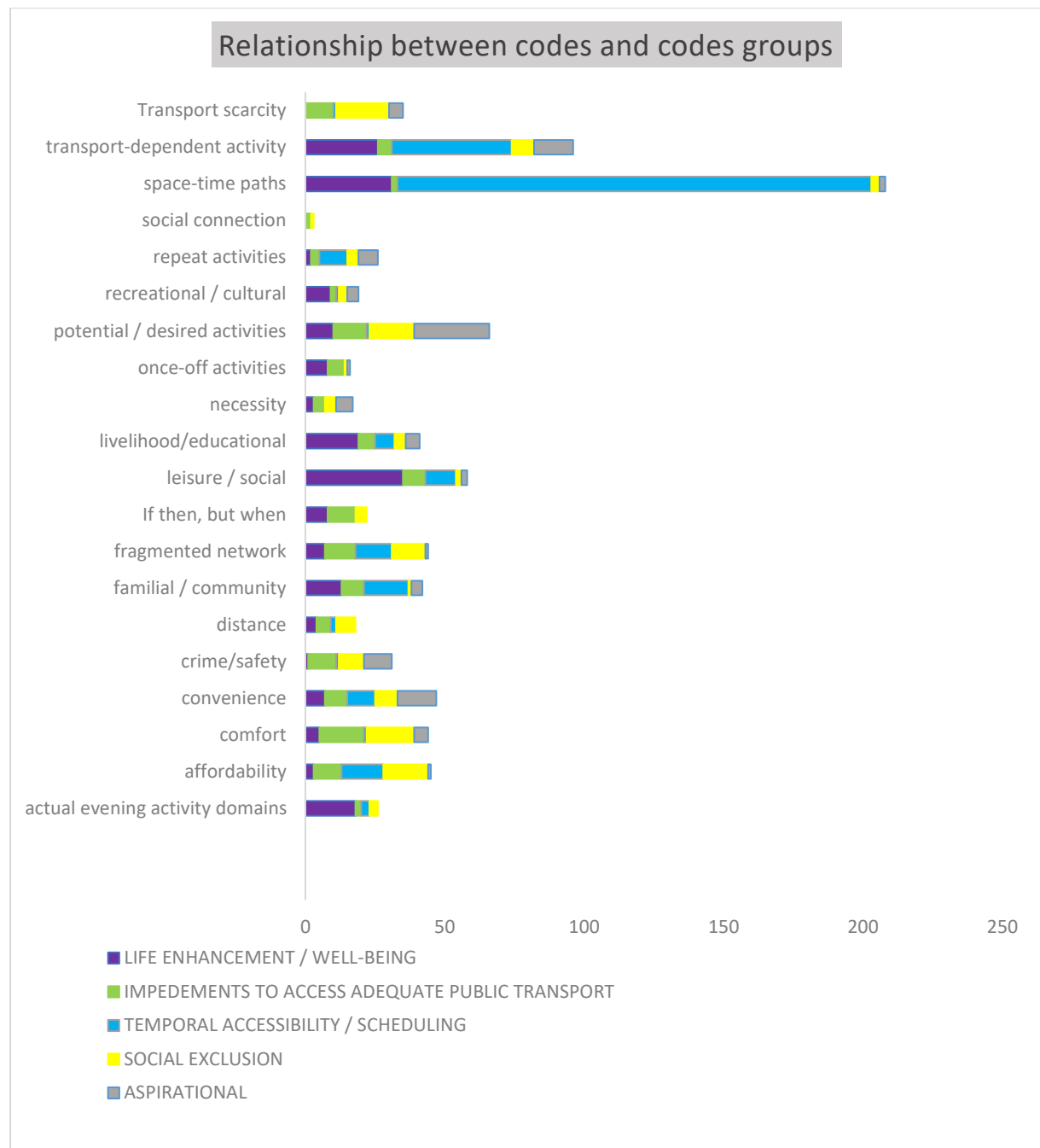
fragmented network	7	11	13	12	1
If then, but only when	8	10	2	4	1
leisure or social	35	8	11	2	2
Livelihood/educational	19	6	7	4	5
necessity	3	4	3	4	6
once-off activities	8	6	1	1	1
potential or desired activities	10	12	3	16	27
recreational or cultural	9	2	1	3	4
repeat activities	2	3	10	4	7
social connection		2	1		1
space-time paths	31	2	170	3	2
transport-dependent activity	26	5	43	8	14
Transport scarcity	2	10	1	19	5

Variations between the Table 10 "Relationship Between Codes and Code Groups" and Table 8 "Contributions of participants to themes"

The values shown reflect the actual number of citations for each category, code or sub-code in relation to a particular topic. In Table 8, more values were counted because each time the researcher noted a citation of a particular category, code, or sub-code related to a particular topic, as well as each time the researcher picked up a phrase or sometimes just a word describing the effect of a particular category, code, or sub-code related to a particular topic. On "*Table 10*" on the upcoming page is a diagram reflecting the contribution of categories, codes and sub-codes by colour codes to each theme according to the number of citations:

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Table 10: Relationship Between Codes and Code Groups



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Once the data was mined and organised into each corresponding theme, a table was developed by the same name "quotes by code table" to present a framework for identifying, analysing and describing the overall account of a particular experience shared by interviewees. Section 4.3 follows, presenting the analysis.

Table 11: Quotes By Code Table, Synthesis (SOURCE OWN)

(CODE GROUPS) → (CODES Categories) ↓	LIFE ENHANCEMENT or WELL-BEING	IMPEDIMENTS TO ACCESS ADEQUATE PUBLIC TRANSPORT	TEMPORAL ACCESSIBILITY or SCHEDULING	SOCIAL EXCLUSION	ASPIRATIONAL
actual evening activity domains	GETTING TO SOCIAL EVENTS WITH LIMITED ACCESS TO PT	PUBLIC TRANSPORTATION PRICE FLUCTUATIONS	PT CANNOT SERVE US, ONLY PRIVATE VEHICLE CAN	WAITING TIMES ON PT ON WEEKENDS	A SENSE OF NOT BELONGING
affordability	JOB SECURITY CONCERNS	WHEN WALKING AS ONLY OPTION	CHEAPEST PT MODE OPTION NOT AVAILABLE OFF-PEAK	AFFORDABILITY AS REASON FOR NON-PARTICIPATION	WISH TO BUY OWN CAR
comfort	PT THAT IS SAFE; COMFORTABLE; RELIABLE; EFFICIENT	OVER-CROWDED PUBLIC TRANSPORTATION	TOO MANY OR MULTIPLE STOPS	MYCITI AS THE IDEAL – BUT TOO EXPENSIVE	MYCITI NEAR THEM/ BETTER FACILITIES AT RANKS/ BETTER SERVICE
convenience	EASE FOR TRAVELLING AT NIGHT-TIME	PERCEPTIONS ABOUT PUBLIC TRANSPORTATION SCHEDULING	WHAT IS CONSIDERED A DECENT AMOUNT OF TIME TRAVELLING?	INCONVENIENCES OF LIFE WITHOUT A CAR	LESS WAITING TIMES FOR PT
Crime/safety	HYPERVIGILANCE & DAY-LIGHT AFFECT TRIP-MAKING	ISSUES OF SAFETY WHILE USING PUBLIC TRANSPORTATION	TOO SCARED TO TRAVEL AT NIGHT-TIME	TOO MUCH CRIME WITHIN NIGHBOURHOODS/ PPL AVOID LEAVING HOME	EVENING-BASED ACTIVITIES CARRIED OUT SAFELY IN MORE AFFLUENT NEIGHBOURHOODS
distance	THE EFFECTS OF TRAVEL FROM THE TOWNSHIPS	EXPERIENCES WITH RELYING ON POOR TRANSPORTATION INFRASTRUCTURE	PEOPLE GET UP HOURS AHEAD IF RELYING ON PT	"WE JUST LIVE TOO FAR FROM EVERYTHING"	WISH FOR MORE HIGH-QUALITY ENTERTAINMENT WITHIN TOWNSHIPS

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

familial or community	PT OPTIONS THAT MAKE TRIP-MAKING WITH THE FAMILY EASIER	RELYING ON PUBLIC TRANSPORTATION FOR FAMILY VISITS	WISHING TO VISIT FOR LONGER BUT CAN'T ACCESS PUBLIC TRANSPORTATION LATE	PT DISADVANTAGES INDIVIDUALS VISITING FAMILY	"IF MONEY AND TRANSPORTATION WEREN'T A PROBLEM, I'D GO HERE"
fragmented network	INSIDER KNOWLEDGE OF EVENING TIME PT SCHEDULES	CONSTRAINTS TIED TO POOR PUBLIC TRANSPORTATION INFRASTRUCTURE	OPTIONS FOR RELIABLE TRANSPORTATION FOR EVENING-BASED ACTIVITY PARTICIPATION	TRAIN OFFLINE HAS LIMITED PUBLIC TRANSPORTATION OPTIONS	CONVENIENCE – WISH FOR MORE DOOR-TO-DOOR PT
"if then, but only when" phrases	A WISH TO HAVE A BETTER LIFE	TRAVELLING WITH PUBLIC TRANSPORTATION MUST BE QUICKER	TO HAVE MORE TIME TO DO OTHER IMPORTANT THINGS IN LIFE	CURIOSITY ABOUT CAPE TOWN-BASED FAMOUS EVENTS & RECREATIONAL ACTIVITIES	WISH FOR WIDE-SPREAD INFO ABOUT SOCIAL ACTIVITIES
leisure or social	ACTIVITIES PPL ENGAGE IN FOR LEISURE THAT NEED PT	DESCRIBE PT EXCHANGES BY MODE TO GET TO ACTIVITY	AMOUNT OF TIME SPENT DOING LEISURE ACTIVITIES	TOO FAR & NOT ENOUGH TIME BUDGET	WISH FOR HIGH-QUALITY OFFERINGS WITHIN OWN COMMUNITY
Livelihood/educational	NEED TO BE CLOSER TO OPPORTUNITIES	"IF OPPORTUNITIES WERE CLOSER, I COULD DO MORE"	WORKING LATE SHIFTS AND RELYING ON PT TO GET HOME	EXAMPLES WHERE PUBLIC TRANSPORTATION MADE ACCESSING NB RESOURCES CHALLENGING	WISH FOR A RELEASE FROM THE STRESS OF JUGGLING LIVELIHOOD DEMANDS
necessity	DON'T LIKE TAXIS – BUT NOT MAKING THESE TRIPS CAUSES WELL-BEING DISRUPTION	"IF I'M LATE – I LOSE"	MISSING CONNECTIONS = LONGER WAITING TIME FOR THE NEXT PT SERVICE	PUBLIC TRANSPORTATION STRIKES AFFECT WORK AND SCHOOL ATTENDANCE	LESS DISRUPTIONS, SO I CAN DO THE NECESSARY
once-off activities	VALUE OF ENGAGING IN EVENING ACTIVITIES	ATTEND ONLY ON OCCASION DUE TO EASE WITH TRANSPORTATION	SPECIFIC OCCASIONS WHEN MORE PT WAS AVAILABLE	SPECIFIC EVENTS RESPONDENTS CAN'T ATTEND	RESPONDING TO WHAT SOCIAL ACTIVITIES SHOULD ENCOMPASS
potential or desired activities	DISCRETIONARY ACTIVITIES PEOPLE WANT TO PARTICIPATE MORE IN DURING EVENINGS	IDEAL TIME FOR ACTIVITY PARTICIPATION	I CAN'T PARTICIPATE BECAUSE OF ISSUES OF DISTANCE AND TIME	EXAMPLES OF WHY WE CAN'T PARTICIPATE SOMETIMES	"THEY DISCRIMINATE AGAINST US!"
recreational or cultural	INITIATIVES IN THE TOWNSHIPS FOR RECREATION	RIDE SHARING TO REDUCE THE BURDEN OF TRIP-MAKING COSTS	PEOPLE HAVE LIMITED TIME AFTER WORK	LOCKED IN TOWNSHIPS WITH NO OPTIONS OUTSIDE	IMPACT OF NOT BEING ABLE TO ATTEND EVENING EVENTS

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

repeat activities	HOW PT AFFECTS LIVELIHOOD – GROCERY SHOPPING/WORK/SCHOOL RUN	EVERYDAY PT EXPERIENCE OF RISK-TAKING BY PASSENGER'S & MBT DRIVERS	EVERYTHING IN LIFE IS PLANNED AROUND PT	I HAVE TO PLAN AROUND PT SCHEDULE – PT DOESN'T PLAN AROUND ME	JUST WISH EVERYTHING WITH PT WORKED ACCORDING TO PLAN (ALWAYS)
social connection	<i>NONE</i>	LIMITING MOVEMENTS WITHIN THE TOWNSHIP	EXPERIENCES WITH DISJOINTED PT WHEN YOU ARE POORER	<i>NONE</i>	ITS EASIER FOR OTHER PEOPLE THAN IT IS FOR US
space-time paths	HOW TO GET TO SPECIFIC ACTIVITIES FOR LEISURE	SPECIFIC ACTIVITY CONSTRAINT	SPECIFIC TIME CONSTRAINT	PLACE & TIME SOCIALLY EXCLUDED FROM ACTIVITY	WISH TO ALWAYS BE ABLE TO EASILY MAKE TRIPS FOR SOCIAL WELL-BEING
transport-dependent activity	ACTIVITIES THAT CAN ONLY BE ACHIEVED BY TRIP-MAKING	SLEEP OVER AT FRIENDS TO MAKE MOBILITY EASIER	A TIME I TRIED TO GET SOMEWHERE AND COULDN'T...	TIME BUDGETS DON'T MATCH AVAILABLE PT FOR ACTIVITY PARTICIPATION	A WISH TO SPEND LESS TIME TRAVELLING
transport scarcity	YOU CAN GO – BUT HOW DO YOU GET BACK HOME FROM ACTIVITIES?	EXPERIENCES WITH BEING STRANDED DURING PT DELAYS	COPING WITH TRANSPORT DESERTS	SOME PLACES ARE TOO FAR TO GET TO	LESS WAITING TIMES FOR TAXIS TO GET FULL

A discussion follows below containing a synthesis of the interview data.

Appendix 10.2 is the basis for the outcomes discussed in the sections below. This analysis provides narratives by each category or sub-code for each theme. These are the interview quotes selected to represent the overall account of the experience.

The attached thematic analysis is extensive and offers many details that cannot – and should not - be briefly summarised. For this reason, it was placed in a separate section so that the narrative flow that contributed to this first part of the chapter could be fully understood.

The inclusion of this long section of analysis in the main body of this study could have led to poor structuring and an interruption of the flow of knowledge for the reader. Furthermore, the thematic analysis section is a lengthy and dense part of this thesis. While it is an important part of this study, it was not the only form of analysis conducted to answer the research questions of this study. In order to achieve this goal, both the interview data and the travel log diary data are analysed in sections “4.4”, “5.3” and “5.4.

The reader is now presented with an overview of the actual analysis, which is set out in Appendix 10.2. The relevant empirical literature that accompanies the analysis in Appendix 10.2 is also included.

4.3.1. Theme One: *Life Enhancement or Well-being*

LIFE ENHANCEMENT or WELL-BEING

This theme focussed on participants' views on mobility for interactions that improve their quality of life.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

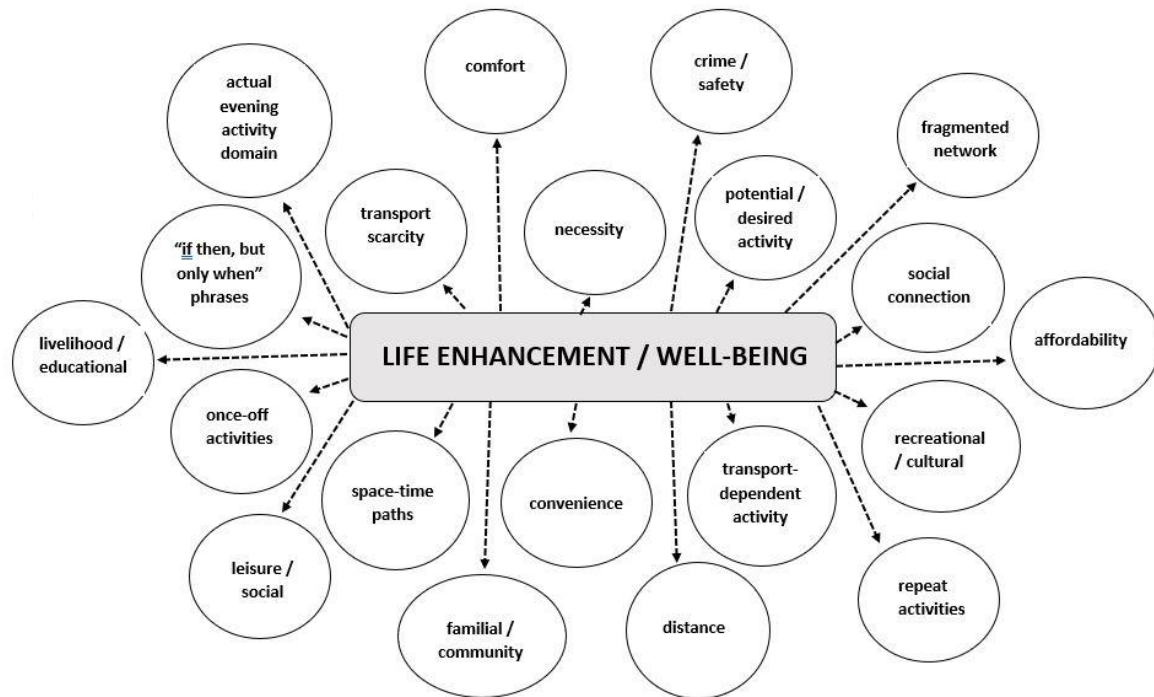


Figure 30: Coding Tree for Thematic Analysis One

The subjects that came up under this theme include:

- The topic of activity participation during the off-peak periods was raised. Participants report needing to use their own cars (for those who have access to one) or needing to use combined modes of transportation. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"getting to social events with limited access to public transportation";*

ISSUE 2: *"need to be closer to opportunities"*

- Respondents opened up about the notion of limited public transportation options in township areas. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"you can go – but how do you get back home from activities?";*

ISSUE 2: *"initiatives in the townships for recreation"*

- Respondents report feeling that they are risking their life for the possibility of opportunities. The main quotes that were pulled are link to this subject concern:

ISSUE 1: *"job security concerns"*

- A common topic raised relates to physical tiredness (fatigue) related to daily mobility. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"don't like taxis- but not making these trips causes well-being disruptions"*

- Respondents raised the issue of the discretionary activities they do participate in. The main quotes that were pulled are link to this subject and concern:

ISSUE 1: *"activities people engage in for leisure that need public transportation"*

ISSUE 2: *"public transportation options that make trip-making with family easier"*

ISSUE 3: *"value of engaging in evening activities"*

ISSUE 4: *"discretionary activities people want to participate more in during evenings"*

- The need for transportation was raised in the interviews. The main quotes that were pulled are link to this subject and concern:

ISSUE 1: *"public transportation that is safe, comfortable, reliable and efficient"*

ISSUE 2: *"ease for travelling at night-time"*

ISSUE 3: *"activities that can only be achieved by trip-making"*

- "Me-Time" for recuperating was raised as an important practise. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"the effects of travel from the townships"*

ISSUE 2: *"how public transportation affects livelihood – grocery shopping or work or school run"*

ISSUE 3: *"a wish to have a better life"*

- Discretionary activity participation and the associated challenges attached were raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"insider knowledge of evening time public transportation schedules"*

ISSUE 2: *"how to get to specific activities for leisure"*

ISSUE 3: *"hypervigilance and day-light affect trip-making"*

The empirical literature that supports the main revelations discovered under this theme are also placed in appendix 10.2 and include the following authors:

Mbane and Ezeuduji (2022); Gobind (2018); Bähre (2014) ; Foley et al., (2021) ; Patel (2021) ; Behrens et al., (2015); Borker (2022) ; Friman et al., (2017) ; Kerr (2017) ; National Household Travel Survey, [NHTS], Statistics South Africa, [Stats SA] (2020); Chakwizira and Nhemachena (2012); Dzisi et al., (2022) ; National Planning Commission [NPC], Republic of South Africa, [RSA] (2011); Lucas (2011); Han and Patterson (2007); Ramaila and Denoon-Stevens (2015); Baek (2016); Rogerson and Mthombeni (2015); Nelson (2021); Clark and Crous (2002) ; Kumar and Barrett (2008).

4.3.2. Theme Two: *Impediments to Access Adequate Public Transportation*

IMPEDIMENTS TO ACCESS ADEQUATE PUBLIC TRANSPORT

These are the challenges that make access to and use of public transportation particularly difficult.

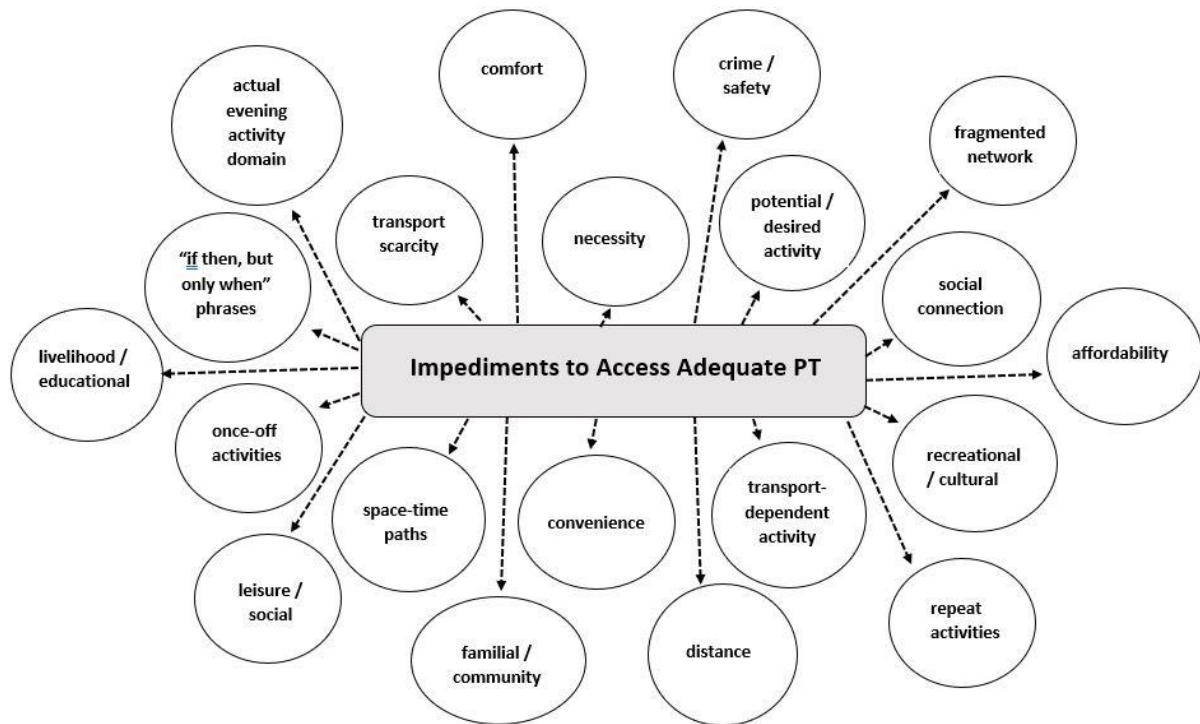


Figure 31: Coding Tree for Thematic Analysis Two

The areas that consistently came up under this theme include:

- Respondents raised the topic of the domino effect of a disjointed transit network. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"perceptions about public transportation scheduling"*

ISSUE 2: *"ideal time for activity participation"*

- Reckless public transportation was raised by respondents. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"every day public transportation experience of risk-taking by passenger's and mini-bus taxi drivers"*

ISSUE 2: *"attend only on occasion due to ease with transportation"*

- Respondents raised the topic of how public transportation has shortcomings. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"over-crowded public transportation"*

ISSUE 2: *"issues of safety while using public transportation"*

ISSUE 3: *"sleep over at friends to make mobility easier"*

- Particularly concerning paratransit, respondents raised the topic of rudeness & unprofessional services being common. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"relying on public transportation for family visits"*

- Respondents raised the topic related to effects of protest action. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"if I am late – I lose"*

- Respondents raised the topic related to challenges associated with public transportation. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"public transportation price fluctuations"*

ISSUE 2: *"constraints tied to poor public transportation infrastructure"*

- The effects of competitiveness and rivalry among the minibus taxis was brought up with regard to the commuter experience. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"limiting movements within the township"*

- The topic of crime while using public transportation services was raised by respondents. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"experiences with relying on poor transportation infrastructure"*

- Respondents raised the topic of the disjointed public transportation network. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"experiences with being stranded during public transportation delays"*

ISSUE 2: *"ride-sharing to reduce the burden of trip-making costs "*

ISSUE 3: *"describe public transportation exchanges by mode to get to activity"*

- The topic of walking as a form of mobility was raised by respondents. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"when walking as only option"*

- The topic of long trip durations was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"travelling with public transportation must be quicker"*

ISSUE 2: *"specific activity constraint"*

ISSUE 3: *"if opportunities were closer, I could do more"*

The empirical literature supporting the main statements discovered under this topic can also be found in Appendix 10.2:

(Kerr, 2017); Gonzalez et al., (2020); Næss et al., (2018); Rink, (2020); Luz and Portugal (2022); Lucas (2011); Luke (2018); Dzisi et al., (2022); Gobind (2018); Nelson (2021); Lawrence et al., (2006); Foley et al., (2021); Musavengane (2019); Grillo et al., (2010); Sirgy and Cornwell (2002); Mmadi (2020).

4.3.3. Theme Three: *Temporal Accessibility or Scheduling*

TEMPORAL ACCESSIBILITY or SCHEDULING

This theme considered how time scheduling and or available time budgeting throughout the day, could afford public transport-dependent commuters which was a workable arrangement of life. The *Temporal Accessibility or Scheduling* theme additionally considered the constraints to activity participation that might have been present.

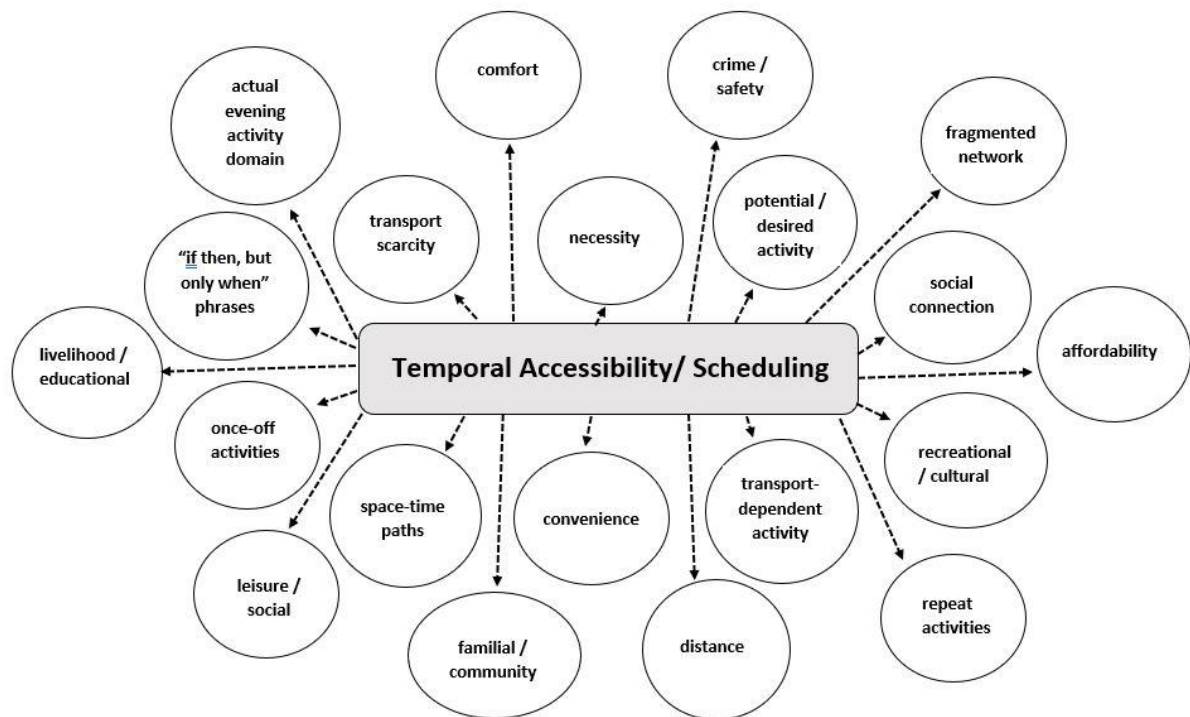


Figure 182: Coding Tree for Thematic Analysis Three

The topics that came up under this theme include:

- Respondents raised the topic of coping with time issues. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"everything in life is planned around public transportation"*

ISSUE 2: *"options for reliable transportation for evening-based activity participation"*

ISSUE 3: *"too scared to travel at night-time"*

ISSUE 4: *"specific occasions when more public transportation was available"*

- At the same time, respondents discussed the topic of immovable time challenges. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"people have limited time after work"*

ISSUE 2: *"people get up hours ahead if relying on public transportation"*

ISSUE 3: *"wishing to visit for longer but can't access public transportation late"*

ISSUE 4: *"coping with transport deserts"*

- The topic of time spent travelling for participating in social or leisure activities. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"amount of time spent doing leisure activities"*

ISSUE 2: *"public transportation cannot serve us, only private vehicle can"*

ISSUE 3: *"what is considered a decent amount of time travelling?"*

ISSUE 4: *"I can't participate because of issues of distance and time"*

- Respondents raised the topic of coping with the long travel distances. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"specific time constraint"*

ISSUE 2: *"working late shifts and relying on public transportation to get home"*

ISSUE 3: *"to have more time to do other important things in life"*

- Again, the topic of distance and the role of transportation was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"too many or multiple stops"*

ISSUE 2: *"experiences with disjointed public transportation when you are poorer"*

ISSUE 3: *"missing connections equals longer time waiting for the next public transportation service"*

ISSUE 4: *"a time I tried to get somewhere and couldn't..."*

ISSUE 5: *"cheapest public transportation mode option not available off-peak"*

The empirical literature that supports the main revelations discovered under this theme are also placed in appendix 10.2 and include the following authors:

Luke (2018); Stats SA (2020); Foley et al., (2021); Ibrahim & Alhassan (2020); Lucas (2011; 2006); Martens et al., (2012); Plano et al., (2020); Frank et al., (2006); Kay and Jackson (1991); Clark and Crous (2002); Schönfelder and Axhausen (2003); Nelson (2021); Gobind (2018); Kerr (2017); Vanderschuren et al., (2021).

4.3.4. Theme Four: *Social Exclusion*

SOCIAL EXCLUSION

This theme unpacks levels of accessibility in relation to levels of activity participation and satisfaction for participants.

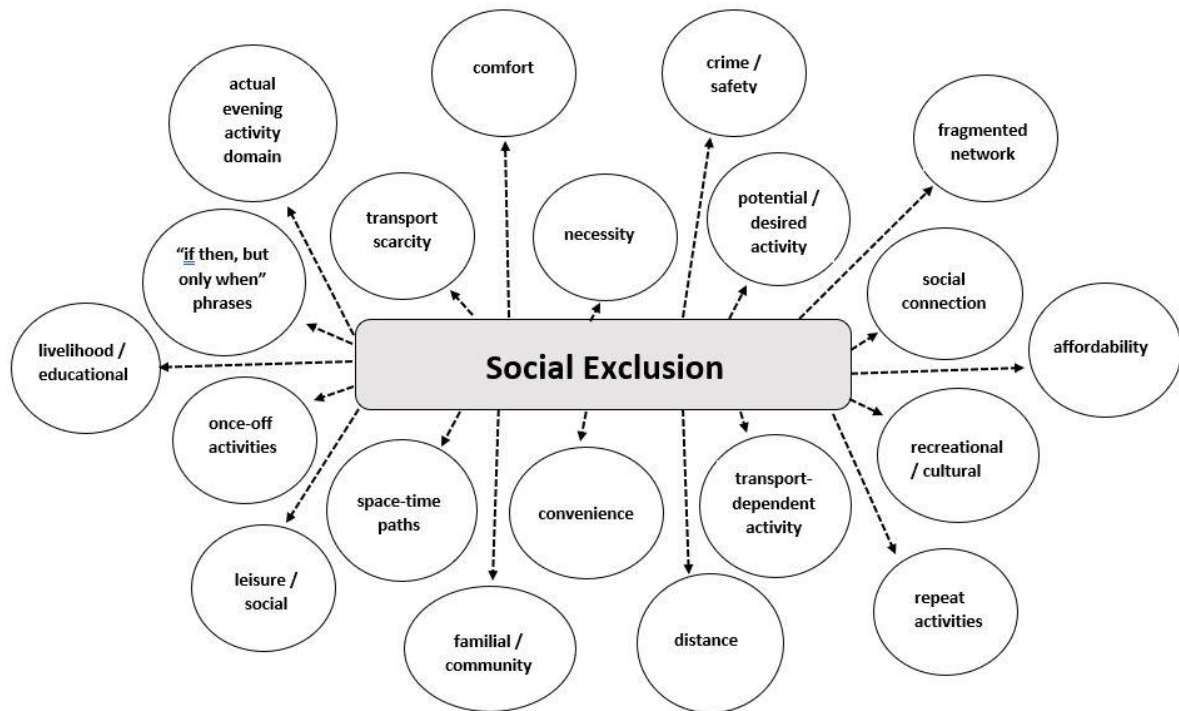


Figure 33: Coding Tree for Thematic Analysis Four

The topics that came up under this theme include:

- The effects of negative public transportation aspects for commuting. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"locked in townships with no options outside"*

ISSUE 2: *"time budgets don't match available public transportation for activity participation"*

ISSUE 3: *"too far and not enough time budget"*

- The effects of public transportation disruptions – such as strikes – was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"public transportation strikes affect work and school attendance"*

- Coping mechanisms were discussed. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"train being offline has limited public transportation options"*

ISSUE 2: *"waiting times on public transportation on weekends"*

- The topic of crime and day-light were raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"I have to plan around public transportation schedules – public transportation doesn't plan around me"*

- The topic of segregation and feeling "othered" was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"we just live too far from everything"*

ISSUE 2: *"MyCiTi as the ideal – but too expensive"*

- Women and crime related to using public transit has been raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"examples of why we can't participate sometimes"*

ISSUE 2: *"too much crime within neighbourhoods / people avoid leaving home"*

- The effects of distance on leisure activity participation was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"some places are too far to get to"*

ISSUE 2: *"specific events respondents can't attend"*

ISSUE 3: *"a place and a time socially excluded from an activity"*

- The topic of spending and the expenses when participating in off-peak time activities. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"affordability as a reason for non-participation"*

ISSUE 2: *"curiosity about Cape Town-based famous events and recreational activities"*

- Respondents raised the topic of hassles related to public transportation exchanges. The main quotes that were pulled are linked to this and subject concern:

ISSUES 1: *"public transportation disadvantages individuals visiting family"*

ISSUES 2: *"inconveniences of life without a car"*

ISSUES 3: *"examples where public transportation made accessing important resources challenging"*

The empirical literature supporting the main statements discovered under this topic can also be found in Appendix 10.2:

Gobind (2018); Patel (2021); Dominguez Gonzalez et al., (2020); Diallo (2022); Luke (2018); Foley et al., (2021); Bastiaanssen et al., (2020); Burger and Christian (2020); Venter (2014); Nelson (2021); Næss et al., (2018); Williams and Sánchez (2013); Radder and Han's (2011); Luz (2022); Özkazanç and Sönmez (2017); Farber and Páez (2011); Stats SA (2020).

4.3.5. Theme Five: *Aspirational*

ASPIRATIONAL

This theme describes participants' desires for improved resources, for an improved range of transportation services or for mobility without difficulty or effort – they believe that this is the catalyst for a better or better outcome than what they were experiencing at the time this research was carried

out. The theme deals with the participant's perception of a situation that could not have been their reality.

This theme also looks out for phrases such as:

"I'd like..."

"Better if..." and

"...rather than..."

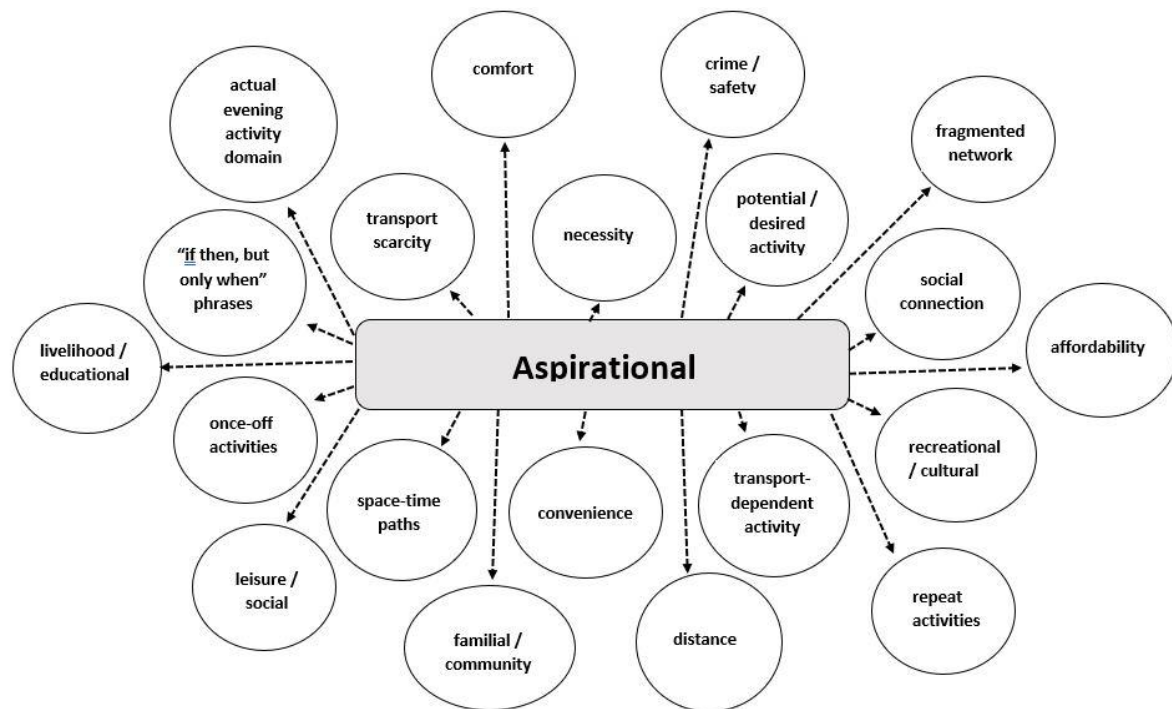


Figure 34: Coding Tree for Thematic Analysis Five

The topics that came up under this theme include:

- The topic of coping mechanisms used to overcome transport access after peak-times was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"wish for high-quality offerings within own community"*

ISSUE 2: *"wish to buy own car"*

ISSUE 3: *"wish for a release from the stress of juggling livelihood demands"*

ISSUE 4: *"if money and transportation weren't a problem, I'd go here"*

ISSUE 5: *"wish for wide-spread information about social activities"*

ISSUE 6: *"it is easier for other people than it is for us"*

- Respondents raised the topic of the ideal or desired travel time for them to function. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"a wish to spend less time travelling"*

ISSUE 2: *"less waiting times for public transportation"*

ISSUE 3: *"just wish everything with public transportation worked according to plan (always)"*

ISSUE 4: *"impact of not being able to attend evening events"*

ISSUE 5: *"wish for more high-quality entertainment within townships"*

- Customer service experiences from minibus taxi drivers and the paratransit sector was raised. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"less waiting times for taxis to get full"*

ISSUE 2: *"convenience – wish for more door-to-door public transportation"*

ISSUE 3: *"less disruptions, so I can do the necessary"*

ISSUE 4: *"responding to what social activities should encompass"*

- Respondents raised the topic of the MyCiTi bus service as a wish for improved mobility for them. The main quotes that were pulled are linked to this subject and concern:

ISSUE 1: *"MyCiTi near them or better facilities at ranks or better service"*

ISSUE 2: *"a sense of not belonging"*

ISSUE 3: *"they discriminate against us!"*

ISSUE 4: *"evening-based activities carried out safely in more affluent neighbourhoods"*

ISSUE 5: *"wish to always be able to easily make trips for social well-being"*

The empirical literature supporting the main statements discovered under this topic can also be found in Appendix 10.2:

Foley et al., (2021); Bastiaanssen et al., (2020); Diallo (2022); Lionjanga and Venter (2018); (Stats SA, 2020); Venter (2014); Mbane and Ezeuduj's (2022); Greene (2023); Musavengane (2019); Rahman and Timms (2020); Magi and Nzama (2002); Oldfield (2000); Pollio (2019; 2021); (Rink, 2022); Dzisi et al., (2022); Wood (2022); Plano et al., (2020); Mokwena (2021).

4.4. Rationales Identified in the Interviews

RATIONALES IDENTIFIED IN THE INTERVIEWS:

Following the analysis presented in Appendix 10.2 of this thesis and following the main statements discussed above, this section now presents interpretations that are intended to reflect the perspectives shared by the interviewees above. In what follows, the interpretations will provide a critical, summarised account of the general experiences outlined above. The findings are reported in no particular order, but are listed in numerical order:

1. Township-dwellers' perceptions of public transportation shortfalls or shortcomings in the sector

For Off-Peak Activity Participation

In terms of participating in off-peak activities, participants reported having to use their own car (those who have access to a car) or having to use combined transportation – such as minibus taxis or private car-sharing to participate in activities at their own discretion. In addition, participants reported that after taking part in an activity, they were worried about how they would get home at that time.

Domino Effects

According to the participants, the deficits in public transportation and the inadequacies of the sector are the cause of the system's impact. An incident on one mode of transport can affect all other modes of transportation available in the townships. For example, strikes lead to overcrowding on all modes of public transportation.

Recklessness

Another aspect of public transportation shortfalls and, or shortcomings in the sector, according to respondents, is that passengers aren't treated well on minibus taxis especially. MBTs are unfriendly to commuters and have a bossy attitude – especially from minibus taxi drivers. Participants also say that the safety of passengers in minibus taxis is not taken into consideration. Commuters fear that minibus taxi drivers will become aggressive if they complain. Moreover, commuters fear for their safety while sitting in a taxi. Regarding the bus service, – participants reported that the bus was often late or not on time and that it was one of the slower modes of transportation due to constant stops and long queues. While participants agreed that travelling by carrier vehicles like the minibus taxis was bad and even dangerous, they were reluctant to take the train as it was not considered safe.

Limited PT Options

The problem of limited public transportation was cited by participants as one of the deficits in the transport sector in Cape Town. Respondents report that there is no MyCiTi bus service and that trains were constantly out of service. Respondents said that there were more opportunities to socialise (e.g. there was no MyCiTi in Gugulethu). Respondents reported that there was hardly any transport available for some routes and that there were no direct taxis, especially for places that were difficult to navigate. Respondents also reported that there was hardly any service for the return journey home from some locations. One of the biggest concerns was the poor or inadequate infrastructure of the taxi ranks from which they commuted. In general, most respondents found that there were many stops when they relied on public transportation - which was usually inconvenient.

PT Shortcomings

In terms of the main shortcomings of public transportation for most respondents, the issue of delays due to reliance on public transportation was highlighted as a serious problem. Respondents reported arriving home very late and arriving at their destination late because they could not get on public transport which was too full. Respondents also reported that reliance on public transportation meant that they were late for appointments and that there were often delays, particularly with trains - without warning. Another issue related to delays was the control of taxi driver licences (drivers without driving licences were on the roads, putting passengers at risk and causing them to be late in the process).

Feeling unsafe was another issue reported and was attributed to strikes causing safety issues and being a nuisance, the MBT was reported as not always being safe, and sexual harassment which is common when travelling within township areas was also flagged – women were more likely to feel unsafe. In addition, respondents generally felt that nothing that existed at the time of the research was totally safe.

Another issue raised was that of cost. Respondents found that public transportation was becoming very expensive, and that the bus costed more (see P3).

Township-dwellers' perceptions of public transportation shortfalls and shortcomings in the sector also included the issue of regularly full-to-capacity transit. Respondents reported that minibus taxis especially carry overloads regularly (exceeding the sixteen-seats in their vehicles). Additionally, the train could have been a problem (P1) – as it could get very full and in general, the public transportation leaving the city and heading for the Cape Flats was always overcrowded.

In addition to the shortcomings of public transportation, there is also the problem of long queues on most public transport. Respondents reported that the long queues were particularly unpleasant in the morning, as they made people late. It was also unpleasant for the return journey home, as long queues were frustrating after a long day at work. Long queues meant that people could stand in a slow-moving queue for up to 30 minutes (P1).

The inadequacy of public transportation made people to often wasting their time because they had to wait a long time at taxi ranks for full taxis. Respondents reported that it could take up to 3 hours (in total in a day) or even half a day in some cases (for longer journeys). Respondents reported that it was unpleasant to wait 3 hours for transport – and the wait was enforced because the minibus taxis only left when the taxi was full. Respondents reported that the wait for a full taxi on a Sunday was even

longer as there were not many taxis available. Sometimes, according to the interviewees, the minibus taxis mixed several routes on quieter days just to get a full load.

In addition, respondents report that some of the other shortcomings of public transportation to the multiple changes required to reach a destination. The fact that using public transportation is also inconvenient, for example, that people have to rely on a disjointed public transportation network, that buses are unreliable, that people are exposed to cold weather conditions during the wet and cold winter season when they queue at poor taxi ranks, that people have to get up very early to queue for a paratransit, and that people might be stranded – if there is no public transport for any reason, commuters are left behind. Finally, interviewees added that the small taxis (the *Amaphela*) are uncomfortable, that the minibus taxis drive as if they have a death wish, and that the constant strikes in the sector are messy and disruptive to commuters.

Effects Of Negative PT Aspects on Commuters

Respondents reported that they felt drained because they relied on public transportation to get to livelihood and educational institutions. Sometimes people commuted far because they had no other choice (P3) – but if they had the choice, they would not choose to do so. The fourth interviewee (P4) confirmed that minibus taxis had a bad reputation and that she even feared that something would happen to her if she used public transportation in her neighbourhood – especially minibus taxis. Even though they were convenient – she would rather not travel and felt unsafe because bad things could still happen during the day if she relied on minibus taxis. Most respondents shared this negative view, particularly in relation to the minibus taxi service, – which negatively impacted on daily experiences and created a heightened sense of anxiety (particularly among the younger female respondents). Respondents reported feeling safer in places with better security (lighting, busy areas and places with security staff).

Coping Mechanism

To cope with the inadequacies of having to rely on public transportation in the city for school hours (for those who were students). Those who reported moving closer to their school during exam time said that it was much easier for them to get around – and that they were able to avoid unpleasant strikes that often prevented people from getting around on any form of public transportation.

2. Township-dwellers' concerns about the unreliability of public transportation services

Rude & Unprofessional Services

Township residents' concerns about the unreliability of public transportation related to the rude and unprofessional service they often received. Participants reported that taxi drivers drove recklessly, so some participants said that the bus was the best because they did not like the way taxi drivers drove. Participants reported that the minibus taxis did not stick to the timings like the buses. However, the

Golden Arrow bus was sometimes late or did not arrive at all – maybe even 1 hour late - and the trains were always late, delayed, full or never on time.

Effects of Protest Action

When there was a public transportation strike, or when local residents engaged in protests, commuters with commitments in the city such as work and school found it stressful because students could not go to school, and commuters could not rely on public transportation for the duration of the strike.

Challenges Associated with PT

Township residents' concerns ranged from the unreliability of public transportation to the challenges associated with dependence on public transportation. Respondents reported that they had problems accessing public transportation in the late evening hours and that public transportation tended to be irregular and unreliable in those hours. Respondents were pessimistic about the limited reliable or adequate transportation options at night. Another issue was that of safety, and people would hang on trains and between crowded carriages. Respondents also wanted more reliable transportation that worked hand in glove with people and took their needs into account. Relying solely on public transportation was regarded as a challenge, as participants spent a lot of time walking at peak times to get a taxi more quickly.

Coping Mechanisms

Township-dwellers had to rely on a friend or family's car to get around as public transit became increasingly unreliable and this became a coping mechanism to counter their concerns related to the unreliability of public transportation services (P5).

3. Township-dwellers' political associations concerning public transportation services in townships

MBT Competitor Rivalry

Respondents often talked about the rivalry between the MBT and bus companies that affected commuters. For example, respondents reported that the minibus taxis felt that the bus was taking customers away from them in the township areas. This rivalry tended to become aggressive and spilt over to the commuters who relied on the taxis, even though in some cases they preferred the bus. In addition, when transportation (e.g. rail or Golden Arrow bus drivers' strike), the minibus taxis benefited from the abundance of 'stranded commuters' who had been left in the lurch during strike periods. However, when the minibus taxis protested (against routes or the provincial government), interviewees reported that the minibus taxis became violent when rival public transport operators took 'their' customers. In addition, respondents reported that they were annoyed by long waiting

times due to strikes. The influx of train users to the taxis led to long queues, which were perceived as annoying for regular MBT commuters.

Effects of PT Disruptions - Strikes

Respondents reported that unrest in the provision of public transportation in township areas affected the entire township – people even burnt government property and were afraid to leave their homes. The level of violence during some public transport strikes went so far that people ended up having to take two days off work to quell the strikes (P9). Furthermore, the fear of being shot by MBT drivers if they violated their 'stay-at-home' policy during MBT strikes was emotionally and physically draining.

“Othered”

Township-dwellers political associations concerning public transportation services in townships impacts respondents who feel “othered”. Respondents reported a sense of not belonging or not fitting in the make-up of the city. They felt slighted by the government policy to not serve the vulnerable first – and not providing BRT there either. For example, MyCiTi is great in Parklands and Camps Bay – but Khayelitsha only gets one line. The general feeling is that MyCiTi policy makers overlooked the needs of township residents.

In terms of entertainment options for township people – respondents indicated that there were better shopping centres outside the township (as mentioned earlier in the discussion of leisure and social activities). But in some ways, respondents responded that they felt 'different' as they reported that there were nice places of their own in the townships to visit chill lounges like those found in Long Street in the city centre of Cape Town (suggesting that they can also have nice things like in the CBD). Finally, respondents felt that the Uber service had a bias towards travelling to the townships. Respondents said that Uber drivers would often cancel rides if they knew they were going to the townships (P11).

4. Township-dwellers' perceptions about the main crime-related mobility challenges

Crime And Day-Light

Respondents to the study indicated that the main challenges associated with crime on public transportation to safety issues associated with the seasons (i.e. lighter or darker mornings make a difference to criminal activity).

Crime On Transport

According to respondents in the study, the main transportation the townships were the need for constant vigilance in the townships in general and on public transportation. Respondents reported that people were robbed of their phones and belongings while travelling by paratransit and while walking to reach the minibus taxis. Other forms of transport that were problematic for respondents

in the study related to crime and train security, which people perceived as a risk. Respondents who lived near a train station did not even risk travelling by train – they preferred to take the bus or sometimes a taxi. In terms of safety, respondents favoured the BRT, which they believed carries less risk or the risk of being robbed (P5).

Women and Crime and Public Transit

In terms of crime related to access to public transportation, respondents also reported that women often needed to be accompanied when travelling in the dark hours of the morning and night. The female respondents reported that they did not feel safe in their neighbourhood. Some of the – respondents did not go to the local pubs and nightclubs because they feared being robbed or injured by criminals and because they did not feel safe when they were out and about in the township. Some reported that they felt restricted by the circumstances and limited their social engagement because they did not feel safe and could only travel at certain times of the day. Crime and the fear of travelling at night as a woman contributed to risk mitigation measures, such as not using public transportation at night. However, for women travelling alone, safety was still an issue – even if they used private car-sharing services. Respondents who indicated that they went shopping in their free time also said that they did not stay in the city or chose a shopping centre with a high security presence.

Risking Life For Opportunities

In terms of perceptions related to the main crime challenges facing public transportation dependent people, respondents reported feeling as though one took a risk (with their life and belongings) to be able to reach a life enhancing opportunity like college, or to get treatment or to access leisure activities. Respondents reported having abandoned a trip because of feeling unsafe, while some were willing to risk their safety – even willing to spend extra money to get to work (on *amaphela* instead of walking or waiting for “nojikeleza”¹⁶). Work was just that important.

Coping Mechanisms

In terms of perceptions of the main criminal challenges of transportation, respondents reported that they would prefer to use private, expensive car-sharing services at night. The benefits of carpooling, according to respondents, were that the technology allowed others to track journeys, making mobility safer. Another coping mechanism used by respondents was that they felt they needed to remain

¹⁶ “Nojikeleza” is a colloquial isiXhosa phrase which means “to go around” or “to rotate”, which refers to the free mini-bus taxi feeder service that acts in the service of collecting passengers (specifically customers) along the main roads of townships and delivering them to the main mini-bus taxi rank.

vigilant. However, respondents also stated that people travelling in cities were at a disadvantage when it came to accessing ride-sharing services (due to the risk of crime for drivers, especially at night).

5. Township-dwellers' perceptions about the main time constraints-related mobility challenges

Coping with Time Issues

Perceptions about the main time constraints challenges related to public transportation mobility issues related to people making decisions about when to pursue leisure activities depending on when public transport was more convenient (accessible). For example, respondents reported that it was better to wait for weekends for leisure and recreational trips because you were less rushed and had more time to wait for paratransit, unlike when you had commitments during the week. Also, respondents felt that you had to regularly schedule extra time to deal with the time issues because you couldn't be sure that everything would go according to plan. Finally, respondents reported that they had to meticulously plan every minute for travelling and the time they spent on the road – to prevent challenges.

Immovable Time Issues

One of the perceptions of township dwellers about the main time-related mobility challenges in public transport related to rigid, pre-existing working hours. For example, shift workers could not control their working hours. The impact on their schedules meant that shift workers often had to leave for work at least two hours before they started and arrived home too late to do other things (e.g. helping children with homework – P5).

The participants reported that travelling usually took up so much time in the evening that there was no time for other leisure activities. It gets dark much earlier in winter than in summer. Respondents reported that they feared putting themselves in a risky situation when travelling at night just to get to their destination. In terms of the impact of time pressures and access to public transportation, respondents also reported feeling more comfortable in traffic and managing time to get around when schools were closed.

Time Spent Travelling For Social or Leisure

Regarding the impact of lack of time and access to public transportation, respondents also reported on their habits when travelling for leisure or recreation. Respondents indicated that when they participated in discretionary activities, they spent about four hours in a bar or club (for the younger respondents who participated in clubbing) and about two hours shopping, while leisure shopping in the shopping centre generally took about five hours. For visits to family and friends, most respondents

stated that they visited them over weekends and spent more than half a day per visit. Most respondents stated that they used public transportation to travel to these activities, which took them around two and a half hours, and a further 10 minutes for those who still had to wait at the taxi rank to refuel. Most respondents agreed that they would spend less time travelling to discretionary activities if they had their own car.

Desired Travel Time

In relation to the impact of lack of time and access to public transportation, respondents also indicated their desired travelling time for discretionary activities. Ideally, respondents indicated that they liked to spend no more than 30 minutes a day travelling, but given that they spent up to 5 hours a day on the road, they would be happy with a maximum of one and a half hours per journey (even at peak times).

6. Township-dwellers' perceptions about the main distance-related mobility challenges

Coping with Long Distances

Township residents' views on the main distance-related transportation issues related to travelling long distances. Respondents reported that they would get up early (in some cases at 4 am to be at work by 7.30am). As mentioned earlier, students would choose to stay overnight with a classmate closer to their educational institution – especially during exam periods to cut down on long commutes. If sacrifices such as sleeping longer or being away from family, were not made, respondents felt that they would not make it on time by public transportation when their home and destination were so far away.

Physical Tiredness

Township residents' views on the main distance-related transportation issues related to physical fatigue. Respondents reported that they found travelling from so far away very tiring, fatiguing and exhausting. Respondents stated that they used the travelling time to catch up on sleep when they could. Overall, respondents stated that the experience of relying on public transportation when travelling from outlying areas was perceived as time consuming, causing commuters stress and fatigue. Respondents were too tired to do anything after a long journey – they reported that travelling did not seem to leave enough time – even though they actually wanted to do more social activities after work.

Effects of Distance on Leisure Activities

Township residents' perceptions of the main distance-related transportation were focussed more on the impact of distance on participation in leisure activities. Respondents reported that distance means missing out on events and social gatherings that they liked to attend if they did not have a car to get there – as public transportation is inadequate. For example, events that were 'far' away were unattractive – because not everyone liked travelling and the distance combined with reliance on public transportation meant that you had to spend hours planning your journey before you even attended an event.

Respondents emphasised the need to use a car to reach remote places such as vineyards or better shopping centres in affluent areas. Private vehicles were regarded as the better mode of transport for social activities. Not having a car tended to make people feel socially excluded due to the distance and poor transport options to get there in time. Although respondents stated that they had a desire to attend an event and had a specific location (or locations) in mind, it was too far away and required efficient public transportation or a private vehicle to get there, as some destinations took two hours to get to and from during quiet off-peak times during the week.

Finally, respondents emphasised that they enjoyed meeting up with friends, but that some friends lived too far away and that some dream places (such as the sea) were inaccessible without a car. When they were in the townships, some respondents preferred to take the bus rather than walk to a favourite meeting place.

Distance and Transportation

The perceptions of township residents on the most important distance-related transportation issues related to the most important distance and transportation recognised by the respondents. Respondents indicated that they lived too far from the places where they worked. Even for evening shift employees, who are provided with staff transportation at night, there was a consensus that staff transportation too long as each employee is delivered close to their front door for safety reasons. Another consequence of living far away is that you are stuck in traffic for longer due to congestion on the roads at peak times. Respondents are aware that you have to get up earlier if you live far away from your workplace and transportation options are limited despite the high demand. The MyCiTi bus is an example of being 'disconnected from everywhere' because Khayelitsha is too big for just one tribe.

7. Township-dwellers rationales for transport-related issues when accessing social or discretionary activities

Spending When Participating in Off-peak Activities

Township residents' reasons for transport-related problems in accessing social or discretionary activities related to the cost of participating in discretionary activities. Respondents indicated that they regularly went out on weekends or set aside a specific time for leisure and recreational activities (this was also reiterated in the discussions on time and time budgeting. Despite the fact that respondents indicated that they used more expensive mobility options when socialising, they believed it was worth paying extra for certain experiences if the occasion warranted it. The younger respondents stated that they preferred to socialise in public leisure facilities such as bars and restaurants. In the townships, they would rather walk to save money if it was easier to visit friends.

Types of Discretionary Activities

Township residents' reasons for transport-related problems in accessing social or discretionary activities are related to the types of discretionary activities they enjoyed participating in. Respondents indicated that shopping was one of the activities they considered a leisure activity. The places where they shopped in their leisure time varied between well-secured shopping centres in the city (especially Gugulethu shopping centre) and shopping centres outside the city that they used for their leisure activities. Shopping at the mall was a special occasion, as was grocery shopping – it was a leisure activity because you can do it alone – so not necessarily a 'social event', but it allowed for a break.

Other activities mentioned for the evening included going to the gym, visiting Rands in another township (ideally with the *lphela*), socialising in the city – ideally by minibus taxi - from one convivial bar to the next and attending private evening events (many of which were held on First Thursdays) with friends for wine tastings in the city. All of the above activities depended on you having enough time in the evening, feeling safe and occasionally having the funds available.

The Need for Transportation

The township residents' justifications for transport-related problems in accessing social or discretionary activities related to the need for transportation to participate in desired activities. Respondents reported that they felt excluded from participating in night-time activities, mainly because of their desired mode of transportation. Participation in social activities was possible if a means of transport was available at night – but this required a means of transport. Participant 3, for example, was keen to return the same way he came (as opposed to using an Uber for the return journey at night) or using a taxi for socialising. This was probably due to the evening time and lower demand. Visiting friends or family PT as the only way for township residents to participate and be

included: These were the main after-hours activities that participant four could not do without having access to transportation to reach these activities.

"Me-Time" for Recuperating

The township residents' justifications for transport-related problems in accessing social or discretionary activities related to the notion of 'me time' and recreation. Respondents reported that they also spent their leisure time alone to recover from long hours of work. Some reasons for taking time off had to do with the freedom and space needed to cope with home life circumstances (many households consisted of multiple generations under one roof). In terms of mental health, respondents considered the need for time to relax and time for solitude to be important (participant four suffered particularly from anxiety attacks). Time out consisted of a combination of activities. Some made themselves comfortable at home and watched TV or the news – they deemed it as a chance for a break without activities. Relaxation and time out were regarded as important by most respondents as they offered the opportunity to not work. Leisure and recreation with the family took place at home and was also regarded as time off. Others reported that leaving the home environment helped them to cope with stress and anxiety when they were out in public. But even in these cases, public transportation saw commuters witnessing time-budgets constraints as well as issues with the availability of public transportation.

8. Township-dwellers' daily experience with fragmented public transportation in the city

Disjointed PT Network

The daily experiences of township residents with fragmented public transportation in the city were related to a disjointed public transportation network. Respondents reported that one of their biggest challenges was that in certain cases it was difficult to get a single MBT that could take them from their starting point to their destination – in between, there were often breaks that required additional costs such as iPhela or a walk. The disjointed nature of public transportation often impacted on leisure travel to get to social events. Respondents would often find that they had to change trains here and there to get to an activity. The same feeling applied to buses and trains - the feeling that there was not a single bus to get you to your destination (P14 and P12).

Walking

The daily experiences of township dwellers with fragmented public transportation in the city were related to the problems associated with walking. Respondents reported that they had to walk additionally as public transportation dropped them off at their doorstep or workplace. In some cases, respondents would rather walk or wait for a "*nojikeleza*" taxi. This point is consistent with the

discussion on economic issues where respondents felt that they had to pinch and squeeze where they could to save on travelling costs.

Long Trip Durations

The daily experiences of township residents with the fragmented public transportation in the city were related to longer journey times. Respondents reported that there were too many stops that slowed down the journey (with the buses and *lphela* having this chronic problem). During off-peak hours, MBT tended to shuffle routes to fill vehicles faster, which negatively impacted journey time as it took longer due to longer routes and transfers. Multiple changes also meant that you had to spend more money than if you were to make a single change. In addition, some places were further away than others and much more difficult to reach by public transportation as they required much more waiting time and transfers.

Hassles of PT Exchanges

The daily experiences of township residents with the fragmented public transportation in the city were related to the difficulties that arose while transferring to public transportation. Respondents reported that they needed a feeder transport such as the *Amaphela* for journeys that were too far to walk (e.g. to get to church within the township – P8). Even to reach the cheapest mode of transport, – participants had to go to great lengths to get out of their township. In other cases, respondents reported that they had to travel to another nearby neighbourhood where taxis were plentiful. The need to use multiple modes of transport or a combination (intermodal passenger transport or mixed commuting) of transportation to reach a destination was widespread.

9. Township-dwellers' aspirations for improved transportation circumstances for a better life

Customer Service from MBT Drivers

The township residents' wishes for improved transportation relate to better customer service from MBT drivers. Respondents indicated that they would like to see a higher level of professionalism from transport service providers, as the level of service received excluded general manners – professionalism and courtesy, according to respondents. Minibus taxis in particular were perceived as problematic by respondents (MBT drivers were rude, drive recklessly etc.) and taxi drivers were observed as a greater threat to transportation in the townships than the lack of transport itself (P5). Basic wishes in this regard included punctual, reliable, easy and fast transport services. Safety was a particularly important factor for female commuters, who indicated that their biggest fear was violence in the industry.

Discretionary Activity Participation

Township-dweller's aspirations for improved transportation circumstances relate to discretionary activity participation, for a better life. The respondents stated that finances symbolised freedom or more opportunities to participate in activities as they pleased. In addition, having a safe environment was important to people, and the ability to pursue many other interests also depended on people having easier access to places. Respondents felt that most people wanted to leave their township to enjoy themselves in other places. Some of the respondents who lived in the township preferred to visit places near the sea or nature (something that is lacking in the township areas). Meanwhile, most respondents accepted the circumstances of public transportation in Cape Town and the disadvantages of their location. Some respondents were disillusioned with an "ideal mediocrity" for public transportation.

MyCiTi Bus Service Wishes

The BRT service in Cape Town (MyCiTi bus) did not travel to the Cape Flats area at the time of the research, apart from one service that travelled to Mitchel's Plain and Khayelitsha. This was important as interviewees clearly identified the BRT system as a desirable mode of transport. This was why this thesis included the MyCiTi in its title – an ode to this longing.

The longing of township residents for improved transportation to their longing for MyCiTi bus services in their townships. Respondents reported that they desired the convenience and safety that the BRT system provided. For those who have had the MyCiTi bus experience, life on the MyCiTi bus has been fun. In addition, respondents expressed that the BRT made travelling into town easier without having to worry about transport back to the community. Respondents indicated that they would leave the townships more often to pursue social activities in safer, affluent neighbourhoods with less crime (if they had the opportunity). Respondents also indicated that they liked to go to the beach, the sea, look at the table and go for a walk. The desire to have their own vehicle was seen as ideal as it would make travelling easier. And finally, respondents wanted to know more about social activities (inside and outside the townships).

4.5. Conclusion

This chapter presented the analysis of the in-depth interviews. First, the interviews were transcribed, then the transcripts were analysed for patterns and themes that were presented so that the readers could follow the analysis. To support the analysis, a framework was created ("Table of quotes by code") in which the general statements by code for each theme from the interviews were presented. The interviewee quotes presented in this thesis have also been supported by literature relating to

each theme. The final section of this chapter presented the reasons given by the township residents interviewed on the issue of general mobility and accessibility to public transportation after the main time for participating in leisure activities. Nine main arguments crystallised, which relate to the:

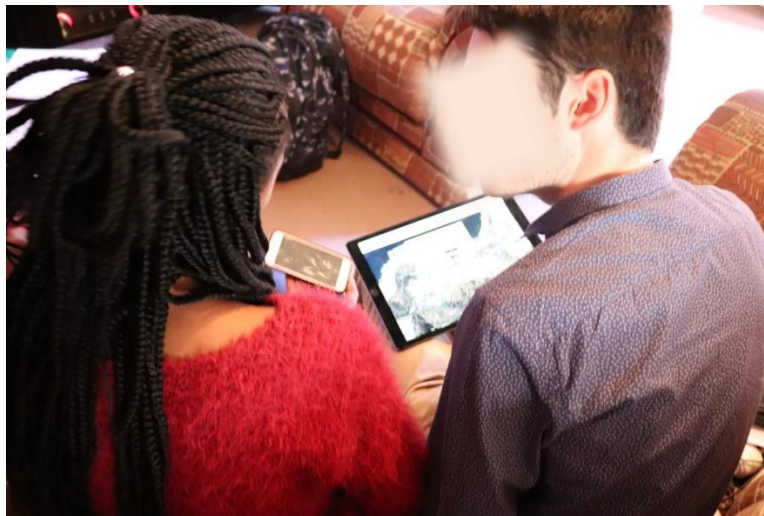
- perceptions of public transportation shortfalls or shortcomings in the sector
- concerns about the unreliability of public transportation services
- political associations concerning public transportation services in townships
- perceptions about the main crime-related mobility challenges
- perceptions about the main time constraints-related mobility challenges
- perceptions about the main distance-related mobility challenges
- rationales for transport-related issues when accessing social or discretionary activities
- daily experience with fragmented public transportation in the city
- aspirations for improved transportation circumstances for a better life

In the next chapter, the analysis continues, with a focus on the trips made by the research respondents and their justifications thereof.

Participant four (P4) was handed a map of her city. When asked to add all the locations of her activities on the map, she looked stunned. After studying the map for a moment, she claimed:

"It's far, gosh...we're really detached from everyone".

(P4, pp. 19)



Pictured above: Researcher's departmentally allocated French MSc 'intern' (face blurred for anonymity) shows the digital mapping tool to participant two.

5. Chapter Five: Analysing Trip Making Patterns From an Urban Periphery

5.1. Overview

Presenting a qualitative space-time analysis using narrative mapping

As mentioned in an earlier chapter, the aim of this study is to make observations and gain an understanding of the problem of mobility when participating in discretionary activities after peak hours in Cape Town. It is useful to understand which journeys were already being made to work or school during peak hours at the time of this research, as opposed to the journeys that respondents made after peak hours or after work. This was useful as it could shed more light on the findings from the previous chapter (Chapter 4). Revealing the travel patterns of respondents living in the townships can reveal more about the extent of spatial and temporal mobility challenges for the socially or economically marginalised township residents (intending or actively participating in discretionary activities). This is a continuation of our investigation as this thesis aims to contextualise the problem within the townships of Cape Town. Therefore, thesis travel diaries ($n=15$) are presented in this thesis.

Where was the data derived from for the analysis?

The methods used to synthesise the travel diaries were initially the use of a map to collect data during the in-depth interview (Section D in the interview schedule also served as a guide for the probing questions). Then the analysis of the responses collected during the interview began using qualitative narrative data analysis. The main theme that emerged from the thematic data analysis that best captured the respondents' travel behaviour was "*Temporal accessibility and/or scheduling*", which was derived in the previous analysis. The category "*Space-time paths*" contributed the most to the synthesis of respondents' travel behaviour.

Data was gathered from participants during the interviews from a) the Travel Log Diary, and b) from the interview questions found in section D of this study. The first question from section D in the interview permitted the researcher to prompt and follow up with guiding questions (such as, what the actual activity domains were where respondents found themselves and what were the chosen discretionary activity destinations/domains for each respondent by transport mode too. Furthermore, respondents were expected to share their potential/desired discretionary activity domains).

The procedure for deriving the data for this part of the analysis was discussed in detail in section 1.8 of the thesis. As a refresher, the activity locations and travel paths were revealed by respondents during the interviews and were also captured in the *Maptionnaire* tool.

The thematic analysis yielded information which corresponded with the temporal accessibility/scheduling theme. Specifically, data that was gathered through the interviews related to:

- Peoples time budgets for doing desired activities.
- When people tend to leave and when do they return from activities.
- How long people stay at a given activity.
- The mode of transport that they tend to use.
- The general opening times people's chosen desired locations.

The description below reveals how this data was identified during the interviews.

Building Narratives

This analysis went on further to essentially combine qualitative narrative data analysis techniques with mapping respondent's activity locations using an open-source geographic information system (GIS) platform. The travel diary (research participants' self-reported) activity locations were captured on a map using Google "My Map". Google My Map is an open-source mapping tool that allows free to use software for mapping trips and establishing routes. The thesis now presents summarised narrative accounts of respondents' time-geographical constraints, transport uses and justifications, levels of accessibility, and built-environment information from township-dwelling interviewees. This approach was helpful to reveal where respondents often went on a map. Here, every description related to travelling was recorded, and summarised into narrative paragraphs for each participant based on their account of a typical travel weekday and two weekend days travel. A map was created using Google My Maps. This permitted a visual representation for all the nodes a person reported to visit. Among the stated trip-making, a quote about each individual's constraint (where applicable) regarding trip-making for discretionary activities was included. The constraints were presented in bold format and were situated directly below everyone's map in this study. The narratives below provided further depth – with the purpose of the travel logging to understand the collected interview data through a qualitative space-time geography lens consistent with the Framework For Analysis (Question 2) found in Chapter 2.3.

5.2. Mobility Profile of Respondents

Below is the mobility profile of the study respondents. Some significant information relates to the fact that only two of the sample are men. Additionally, half of the sample were under the age of 30 years, and none were over the age of 60 years. All except one respondent identified as Black/ African. Only one respondent chose to remain in the township area exclusively to engage in social / leisure activities – despite reporting that they would desire / had the potential to make a trip if it were possible to visit the beach with her children. This study identified participants (P5, P9 and P15) who reported to engage

in discretionary activities within the study site earlier on (refer "ensuring sample fit" to page 36). The study participants were all the same race and age and had families (children). The differences were related to income (participant 5 out earned both), marital status (participant 9 was the only married one), and gender (participants 5 and 15 were female, participant 9 was male). However, all three expressed a desire to leave the township area to engage in socio-cultural / leisure activities relying on public transportation.

Among the many interesting take-aways from this mobility profile was that respondents had a variety of interpretations for leisure or recreational activities. Shopping in malls was considered a regular activity for leisure. Ma and Xiu (2021) reported similar findings in their study, which looked at the leisure activity patterns of Shenyang residents. One of their main findings reveal that Shenyang residents primarily went to shopping malls and supermarkets for their leisure activities as well.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Table 12: Mobility Profile of Respondents

Demographic Data of Research Participants															
	P 1	P 2	P3	P 4	P 5	P 6	P7	P8	P 9	P 10	P11	P12	P13	P14	P 15
Sex	Female	Female	Male	Female	Female	Female	Female	Female	Male	Female	Female	Female	Female	Female	Female
Race	Black	Black	Black	Black	Other	Black	"Colour ed"	Black	Black	Black	Black	Black	Black	Black	Black
Age	31 to 45yrs	18 to 30yrs	18 to 30yrs	18 to 30yrs	46 to 59yrs	18 to 30yrs	18 - 30yrs	46 to 59yrs	46 to 59yrs	46 to 59yrs	46 to 59yrs	18 to 30 yrs	31 to 45yrs	31 to 45yrs	46 to 59yrs
Neighbourhood	2	2	2	2	1	2	3	1	4	2	4	5	2	6	6
Car at Home?	No.	No.	No.	No.	Yes.	Yes.	Yes.	No.	Yes	No.	No.	No.	Yes.	Yes.	No.
Desired / Potential Evening Activity?	Wine Tasting/	Visiting relatives/ Wine Tasting/ Shopping / Night Life	Cooking Class/ Night Life with Friends	First Thursday s/City Night Life/Visiting Friends & Relatives	Gym / Couples Retreat Langebaan or Greyton	Night School in CBD	Somerset mall for Shopping	wants to visit family for longer	wants to see family In Langebaan/	would love to take all 4 of her kids out of the township for a day	visit Simonstown or Tokai just to see it for the first time	would like to spend more time in Gugulethu	Organising Church camps and hikes outside of the township area	Visit Friends & Family (Parklands & Khayelitsha)	To visit town and the beach with her children and leave whenever they felt like it
Mode of transportation for work / school	Mini-bus taxi Shuttle Walking	Golden Arrow Bus Mini-bus Taxi Walking	Golden Arrow bus/ walking, mini-bus taxi	Golden Arrow bus Mini-bus Taxi Walking	Mini-bus Taxi/ Golden Arrow Bus service/ Private Vehicle/ iPhela (feeder taxi) Walking	Train/Bus Mini-bus Taxi Walking	Mini-bus Taxi, car, shuttle service	Shuttle/ walking / minibus taxi/ golden arrow bus	train, mini-bus taxi, iPhela	walks only	walks, mini-bus taxi, iPhela,	Golden Arrow bus, mini-bus taxi	minibus taxi, golden arrow bus, walks	train, mini-bus taxi	Mini-bus taxi, golden arrow bus, walking

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

in daylight / Summer time																
Mode of transport for social / leisure activities	Mini-bus Taxi Uber	Iphela Mini-bus Taxi and Uber	walkin g/ mini-bus taxi	Uber/ Mini-bus Taxi/Gold en Arrow Bus Services/ My Citi Bus/Walk ing	car, iphela	Uber, Mini-bus taxi, iphela	car, uber	iphela	minibus taxi	walks only	would like to use the train to get there	iphela, minibus taxi	car	car, uber	chooses to remain at home out of fear at night	

*Note: **Neighbourhood Number** 1: Nyanga East, 2: Gugulethu, 3: Heideveld, 4: Philippi, 5: "Kwezi"; 6 Khayelitsha;*

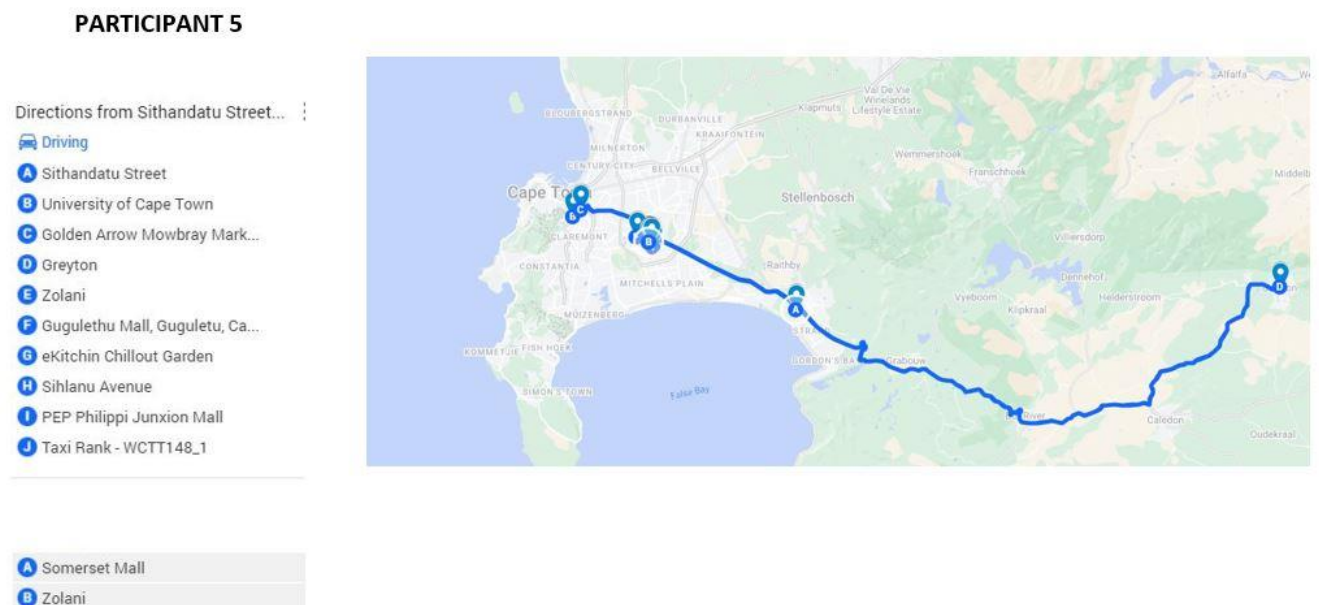
Age categories: 18 – 30 yrs; 31 – 45 yrs; 46 – 59 yrs; 60 yrs old and above

5.3. Presentation of Travel Log Diaries

This research employed a qualitative space-time geography approach to map the activity locations of township-dwellers, specifically focusing on investigating issues of immobility in discretionary activity participation after peak times. The study utilised mobility profiles of respondents to explore both the destinations they frequented and the modes of transportation they employed. Drawing on principles from space-time geography, the research aimed to grasp the constraints associated with the spatial as well as the temporal dimensions of individuals' movements for activity participation. Additionally, the study sought to delve into latent demand, aiming to uncover the causes behind non-participation or unrealised activity engagement. By doing so, this investigation contributes to understanding the phenomenon of township-based immobility and social exclusion, including for discretionary activities occurring after peak times. The overarching goal was to qualitatively examine people's space-time constraints, shedding light on the factors mostly influencing people's mobility patterns in the context of discretionary activities.

Data was extrapolated, and narratives were produced as shown below. The following data is presented according to locations, and not necessarily in participant numerical order.

5.3.1. Nyanga



Participant 5: *"I want to do that, in summertime but now I stopped because its winter. Because I realised that it's not safe for me to come back and go to the gym, vice versa. By the time I come back from the gym its dark, especially if you are a lady in the township, it's very dangerous"* (P5: pg.5)

Participant 5 lived in Nyanga East, Cape Town. She used public transportation to get to her workplace 5 days a week. She further reported that she leaves home at around 05:45 or 06:00 in the morning. She took *iphela* from just outside her home in Nyanga East straight to the taxi rank. From the taxi rank in Nyanga East, she travelled for about one hour to Mowbray taxi rank. At the Mowbray taxi rank, she accompanied her child to transport that took him/her to school. From Mowbray's main public transportation interchange, she took a company-provisioned shuttle to her place of work. If she arrived early, participant 5 reported to take a thirty-minute nap at 07.30 before her workday started each morning. She remained at work for about eight hours. At the end of her workday, she would take a Golden Arrow bus back to her township. The research participant estimated that it took her 2 – 3 hours of travel per trip (mornings and late afternoons).

The research participant enjoyed going grocery shopping or leisure shopping at the Gugulethu mall. Once there she spent about two hours – having travelled for fifteen minutes with a feeder taxi *amaphela* or with her own car. On occasion, she would drive for about an hour to the Somerset West mall with her friend's car (they split the cost for the petrol). She did not go there often because she found it wasteful to drive so far when one could remain within the townships using the feeder taxi's *amaphela* to go from township-based mall to township-based mall.

Remaining in her community was not a problem for her as she enjoyed spending time at home and kicking a ball around with her teenage child. She also enjoyed visiting friends and going to her church. To get to a barbecue bar in her neighbourhood, she reported that she walked about three minutes from her house to her destination. Once she was there, she did not stay long because she said it was not her type of environment to sit there.

The research participant reported that she visited a friend who lived in Nyanga East on Zwelitsha Drive – just behind her house. She walked there for about two minutes and spent half the night there (five-six hours). Church was held on Sundays between 10am and 12pm. Participant 5 reported that she walked there within three minutes from her house.

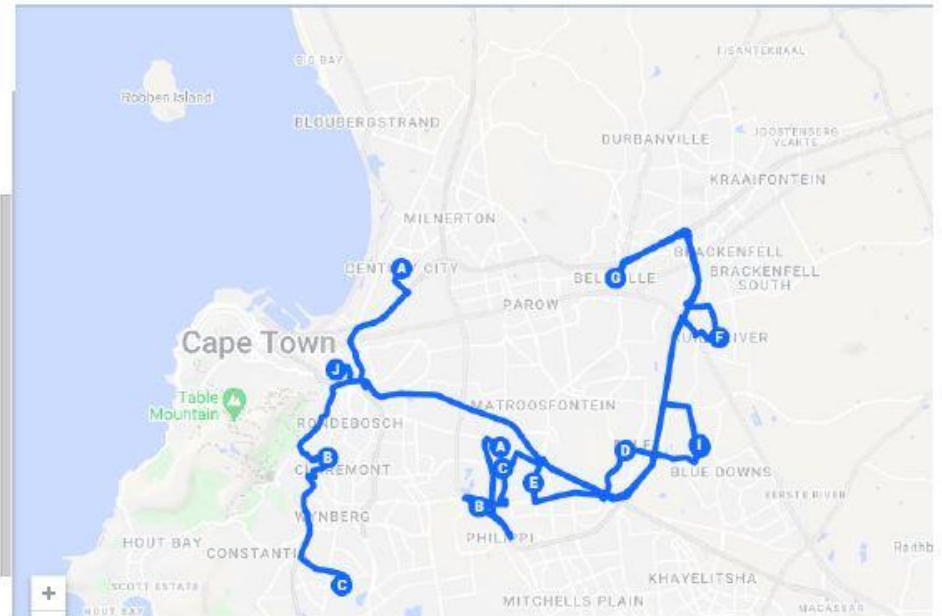
Participant 5 reported on activities that she had done in the past for her well-being and leisure activities and that she would like to take up again. The Zolani Centre near her home had a gym that she had visited before and liked to use again. She would walk there for about 5 minutes and returned as soon as her session was finished. Participant 5 also liked to visit the campsite in Greyton or in Langebaan. To get there, she would either be picked up by a hired private kombi van – or she and her friends would drive there together in their cars.

PARTICIPANT 8

- A Gugulethu Police Station, NY, Gugulethu, Cap...
- B Old Lansdowne Road, Philippi, Cape Town
- C Gugulethu Mall, Gugulethu, Cape Town
- D Hindle Road High, Hindle Road, Delft, Cape T...
- E Taxi Rank - WCTT148_1, Emms Drive, Nyang...
- F Kuils River, Cape Town
- G Bellville, Cape Town
- H Bardale Village, Starlight Way, Silversands, C...
- I Silversands, Cape Town
- J Observatory, Cape Town

Directions from Century City, Cape Town ...

- A Century City, Cape Town
- B Cavendish Square, Dreyer Street, Claremont, ...
- C Heathfield Primary School, Chadwin Road, H...



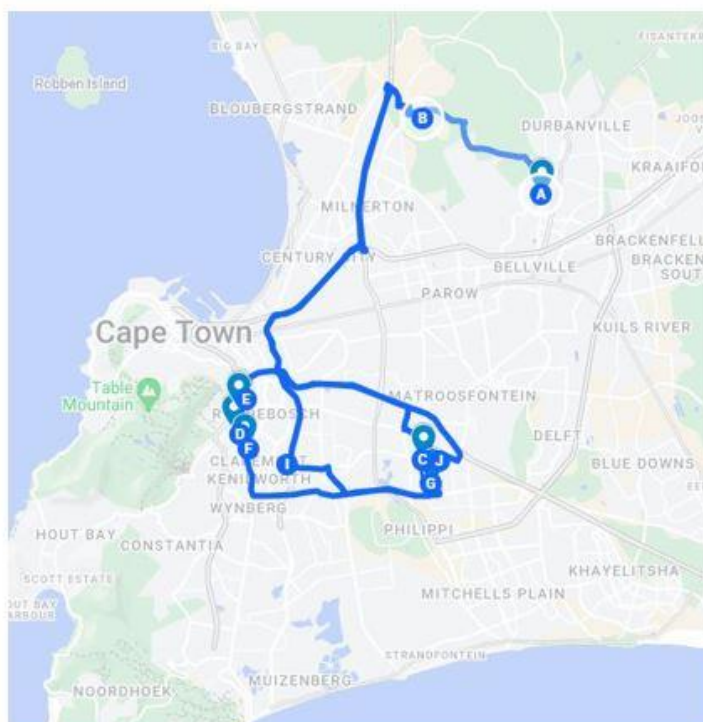
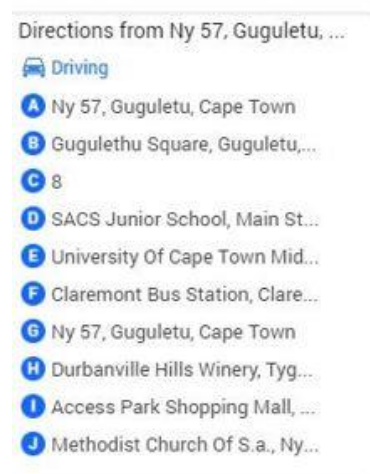
Participant 8: *"I would struggle with getting a taxi in Delft...so...I avoid travelling [late] with public transport most of the time..."* (P8: pg.25)

The data shows that participant 8 lived in Nyanga on Makatheng Street, which was closer to the Police station. She attended church in Lansdowne Road close to Shoprite. The participant shared that it was quite a distance from her house to a Caltex stop where she took the taxi to church. So, she took a local cab (*iphela*) to the Caltex and that took her approximately ten to fifteen minutes, she explained that she would leave the house at 9 a.m. and got to the stop between 9:10 and 9:15 a.m. She added that it was dependent on the route that the driver took, because if the driver took the Phillipi route then it was much quicker because she wouldn't have to change taxis in between the rides. The participant indicated that there were instances whereby the local cab (*iphela*) went straight to the Lansdowne direction which saved her the hassle of changing taxis. She spent approximately twenty minutes on this commute. The time she spent at church is one hundred-and eighty minutes. The participant further shared that during her spare time she visited the Gugulethu mall, which was about fifteen minutes away and, because it was very close, she could even walk to the mall, however she was always lazy to do so. Furthermore, participant eight mentioned that the distance to the mall could be less but since she took a taxi, it took her that long. She propagated that she spent close to two hours at the mall. The participant shared that she had a sibling that she regularly visited who stayed in Delft in Madikane street. So, she would travel from Nyanga terminus to Delft and the waiting period would probably be twenty minutes for the taxi to get full and the drive would be fifteen to twenty minutes long.

The distance from Nyanga to the terminus was fifteen minutes. Moreover, the distance was normally fifteen minutes, but the taxi drivers drive in the yellow lane, although this was not allowed, but it was faster. She spent between seven and eight hours at her sister's house. When asked how long it took her to get to Kuilsriver, she replied that it was very far and that if she had a car, she would use the N1 and the R300 route to get there in no time, but travelling to Kuilsriver by taxi would take forever. For example, she would take a taxi from her home in Nyanga to Bellville, took a taxi from Bellville to Silversands and then drove past the village of Bardale from Silversands. The waiting time from Belville was fifteen minutes, which was not bad as the pupils and students were travelling from Belville. However, the village of Bardale was the closest, but the participant was not sure how long it would take her to get there. The distance from Belville to Kuilsriver was fifteen minutes. In addition, the participant stated that the commute to work could take thirty minutes due to rush hour traffic. She spent eight and a half hours at work as she started at 7:30 am and finished at 4:00 pm. Another shopping centre she visited was Canal Walk, which was fifteen to twenty minutes away from her home. The participant spent about five hours in this shopping centre because she first took her children to Wonderland for about an hour before she went shopping. At the weekend she also visited the Cavendish shopping centre, which was about the same distance from her home as Canal Walk.

5.3.2. Gugulethu

PARTICIPANT 1



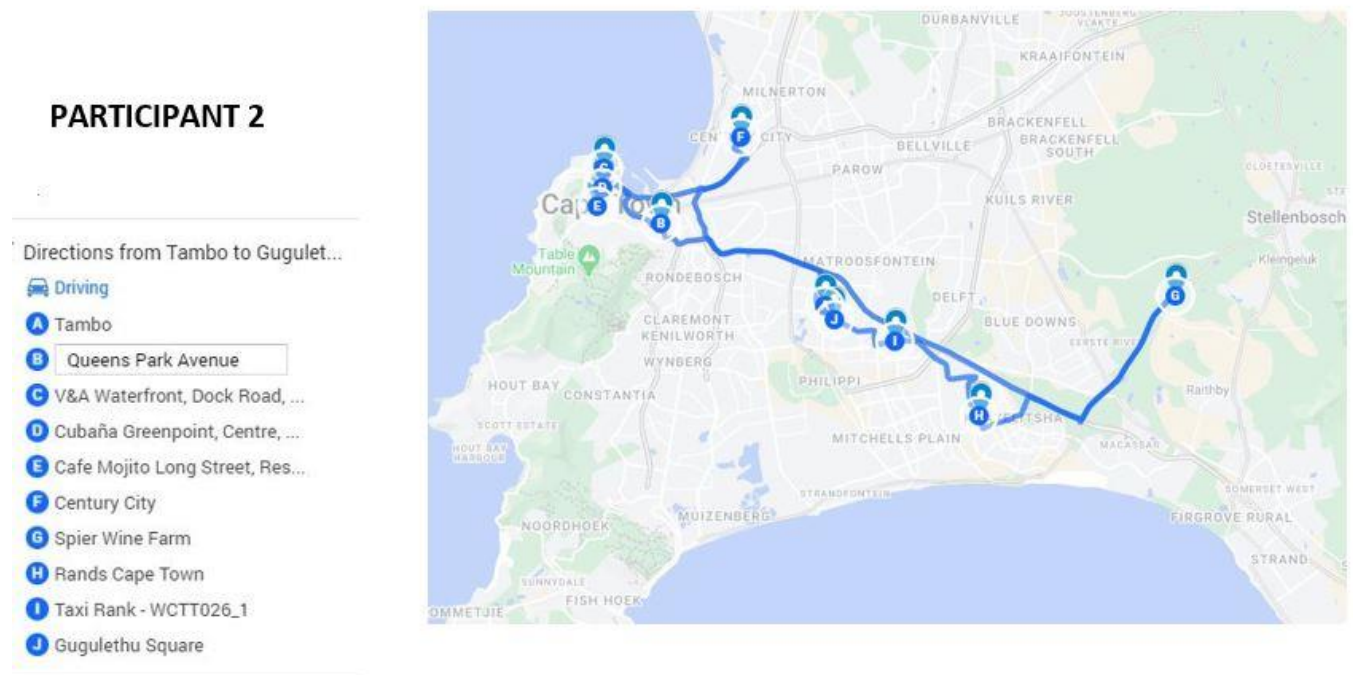
Participant 1: *"I mean its time consuming, traveling far... it adds stress and it adds fatigue"* (P1: pg.6)

The analysed data revealed that participant 1 lives in section 2 in Gugulethu township. Participant 1 usually started her working day at 5am from home (origin). She either walked to the nearest taxi rank or waited for a free feeder taxi to pick her up on the main road. The feeder transit took her to the taxi rank. She spent thirty minutes queuing at the taxi rank and then travelled forty-five minutes to Claremont in Cape Town. Participant 1 then would walk for fifteen minutes from the main public transportation in Claremont to her child's school and would drop her off. She returned to the public transportation and took a shuttle provided by her company to her workplace. Participant 1 remained at her workplace (her final destination) from 9am to 4pm. After work, participant 1 would repeat the steps of her journey, this time starting at her workplace – she took a shuttle, walked, took a mini-bus taxi and walked again until she arrived at her final destination – her home. Her journey would take about two hours this time around. As she said, she usually arrived home at 6pm.

During the week, participant 1 preferred to spend her “down-time” at home with her child from 8 pm until bedtime at 10 pm. This did not include Friday evenings, when she preferred to come home earlier and meet up with friends from around 5 pm. She usually took a minibus taxi on one of her visits or walked within her township when possible. She usually spent at least two to three hours on this activity, or if it was with a family member, she would spend the night with her child.

On weekends, Participant 1 pursued most of her leisure and social activities, such as shopping at the V&A Waterfront in Cape Town (or Cavendish Square in Claremont or Canal Walk in Century City). She reported that she took a minibus taxi for this excursion. She also enjoyed going to a spa with a friend or visiting a winery for wine tasting in the Durbanville Hills. For these activities, she had a friend take her in a motor vehicle. For all her social and cultural activities, she stated that she spent more than three to five hours on each activity.

On Sundays she attended church near her house. She would either walk there – or take a shuttle taxi (iphela) if she was late or the weather warranted it. The church was usually open from 10 am to 12 noon on Sunday mornings.



Participant 2: *“this thing was happening at Rands yesterday, they call it “African delight”. Let’s say you come from work around about 6 [pm] and I am craving for African food then you do not have a car, what can you do?”* (P2: p19) or *“so, do not go out...”* (P2: pg.20)

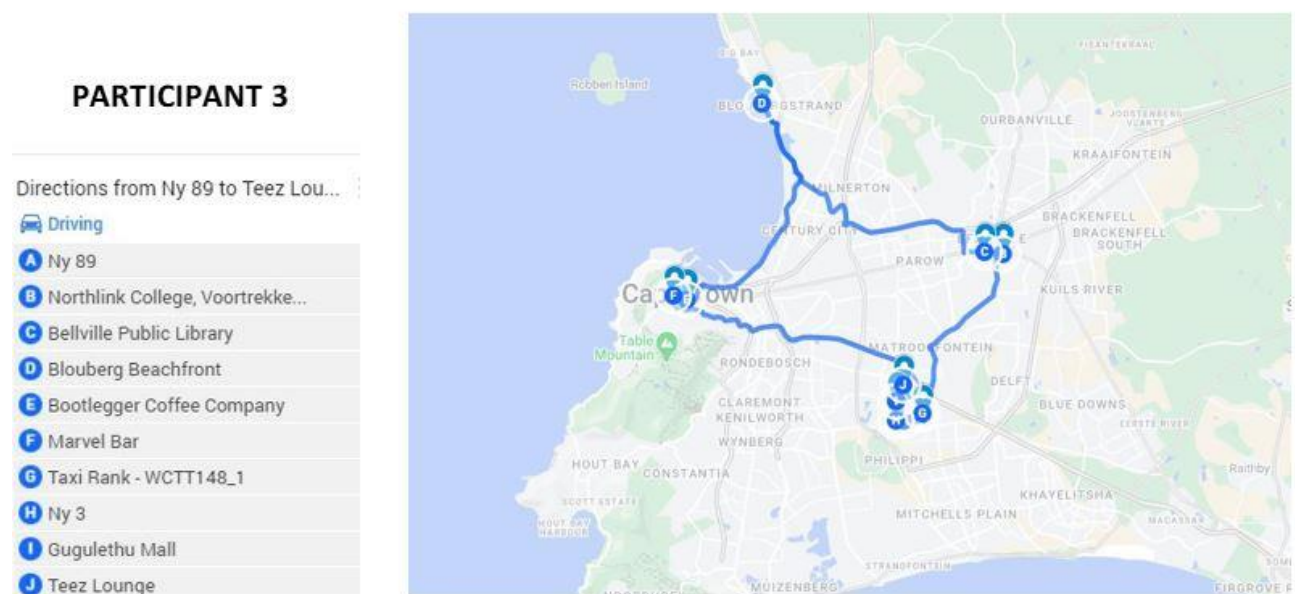
The extracted data shows that Participant 2 lived in Tambo, Gugulethu. Participant 2 worked in Salt River five days a week in a temporary job. She started her weekday journeys from home at 7am and either walked to the taxi rank or took a feeder taxi (iphela for R8) that took her to the taxi rank. Her journey from Gugulethu to Salt River usually took about an hour in the morning. After being dropped off at the main road, she walked for another seven minutes until she reached her final destination. Participant 2 remained at work for about eight hours. For the return journey home, she preferred to take the Golden Arrow bus from the main road in Salt River. Participant 2 felt that she could save money by taking the bus as it costed her R525 per month (thirty-one days) or R119 per week (seven days). The minibus taxi costed her R38 per day. The bus dropped her off in Gugulethu about an hour and a half later.

From time to time, she went to the Gugulethu shopping centre. There she bought groceries and stayed for about a quarter of an hour to run errands. Other times, she would treat herself to a lunch date with a friend near her work – but admitted that she preferred to meet on weekends rather than during the week. Another “luxury” she liked to indulge in was a shopping spree at high-end malls such as the V&A Waterfront in Cape Town, Cavendish Square Shopping Centre in Claremont and Canal Walk in Century City. Participant 2 took a minibus taxi to get to the shopping centres. She usually spent two to three hours in the shopping centre to relax. Participant 2 also occasionally visited wineries in

Stellenbosch to taste wine and have lunch with friends. Her journey consisted of a ten-minute walk from her home to the taxi rank. She then had to wait fifteen minutes at the taxi rank for the vehicle to be refuelled. The minibus taxi travelled for twenty minutes to Bellville. Participant 2 was then able to meet up with her friend, who drove her in her private vehicle for thirty minutes to Stellenbosch. Once there, the friends spent half a day at the winery.

She often met with friends and favoured Rands in Khayelitsha. She and her friends often split the cost of an Uber of R250 to get to the place of activity. In Khayelitsha, she would spend up to six hours meeting up with her friends. To get there, she had to take a feeder taxi (*iphela*) to Luzuko – which was close to the popular bar she and her friends frequent. The journey took about an hour, with a few minutes added for picking up and dropping off the iphela from township to township. Clubbing started around 5pm on Fridays and lasted until the next day or Sunday morning if she had the opportunity to spend the night at a friend's house.

She also enjoyed going to the Cape Town CBD, where she and her friends frequented various bars and clubs. She often took a minibus taxi to the bars and clubs in Long Street and returned with an Uber. The journey from her township to the public transportation in the city usually took about forty-five minutes and a further fifteen minutes' walk to the bars. Participant 2 and her friends spent about five hours in the bars. Another place they liked to visit was Cubana in Green Point. She took a mini-bus taxi there and usually returned with an Uber – which took her thirty minutes home.



Participant 3: "In terms of availability of transport...you know, transport that is not always packed. But MyCiTi is always packed, Golden arrow is always packed, and taxis are always packed. They are always packed there's nothing that is available that is safe" (P3: pg.8)

Participant 3's data indicate that he lived in Gugulethu in NY 89. Participant 3 began his journeys – he left home at 6.30am and made his way to school in Bellville (Northlink University campus) where his classes started at 8am. He walked to the main road where he waited for a free feeder minibus taxi ("*Nojikeleza*") to pick him up and take him to the central minibus taxi hub. The minibus taxi journey to Bellville took between thirty to forty minutes in the morning. Participant 3 stayed on campus in Bellville for about five to six hours – and was back home by 11pm or 12am.

While on campus in Bellville, participant 3 would take a five-minute walk to nearby Bellville Library during his lunch time at around 12pm. He would remain in the library for another two hours doing research and collecting school reading books.

From the library in Bellville, participant 3 travelled to his workplace in a restaurant in Blouberg Strand. He travelled by bus, which took him two hours, and then by minibus taxi (on the days he could afford it). If he walked from the bus stop, – it took him another thirty minutes to get to his workplace. He stayed at work from 4.00 pm to 10.00 pm, i.e. until closing time, and then waited for the staff transportation to take him and other employees back to their respective communities. As the staff transportation to travel to different places in the Cape Flats (like Nyanga, Khayelitsha, Mfuleni), – it could take him two hours to get home in the evening. Participant 3 usually arrived home around 12 noon.

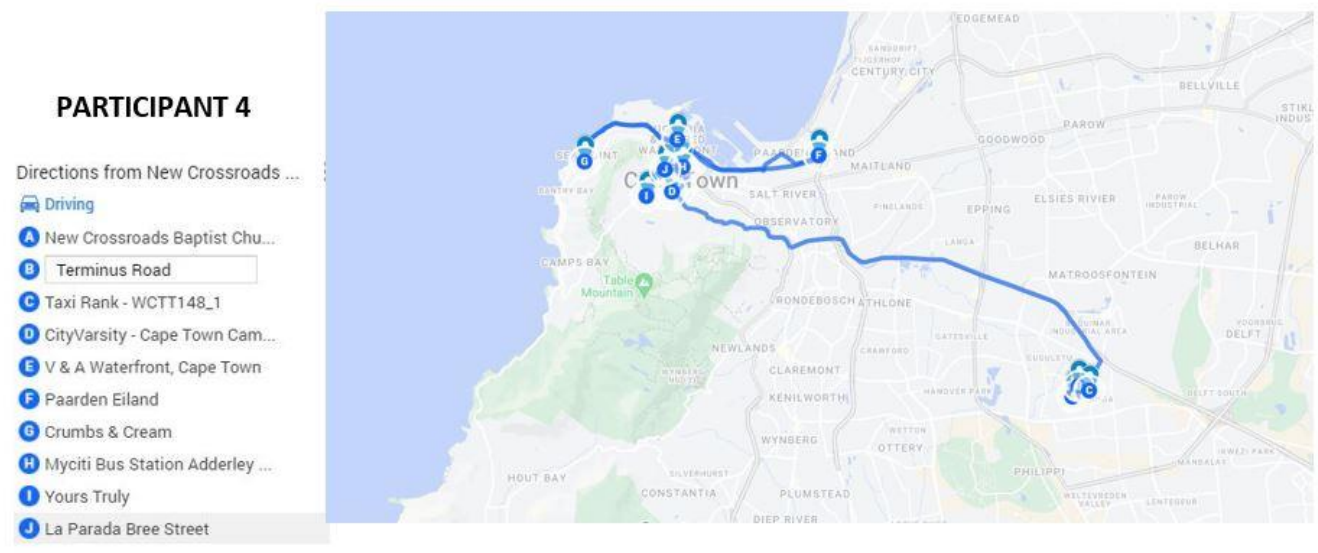
The collected data shows that participant 3 enjoyed socialising with his friends. He attended a social event that took place in the city centre of Cape Town from 18:00 and ended at 20:00 (invitation-only tasting event). He left his house at around 16h30 and took a minibus taxi from the main NY 78 road to Cape Town. He then walked for about ten minutes from the mini-bus taxi intersection on the "*deck*" in town to get to Harrington Street in town. He stayed there until the event closed, where he spent another two hours in a nearby bar with his friends. He then walked back to the mini-bus taxi junction at 10pm and took a mini-bus taxi home, which cost an extra R17 after 10pm.

On another occasion, he met up in the city with his group of friends who travelled with him from the townships to the "*Milk & Honey*" bar in the centre of Cape Town. He took a taxi from the main NY 1 road and travelled about thirty minutes into the city in the late afternoon. He then walked for twenty minutes from the "*deck*" to the venue to reach his destination. He spent five to six hours in the bar meeting other friends and socialising.

In his township of Gugulethu, Participant 3 would occasionally meet with his friends for socialising at a popular bar “Mzoli’s” where they would grill meat, drink and hang out as friends. From his house in Section 2, he used to catch a feeder taxi (“iphela”) for R8 on the main road near his house. The journey took about five to ten minutes to reach his destination.

Visiting friends and family was a frequent pastime for Participant 3, who enjoyed walking around his city in daylight and visiting the homes of his friends and family. He usually took two to three hours for each person he visited.

From his township, Participant 3 also occasionally went shopping at the Gugulethu shopping centre. It took about ten minutes to walk there from his house. He spent between two and five hours at the shopping centre, depending on what he wanted to buy.



Participant 4: *“That would be really nice if stuff like that could happen like more often...but the thing is with “First Thursday’s”, everything is like spiked up...even Uber spikes up, like for an Uber form here to Kloof is about like R21, but then when it was like “First Thursday’s” it was like R30 , and even like drinks are like spiked up, there is also nothing such as happy hour...food and drinks are all spiked up...like whatever club you go to” (P4: pg.29)*

Participant 4’s Campus was located on Roeland Street in Cape Town. She reported interchanging between a Golden Arrow bus and mini-bus taxis to get to town. Both trips were usually took about one hour and thirty minutes to two hours. This was her account of her typical travels each day of the five-day work week.

Participant 4 began her journeys from home in New Cross Roads at 05:00 in the morning towards her college. She walked one minute to the nearest main road and took a feeder taxi to the taxi rank. It

took her about ten minutes to reach the main public transportation hub. She then waited in the queue for about forty-five minutes. The minibus taxi journey from Nyanga to Cape Town took about two hours. Participant 4 then took a ten-minute walk from the “deck” to the campus of her college. She arrived at around 7.30am and stayed on campus for nine hours a day.

Occasionally she visited a friend who lived in Paarden Eiland, Cape Town. From the mini bus stop on the “deck” in town, she would walk three minutes to the nearest MyCiTi bus stop and then wait ten minutes for a free bus. From the city, she would transfer at the Woodstock terminus to get to Brooklyn. The bus journey took about thirty minutes, and she visited the city for about two to three hours.

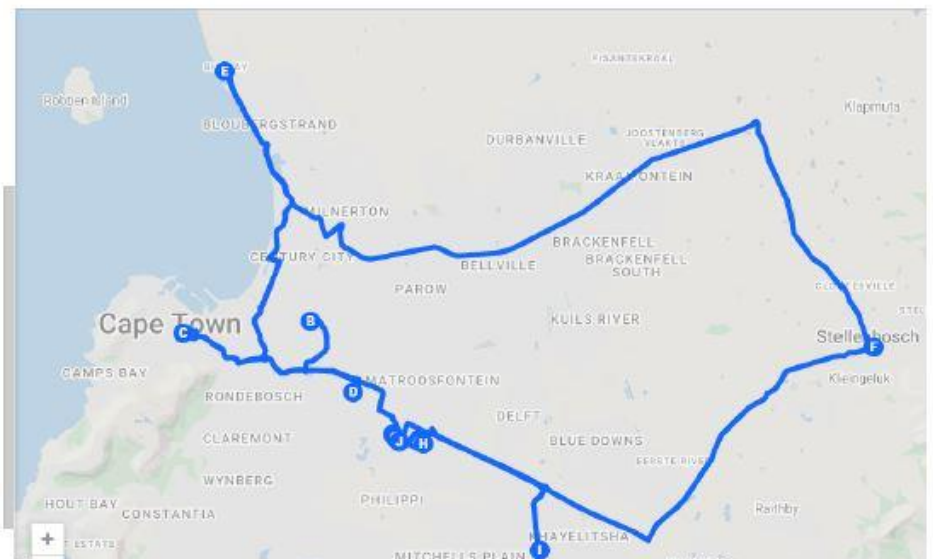
Participant 4 found it easier to travel with the MyCiTi as she could go to the V&A Waterfront mall; she could reach the Sea Point Crumbs & Cream; First Thursday's cultural event in Bree Street (then took an Uber home for R200); She can also reach the Gardens and Kloof Street Areas with the MyCiTi.

For her journeys to leisure activities within the city, she usually needed twenty to thirty minutes on the MyCiTi bus. Participant 4 stated that she spent about three to four hours at each of the above-mentioned social or cultural leisure activities.

PARTICIPANT 6

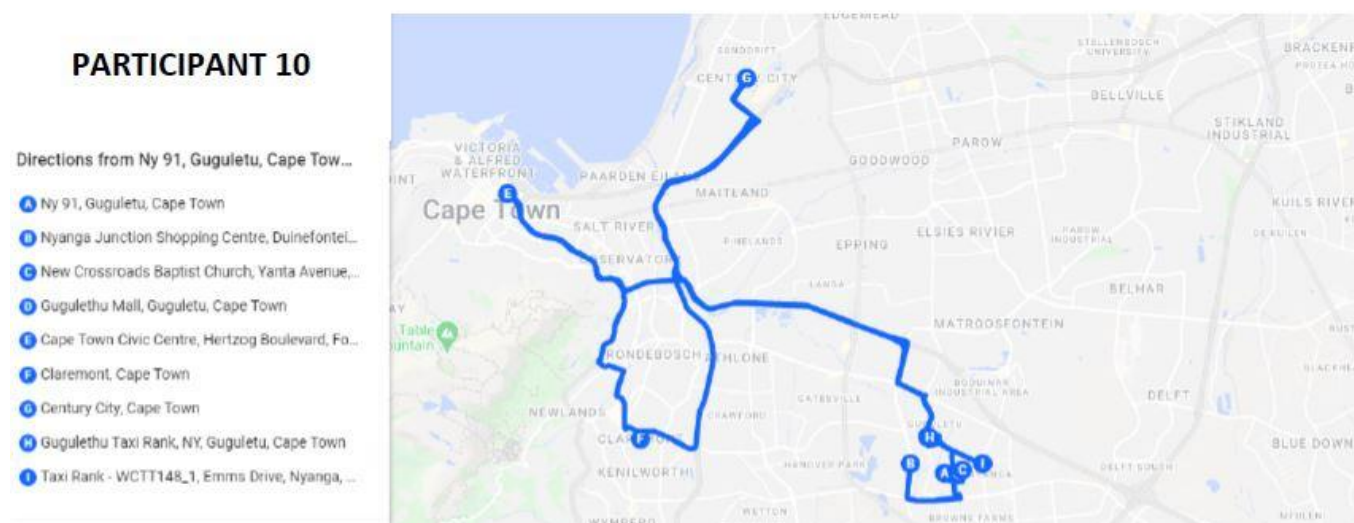
Directions from Sakhumzi Village, Banzi ...

- A Sakhumzi Village, Banzi Avenue, Gugulethu, C...
- B Old Mutual, Pinelands, Cape Town
- C Cape Peninsula University of Technology - Di...
- D Vangate Mall, Jakes Gerwel Drive, Athlone, C...
- E Eden on the Bay, Otto du Plessis Drive, Blou...
- F STELLENBOSCH WINE ROUTES, Church Stre...
- G Gugulethu Mall, Gugulethu, Cape Town
- H Nyanga Police Station, Ntlangano Crescent, ...
- I Mew Way, Khayelitsha, Cape Town
- J Ny 49, Gugulethu, Cape Town



Participant 6: “Yes obviously, if you want to go to a place that is far you going to have to spend more...if you are using a public transport as well so, yeah, changing of transport sometimes if you need to go to Paarl for example, you need to take a taxi form Gugulethu, to Nyanga, from Nyanga to Bellville from Bellville to Paarl” (P6: pg.24)

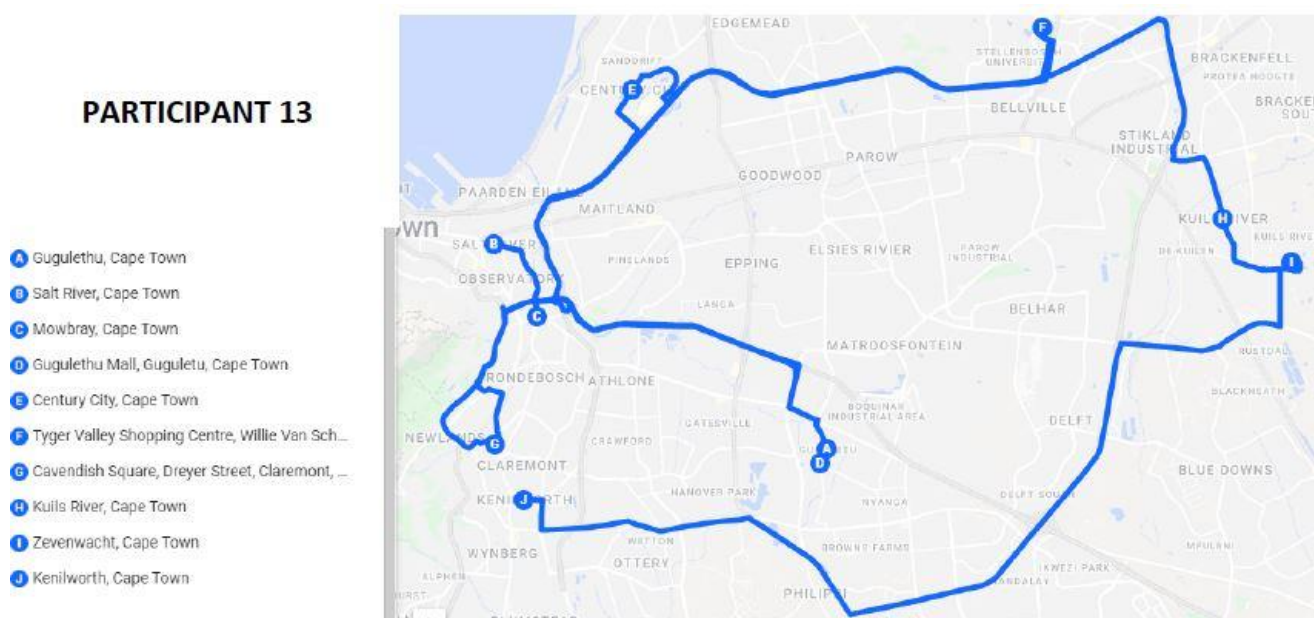
She lived in Sakhumzi Gugulethu, Banzi Avenue, and travelled by car five days a week to Old Mutual in Pinelands. It took her about forty-five minutes with traffic, but only about twenty minutes without traffic, and she spent about R250 on petrol because she used very little. She studied at the CPUT campus in Cape Town, which was a twenty-minute drive from her workplace, and went there twice a week for two hours at a time. She was a very sociable person as she had many social activities, one of which was a church (Methodist) five minutes away from her house, where she spent about two hours a day. She also visited her friend who lived about ten minutes (NY 49) from her house and she spent more time with her than at church. She also visited her mother's family who lived near Nyanga Police Station in Maphinde Nongqawse where she could spend about two hours. However, she stated that she did not spend exactly two hours there because the family could be tiring. She went to different shopping centres for different reasons, such as Eden on the Bay, which took her about forty-five minutes to get to and was a little further away from her home for leisure shopping. She preferred to do her grocery shopping at the Van Gate Shopping Centre, which was about two hours away. She often complained about the high parking fees and therefore spent less time at the Van Gate shopping centre than at the Eden on the Bay shopping centre.



Participant 10: *"I feel bad, because I'll be longing to go somewhere and then I'm unable to, I've got children I'm unable to [take] them out, I've got four children, just imagine how much I would have to pay in a taxi..." (P10: pg.3)*

Participant 10 lived in NY91 in Gugulethu. As she was unemployed (as she revealed during the interview), her main mode of transportation was walking within the township and she used public transportation to get out of the Cape Flats. Her journeys were usually at off-peak times so that she did not have to spend much time in traffic. Her journey time was shorter than that of the other interviewees.

She also walked to Nyanga Junction. The walk was about twenty to thirty minutes long. The participant stated that she spent an hour doing her shopping at Nyanga Junction. The participant mentioned that her church is located in the new Crossroads and that it took her thirty minutes to walk there. She added that she spent the whole morning there, about four hours. In her free time, she liked to go to Gugulethu shopping centre, which was twenty-five minutes away from Nyanga. She did not specify how much time she spent at the mall as it was bigger compared to Nyanga Junction, but she said it was already dark outside when she went home. The journey to Century City, where the participant also shopped, took her two hours. The participant mentioned that she also visited the Cavendish Shopping Centre. The distance from Gugulethu to Claremont was thirty minutes because she had to wait for a taxi. The participant highlighted that when she visited the City of Cape Town, she went to the Civic Centre for things like electricity matters and this was during the week. The researcher opined that it took the participant approximately twenty-five minutes to get to the Civic Centre.

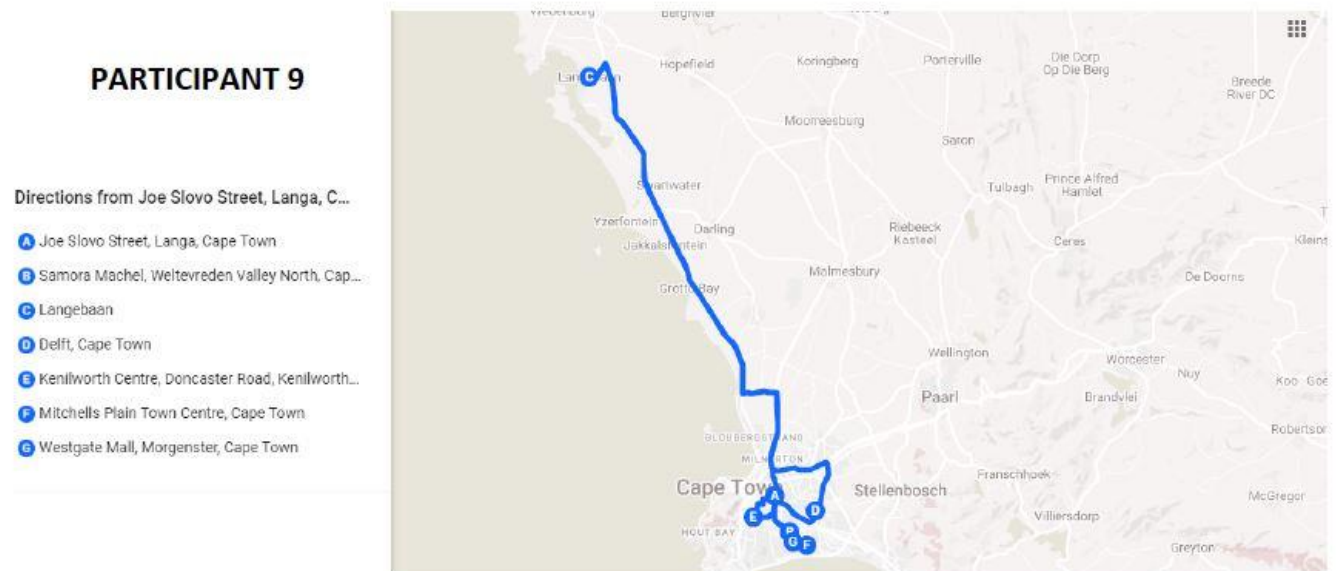


Participant 13: *“people would actually prefer busses than taxis off-peak, because busses don’t wait, they just go, whereas [taxi’s], you still need to wait for it to fill up even if it’s off-peak” (P13: pg.5)*

This participant lived in Gugulethu and went to work in Salt River. It took her about forty-five minutes to get to work. She claimed that it took her less time if she did not have to wait for public transportation or drive. Sometimes she waited ten to fifteen minutes for a taxi before it was full. She arrived at 6.50am and left at 4pm. When she got out, she went to Mowbray behind Shoprite to pick up her child. She got home between 5:00 and 5:10 ., depending on traffic. If she needed anything, she would go to the shops in Mowbray and spend about ten minutes there because she had a child. She also visited the Claremont, Town, Tygervally, Century City and Gugulethu shopping centres. She paid

R10 or R8 when she travelled to Claremont or Town. She spent two hours at the Gugulethu shopping centre. She also mentioned that she visited her friends in Summerville and Kenilworth. She travelled to Kenilworth in ten to fifteen minutes and spent four hours there.

5.3.3. Philippi



Participant 9: “So, that is the biggest challenges we have got in the location, more especially the weekends, its guns Friday night, alcohol, drugs everything guns, throughout the night its guns, you cannot just go out. “(P9: pg.5)

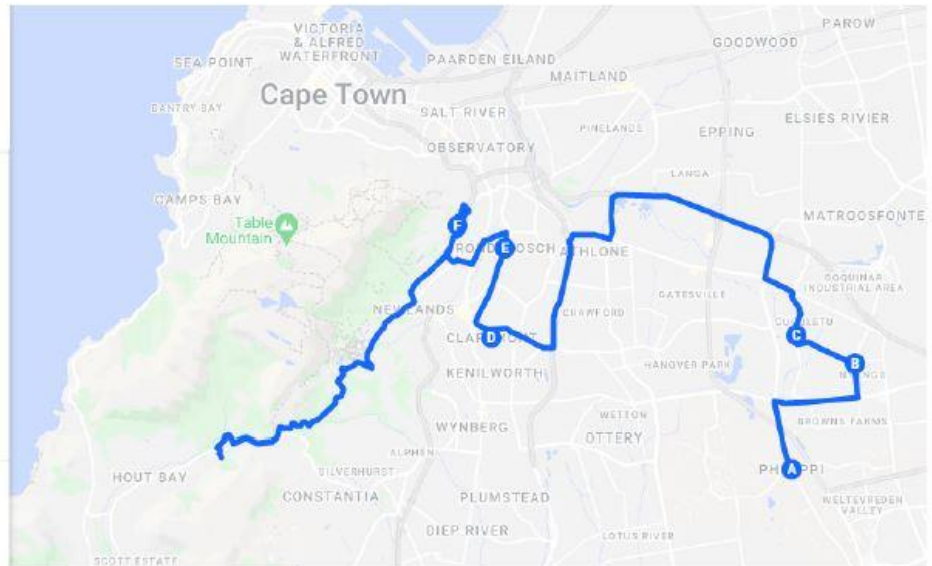
The extracted data shows that participant 9 lived in Joe Slovo, Samora (Philippi) and that he travelled thirty minutes to work. The participant worked a total of eight hours (8 am to 4 pm). In his free time, he visited his family in Velderift and Langerbaan. The journey there took two hours, so he spent a weekend or a night there when he visited during the week. Because of his profession (mechanic), the participant travelled to his customers' homes, for example to Delft, which was about a thirty-minute drive from his house. The time he spent with his customers depended on the nature of their car's problem. It could be half a day or a whole day. Sometimes he also visited his friends in Phoenix, which was just as far away as Delft. When the participant was asked about the distance of the taxi rank from his house, he stated that it was five to ten minutes, and on a good day he would not wait long in the taxi, but on some days they could easily wait an hour. The participant also claimed that he went to the centre of Kenilworth for shopping and it took him about forty minutes. When he visited his friend in that area, it took him one hundred eighty minutes. Furthermore, the participant stated that he liked going to Access Park and expressed that you could never spend three or four hours there but more,

he took his time and when he went to Access Park, he went in the morning to afternoon from 9am to 5 or 6pm (eight hours).

PARTICIPANT 11

Directions from Philippi, Cape Town to Univ...

- A Philippi, Cape Town
- B Taxi Rank - WCTT148_1, Emms Drive, Nyanga, ...
- C Gugulethu Mall, Gugulethu, Cape Town
- D Claremont, Cape Town
- E Rondebosch, Cape Town
- F University of Cape Town, Rondebosch, Cape To...



Participant 11: *“Transport, because I think I can go away like to Simons Town, I’ve never been, not Simons Town, Tokia, I’ve never been to a place like that...I’d just go for a walk there, but I need transport because the train ends at Simons Town, what am I going to do, how am I going to get to Tokia from there?” (P11: pg.4)*

The participant’s starting point was her house in Siyahlala on Boston Road. From her house, she could travel to three taxi ranks to get to her destination (work or shopping centre in Rondebosch). For the journey to Nyanga taxi rank, the participant used two small taxis; one cost R8, the other was a local taxi and was free. The journey to Nyanga taxi rank took her about ten minutes, depending on traffic conditions on Lansdown Road. When she arrived at the stand, she waited for ten to fifteen minutes until the taxi was full and left the rank. The participant was also travelling for fifteen minutes when she went to the Gugulethu taxi rank. To get to the taxi rank, the participant first had to walk for fifteen to twenty minutes as there were no taxis from her departure point. This walk was undertaken with other members of the community who were travelling in a similar direction. On Mondays, they gathered at the corner and waited (twenty minutes) for a taxi. Another means of transport from the participant’s neighbourhood was the train. However, she was afraid to use it. Due to the informal nature of where they lived, there were no buses travelling in their direction and to use one, they would have to walk to the main road in the morning to catch the bus at the Lansdown Road stop.

To get to the University of Cape Town, she took a taxi to Claremont, which took her thirty to forty-five minutes. When she arrived at Claremont, she used the shuttle service. It took her about twenty minutes to get to work, with a ten to fifteen minute wait for the shuttle. If she travelled to Rondebosch after work for shopping, she used the shuttle service to Tugwell Campus and then walked about fifteen minutes to Pick n Pay. If she was travelling from home, she took taxis that went to Cape Town or the bus that went past Pick n Pay in Rondebosch. At Pick n Pay she tried to do her shopping in twenty-five minutes. On Sundays, the participant attended church in her community, which was ten minutes away

from her house if she walked. She left her house at 9 am and church started at 9:30 am and ended at 11 am.

5.3.4. Heideveld



Participant 7: *"Yes, most people that I know, that would leave, especially where I stay, we only have small shops and it's not big shops, it's not like the main malls like the cinema, its nothing like that...money also is a limitation so also you do not get exposed to a lot of things..." (P7: pg.7)*

Participant 7 described leaving her house (Kapering) in Heideveld to take her children to school, which usually did not take that long when there was no traffic. She said that her husband took her and her two children to the Edu-care centre at 6:45am, where she then waited for the school gates to open and waited for about five minutes. As they used the bus lane to avoid the traffic, it took her and her family one hundred and twenty minutes to get from home to school. The participant shared that she left edu-care at 7:30am and took the shuttle from school to work (UCT Medical Campus), which took her five minutes. Work started at 8am so she arrived at work at 7:45am as she worked eight hours a day. She was asked if she occasionally visited the Van Gate shopping centre to shop and how far the distance was between her home and the shopping centre. The participant replied that the distance between her house and Van Gate was about five minutes. It was just so close. She did not elaborate on how much time she spent in the shopping centre. She said it depended on how much money she had, but if she were to estimate, it would take her about two hours to shop for clothes as she hopped back and forth between shops.

She also stated that her mother lived on Ascension road in Heideveld, so she could go whenever she liked since it was only two minutes away from her house, and that sometimes she spent the entire night there, but on a normal day she spent at least six hours. In addition, the participant stated that

her husband's mother lived near Olivia Court, but she was not familiar with the street. However, there was a Cathline School that was about five minutes from her house, she cited. Participant 7 reported that she attended a church near the police station in Athlone. The travel time between her place and the church was 10 minutes. She spent approximately one hundred eighty minutes at church every week. For church-related events, she travelled to Mitchell's plain, which was about twenty minutes from Heideveld. She would visit two church members who lived there and spent thirty minutes in each of their homes. Another place she visited was Kensington near Maitland, which was a bit far from Heideveld to Kensington, but it was estimated to be about a twenty-minute drive.

5.3.5. "Kwezi"

PARTICIPANT 12

- A 28 Satellite Drive, Ikwezipark, Cape Town
- B University of Cape Town, Rondebosch, Cape To...
- C Ny11, Gugulethu, Cape Town
- D Adderley Street, Cape Town City Centre, Cape T...
- E Goodwood, Cape Town
- F Canal Walk Shopping Centre, Century Boulevar...
- G Century City, Cape Town
- H Mitchells Plain, Cape Town
- I Nyanga, Cape Town

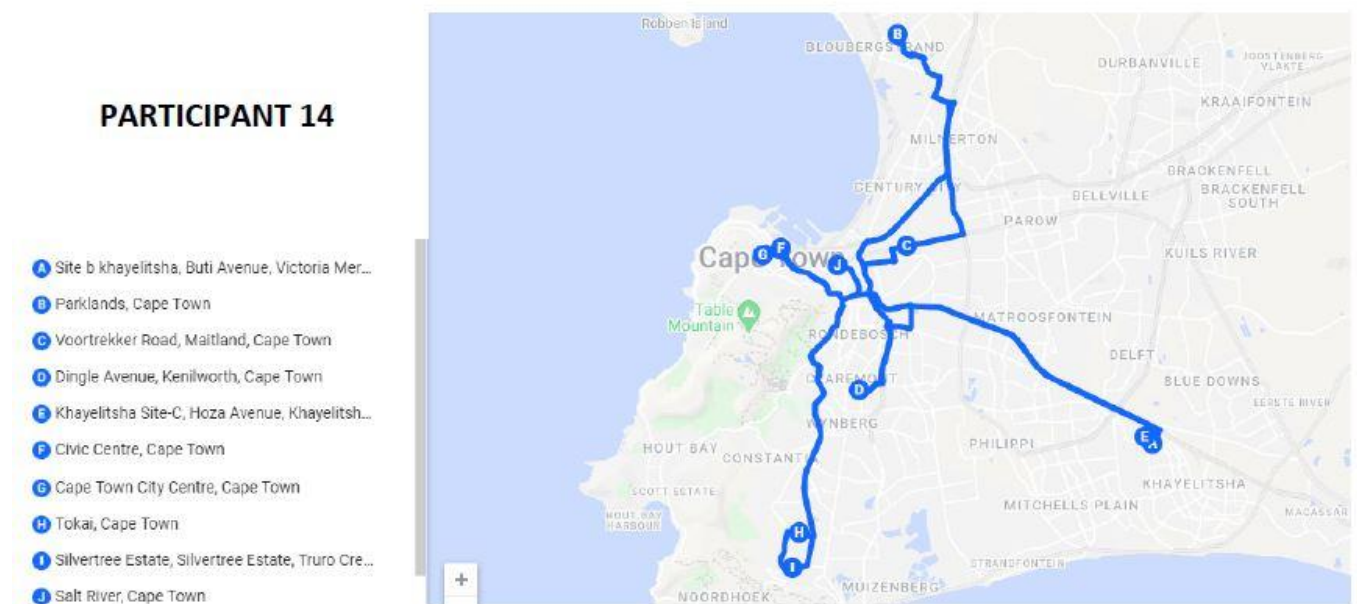


Participant 12: *"I would go to Gugs most of the time, the thing is I like it, it's more like a community, where like at "Kwezi" where I live it's like suburbs in the township, (laughs) so I just, I normally go to Gugs...by a small taxi, I would walk to the bridge, and I'll get a small taxi there...and when I get one I would quickly get in, I wouldn't even ask where it's going, because they are not allowed by our side ["Kwezi" community]..." (P12: pg.13)*

This participant lived in Khayelitsha, near Ikwezi Park. She often went to the campus in town, which was located on Lulan Street. She took a taxi to the campus, which took about an hour in the morning when there was a lot of traffic and thirty minutes when there was none. If she took the bus, it took her almost three hours to get to work when there was traffic and forty-five minutes when there was no traffic. Her work hours on campus were about four hours, as she worked from 9 am to 1 pm. She spent a lot of her time in town as her friends lived on Adderley Street on the garden side and it was only a ten minute walk. When she was not in the city, she was in Gugulethu at NY11, which took her about thirty minutes to get to and she spent at least eight hours there, sometimes staying overnight. From campus, she sometimes travelled to her friends or went straight home. One of the places she liked to visit was Goodwood, where she travelled by bus and took a taxi on the way back. She said the

bus journey there took about an hour and she would spend the whole day there. She liked to go shopping in Canal Walk and Mitchell's Plain. She travelled twenty to thirty minutes by taxi from home to Canal Walk and it took her about six hours. And from Khayelitsha to Mitchell's Plain would only take five minutes by bus and she spent four hours there.

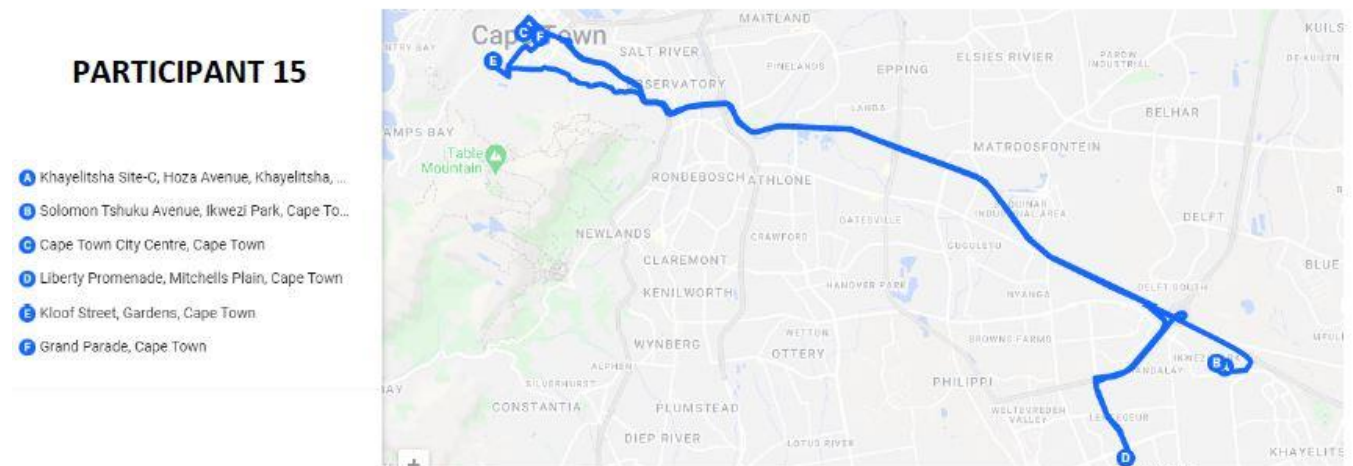
5.3.6. Khayelitsha



Participant 14: *“...for the people inside the townships to actually have a social life outside of the township, because you can’t get anywhere...if you don’t have a car...” (P14: pg.5)*

At the time of this research, she lived in Kenilworth. She used to live in Khayelitsha in Site B. From the time she lived in Khayelitsha, she visited her friends in Parklands, Goodwood and Voortrekker at Vasco railway station. When she went to Goodwood, she would take a taxi from Qumelezo to the taxi rank in Site C, which took about fifteen to twenty minutes. From there she would take a taxi to Goodwood, which would take about forty-five minutes. She also mentioned that the waiting time for a full taxi at the Site C rank depended on the availability of passengers, on weekends she would wait longer. When she travelled to Parklands, she covered a similar route as she took a taxi to Site C, from Site C into town and then caught the MyCiTi bus at the Civic Centre or Artscape, which took around forty minutes to Parklands. She acknowledged that she did not have to wait that long for the MyCiTi bus (ten to fifteen minutes). She mentioned that she used to work at Tokai in Silvertree Estate, which is by the national park. To get to work, she would leave her house at 5am or 5:30am to catch a train from Salt River and travel forty-five minutes to her work. She worked from 8am to 5pm. From work, she took the train to the train back and had to wait about five minutes for a taxi until it was full. She said she

used the train because it was not easy to take a taxi to Tokai as she had to take many taxis and spent more money.



Participant 15: ***"No, I do not have time to go do groceries, as for the way that we struggle when it comes to transport, look I leave home in the morning at 4am and I'll still be waiting for transport at 6am"*** (P15: pg. 1)

Participant 15 lived in Khayelitsha on Masiphumelele Street. She went to a Methodist church in Khayelitsha, which was next to the Site C taxi rank and took her twenty minutes to get to. She went to the church from 11am to 1pm and then walked to the taxi rank. She mentioned that on weekends the taxis took a long time (twenty to thirty minutes) to fill up, whereas during the week they were much quicker. Every now and then she would go to her stokvel near her house and spend about two hours there. Her workplace was on a four-lane road in the city. She arrived at work at 9am and left at 5pm. She stated that due to traffic, it took her about an hour to get to work and only thirty minutes to get home. When she arrived in the city, she took a taxi near Grande Parade to get to work. She mentioned the Promenade in Mitchell's Plain as one of her favourite places to visit. She drove forty-five minutes to Mitchell's Plain and spent about three hours shopping there.

Outlining the contributions from the narrative maps extrapolated from travel log data

Examining travel within Hägerstrand's time geography framework entails examining the interplay of various travel factors. A person-based analysis of travel using Hägerstrand's concept of time geography involves examining the spatial and temporal constraints that individuals encounter in their daily activities, taking into account elements such as travel time, waiting times and scheduling preferences. This approach helps to understand the intricate connections between space and time that influence personalised travel behaviour and patterns (Hägerstrand, 1970).

Experiences shared by people living in Nyanga:

Hägerstrand's time geography concept reveals a complex space-time dynamic that characterises the experiences of people living in Nyanga, Cape Town, as expressed by Participants 5 and 8. These experiences are characterised by significant transportation, which included the daily commute to work, safety concerns and the difficulties of using public transport. Participant 5's narrative emphasised time and safety constraints, particularly avoiding evening activities due to safety concerns, while still expressing a desire to engage in past leisure activities. Participant 8 faced challenges related to the reliability and efficiency of public transport. Issues ranged from variable taxi routes to long wait times to the inconvenience of multiple transfers. These challenges contributed to the complicated space-time interactions that influenced mobility patterns and participation in activities in Nyanga. They generally emphasise the impact of transportation on people's daily lives and their ability to engage in various social, cultural and recreational activities.

Participant 5

Participant 5 in Nyanga East, Cape Town, faced transportation challenges, relied on public transport for her daily commute to work involving multiple modes, spent two to three hours per trip, and avoided evening activities due to safety concerns. However, she enjoyed local activities in her township and desired to resume previous wellbeing and leisure activities, such as going to the gym and visiting outdoor camping accommodations, which involved walking, short drives, or shared transportation with friends.

Participant 8

The participant in Nyanga, Cape Town, mainly used transport to go to church, to visit a nearby shopping centre and to visit her sister in Delft. Participant 8 in Nyanga sometimes had problems relying on public transport, especially in Delft, which led her to avoid travelling at night. Other problems included reliance on taxis with variable routes and long waiting times when she needed to travel to work. The inconvenience of multiple changes for certain destinations such as Kuilsriver also impacted on the travelling experience, and the impact of rush hour traffic on her commute had a negative effect.

Experiences shared by people living in Gugulethu:

Using ideas from Hägerstrand's time geography concept sheds light on the intricate space-time dynamics influencing the experiences of individuals living in Gugulethu, Cape Town, as outlined by the participants' narratives that were articulated earlier on in this chapter. Their experiences were characterised by significant transportation challenges, including long commutes, limited accessibility to safe and reliable public transportation, and constraints imposed by transportation costs.

Participants often relied on a combination of walking, mini-bus taxis, buses, and occasional personal vehicles to access work, education, leisure activities, and social engagements. Moreover, factors such as waiting times for taxis, traffic congestion, and the availability of transportation options during peak and off-peak hours further contributed to the complexities of space-time interactions, shaping the patterns of activity participation and mobility within Cape Town's township areas.

Participant 1

Participant 1 in Gugulethu faced significant transportation challenges, including time-consuming and stressful daily commutes involving walking, waiting for feeder taxis, and multiple modes of public transport to reach work and engage in leisure activities.

Participant 2

Participant 2, residing in Tambo, Gugulethu, faced challenges in accessing transportation for leisure activities and socialising, particularly during weekdays, relying on minibus taxis and buses for work commute, grocery shopping, mall visits, and occasional trips to high-end malls or vineyards, while socialising in Khayelitsha or CBD Cape Town involves coordinating with friends and utilising a combination of feeder taxis, minibuses, and Ubers, highlighting the intricate space-time issues impacting her activity participation in Cape Town's township areas.

Participant 3

Participant 3, residing in NY 89 in Gugulethu, faced challenges with the availability and safety of public transportation, specifically mentioning overcrowded options like MyCiTi, Golden Arrow, and taxis, impacting his daily journeys to school, work, and social events, while his varied transportation-related activities included walking, taking mini-bus taxis, buses, and staff transportation, illustrating the space-time complexities influencing activity participation for individuals in Cape Town's township areas.

Participant 4

Participant 4, commuting from New Cross Roads to her college in Roeland Street, Cape Town, faced challenges with transportation costs, especially during events like "First Thursday's", while utilising a combination of mini-bus taxis, Golden Arrow buses, and MyCiTi buses for her daily commute and leisure activities within the city, highlighting the space-time complexities impacting activity participation for her. She also reported that using public transport usually involved one and half to two hours of commuting time for her.

Participant 6

Participant 6, residing in Sakhumzi Gugulethu, faced challenges associated with changing multiple forms of public transportation when traveling to distant places like Paarl, but enjoyed the convenience of driving to work at her job in Pinelands, attending CPUT in Cape Town twice a week, engaging in various social activities including church, visiting friends, and family, while expressing concerns about the high cost of parking tickets affecting her leisure shopping time at Van Gate mall, highlighting the space-time complexities influencing activity participation for individuals in Cape Town's township areas.

Participant 10

Participant 10, residing in NY91 in Gugulethu and currently unemployed, faced challenges in affording transportation for herself and her four children, limiting her ability to go out, while primarily relying on walking within the township for short distances and utilising public transportation during off-peak periods for trips to places like Nyanga Junction, New Crossroads church, Gugulethu mall, Century City, Cavendish mall, and City of Cape Town Civic Centre, revealing the space-time constraints influencing her activity participation as she was based in Cape Town's township areas.

Participant 13

Participant 13, residing in Gugulethu, preferred buses over taxis during off-peak times due to the quicker and more consistent schedule, faced challenges with waiting times for taxis and traffic congestion when commuting to work in Salt River, while engaging in various shopping activities at Mowbray, Claremont, Town, Tygervalley, Century City, and Gugulethu malls, and visiting friends in Summerville and Kenilworth, highlighting the space-time dynamics influencing her transportation choices and activity participation.

Experiences shared by people living in Philippi:

Hägerstrand's time geography concept underscores the multifaceted space-time experiences of individuals residing in Philippi, Cape Town, as articulated by Participants 9 and 11. Participant 9 grappled with safety concerns within the township, particularly during weekends marked by incidents of violence, influencing his decisions on going out. Engaging in work as a mechanic, visiting family in Velderift and Langebaan, providing services to clients in Delft, and enjoying leisure activities like shopping in Kenilworth Centre and Access Park necessitate careful consideration of space-time factors. The participant relied mainly on his car for various activities, which emphasises the interaction between transportation and participation in activities. Participant 11, on the other hand, faced the challenges of waiting times, limited accessibility by bus and the anxiety associated with travelling by

train, especially to explore new places such as Tokai from Simons Town. The desire to explore new areas emphasised the importance of reliable transportation, with the train service terminating in Simons Town being a constraint. This illustrates how spatio-temporal considerations influence the ability to participate in various activities within and outside the Philippi Township area.

Participant 9

Participant 9 faced challenges related to safety concerns in the locality (township area), especially on weekends when there were many incidents of violence, weapons, alcohol and drugs that affected his ability to go out while pursuing various activities such as his work as a mechanic, visiting family in Velderift and Langebaan, providing services to clients in Delft and Felix, and leisure activities such as shopping at the Kenilworth Centre and extended stays at Access Park, which highlighted the impact of space-time considerations on his transportation choices and participation in activities. Participant 9 primarily used his car to travel to work, visit his family in Velderift and Langebaan, service customers as a mechanic in areas such as Delft and Felix, and shop at the Kenilworth Centre and Access Park.

Participant 11

The participant relied on a combination of taxis and shuttles to get to work and the shops. She faced challenges such as waiting times, limited access to buses and fear of travelling by train to explore places such as Tokai from Simons Town. The participant commuted to work and shopping in Rondebosch, attended church in her community on Sundays and expressed a desire to explore new places such as Tokai, emphasising that she needed reliable transportation for such activities. The participant commuted to work during the day, shopped in Rondebosch after work with the aim of completing the shopping in twenty-five minutes, attended church on Sundays from 9:30 to 11am and expressed a desire to explore places such as Tokai. She pointed out the challenge of transportation, especially because the train service ended in Simons Town and a reliable mode of transport was needed to reach Tokai from there.

Experiences shared by respondent living in Heideveld:

Hägerstrand's time geography concept sheds light on the experiences of someone living in Heideveld, Cape Town, as exemplified by Participant 7. The participant faced limitations in accessing diverse experiences due to the absence of significant commercial establishments and larger malls in her immediate surroundings. With money as a constraint, she expressed a lack of exposure to a variety of activities. Her daily routine involved extensive travel, utilising a combination of transportation modes such as school shuttles, commuting to work via a shuttle from dropping her children at school to UCT Medical campus where she worked, and occasionally visited Van Gate Mall, which was only five minutes away. Despite the proximity to amenities like her mother's home and Cathline School, she

experienced considerable space-time constraints in her frequent visits. The participant's engagement in church-related events further emphasised the interplay between spatial and temporal factors, reflecting the impact of Heideveld's geographic context on her activity participation.

Participant 7

Participant 7 primarily used transportation for dropping her children at school, commuting to work, shopping at Van Gate mall (five minutes away), visiting her mother in Heideveld (two minutes away), spending time at her husband's mother's place near Olivia Court, attending a church near the police station in Athlone (ten minutes away), and traveling to Mitchell's Plain and Kensington for church-related events, with challenges described including limited exposure to diverse activities due to financial constraints and the absence of large malls and cinemas in her vicinity.

Experiences shared by respondent living in "Kwezi":

Hägerstrand's time geography concept illuminates the experiences of a person living in Khwezi, Cape Town, and is reflected in the participant's activities. The person showed a dynamic interaction between space and time. She preferred to frequent Gugulethu because of the sense of community and emphasised the social and spatial aspects of her choices. Her use of small taxis and her walk to the bridge illustrated the spatial and temporal constraints within the Khwezi community, where certain destinations such as Gugulethu were favoured due to their ease of access. The participant's extended journeys to the city campus, friends in Adderley Street, Gugulethu, Goodwood, Canal Walk and Mitchell's Plain illustrated the complexity of her participation in activities. The different modes of transport, including buses and taxis, illustrated the participant's adaptation to the various time constraints associated with each destination. Overall, Hägerstrand's concept demonstrates the complex interplay between spatial factors and temporal considerations that influence the participant's choice of activities and travel behaviour within and outside Khwezi.

Participant 12

The participant frequently used taxis to commute between Khayelitsha and Gugulethu, spending a lot of time in Gugulethu and occasionally staying overnight there. She also travelled to her university campus in the city, to friends in Adderley Street, Goodwood, Canal Walk and Mitchell's Plain, taking different journey times and modes of transport, preferring the sense of community in Gugulethu to her residence in Ikwezi Park. The participant mainly used small taxis to commute between Khayelitsha and Gugulethu, walked to the bridge to catch a taxi, used a combination of bus and taxi to get to her campus in the city, walked to friends in Adderley Street, took a bus to Goodwood, used a taxi to get from home to Canal Walk, and opted for a bus from Khayelitsha to Mitchell's Plain.

Experiences shared by people living in Khayelitsha:

Hägerstrand's time geography concept highlights the intricate space-time dynamics shaping the experiences of individuals residing in Khayelitsha, Cape Town, as illustrated by Participants 14 and 15. Participant 14 underscored the challenges of transportation within townships, particularly the limitations in accessing social life outside the township without a car, highlighted by lengthy taxi waits, multiple transfers, and extended travel times to various destinations like Goodwood, Parklands, and Tokai. Despite spending approximately forty-five minutes to an hour using taxis for activities such as visiting friends and commuting to work, the participant faced considerable space-time constraints. Similarly, Participant 15 grappled with transportation challenges, encountering long waiting times for taxis, especially on weekends, affecting activities such as attending church and social gatherings. Despite leaving home as early as 4 am for work, the participant experienced an average hour-long commute, utilising taxis for shopping trips to Promenade in Mitchel's Plain, further emphasising the influence of space-time considerations on transportation choices and activity participation for residents of Khayelitsha township.

Participant 14

The participant pointed out the challenges of transportation within the townships and emphasised the restrictions on access to social life outside the township without a car. The participant gave specific examples of long waits for a taxi, multiple changes and long journey times to various destinations such as Goodwood, Parklands and Tokai. Activities such as visiting friends in Parklands and Goodwood took the participant around forty-five minutes to an hour by taxi. For the journey to work in Tokai, the participant travelled approximately forty-five minutes by train. Overall, journey times for various activities range from forty-five minutes to one hour, using a combination of taxis and trains.

Participant 15

Participant 15 faced challenges in transportation, experiencing long waiting times for taxis, particularly during weekends, contributing to difficulties in activities such as attending church and engaging in social gatherings, despite the need to leave home as early as 4am, with an average hour-long commute to work and forty-five minutes to shopping destinations. The participant often engaged in activities such as attending church in Khayelitsha, commuting by walking to the nearby Site C taxi rank; going to her stokvel near her house, with no specified mode of transport mentioned; and shopping at Promenade in Mitchel's Plain, traveling by taxi, which took approximately forty-five minutes. Additionally, she had a daily commute to work in town, taking about an hour due to traffic and using a taxi after arriving in town.

To dive deeper into the experiences described here so far, and in order to inspect the broader and shared factors that influence peripheralized people's trip-making, the section that follows below synthesises further insights shared by study participants in relation to their travel behaviour and patterns.

5.4. Rationales Identified Related to Travel Behaviour

The following information is a synthesis of data collected in two parts: 1. the travel diary and 2. responses given during the mapping section of the interview (using "Section D" of the interview schedule). This section now presents the interpretations that reflect the travel behaviour of the interviewees. The following is a discussion of the general experiences and factors that influence respondents' mobility behaviour in peripheral areas and in relation to participation in activities

1. *Township-dweller's rationales for mode choice for work and or school trips*

MBT considered faster than a bus

Minibus taxis were seen as synonymous with public transportation. Value for money was important to most respondents when considering public transportation. The majority of participants relied on it to do their activities. Participant 6, for example, stated that she used her car for her business but resorted to public transportation when her car was not available. Public transportation ensured that her business was not affected.

Table 13: Charting Week-day Travel

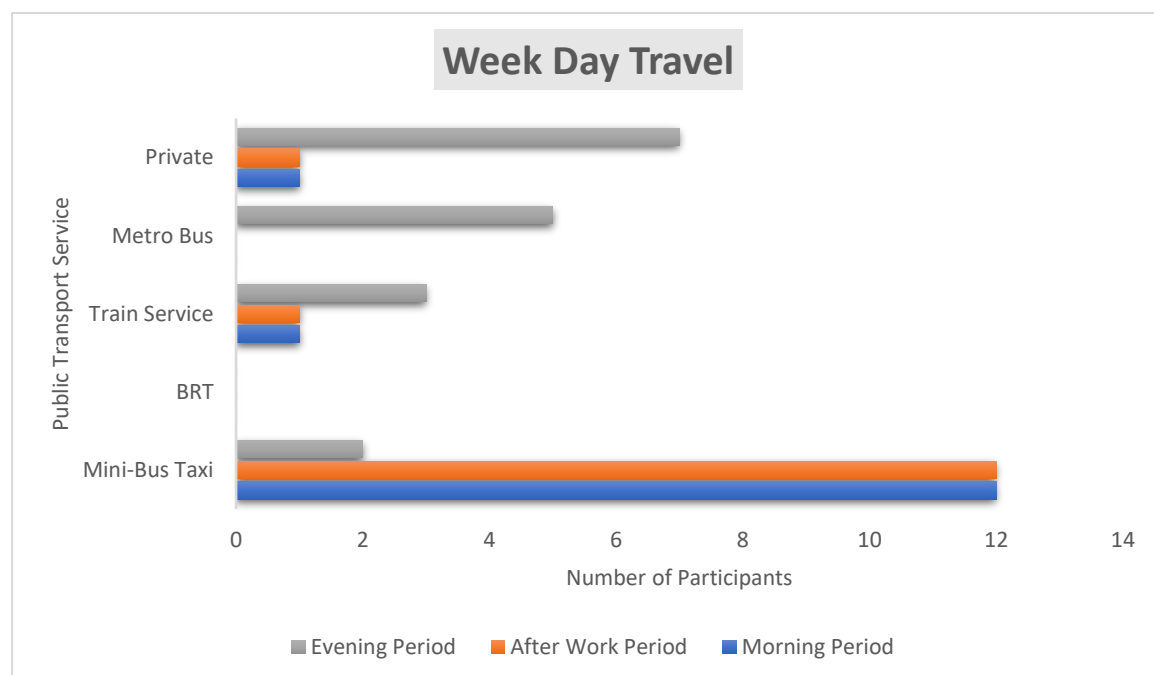


Table 13 above charts participants' public transportation choice for travel in the week. Participant 10 usually walked everywhere (with the occasional use of the minibus taxi) and was the only participant unemployed. This section deals with township-dweller's rationales for mode choice for work and or school trips. Therefore, data regarding participant 10 was omitted. However, that is not to say that participant 10's mobility data is not relevant to this study.

In the morning time, 12 participants relied on the MBT; 1 participant relied on the train and 1 participant travelled by private vehicle. In the "after-work" period", 12 participants reported relying on the MBT; 1 participant travelled by train and 1 participant travelled by private vehicle. In the evening hours, 2 participants relied on the MBT and 7 participants relied on a private vehicle (in most cases Uber).

These responses should be considered with the knowledge that respondents all agreed on relying on multiple modes of transportation at any point of their convenience. During the evening period, 2 participants would take a MBT; 3 reported taking the Metrorail; and 5 reported taking the metrobus "Golden Arrow".

2. Township-dweller's rationales for mode choice

Day Time Choices

Respondents reported feeling forced to depend on minibus taxis more often than not – despite having poor rank or terminus facilities (such as open-air ranks in some cases, or not providing shelter from rain or harsh sunshine in some places). The bus mode was reported as the preferred public transportation mode – despite the minibus taxi industry making it challenging at times for passengers to exercise their preference. Over-crowding was reported as one of the deterrents for using the Metrorail train. Meanwhile the MyCiTi bus was expressed as the most aspirational form of travel (second to having access to a private vehicle at home).

Evening Time

Respondents reported not having many options when it came to public transportation during the evening time. As was discussed before, there were many reasons for respondents not relying on public transportation during the evening time (such as safety concerns, longer waiting times during the off-peak period and unpredictable schedules for paratransit during the evening-time – especially as MBT's only drove when they were at full capacity). Respondents determined that unaffordability of transportation after peak-times heavily affected their choice of travel mode and unaffordability of engaging in events that had a cost was another major deterrent for them.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Table 14: Mode Choice By Day; By Night (SOURCE OWN)

CODE GROUP: TEMPORAL ACCESSIBILITY/ SCHEDULING

DAY TIME				
PT Mode	Safety	Affordability (monetary value)	Convenience (time value)	Speed
Mini-bus taxis	unsafe	expensive	easily available/Reliable	fast
Bus	safe	affordable	unreliable	slow
Train	unsafe	affordable	unreliable	slow
Walking	safe	affordable	easily available/reliable	slow
Personal Vehicle	safe	expensive	reliable	fast
Private-shared vehicle	safe	expensive	reliable	fast

NIGHT - TIME				
PT Mode	Safety	Affordability (monetary value)	Convenience (time value)	Speed
Mini-bus taxi	safe	expensive	unreliable	fast
Bus	safe	affordable	unreliable	slow
Train	unsafe	affordable	unreliable	slow
Walking	unsafe	affordable	unreliable	slow
Personal Vehicle	safe	expensive	reliable	fast
Private-shared vehicle	unsafe	expensive	reliable	fast

The above tables are based on a synthesis of respondents' views on their preferences for public transportation during the day and night. Respondents believed that a personal vehicle was of great value for travelling as it saved time and convenience. This applied both during the day and at night. Although the train was the cheapest means of transportation, respondents felt it was too unsafe regardless of the time of day (also due to overcrowding, pushing and shoving in the carriages and virtually no security staff in the carriages). The minibus taxi was the favourite when it came to transporting people efficiently (especially for work and school trips).

3. ***Township-dwellers' perceptions related to mobility comfort and convenience***

Discretionary Activities

Township-dwellers' perceptions on mobility comfort and convenience related to activity participation. Respondents indicated that for convenience, they would choose the type of mobility that was the cheapest and most efficient. For their shopping, the closest mall (Gugulethu Mall) was their favourite because it was easily accessible on foot or in some cases, by a feeder taxi. For evening activities, respondents indicated that it was most convenient to remain in the township (as this required less travel) for example, visiting with friends and family or visiting a local pub or bar in the neighbourhood.

Convenience

Township-dwellers' perceptions around mobility comfort and convenience related to the use of feeder taxis such as *amaphela*. These feeder taxi carried up to seven people in a five or six people passenger vehicle (convenience service for shorter distances within the townships). The *amaphela* also drove people and their groceries to their front doors, if the home was not too far off the main route. Often the drivers would offer this service for a little extra money or for the elderly passengers. However, once in the township, the most comfortable and convenient mobility form was walking.

Public Transport

The perception of mobility comfort and convenience by township residents also related to the services offered by public transportation. When comparing the convenience of travelling between minibus taxis and buses, participants indicated that they valued safety and comfort when travelling. It was reported that commuting to work was very unsettling for commuters because they worried about being in a taxi that could be stopped by traffic authorities for paperwork, or because they worried about accidents occurring due to reckless driving, or because they worried about travelling in overcrowded vehicles. Minibus taxis were the biggest culprits. Respondents reported that they were often the unsafe option (no seatbelts, dodgy taxi routes, endangering passengers by taking shortcuts through unsafe neighbourhoods). Some of these problems were also mentioned in relation to the shortcomings of public transportation. The MBT was regarded as faster than the bus, but not necessarily more comfortable (the bus has a capacity limit, the bus has more seats, the bus has a timetable and the bus tends to travel slower and generally adheres to traffic rules).

4. Township-dwellers' perceptions about the main economic-related PT accessibility challenges

Fare-Splitting

Township-dwellers' perceptions regarding the main economic-related public transportation accessibility challenges related to lowering costs by splitting fares. Respondents who reported using ride-sharing services (such as Uber), were mostly motivated by affordability as sharing saved money by driving with others and splitting the driving cost. Additionally, private ridesharing was more convenient than mini-bus taxis for social activities because "everyone is there" (implying it could be more enjoyable).

Shortfalls of reliance on affordable PT

Township-dwellers' perceptions regarding the main economic-related public transportation accessibility challenges related to the shortfalls of reliance on affordable public transportation.

Respondents reported that employers tended not to understand workers' experiences with chaotic public transportation. For instances, respondent felt misunderstood for sometimes coming late for work or for class.

Measures for Saving

Township-dwellers' perceptions about the main economic-related public transportation accessibility challenges related to measures for saving on transportation. Respondents reported prioritising affordability when approaching transportation. Respondents tried to find ways to save here and there in terms of transport costs (financial value). Respondents knew how to save even choosing to walk in bad weather rather than ordering *iphela* feeder taxi. In a more extreme case, some people tried to save money bypassing paying on the train – which came with a risk of getting thrown off the train by authorities. Some reported that when they were working night shift they were not able to get free transport from work in some cases.

Expensive Petrol & Mobility

Township-dwellers' perceptions on the main economic-related public transportation accessibility challenges related to the high cost of driving a car. Respondents who drove reported that they spent a lot of money on petrol – which overshadowed the convenience offered by driving for oneself. However, having money for fuel enabled people to leave the township, owning a car influenced people's ability to go outside and experience better malls – although the pressure to save money was always an important factor.

Respondents reported evening-based activity-participation posing some mobility challenges and economic limitations. Respondents reported that the cost of travel at night-time to engage in activities which could be deemed life-enhancing could be prohibitive, in some cases. Even when respondents were willing to make a sacrifice to relax and enjoy social events, because the worthwhile outings were likely not free – socialising came at a cost, especially to transport-dependence and even the event costs. Respondents agreed that in general, participating in discretionary activities came with its financial limits - respondents could only imagine having some money to indulge in leisure activities once in a while. Travel at night and paying for an event or social activity involved consideration of many variables.

Challenge for Students

Respondents reported that participating in evening activities posed some challenges in terms of mobility and economic constraints – especially for the younger respondents (who were still students, interns or waiters). Younger respondents' earnings were relatively low, making use of some modes of

transportation (e.g. carpooling via mobile phone apps) was prohibitively expensive without sharing the cost with other car-poolers. Respondents who regularly participated in evening social activities in the city centre reported that some free social events in the city (such as First Thursday's) directly impacted the price of commuting (when using Uber or other ride-sharing services). In addition, respondents had a limit on how much they were willing to spend on an evening out – consequently, the price of the journey affected their planning.

5. ***Township-dwellers' rationales for the uses for PT***

Overview of feedback

Respondents' rationales for the use of public transportation related to many varying aspects, rooted in the nature of mobility - as a whole - in the periphery of the city. Respondents reported that they preferred to take the bus for travelling to work, the MBT for work and leisure activities, the feeder service *amaphela* out of convenience (within the township), the Uber for late night trips, a car for ease and convenience, and the train as the cheapest form of public transportation – despite the unpredictable schedule lately.

Minibus taxi efficiency

The reasons given by respondents for their dependence on public transportation related in particular to the efficiency of minibus taxis. Respondents stated that minibus taxis were seen as a faster means of transport than the bus. Respondents indicated that they still preferred minibus taxis despite the bad reputation of minibus taxi drivers. In addition, most respondents agreed that without the paratransit service, there would be virtually no easier way to get where they wanted to go. The minibus taxis were also seen as better suited to people's needs and desires.

Public transport-dependent activities

Respondents' rationales for the uses of public transportation related to the nature of mobility options for participating in activities. Respondents reported that for transport-dependent activities, respondents preferred the mini-bus taxi and bus service. Most respondents got to work with public transportation. Respondents reported that the value of transportation was to get people to important places which helped them achieve a certain quality of life – such as scholars being able to reach services such as the library even during the school break.

To get to social event

Respondents' rationales for the uses of public transportation related to getting to social events in the city. Respondents stated that they needed transport to get to social and life-enhancing activities. To

get to social events or to visit family and friends outside of their townships – respondents were willing to catch multiple connections and multiple forms of public transportation as this was important to them.

Meaning of transport for respondents

Respondents' rationales for the uses of public transportation related to the meaning of transportation for its users. Respondents reported that the MBT was synonymous with "Transport". Respondents reported that the main experience of being a public transport user in a township was that there was transport available in townships - however, there was a fear about crime while on public transportation.

6. Township-dwellers' knowledge-sharing regarding PT for discretionary activity participation after peak time and mobilities from the urban-periphery

Familiarity with local courses

The local knowledge of township residents in relation to public transportation for participating in leisure activities after rush hour revealed local knowledge that is rich in new information. Respondents reported knowledge related to local routes that is not commonly known. For example, respondents reported that they had to walk because taxis were not available at the upper deck taxi rank in the CBD. And that minibus taxis stopped going to certain affluent areas in the city centre after a certain time (i.e. after 7pm there were no taxis going to Long Street, the Garden Quarter and the upper Tamboerskloof area). In addition, respondents stated that they needed to know their travel routes well in advance of travelling (a sort of internal GPS guide), as mobility influenced their decisions about basic aspects of daily life.

When PT costs less or more

The local knowledge of township dwellers regarding the cost of public transportation revealed in-depth knowledge on mobility in the townships that enriched this study. For example, respondents reported that people preferred travelling by bus before 4pm because it was cheaper (so a good tip for travelling cheaper was to pay attention to the time). Respondents also provided information about bus operating times and reported that, in their experience, buses no longer run at 6pm in the evening – in winter. Finally, respondents reported that transportation was more expensive for journeys out of the township after 7pm.

Township Mobilities

Township dwellers' local knowledge of public transportation for participation in after-peak leisure activities revealed local knowledge that is rich in new information. Respondents reported knowledge

related to night time mobility. Participants told of taking a "12-down" taxi (a makeshift vehicle that carried about 8 passengers – usually a broken or battered vehicle that was not formalised and costed more because of door-to-door delivery and convenience). The drivers of the *amaphela* taxis were not qualified to transport people and their service was limited in time and only went to certain locations. In addition, interviewees advocated for the introduction of MyCiTi bus services to avoid congestion and solve the problem of overcrowding in their townships.

Alternative to uber (ridesharing)

In addition, township residents' local knowledge of public transportation for participating in leisure activities after rush hour revealed local knowledge rich in new information. Respondents reported more information and the nature of alternative ride-sharing services, especially at night time for township residents. The minibus taxi service ran on the normal route during the day, but at night for about R30. It was reportedly a normal MBT vehicle (not offering door-to-door transport) from 8pm to midnight. It was the same vehicle as the daytime service. The MBT could be intercepted centrally in the CBD, on the upper deck of the Cape Town minibus taxi rank. However, it was unclear whether this was a seasonal service or a one-off service.

Conflicting PT decreases – township & CBD

Township-dwellers' local knowledge on when public transportation decreased during the day, revealed an in-depth study of township-mobility that enriched this study. For instance, from 5pm and 6pm, public transit (heading out of the townships) was less available from within the township area. Additionally, respondents reported that from the Delf township for instance, MBT's finished at about 7pm and 8pm, meanwhile in town they only ended at about 9pm.

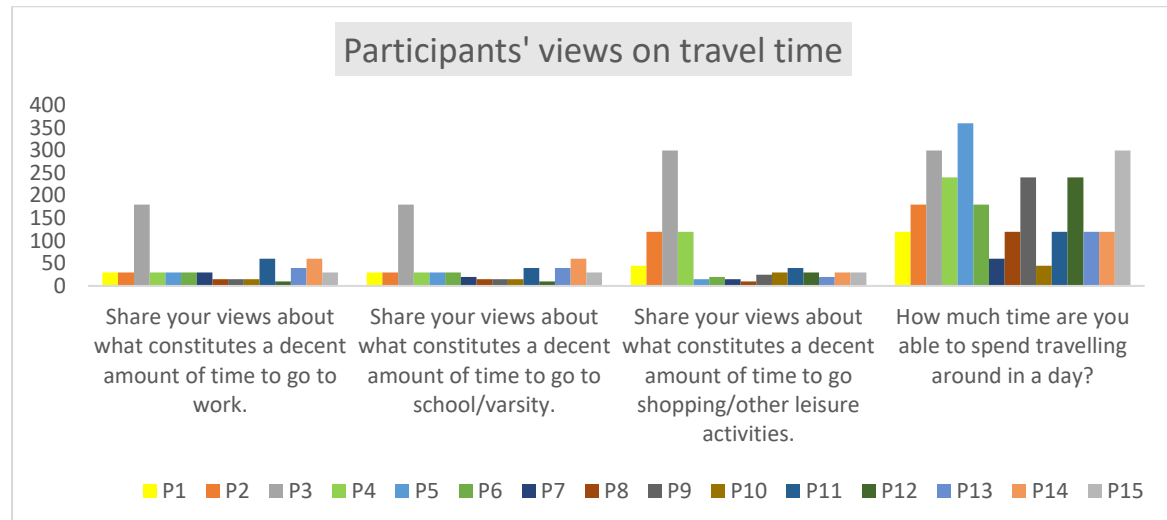
7. Township-dweller's perceptions about ideal travel-time

From the transcripts analysed, the majority of respondents indicated that they would rather spend less time on the road travelling for day-to-day activities as compared to the time that they currently spend. Respondent 7, for example stated that it would be much better for her to have her job right on her doorstep, but she conceded and settled for twenty to thirty minutes. On average, it appeared as though this time budget was common among a few of the respondents.

In addition to that, respondents reported a high time budget for travel in general. This showed that people from the outskirts were accustomed to planning ample time in their day to factor in commuting.

In contrast, respondents had less time scheduled for leisure activities than for the time they spent commuting. This could indicate that the respondents prioritised the function of the mode of transport for work and school more than the function of the mode of transport for transportation.

Table 15: Participants' views on travel time



Maptionnaire GIS tool outputs which contain the study's participants' views regarding travel time.

8. Township-dweller's rationales for desired or active discretionary activity locations

The majority of participants stated that they used public transportation a variety of everyday activities outside their home. Going to the shopping centre, going to church and eating out for lunch or dinner was a common among most participants – especially for those in formal employment and those with children.

Some of the participants mentioned that shopping in their area was difficult, so they preferred to go to other towns to shop – especially when shopping was intense mall shopping. Participant 6 from Gugulethu, for example, mentioned the unavailability of preferred shops in local malls, overcrowding, and issues of crime. While the majority of participants preferred to spend their time outside, others preferred to spend it in the comfort of their own homes with their families – but still considered this down time.

5.5. Conclusion

Chapter Five has concluded the areas of the thesis that deal with data analysis. Chapter Five and Chapter Four summarised the data collected. In particular, Chapter Five presented the information from the travel diaries.

The mobility data of the individual interviewees was summarised and then analysed. These summaries were presented in small narrative paragraphs under the name of each respondent and under each house or neighbourhood of the municipality. The narrative paragraphs provided an analytical framework that allowed for logical conclusions and easy identification of patterns in the data.

The rationales were presented last, and provided an interpretation of all the collected data and organised the main patterns that emerged into brief sections. Eight brief sections described the rationales for trip-making patterns – namely, township-dweller's:

- rationales for mode choice for work and or school trips
- rationales for mode choice
- perceptions related to mobility comfort and convenience
- perceptions about the main economic-related PT accessibility challenges
- rationales for the uses for PT
- knowledge-sharing regarding PT for discretionary activity participation after peak time and mobilities from the urban-periphery
- perceptions about ideal travel-time
- rationales for desired or active discretionary activity locations

One of the most important contributions of this chapter was the observation of the temporal dimensions of accessibility in relation to travelling from the townships. Respondents provided data on the morning start times of journeys and the duration of journeys during peak hours on both weekdays and weekends. The thesis also unveiled a desire of the township-dwellers to participate in a particular activity unrelated to work and for which a specific mode of transportation was required. These observations were achieved by summarising the respondents' activities or travel patterns, which were presented above in the form of narrative sections. The thesis also presented succinct accounts of the lived experiences of township-dwellers travelling from their township neighbourhoods to an array of places around Cape Town.

The following chapter will provide a brief overview of the links and patterns discussed in this thesis' Analysis sections. The research questions and objectives will now be presented again. A bullet point format will be used to describe and display what was observed in the *amaphela*-operated area. This will be subsequently followed by descriptions of the lived experiences of the township-dweller's which are evaluated against the study objectives and research questions.

6. Chapter Six: Examining Township Parallels – EVENING-BASED MOBILITY, ACCESSIBILITY & SOCIAL EXCLUSION

6.1. Introduction

In this chapter, the reader is guided through the main findings from the previous two empirical chapters. The rationales provided a synthesis of the analysed responses from data which was collected among a sample of 15 participants from the *amaphela*-operated area in Cape Town's Cape Flats area.

Now these syntheses are further sorted and categorised - embedding the key findings that were previously discovered into this section and interpreted them through the study's key objectives and research questions of the study. Each key finding¹⁷ is linked to the main research questions and objectives. Finally, a revisit and evaluation of the analytical framework is reviewed and evaluated to reveal how the thesis systematically conceptualised township-dwellers mobility for discretionary activity participation during the after-peak time in Cape Town.

1.14 Patterns of Data – Main Research Question

How might mobility for discretionary activity participation for township dwellers be linked to transport-related social exclusion?

MAIN FINDING: Trip-making for discretionary activity participation among a vulnerable group is limited not by choice but by income constraints, spatial disadvantage, a sense of not belonging to historically Whites-only spaces in the city, and the aggravation of insufficient frequency of preferred PT modes during the evening time.

This main finding stems from the analysis of interview data and travel logging data from a population residing in the *amaphela*-operated area of the Cape Flats townships in Cape Town. This main finding corresponds to the overall research question. It has emerged from summarising the outcomes of each of this thesis' set of objectives and research questions' findings that follow below.

6.2. Patterns of Data – Research Objective One

The first objective of this study was to determine the nature of social exclusion in Cape Town's township areas.

¹⁷ A summary of the key findings of this study are presented succinctly on page 253 of this document.

This objective was tied to research question one (RQ 1): *What is transport-related social exclusion in the context of Cape Town's township areas?*

MAIN FINDING: Verbally, this thesis has confirmed that people who live far away from opportunities such as work, school and healthcare find it difficult to participate fully in their society.

The emergent rationales that have contributed to this finding stem from township-dwellers':

1. political associations concerning public transportation services in townships
2. daily experience with fragmented public transportation in the city
3. aspirations for improved transportation circumstances for a better life

6.3. Patterns of Data – Research Objective Two

The second objective of this study was to understand how public transportation-dependent people's potential to travel during off-peak times impacted their access to places of leisure and other life enhancing opportunities.

This objective was tied to research question two (RQ 2): *How does the land-use transport system allow township-dwelling citizens to travel in their city and do different non-work-related activities in the city?*

MAIN FINDING: Data confirmed that township-dwellers are spatially and temporally disadvantaged when it comes to accessing leisure and life-enhancing opportunities (such as attending night school, gym or recreational opportunities) when relying on public transportation.

Two rationales that emerged from the analysis contributed to this finding. These rationales stemmed from township-dwellers':

1. rationales for transport-related issues when accessing social or discretionary activities
2. knowledge-sharing regarding PT for discretionary activity participation after peak time and mobilities from the urban-periphery

6.4. Patterns of Data – Research Objective Three

The third objective of this study was to analyse and visualise township-dweller's ability to travel by applying person-based accessibility measures.

This objective was tied to research question three (RQ 3): *How can this thesis ascertain in-depth and detailed travel information from township-dwelling individuals regarding their experiences with accessing public transportation in Cape Town?*

RQ 3 had two follow-up question, namely:

- *How to infer levels of transport – related social exclusion from qualitative data analysis?*
- *Can a person-based accessibility analysis approach best reveal the extent of existing spatial-temporal accessibility challenges in Cape Town's township dwelling communities?*

MAIN FINDING: This thesis has developed an analytical framework that deployed the principles of space-time geography to assess the challenges of accessibility in a township environment in Cape Town. This thesis proved that discretionary activities are much more difficult to access when people can't afford private transportation, when people live far away from decent opportunities for recreation and leisure and when public transportation appears to be more limited after peak-times.

The emergent rationales that have contributed to this finding stem from township-dwellers':

1. rationales for mode choice for work and or school trips
2. rationales for mode choice
3. perceptions related to mobility comfort and convenience
4. perceptions about ideal travel-time

6.5. Patterns of Data – Research Objective Four

The fourth objective of this study was to document township-dweller's travel behaviour and perceptions of out-of-peak travel ("latent demand" needs) for accessing life-enhancing opportunities.

This objective was tied to research question four (RQ4): *Could the patterns for trip-making for so-called "discretionary activities" among township-dwelling public transportation users be revealing decisions of choice, or, of constraint?*

MAIN FINDING: Even if there were no limits to mobility (i.e., accessing free PT) for leisure regardless, of the destination – respondents would still not frequent certain geographies within the province due to feeling as though they did not belong there or that they were too uneducated about these places.

The emergent rationales that have contributed to this finding stem from township-dwellers':

1. perceptions of public transportation shortfalls or shortcomings in the sector
2. concerns about the unreliability of public transportation services
3. rationales for the uses for PT
4. rationales for desired or active discretionary activity locations

6.6. Patterns of Data – Research Objective Five

The fifth objective of this study was to conceptualise township-dwellers' potential to travel for accessing leisure and other life enhancing activities during off-peak time in Cape Town.

MAIN FINDING: This thesis has developed a conceptual framework for township-dwellers' spatial-temporal access to leisure and other life enhancing activities during off-peak time in Cape Town (see Chapter 7, section 7.4 for the diagram).

How has this study been able to conceptualise township-dwellers' potential to travel for accessing leisure and other life enhancing activities during off-peak time in Cape Town?

This thesis will now show that it has answered the main research questions posed in chapter one, and it will also show how objective five has been achieved. So far, this thesis has utilised the analytical tool and framework that helped answer the main research question – see Table 17 below.

The theoretical foundation helped to frame and provide scope to the investigation by describing the philosophical designation of the thesis and defining the boundaries of investigation.

The analytical framework has further helped to manage and organise the data by setting categories and codes aligned to epistemological and conceptual perspectives.

The emergent themes described in the quotes by code table (which is the embodiment of township-dwellers' views) are the result of applying the study's theoretical and analytical (reasoning) methodologies to uncover the reality of mobility and accessibility issues for township-dwellers to attend discretionary activities during off-peak hours. The emerging themes that form part of this table are based on the interviews conducted in the *amaphela*-operated neighbourhoods in Cape Town.

The theoretical framework of this thesis is based on interpretivism. Chapter two of this thesis developed a "just" analytical framework that was used as a lens for analysing and interpreting the results of the data analysis. In this thesis, the analytical framework was developed with the intention of recontextualising and adapting Martens' (2016) concept of transport justice to include measures of reparation and space-time analyses for context appropriateness.

When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

Table 16: Aligning The Study's Research Questions with the Theoretical Principles, Analytical Aims, and the Emergent Themes

RESEARCH QUESTIONS (Pg. 11)	THEORETICAL FRAMEWORK MEASURES (Pg. 33)	ANALYTICAL FRAMEWORK AIMS (Pg. 103)	CORRESPONDING EMERGENT THEMES (Pg. 127)
RQ3	time geography approach	accessibility & mobility (A&M) disadvantage indices	<i>TEMPORAL ACCESSIBILITY or SCHEDULING</i>
Main RQ (Plus RQ2 & RQ3)	transportation disadvantage	Identify public transportation shortfalls experienced by distinguished population groups in terms of safety, affordability, and public transport modes in contravention of a social service	<i>IMPEDIMENTS TO ACCESS ADEQUATE PT</i>
RQ2	mobility in a township context	Assess the environmental, social and policy aspects compounding the observed accessibility and mobility deficits	<i>SOCIAL EXCLUSION</i>
RQ1	discretionary activity participation as a measure	Assess the severity of accessibility & mobility (A&M) disadvantage experience	<i>LIFE ENHANCING</i>
RQ4	latent demand as a measure of social exclusion	Who is in spatial-temporal accessibility disadvantage?	<i>ASPIRATIONAL</i>

This thesis recontextualises theory by applying already well-established concepts and ideas with the results or products of data gathered from a township environment to develop a conceptual framing of the problem in an empirical, peri-urban setting (see Chapter 7).

The emergent rationales that have contributed to this finding stem from township-dwellers':

1. perceptions about the main crime-related mobility challenges
2. perceptions about the main time constraints-related mobility challenges
3. perceptions about the main distance-related PT mobility challenges
4. perceptions about the main economic-related PT accessibility challenges

Table 17 exhibits alignment with the principles of the study's theoretical framework, the analytical framework measures and the study's emergent themes – according to research questions addressed. This forms the tool with which the results of this study can be interpreted.

Using this particular case in the Cape Flats of Cape Town, with its complex history of injustice and imbalance in terms of access and mobility, – this thesis demonstrates how mobility and accessibility issues can be examined that can exacerbate the social exclusion of marginalised groups who wish to participate in evening activities. In this way, this thesis has created a conceptual framework that allows others to replicate, compare and adapt this framework in contexts with similar characteristics.

6.7. Conclusion

This chapter presented the results of data collected in a township context in Cape Town. Clear patterns emerged, which we will explore in more detail in the discussion section of this thesis (Chapter 7). In the meantime, a detailed, foundational knowledge base has emerged for understanding mobility and accessibility and their role in exacerbating social exclusion in this context –

Research question 2, research objective 2 and research objective 5 speak to the issues with evening paratransit challenges, such as:

- Limited evening paratransit options and the difficulty of leaving the neighbourhood once inside influenced individuals' trip-making decisions.
- Crime in the neighbourhoods affected travel behaviour, including the need for accompaniment while walking, the use of *amaphela* for secure passage, and the consideration of the gender ratio before entering a vehicle, regardless of the respondent's gender.
- High costs, often associated with hiring a vehicle or relying on family members for transportation, were a significant factor.

Research question 3, research objective 3 and research question 4 and research objective 4 speak to mobility and accessibility disadvantages faced by township-dwellers in Cape Town

- The train was not considered a viable option, with buses being the cheapest alternative, yet mini-bus taxis emerged as the most commonly utilised mode of transportation.
- Key constraints primarily revolved around affordability, time, the availability of public transportation, and the distance required to travel.
- Transportation scarcity was particularly pronounced during nighttime journeys from townships or returns from the CBD to townships.
- Irregular public transportation services, alongside unscheduled paratransit, were notably inflexible, except for *amaphela*, which offered greater flexibility.
- Accessibility to transportation infrastructure was generally low.
- Obtaining reliable public transportation during nighttime hours posed a significant challenge.

Research question 1, research objective 1 and research objective 5 speak to the occurrence of social exclusion in this context

- Participants listed a range of current or desired evening activities, including going to the gym, attending a cooking class in Observatory, wine tasting in Durbanville or Stellenbosch, and visiting leisure spots like Blaauwberg beach or Hermanus.
- Opting to stay within the neighbourhood was primarily driven by convenience, as respondents frequented local malls, *tshisa nyama* spots, bars, or cocktail lounges to avoid the additional cost of Uber or private taxis.
- There was a strong desire among respondents to experience other neighbourhoods, driven by a curiosity about how others live on the other side.
- Neighbourhoods closer to the city were perceived as better serviced and more convenient for accessing essential services by foot.
- The impact of crime, both on public transportation and in the environment, influenced individuals' confidence in engaging in discretionary activities without risking their safety.
- High fare costs and unfriendly behaviour from public transportation operators were notable concerns.

The investigation in this chapter has led to the above conclusions. In the following chapter (chapter 7) all results are discussed and in chapter 8 the conclusion of the thesis will be followed by some recommendations.

7. Chapter Seven: Standing, Sitting, Waiting – INTERPRETING VIEWS FROM AN URBAN PERIPHERY

Chapter seven discusses the most important results from chapter six and relates them to the main literature. In this section, the value of the theoretical framework is assessed with regard to the main results discussed previously. Chapter seven is particularly important because it breaks down how the findings of this study relate to the theory and methods previously discussed and highlights the implications of the sampling and data collection methods deployed in this study. This section is a concluding discussion that also attempts to uncover the nuances that emerge in the data about the nature of public transportation on the periphery of the city. This section assesses these discoveries and highlights the key implications for the discipline and the South African context. Finally, this section presents the main contributions of the thesis and discusses its implications.

7.1. Spatial-Temporal Accessibility – *apartheid relic and present-day realities*

The two main results that contribute to the understanding of peripheral mobility and accessibility are linked to research questions three and four and to research objectives three and four. The two main findings are related to findings that suggest that discretionary activities are much more difficult when people cannot afford private transportation, when they live far from decent opportunities for recreation and leisure, and when public transportation appears to be limited after peak hours. These findings are consistent with those of Næss et al., (2018). In their study, Næss et al., (2018) conduct a qualitative analysis in Norwegian metropolitan areas, focusing on the causal mechanisms and the differences between the travel behaviour of people in the city centre and in the suburbs. The authors found that travel plans and walking are an additional burden for residents living far from the city centre, as they are too time-consuming for the marginalised group to move easily between desired locations. Furthermore, they claim that the car is the better choice in these circumstances, as it allows residents to participate in leisure activities in the afternoon – which is not usually easy for them to achieve.

Furthermore, this thesis finds that even if there were no mobility restrictions (i.e. access to free public transportation) for leisure activities, – respondents would not visit certain areas within the province, regardless of destination, because they felt they did not belong there or because they knew too little about these places. This discovery aligns with the arguments of Polgreen (2012) who claims that Black South Africans feel that they do not belong in Cape Town. Polgreen (2012) explains that Black people from township areas are particularly isolated in Cape Town, the only metropolis in the country where

Blacks are in the minority¹⁸. Polgreen (2012) further claims that opportunities in Cape Town have been deliberately reserved for Whites and the so-called Cape Coloured – the second largest or largest racial group in the Western Cape. The relic of apartheid geography is still present in the city – Whites live in the mountainous, lush and fertile city centre. During the apartheid era, jobs and opportunities were traditionally reserved for Whites at the top end of the scale, while the so-called Cape Coloureds came second (Polgreen, 2012). This model of housing and opportunity has not changed significantly since then.

The relic of apartheid geography is still evident in the city, partly due to the policies implemented by the City of Cape Town in the last decade. Miraftab (2007), for example, claims that the CoCT aims to redevelop selected public spaces in the city through spatial strategies based on the discourse of creating a world-class city. Miraftab's (2007) analysis looks at the Cape Town Municipality, specifically the Cape Town Partnership (CTP) and its efforts to manage the city's public spaces. The study examines the CTP's communication strategies and spatial interventions, which are guided by the goal of positioning Cape Town as a world-class city. This objective is closely linked to the establishment of City Improvement Districts (CIDs), which are regarded as mechanisms to attract investment and increase the city's attractiveness. However, the author criticises this approach, arguing that it perpetuates historical inequalities and excludes marginalised communities. The focus on attracting businesses and portraying Cape Town as a cosmopolitan city often ignores the needs of lower income residents. The author highlights how CIDs prioritise the interests of wealthy property owners and neglect the areas inhabited by marginalised groups.

The emergent rationales that have contributed to findings for research question 3 and 4 and the objectives linked to research objectives 3 and 4 stem from township-dwellers':

- rationales for mode choice
- rationales for mode choice for work and or school trips
- perceptions related to mobility comfort and convenience
- perceptions about ideal travel-time
- perceptions of public transportation shortfalls or shortcomings in the sector
- concerns about the unreliability of public transportation services
- rationales for the uses for PT
- rationales for desired or active discretionary activity locations

¹⁸ According to a report published by the City of Cape Town in December 2023, "the population in Cape Town is predominately Black African and Coloured", with 45.7% Black African and 35.0% Coloured populations making up the biggest groups in the city (City of Cape Town: pg.3)

From the analysis, five codes that were mostly associated with this topic were *"necessity"*; *"convenience"*; *"comfort"*; *"space-time paths"*; *"transport-dependent activities"*; *"potential for desired"*:

Necessity

Travelling out of necessity – i.e. compulsory journeys where not making these journeys could lead to a disruption of life – provided insights into the core issues and the impact of scheduled and unscheduled public transportation on the lives of township residents to travel the distance from the periphery to the city centre. While the analysis revealed that respondents were not as keen on relying on minibus taxis as they currently are, forgoing certain journeys had deeper consequences for them (e.g. not being able to get to work and earn a living to support their families). The analysis in this thesis revealed that difficulties experienced by township-dwellers to get to work (due to strikes, traffic jams or other road delays) can cost them their livelihood or the ability to meet up with friends. Similarly, public transportation strikes affect people's ability to plan journeys or get to school and work on time. In some cases, missing a connection means longer waiting times for the next scheduled bus or train. In other cases, it means an increase in fares (e.g. GABS increases fares in the late afternoon after 4pm). Respondents indicated that they would like less disruption when making or planning a journey (e.g. strikes, crime and the need for lights for safety).

Convenience

Convenience looks at travel decisions made by participants based on ease, availability and affordability of the mode of transportation, as well as a given destination. This code played a role in issues such as amount of time spent travelling. Respondents indicated how much time should ideally be spent travelling to work, school or leisure (see Table 15). Convenient trips included involved instances like work-provided shuttles because they were free and delivered door-to-door if you had a night shift. The fact that paratransit was discontinued early in some neighbourhoods added to the inconvenience, as you could never be permitted to miss a connection when commuting from that neighbourhood. The multiple connections or exchanges with paratransit was reportedly inconvenient and took up a lot of the respondents' time. Respondents also expressed a wish for less time spent waiting for minibus taxi vehicles to fill up.

Comfort

Comfort refers to the respondents' travelling experiences, in particular the impact of weather conditions, the built environment and local conditions while travelling. Respondents reported being forced to rely on minibus taxis that were poorly equipped (open-air taxi ranks or no shelter from rain or harsh sunshine in some locations). Buses were the preferred option for paratransit – although the minibus taxi industry sometimes made it difficult for passengers to exercise their preference.

Overcrowding was cited as one of the barriers to using the Metrorail train. Meanwhile, the MyCiTi bus was cited as the most desirable form of travel (second only to having access to a car at home).

Space-Time-Paths

Through the analysis this thesis learned about each individuals' daily movements through space and time, and identified how individuals get to specific activities for leisure (e.g. shopping, visiting friends, attending an event, etc.). In this thesis, direct quotations were reproduced in which interviewees reported their respective constraints (be it issues of time budgeting; criminality within the township environment or issues of distance) for a particular activity they wanted to pursue. In chapters four and five of the empirical analysis, respondents recounted a place and time where they would have liked to engage in a particular activity - but instead felt that they were excluded from participating. The reasons for this exclusion are articulated.

Transport-dependent Activities

The analysis has shown that some transport-dependent activities (relating to participants' needs to be mobile in order to complete important tasks) were indeed too far to complete on foot, even though they were within the township (e.g. attending church or attending a neighbourhood committee meeting). As a coping strategy, some individuals chose to stay overnight with friends or family to reduce their dependence on paratransit to get to certain activities, or to guarantee arrival at their destination (school was an important activity in this regard). Responses from study participants indicated that some individuals might miss out on certain activities if they used paratransit (e.g., meeting friends after school and work and attending extracurricular events). While some activities relied heavily on being mobile, and in their case – relying on public transportation, the analysis found that time budgets sometimes conflicted with available public transportation at the time of a particular activity. As participants needed to be mobile to complete important tasks, they also wished they spent less time travelling from their communities to the desired destinations or activities.

Potential Desired

Respondents indicated that they would like to participate in evening discretionary activities (e.g. going to the gym, attending cookery classes or a cookery school, going to a concert, attending "First Thursday", etc.). These potential or desired activities – which described where participants would like to go at a particular time of day and what spatial challenges prevented them from doing so - were given a caveat. It was considered safer to participate while it was still light outside. This was mainly due to crime in the township and the destinations. The time budget was often in conflict. For example, participant three finished school at 2pm to be at work by 4pm and then came home between 10pm and 12am, leaving very little time for social or leisure activities. It was also reported that there was

often no public transportation the evening hours. When alternative transportation (e.g. ride-sharing services such as Uber or Taxify), respondents reported that they were discriminated against by the drivers of the e-hailing services as they refused to drive to the townships after a certain time.

How have township-dwellers become "othered"

It has long been known that the spatial conditions in South African cities put the poor at a disadvantage in terms of mobility, as the neighbourhoods are laid out in townships (Cameron et al., 1984). In Cape Town, the spatial structure still affects the way people move from the Cape Flats to the CBD. The rail system is a classic example of how transportation infrastructure was not created to provide greater mobility for commuters from the townships. Although it is a cheaper mode of public transportation, dependence on the railway has worsened as the system has failed over time. The train is not even an option for respondents when travelling in the evening as the risk of crime is simply too high. The rise of the minibus taxi industry is precisely the answer to the lack and limited availability of convenient mobility for Black South Africans during apartheid (Schalekamp, 2015; Rink, 2020). The minibus taxi still dominates public transportation in *amaphela's* area of operation. However, as minibus taxis are mostly entrepreneurial and do not receive any government subsidies or funding (the Taxi Recapitalisation Programme and the Blue Dot Taxi Initiative have since been discontinued), they do not meet the need for evening paratransit as they are capitalist-oriented. This means that they only operate when ridership is high enough and they consequently make a financial profit. They therefore achieve their optimum performance during peak times. Like all other modes of transport, they focus on bringing poor, cheap labour from the townships into the city by bus – as was the aim of public transportation during apartheid.

This may be interpreted as there being no care for township-dwellers needs for extra-curricular activity engagement with the provision of safe mobility, even within the township area. Respondents could feel ostracised as a result as they compare the treatment other more affluent communities receive in Cape Town.

Among the desires and concerns expressed by respondents regarding life improvements (given the space and time challenges they face) were factors related to – job security (having a job and earning money, to make the necessary life changes), safety when travelling at night, the fact that other neighbourhoods closer to the CBD are safer and closer to the action, the introduction of MyCiTi bus routes in affluent areas and concerns about the Uber service showing prejudice against township residents.

Kinopolitics, as developed by Nail (2015; 2016), refers to a theoretical framework that analyses and understands politics through the lens of movement, mobility, and the dynamic processes of becoming. The term "kino" is derived from the Greek word for movement, and Nail's kinopolitics emphasises the centrality of motion in political and social phenomena.

Nail (2015) argues that traditional political theories have often been fixated on static structures and fixed entities, neglecting the importance of movement and flow in understanding social and political reality. Kinopolitics, in contrast, focuses on the continuous movements and migrations of people, ideas, and resources as key drivers of political dynamics. Nail's work explores how various forms of mobility, including migration, transportation, and communication, shape and influence political power, social relations, and cultural dynamics. By examining the role of movement in politics, kinopolitics seeks to provide a more dynamic and fluid understanding of contemporary geopolitical issues, globalisation, and the interconnectedness of societies.

The findings of this study make an important contribution to the ongoing debates on mobility equity by highlighting the intricate relationship between socio-economic factors, spatial inequalities and psychological barriers in shaping individuals' mobility experiences. These findings align with emerging discussions within the framework of kinopolitics, emphasising the socio-political dimensions of mobility and the need for transformative changes in transportation systems to achieve greater equity and justice, such as:

Reframing discretionary activity limitations

The study challenges the notion that limitations on discretionary activity participation within vulnerable groups are solely a matter of personal choice. By highlighting the role of income, spatial disadvantage, and a sense of exclusion, the findings prompt a re-evaluation of mobility challenges within the context of systemic inequalities. This is in line with kinopolitical perspectives that call for a deeper understanding of power dynamics and social structures in shaping mobility experiences.

Spatial and temporal disadvantages

The identified spatial and temporal disadvantages faced by individuals in townships underscore the spatial injustice prevalent in transportation systems. This resonates with debates in mobility justice that emphasise the need to address spatial inequities in access to essential services and opportunities. Kinopolitical shifts in transportation systems, informed by these findings, may involve reimagining urban planning to create more accessible and inclusive environments for all.

Barriers to full societal participation

The study's confirmation of barriers to full societal participation for those residing far from essential opportunities aligns with mobility justice discussions calling for a re-evaluation of transportation

policies. Kinopolitical shifts in this context could involve community-cantered planning that considers the diverse needs of residents, ensuring that transportation systems are designed to facilitate, rather than hinder, societal engagement.

Affordability and access challenges

The evidence of the link between affordability, spatial distance and limited access to discretionary activities is consistent with debates on mobility equity that emphasise the socio-economic dimension of transportation. Kinopolitical shifts may involve policy changes aimed at making transportation more affordable and eliminating inequalities in access to promote a more equitable and inclusive mobility system.

Psychological barriers to mobility

Examining psychological barriers, such as a sense of not belonging or a lack of knowledge about certain geographies, adds a nuanced dimension to debates about mobility justice. Kinopolitical shifts may require initiatives that prioritise cultural inclusion and community engagement in transportation planning, ensuring that people feel a sense of belonging and well-being in all areas of the province.

To summarise, these findings contribute to the evolving discussions on mobility justice by highlighting the interconnectedness of spatial, economic and psychological factors that influence mobility. Integrating kinopolitical changes in transportation systems is critical to addressing these challenges and working towards a more equitable mobility landscape. This includes recognising mobility as a deeply political and social phenomenon that requires transformative changes in policy, infrastructure and societal attitudes towards transportation.

It is against this backdrop and from the voices from the most vulnerable communities where the ultimate questions should be reckoned with, such as *has transportation policy been successful in allowing previously disadvantaged groups in our cities to overcome the injustices of the past? And are the relics of apartheid immovable, and do the realities on the ground ask for adaptive, retrofit measures rather, which respond directly to their needs?*

7.2. Paratransit for Evening-Based Mobility – *choices and constraints*

The main findings that contribute to the experience of evening paratransit outcomes are linked to research question two and objective two and five. The main findings are related to data which confirms township-dwellers are spatially and temporally disadvantaged when it comes to accessing leisure and life-enhancing opportunities (such as attending night school, gym or recreational opportunities) when relying on public transportation. These findings are consistent with claims made in other studies, which describe the relevance of spatial and temporal disadvantages for people to

access life-enhancing opportunities. For instance, Luz and Portugal (2022) claim that people may experience accessibility disadvantage when they have challenges to gain access to ordinary opportunities in a society when they need it. These difficulties of access could be a result of transportation, a problem of land-use patterns (such as living in a remote location with minimal activity opportunities). Nelson (2021), meanwhile, emphasises that an individual's ability to be mobile is important to overcome socio-spatial barriers in a social system so that they can be part of society. Mobility permits people to engage in society and interact beyond any challenges of spatial proportions.

The emergent rationales that have contributed to this finding stem from township-dwellers':

- rationales for transport-related issues when accessing social or discretionary activities.
- knowledge-sharing regarding PT for discretionary activity participation after peak time and mobilities from the urban-periphery.
- perceptions about the main crime-related PT accessibility challenges.
- perceptions about the main time constraints-related PT accessibility challenges.
- perceptions about the main distance-related PT accessibility challenges.
- perceptions about the main economic-related PT accessibility challenges.

From the analysis, five codes were mostly associated with this subject, namely: *"transport scarcity"*; *"once-off activities"*; *"repeat activities"*; *"recreational or cultural"*; and *"leisure or social"*:

Transport scarcity

The study participants reflected on ways to reduce or overcome their problems with the scarcity of paratransit at certain times of the day. Often the idea that everyone should drive their own car was mentioned as the main solution to combat all paratransit problems in the community. For this reason, some people choose not to travel at all – if a destination is too far away. If they do not have access to a car, they would not make the trip in the first place. Another mechanism for coping with the paratransit shortage was to use the bus exclusively – as the bus did not have to wait for a full load before setting off. The minibus taxis, on the other hand, only run when their vehicles are fully loaded. Despite this, respondents felt that travelling there and back was sometimes more of a challenge than getting to a leisure destination in the first place.

Once-off activities

Once-off activities are events or activities that can only be occasionally carried out. Once-off activities show the true value that respondents attach to evening activity. Since respondents travelled a lot by paratransit during the week, they liked to spend weekends doing special event activities (e.g. going to a dinner, going shopping for hours at a mall once a month, etc.). It seems like some events were missed, not have access to a car. This is the case because paratransit simply does not go to certain destinations or none of the usual paratransit options are available for specific once-off events or activities.

Repeat activities

For the more predictable (usual) and repetitive journeys to maintain livelihoods, respondents reported the need to be flexible and able to make adjustments, such as occasionally hiring private vehicles for monthly grocery shopping. People were also reported to be willing to take great risks just to get to work, such as riding recklessly in minibus taxis and travelling on completely overcrowded Metrorail trains, with passengers sometimes sticking out of the carriages. To get to school, work or other mandatory activities, respondents reported that they had to plan their paratransit trips rigorously (e.g., planning their routes well in advance, factoring traffic delays into their time budget) and that they had to get up early to arrive at their final destination on time. Their desire for reliability when using paratransit from the townships was nipped in the bud by the feeling that they did not have enough alternative options. In addition, participants expressed a desire for more ease in their daily movements through space and time. Respondents felt that employers did not understand the experiences of employees who relied on public transportation. For example, respondents reported that they felt misunderstood because they sometimes arrived late at their destination.

Recreational cultural

The leisure and culture code explores the different ways in which respondents engaged in social or cultural activities and the impact that mobility had on their lives. This discussion revealed responses relating to the negative impact of not being able to participate in evening events or activities. Respondents reported that they were unable to attend certain events because they were delayed by two to three hours because they were reliant on the bus. Some recreational activities were reportedly too far away, and some respondents reported that they did not even bother to arrange to attend because they felt trapped once they reached their township homes. This feeling was partly due to the high crime rate after hours, according to interviewees. Those who set off during off-peak public transportation times shared journeys with others to reduce the cost of fuel or e-hailing. For those who stayed in the community to recreate or attend cultural events - although there were not many options - local organisations could sometimes organise trips to Table Mountain for the youth or set up a cinema for the youth to attend.

Leisure social

For participation in leisure and social activities – the aim here was to establish which activities outside the home and at home respondents used or engaged in for their leisure and social activities. Most respondents preferred to leave the township to shop at a shopping centre in another area (because there were “better deals”) and to visit wine farms and wellness facilities that were simply not available in the townships. For these activities, one often had to make multiple connections and spend more

money travelling because the destinations are further away. Under this code, respondents explored some of their travel preferences and how their social status contributed to their exclusion from certain places.

The experience of using PT from the townships

The reports about the time-consuming journey from the townships by public transportation (which were also confirmed in the interviews) were overwhelming. People living in the townships travelled up to two hours each way to reach their workplace or school. People living in these townships relied on public transportation most of the time, especially minibuses. The reasons for this were probably that fast, motorised transportation people's mobility and made it faster (Bryceson, 2008).

Individuals who lived in these neighbourhoods from Cape Town relied on multiple exchanges during one trip. Despite having access to *amaphela* within the township locale – individuals still preferred to travel up to 40km's out of their township to conduct leisure activities. "*NoJikeleza*" (the feeder minibus taxi service, collected prospective commuters from routes along main road areas, free of charge specifically to catch a taxi – only available in the mornings) made the taxi ranks more accessible during early hours of the morning. *Amaphela* (confined to the township neighbourhood – sometimes between township areas, could often be hired) made travelling within the township easier. In terms of the level of service improvements, participants wanted better customer service – such as politeness and decency. Interestingly, two respondents (P2 and P5) reported wanting good service from the minibus taxis, were also used to taking the Uber service (which offered a service quality rating option). Overall, mini-bus taxis seemed to control how people travelled. One of the main observations was that minibus taxis were synonymous with public transportation for most respondents. Cervero & Golub (2007) call minibuses, 'consummate gap fillers'.

Further observations included the notion that to cope with the challenges of travelling from the township, respondents revealed some coping strategies:

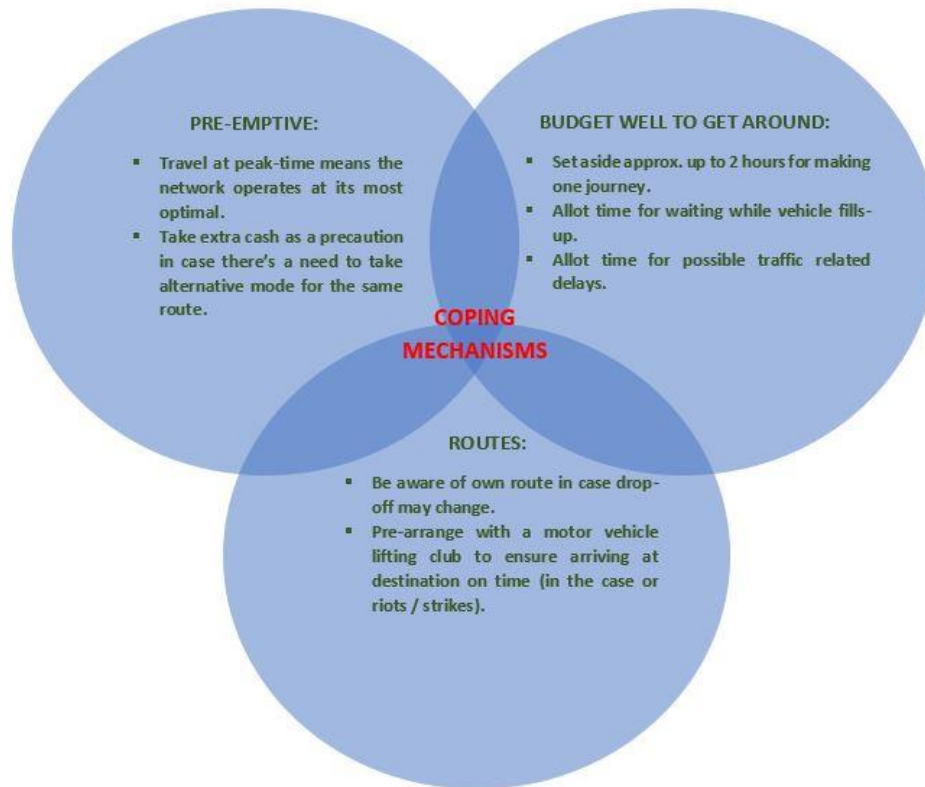


Figure 195: Mobility from the urban periphery - A traveller's survival guide (SOURCE OWN)

The question of amaphela filling a mobility void within the townships

This is the only aspect in the spectrum of township mobility that can be changed. Respondents mentioned (almost in every interview) the usefulness of the *amaphela* in their lives. However, the problem was that in some cases the *amaphela* were still seen as illegal operators in some instances, though. Interviewees who stayed in the townships to spend their free time preferred to call an Uber after they had gone out partying – but why was there no *amaphela*? It seemed like a missed opportunity that this mobility network between townships was not functioning optimally. Rink (2020) argues that the *amaphela* are perceived in a very negative light. This is mainly because they are associated with crime, people see them as dirty and generally dubious. Whilst this may explain the problems them, people do not have many other options for paratransits that can transport them so conveniently. There is a need for these vehicles. Orcutt (1997) argues that in cities where public transportation, transportation poor and lower working class in the townships – the *amaphela* may take over this role out of sheer necessity. The recent disruption to township life caused by the "stand-off" between the *amaphela* drivers and city officials shows how important this service is to township life (NEWS 24, 2022). But it also shows how difficult the authorities continue to find it to co-operate with the *amaphela*.

7.3. Discretionary Activity – *nature, location choice and frequency*

The study findings reveal that trip-making for discretionary activity participation among a vulnerable group could be limited not by choice but by constraints of income (discussed in section 7.4), spatial disadvantage, a sense of not belonging in historically Whites-only spaces within the city (both discussed in section 7.1), as well as the aggravation of insufficient frequency of preferred PT modes during the evening time. These findings are consistent with Hidayati et al., (2021), who claim that mobility inequality is characterised by the interaction of intrinsic *and* extrinsic factors such as intrinsic aspects of - lack of access to education and employment, impairment, a person's age, and migrant status. For extrinsic aspects the availability of public transport matters, city size, and concentration of urban functions enabling low-income groups to overcome barriers to mobility. The authors claim that issues associated with mobility inequality for the subjugated populations can be experienced with varying degrees of intensity depending on the individuals' context.

From the analysis, three codes were mostly associated with this overall finding, namely "*social connection*"; "*familial or community*" and "*aspirational*":

Social connection

It was a challenge to get to social events if you had to rely solely on public transportation, as some reported that minibus taxis could only take you so far, while in some cases you had to take a private car to get to your next destination. At night, paratransit services were scarce and limited, – so waiting times to fill up vehicles tended to be longer. There was a feeling that public transportation such as buses, trains or minibus taxis were not sufficient to transportation needs at night. Therefore, – ride-sharing or e-hailing services were supposedly more reliable at night.

Respondents enjoyed visiting with friends and family within the neighbourhood sometimes staying over then taking iphela back home.

Familial Community

Familial or community-based trip-making occasions were the trips that involved visiting and being in proximity to loved ones and close contacts were discussed in relation to travelling. Respondents reported relying on mini-bus taxis for moving between their homes and visiting with family (even within the community). Though not easy, some respondents reported needing to make multiple transit mode connections to reach their destination with family or friends. Aspirations surrounding the discussion involved a desire for respondents to travel directly to the destination by car and a desire

not to have to worry about when paratransit ended at the destination (a desire to stay for as long as one wanted at a destination).

Aspirational

Regarding participation in discretionary activities, the final point of this discussion is the aspirations expressed by respondents. Aspirational expressions were underpinned by participants' expressions of obtaining better resources, receiving an improved range of transportation services or gaining mobility without difficulty or effort – this, they believed, would be the catalyst for a better or better outcome than what they were experiencing. The theme of aspirations referred to participants' conception of a situation that could not have been their reality. For example, respondents desired the opportunity to escape to a better place, to enjoyed activities outside of work or school in a safe and comfortable place (away from the shooting, as P3 put it). Respondents indicated that they wished they had a broader knowledge of social events and recreational activities. Participant 1 was aware of the popular "First Thursday's" event but had only gone when she still worked next to one of the CBD business districts where the event was held. Interviewees also expressed a desire for time off to take care of household tasks such as cooking, childcare (in the interview with P15, she admitted that her 3-year-old daughter was often looked after by her 6-year-old sibling for a few hours while they waited for her to come home from work in the CBD) and help with homework for school-aged children.

Nature

The essence or character of discretionary activities as reported by the study respondents related to socialising and connecting (visiting with friends and family, attending pubs or clubs with friends), as well as keeping busy and improving an area of their life (gym, chef classes and attending night school). These are the characteristics of evening-based discretionary activities.

People's participation in discretionary activities from the township areas after peak-time shows that there are interdependencies (crime, affordability, distance, convenience (in the sense of proximity to transport), prior knowledge about an activity (for route planning purposes), which determine a person's ability to participate. Therefore, the right set of circumstances allows more participation.

Participation in evening-based activities for recreation and leisure was based on opportunity (usually once in a while); based on having a safe journey mapped out (like attending CPUT night classes or going to chef school); as well as accessibility to readily available of transportation.

Travelling for work and travelling for leisure showed different things; the length of journeys people take just to get to work. Travelling for leisure focused on convenience – the opposite of what people experience during the working week. However, the similarities between travelling for work and

travelling for leisure lay in the disjointed and fragmented transportation - many stops, long waits for the taxi to fill up, many drop-offs and stoppages, door to door is almost impossible and not as easy as it could be. discretionary activities that travelling after 4pm during the week was more expensive when travelling on the Golden Arrow bus, for example.

Location Choice

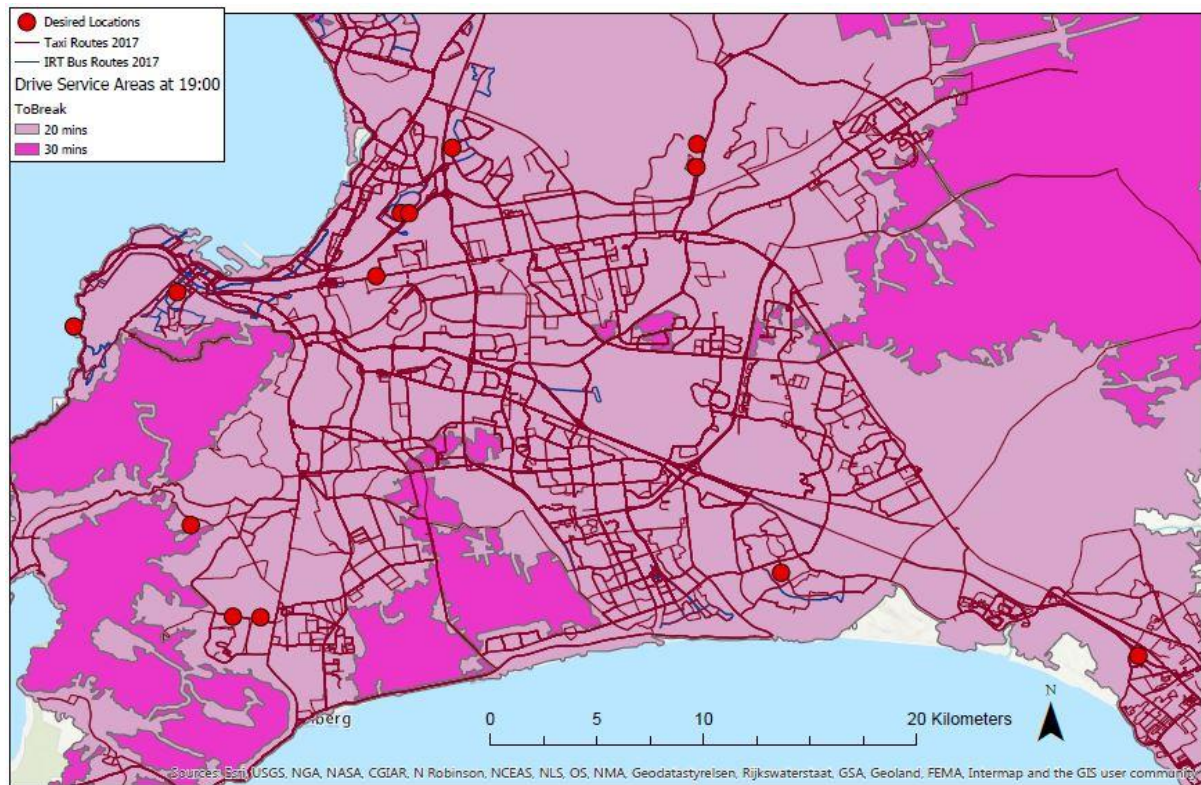


Figure 206: Mapped Discretionary Activity Locations for participants 1 to 15 (SOURCE OWN)

Above is a map showing where taxis and the MyCiTi bus could hypothetically arrive at 7.00 pm. It shows the areas (indicated in the interviews) that participants could reach in twenty and thirty minutes (about thirty minutes was the maximum amount of time participants were willing to travel to reach an activity). Light pink areas on the map mean twenty minutes, dark pink means thirty minutes. This map was created to identify the locations described by survey participants for upcoming or desired activities. A clear pattern emerged: the most attractive opportunities for participants were located outside their communities. This map shows a similar pattern to [other] maps in this thesis (Figure 1 and Figure 2), which show that areas outside of the Cape Flats were still seen as opportunities. Of course, minibus taxi schedules were not shown in this map as they were considered off-peak, and rail was not among subjects for off-peak journeys – due to crime. Despite access to *amaphela* within the township, people still preferred to travel up to 40 km out of their township for leisure or discretionary activities. This is consistent with the discussion that took place during the interviews about the preference to leave the townships for leisure activities.

Frequency

Respondents reported a clear pattern with accessing transport for discretionary activities. Firstly, the weekends were the best time to engage in discretionary activities. This was a result of feeling less travel-related fatigue (the feeling that one had more time, and therefore less need to rush). Additionally, the experience of transportation was unlike during the week where queues are longer and where one needs to get up earlier. The weekends also were likely the only time a person had to catch-up on grocery shopping, leisure shopping and socialising. While all the respondents reported enjoying engaging in an activity for leisure or "down-time", the frequency pattern resembled a weekend-focused engagement trend, with less non-work-related travel occurring during the week.

This thesis has managed to shed light on the idea that the study participants from the townships have no interest in evening discretionary activities. However, people do not know much about the events that take place in the city, which can lead to township residents remaining outsiders in their own city – cut off from the events that take place in the affluent, mostly White neighbourhoods. It is undeniable that spatial planning in the city of Cape Town is geared towards bringing Black people into the city just to work and pushing them out again after hours. The infrastructure in the townships is not always conducive to ease mobility. According to interviewees, it was difficult to attend last-minute events without a car – especially after public transport rush hours. This is something that needs to be planned well in advance – and it is likely that people will need to stay within the confines of their workplace (for convenience, similar to Participant 1 who experienced "First Thursday" due to the proximity of her workplace in the city).

Finally, there are some other issues that affect how often township residents participate in discretionary activities (especially at night), which are related to the overall negative and pessimistic view that public transport - regardless of the mode of transport chosen – transportation remains a fundamental problem. Another problem is crime. The fifth respondent believed that the most important experience as a public transportation user in a community was that, although there was a wide range of transport and public transport options, there was a fear of crime while travelling on public transportation. In addition, people travelling to the townships at night were disadvantaged in accessing ride-sharing services (due to the risk of crime for drivers, especially at night).

7.4. Social Exclusion – *presentation in the context*

Establishing a presence of social exclusion

This thesis has provided evidence of limited access to transport for township residents. The reasons that emerge from the analysis show that people cannot participate in society as they would like to. It

becomes clear that there is a latent need and that the township residents suffer from mobility and accessibility problems because they live on the outskirts of the city. Chikengezha and Thebe (2022) claim, similar to the findings of this thesis, that geographical location and the cost of transportation mobility and contribute to transport-related social exclusion. In their study, the authors conducted an empirical investigation that shows where the case of transport-related social exclusion can be found in Zimbabwe. Through the use of ethnographic data collection methods (such as in-depth interviews and participant observation) over a six-month period, their study provided evidence of the role that geographic location plays in the marginalisation of people living on the outskirts of the city. The authors present a case study in a peripheral region where issues of transport affordability emerged as a major cause of major mobility problems for the low-income population of Southlea Park, Zimbabwe.

The main findings that contribute to these outcomes are linked to research question one and objective one. The main findings are that empirically, this study has confirmed that people who live far away from opportunities such as work, school and healthcare find it hard to enjoy full participation in their society.

The emergent reasons that have contributed to this finding stem from township-dwellers':

1. political associations concerning public transportation services in townships
2. daily experience with fragmented public transportation in the city
3. aspirations for improved transportation circumstances for a better life

The subsequent finding that supports the notion that township-dwellers are not able to fully participate in society is linked to research objective five. The findings tied to research objective five have contributed to developing a conceptual framework for township-dwellers' access to leisure and other life enhancing activities during off-peak time in Cape Town.

The emergent reasons that have contributed to this finding stem from township-dwellers':

1. perceptions about the main crime-related PT mobility challenges.
2. perceptions about the main time constraints-related PT mobility challenges.
3. perceptions about the main distance-related PT mobility challenges.
4. perceptions about the main economic-related PT accessibility challenges.

Can the literature which this study has leaned on, as well as the thematic data analysis outcomes, and the study's analytical framework be configured into one structure; and may that one structure contribute to understanding mobility, accessibility and social exclusion issues in Cape Town?

The answer is: possibly Figure 35 below shows a result produced by a causal sequence in the current model for off-peak transportation for people from township areas. Ideally, transportation should provide citizens with choices and freedoms that allow them a higher quality of life. Bakker et al., (2014) describe the important role that access to transport plays for travellers, saying that its multidimensional role in human well-being means that people can experience social justice, social inclusion and an improved quality of life by bringing opportunities for social and economic engagement nearby.

The diagram illustrates the impact of the current out-of-peak-time transportation model on township-dwelling residents, focusing on their exclusion from transport-dependent socio-cultural activities. Below, this thesis uses findings taken from participant 4's narrative map (from chapter five) to demonstrate the analytical efficacy of the '*Causal Sequence Diagram*'. Participant 4's daily travel routine sheds light on the contrasting experiences of individuals from townships, like Gugulethu, when navigating the challenges of transport-dependent socio-cultural activities. Here's an exploration of her experiences in reference to Figure 35:

The causal sequence begins with the specific environmental conditions of townships and the lack of available public transportation services after peak hours.

- **Environmental Conditions and Limited Transportation:**
 - Participant 4's journey began with the environmental conditions of Gugulethu, where the lack of available public transportation services after peak hours initiated a causal sequence.

This leads to a situation where, in urban contexts, social exclusion is exacerbated due to insufficient transportation services, as indicated by Dodson et al., (2006).

- **Urban Social Exclusion:**
 - Participant 4's experiences underscored the urban social exclusion, as insufficient transportation services exacerbate social disparities, aligning with Dodson et al.'s findings in 2006.

The outcome of this causal sequence is depicted as a restricted ability for residents, particularly those from township areas, to engage in non-discretionary/ socio-cultural activities which require transportation.

- **Restricted Ability for Township Residents:**
 - The outcome of this sequence manifests in a restricted ability for township residents, such as Participant 4, to engage in non-discretionary/socio-cultural activities requiring transportation.
- **Transportation's Role in Quality of Life:**

- Transportation ideally should provide citizens with choices and freedoms enhancing their quality of life, in line with Bakker et al.,'s (2014) perspective.

Participant 4 enjoyed transportation choices, including *iphela* feeder taxi, mini-bus taxis, MyCiTi bus, walking, and occasional Uber use, offering flexibility for her daily commute and leisure activities within Cape Town. Despite these options, challenges, particularly with out-of-peak time public transportation, highlight broader issues of social exclusion faced by township residents in accessing certain socio-cultural activities.

Participant 4 faced transport problems related to the lack of available public transportation services after peak hours.

In terms of social exclusion due to inaccessibility, locally based transport issues, compounded by spatial biases.

- **Social Exclusion Due to Inaccessibility:**
 - Inaccessibility due to locally based transport issues, compounded by spatial biases, was highlighted in Participant 4's experiences provided in narrative mapping:

An example of social exclusion due to inaccessibility for Participant 4 was highlighted in her occasional visits to a friend in Paarden Eiland, Cape Town. To reach her friend's location, she walked from the mini-bus terminus on the "deck" to the nearest MyCiTi bus stop for three minutes, then waited for an available bus for ten minutes. Afterward, she made an exchange at the Woodstock terminus to get to the Brooklyn area. This entire bus ride took approximately thirty minutes. While this might have been a routine trip for her, it emphasises how the process of accessing certain areas within the city, even to visit friends, can involve multiple modes of transportation and time-consuming transfers, potentially limiting the frequency and ease of such social interactions.

The diagram highlights the challenges faced by township-dwelling individuals in a city, such as Cape Town, where the design of the city limits their participation in social activities that are accessible to more privileged citizens (see the "inner city" segment).

- **City Design and Participation Challenges:**
 - Participant 4's travels depicted the challenges faced by township individuals in a city like Cape Town, where the city's design limited participation in accessible social activities, unlike when she had an opportunity to begin her journey from already within the city – she found her accessibility to opportunities to be far better, represented by the "inner city" segment.

For instance, activities like observing a full moon from Lions Head may be exclusive to those with financial means, private transport, or proximity to work in the CBD.

- **Exclusive Nature of Activities:**

- Participant 4's occasional visits to friends in Paarden Eiland demonstrated how certain activities, like traveling to specific areas, may be exclusive to those with resources, affecting individuals from townships like Gugulethu.

This is the consolidation of work and home being geographically more accessible (respondents confirm that being in the city already made participation convenient).

- **Impact of Work and Home Consolidation:**
 - The consolidation of work and home being more geographically accessible for some (respondents confirming that being in the city already made participation convenient) highlights a geographic disparity in participation opportunities.

Participant 4 laments that she had travel times of up to one and half to two hours per trip sometimes as a result of the distance.

In summary, Participant 4's experiences served as a microcosm illustrating the analytical efficacy of the *Causal Sequence Diagram* and showed the social exclusion faced by township residents when it came to participating in socio-cultural activities due to transportation limitations.

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When will the 'lokshin' MyCiTi bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

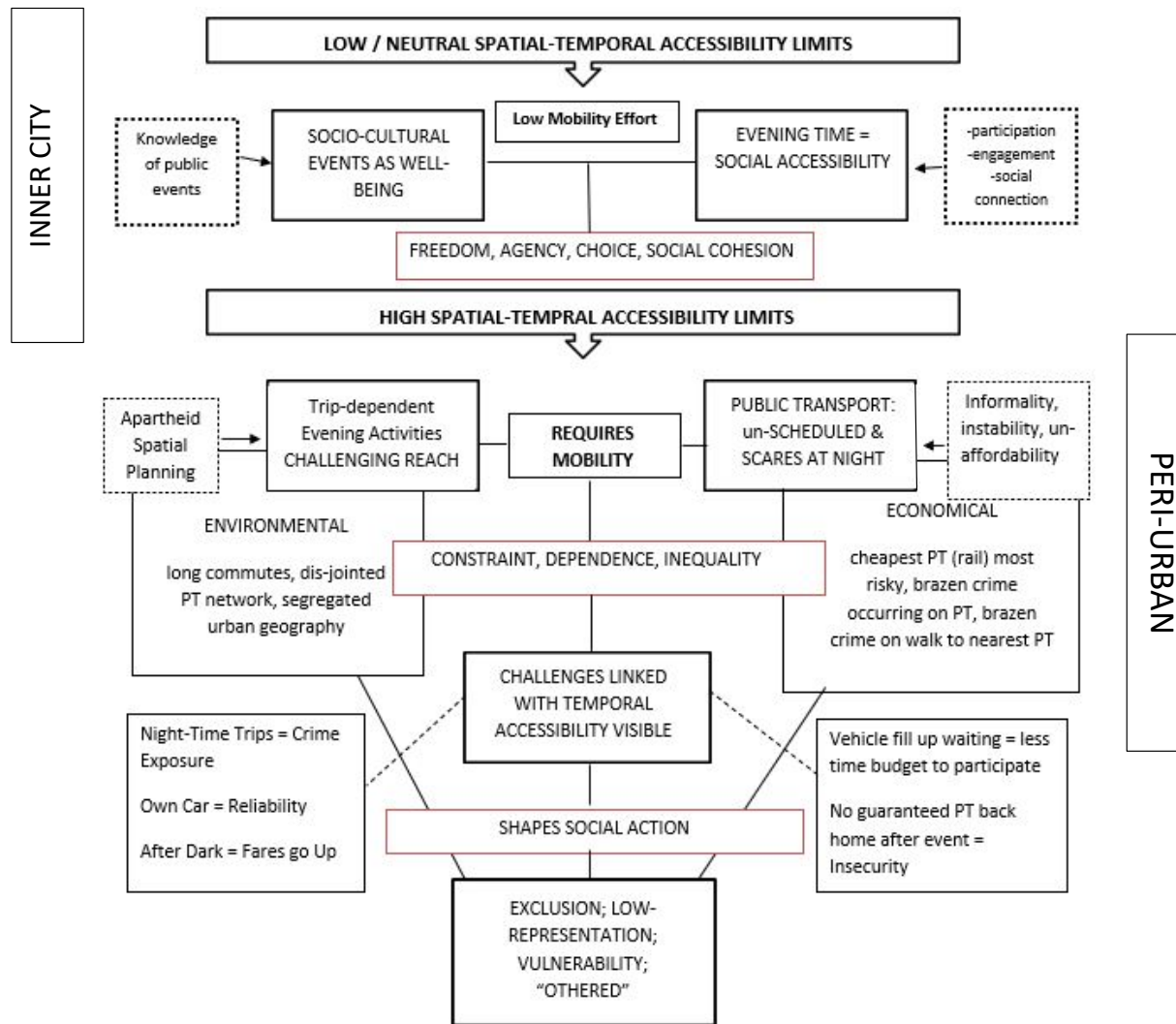


Figure 217: Causal Sequence Diagram (SOURCE OWN)

Using the ANALYTICAL FRAMEWORK to create the CONCEPTUAL FRAMEWORK

Unpacking the Causal Sequence Diagram

This thesis determines that what is happening in the *amaphela*-operated area is a case of transport injustice and not compliant to redress aims where mobility is concerned. This is based on the outcomes from the interviews and travel-log information drawn from discussions about mobility for participating in discretionary activities after peak times.

Who is in spatial-temporal accessibility disadvantage? (est. TJ)

This thesis has established that peripheralized individuals will experience needing high mobility efforts due to high spatial-temporal accessibility limitations. Trip-dependent evening-based activities are challenging to reach as a result.

Assess the severity of accessibility & mobility (A&M) disadvantage experienced using indices below (est. TJ & STG):

The characteristics of severe accessibility and mobility inequities experienced by peripheralized individuals in this context include a separated urban geography, long commute, dis-jointed paratransit network, fears of crime when travelling during the night-time, fare-hikes after dark, all illustrate the phenomenon in the *amaphela*-operated areas.

- I. What, in minutes, is a tolerable amount of time an A&M disadvantaged individual is willing to spend on the road to get to a discretionary activity location? (est. velocity, STG)

20 to 30 minutes

- II. May intent individuals participate in discretionary activities between the period "after work" and "before bedtime" or from when public transportation is available to when it is not? (est. time budget, STG)

They may – but not without mobility struggles

- III. What is a tolerable unit of distance in kilometre's an A&M disadvantaged individual is willing to undertake to get to a discretionary activity location? (est. distance, STG)

20 kilometres (Figure 32)

Identify public transportation shortfalls experienced by distinguished population groups in terms of safety, affordability, and transport modes in contravention of a social service (est. RDP)

Public transportation is unscheduled and scarce at night-time, presents safety issues, informality or instability and private options are unaffordable.

Identify the (psycho-social & socio-economic etc.) consequences of observed deficit. (est. TJ & RDP)

Challenges with spatial and temporal accessibility for township-dwellers to participate in off-peak time discretionary activities are visible and they shape social action (social accessibility of individuals, see

Carrasco et al., 2008). In this case, it results in exclusion, low representation at leisure social activities in the city and a vulnerability and “othered-ness” of township-dwellers. Constraints, and not choice drive invisibility of township-dwelling people attending freely accessible events based in the city.

Assess the environmental, social and policy aspects compounding the observed accessibility & mobility deficits. (est. TJ & RDP)

Apartheid spatial planning has had the biggest impact on peripheralized people's mobility. The displacement of people located so far away from opportunities has an impact on participation and social cohesion – peripheralized people do not feel they belong in the city which caters to inner city life. Even when participants were asked to imagine not facing current constraints to participate – they still felt that their frequency of participating wouldn't increase, as they did not feel that they belonged to some spaces in the city. In addition, the public transportation built-environment affected mobility and accessibility, such as public transportation interchanges suffering with bad security, poor lighting, and no cover for bad weather.

Implement strategy clearly identifying each responsible or designated authority. (est. TJ & RDP)

Proximity to high-value social and cultural (discretionary) opportunities for all needs to be a priority on the basis of supporting city-dwellers well-being, building social cohesion and encouraging an active and participatory citizenry. Lowering mobility efforts such as free *amaphela* or other feeder transit modes during the off-peak periods for people in the vicinity of events. Bringing high-quality events to users in a safe and affordable manner. Job creation for youth to benefit in art and cultural events in their townships.

How the thesis established its finding with regards to this phenomenon

From the analysis, five codes were mostly associated with these themes; “livelihood or educational”, “distance”, “crime”, “affordability” and “fragmented network”:

Livelihood educational

Respondents also felt that they were simply too far removed from the opportunities that contribute to livelihood or education in their lives. This code focuses on the description of activities undertaken (outside of peak hours) for the express purpose of obtaining the necessities of daily living, as well as those activities that were thought to contribute significantly to upward mobility (socially, mentally or financially) in the future or over the course of the respondents' life. For example, some respondents expressed a need to live close to educational opportunities (P11 expressed a desire for her daughter to live at university in the future to avoid transportation disadvantages, while P4 expressed a need to live in the city, close to her university, to avoid paratransit-related strikes). When it came to making a living (e.g. being called out for extra shifts at night or having to attend a primary school child's school meeting at night-time), interviewees perceived a risk of not being able to live far enough away from

these opportunities themselves or disappointing their children. Living so far away from opportunities also meant not being able to go to the seaside or into nature.

Distance

Another major obstacle for people relying on public transportation from the townships was distance. Responses indicated that the distance and the long journey time (as a result of sitting in traffic for long periods of time, because in some cases one had to travel twenty kilometres by bus) cause fatigue. Passengers arrived tired from work and find it pointless to do anything else. The distance also contributed to the fact that some people had to make many changes, occasionally resulting in journey times of two to three hours. As a result of the correlation between engaging in discretionary activities and the distance that has to be travelled to get to certain events or activities, respondents expressed a desire for a higher quality offer in their own neighbourhood – mainly because they felt they “lived too far away from everything”.

Crime

One of the biggest constraints for activity participation is the experiences of crime within the neighbourhoods discussed in this study. Walking from home to the nearest taxi rank has become a gamble with one's property (belongings may be robbed from commuters) or even one's precious life. The time of day (and especially lighter skies) is the biggest ally for safe passage as the early morning darkness could invite unwanted attention from local thugs who prey on lonely commuters. To travel at night-time - one needs a significant motivation as even in a private vehicle, safety is not guaranteed. As a result of high crime, some respondents chose to remain home where they were safe until the next day – and the cycle would be repeated. At the end of it – people felt that evening-based activities could only be carried out safely in more affluent neighbourhoods. Justice is more meaningful in comparative but without a comparison to another how do you determine what you have is just?

Affordability

Affordability was frequently mentioned as part of the constraints in the interviews. Affordability was addressed in terms of people's need to make paratransit transportation decisions based on cost per week or monthly. Respondents indicated that trains were the most affordable form of transportation, but that trains were not available at night to get to events. Non-participation in discretionary activities was linked to the unaffordability of transportation after peak hours and the unaffordability of attending events (as there are additional costs involved, such as food and drink, entrance fees to football stadiums, etc.). Job security was also raised – some study participants expressed a desire for a job (Participant 10), while others expressed a desire for a stable income and job security.

Fragmented network

The results of the analysis shed light on the disruptive and, frankly, time-consuming consequences of a fragmented or disjointed transportation network. A fragmented network means that participants were dependent on a disjointed public transportation network. They described their daily paratransit journeys by mode of transport. The fact that minibus taxis operated "off-peak" led to many different answers to the question of what was really available in the community after rush hour. However, interviewees agreed that there was hardly any paratransit from the township to the city. It seemed that one had to have an insider's perspective to know which mode of transportation to use and when. The time-consuming waiting in long queues, the need to change multiple times (because a bus did not take one "straight to the door") to reach a destination, and sometimes the need to take a feeder taxi to reach the next taxi going in the desired direction (like the "nojikeleza").

Lessons from the amaphela-operated area

The thesis' conceptual framework reveals the effects of township-based mobility issues by looking at the role poor accessibility can play in exacerbating social exclusion for discretionary activity participation. This thesis produced evidence that discretionary activities are much more difficult to access when people can't afford private transportation, when people live far away from decent opportunities for recreation and leisure and when public transportation appears to be more limited after peak-times. These findings are common in South Africa. Black South African people who are poor have their engaging in tourism activities, dependent on knowing about tourist spaces, are influenced by racialized tourism places and influenced by structural exclusion (Musavengane, 2019).

Empirically, this thesis has confirmed that people who live far from opportunities such as work, school and healthcare in the city centre find it difficult to participate fully in their society. When people live close to opportunities, it is easier (it is easier because respondents used coping mechanisms, discussed in Chapters 4 and 5, which showed improvements due to proximity to opportunities). For people who have to make little effort in terms of mobility (cheaper, within walking distance, safe access), participation in social life is easier and more accessible. For those in the urban periphery with distant opportunities, getting to some opportunities is a challenge, if not an inconvenience.

Having now interpreted the interviews and having measured trip-making patterns for township-dwellers, this thesis draws conclusions that there is a high level of inaccessibility experienced among research respondents. The research participants clearly reported a low level of accessibility to discretionary activities, they were captive to their local area to do things and were not able to access full opportunities that the city had to offer during the evening. Paratransit supply in the townships

heading to the city at night-time is ineffective - services stopped running before respondents were ready to head out of the township again after work. The analytical framework developed in this thesis delved into people's space-time constraints in a qualitative way, to reveal the impact that supply has on how people behave; and to explore how their behaviour could change if transport weren't an issue (latent demand was revealed).

Contribution to knowledge made from this section

This thesis has developed a conceptual framework for township-dwellers' mobility to access leisure and other life enhancing activities during the off-peak times in Cape Town. This conceptual framework reveals the effects of township-based mobility issues by looking at the role poor accessibility can play in exacerbating social exclusion for discretionary activity participation.

7.5. Conclusion

In this chapter we have outlined the key discussion points on the issue of township residents' mobility and access to discretionary activities after rush hour. Cape Town is an ideal place to conduct a study of this nature because the legacy of apartheid is still present in the geographical identity of the city's spatial layout. This was the past. In this section, a conceptualisation of off-peak public transportation mobility problems in the urban periphery of Cape Town has been presented. This provides the reader of this thesis the present. The findings discussed above demonstrate the impact of mobility problems in the townships by showing the role that poor accessibility can play in exacerbating social exclusion in terms of participation in discretionary activities.

This section has revealed a few things. It has emphasised the role of inequitable spatial geography in Cape Town, where most of the opportunities are within the city. The impact of apartheid spatial planning, that transport is so geographical, is far reaching and still has an impact on social cohesion in the city today. This section has also revealed a context where inequality and poverty prevail, a context where transport for evening mobility is expensive, journeys take longer at peak times and a majority of residents are disproportionately reliant on paratransit. This section found that "poor accessibility" limits township residents' participation in after-hours social events in Cape Town.

The following chapter will conclude this thesis and provide recommendations for future research and practise in South Africa and other countries of the Global South.

8. Chapter Eight: Mobility for Discretionary Activity Participation After Peak Hours - PERCEPTIONS, REALITIES, IDEALS

8.1. Introduction

Reflecting on the researcher's contribution

What the reader of this thesis has just learnt in the last seven chapters of this document is my original contribution to knowledge. In this study, I have conceptualised the mobility of township residents in terms of participation in off-peak leisure activities in Cape Town. As an initial representation of my original contribution to knowledge, I have created an in-depth understanding of the nature of mobility, accessibility and social exclusion issues of marginalised people in Cape Town by using the *amaphela*-operated by *amaphela* as a case study site. This case study area enabled me to investigate the extent and causes of the problem. Secondly, a qualitative space-time approach was applied in this study to understand the problem of reduced travelling due to time constraints on paratransit accessibility in the Cape Flats townships of Cape Town. Consequently, this thesis has added a temporal dimension to knowledge about accessibility, – thereby deepening knowledge about immobility and the challenges of social exclusion in the township context. Thirdly, I have re-contextualised theory by combining already established concepts and ideas with the findings of my data to develop a conceptual framework (from the ground up) that expands our understanding of how issues of mobility and accessibility can exacerbate social exclusion of township residents in Cape Town.

In addition, and fourthly, this thesis has made a key contribution to knowledge by adding two more Cape Flats neighbourhoods to knowledge of the network reach of the *amaphela* operational area in Cape Town, namely Heideveld and “Kwezi”. While the *amaphela* do not officially operate within these neighbourhoods – commuters may still easily access their services, as they operate on the fringes of these neighbourhoods. Adding to knowledge of the true network reach of the *amaphela* operational area in Cape Town thereby allows an expansion of awareness regarding the geographical reach and functions of the *amaphela* network for inter-township transit. Fifthly, this thesis contributes to knowledge by merging a number of literatures into one structure, namely, the group of literature studying inter-township and intra-township mobilities; transport-related social exclusion; transportation poverty; transportation accessibility; and behavioural geography in a Southern African context. Sixth and lastly, this thesis makes a key contribution to knowledge by documenting an evening based shared mobility service which does not appear in the public transportation policy framework - namely the “twelf-down” midnight taxis - operating from the Golden Arrow Bus Station in Cape Town. This thesis documents the existence of the evening-based shared mobility service

through photography; through synthesising the interview data and from the author's self-reflection of the experience of using the service.

What gaps does this thesis attempt to fill?

The limitations of knowledge that this thesis envisaged to overcome relate firstly to methodological gaps in the study of non-recurrent transit times over the course of the day using a qualitative space-time approach – particularly with regard to access to discretionary activities. This thesis suggests that current methods are aggregate, numerical approaches that are not suited to describing the lived experience of public transportation users.

Other knowledge gaps that this thesis sought to fill include contributing to filling the empirical gaps in the literature on the lived experiences, travel behaviour of township residents, as well as contributing to filling the knowledge gap in understanding the mobility nuances of township residents, particularly those who participate in discretionary activities outside their townships.

By addressing these gaps, this study has made a contribution to qualitative mobility research. Indeed, this study has highlighted a particular case of immobility and social exclusion through the application of a particular methodology that has emerged and which can potentially be adapted to answer a similar set of questions in other contexts. Using this particular case of Cape Town, a township context, with all its complex history of injustice and unequal access, this study shows that the research protocols used can be applied elsewhere. Here, a sample of respondents from a township context demonstrates the extent and nature of the problem.

Thesis Approach

It does not seem fair that people from the townships still experience a high degree of social marginalisation today due to segregation policies aimed at keeping poor Black people underdeveloped. This is where this thesis begins its introduction – by setting the scene, introducing the actors and giving an overview of where it all takes place. The introduction presents the problem statement of the thesis, which aims to conceptualise and empirically capture the mobility and accessibility of township residents as they participate in a range of off-peak activities in a township in Cape Town. This study therefore utilises a qualitative approach that incorporates people's perceptions, experiences, preferences and choices as well as a travel diary that demonstrates people's reliance on transportation to make the above preferences and choices.

The usefulness of approaching transport studies as a social researcher is characterised by the contribution of providing new perspectives to solve the problem of mobility in its various forms and

exhibitions in society. This thesis is concerned with the attainment of meaning and looks at meaning making in relation to the ease and ability of individuals to reach desired destinations during off-peak hours of the day. This study sought to understand what happens by exploring the unknown through formulating and conceptualising the mobility of township residents who participate in non-work activities from Cape Town during off-peak public transport hours.

The thesis takes an interpretivist approach to address the gaps discussed earlier. Consequently, this thesis employs this qualitative methodology (as appropriate or fitting our interpretivist epistemology) to gather our data using interviews and travel log diaries from a data set from the Cape Flats area in Cape Town. Applying such an approach ensures that this thesis can explain and gain nuanced understanding about a phenomenon, while presenting to the reader also the social constructions and meanings that people themselves attach to mobility (Amaratunga et al., 2005).

A conceptual framework is developed based on the data collected in the context in which the “actors” live. This location is important as it is part of the scientific observation of accessibility, mobility and social exclusion when it comes to the voluntary participation of township residents in activities. This study was based on a data set consisting of 15 men and women from the area served by *amaphela* in the Cape Flats. This sample was sufficient as it allowed for an in-depth investigation – an in-depth investigation into the time, effort and cost of achieving goals for this sample. Therefore, this study sought to use this sample to illustrate the nature and true impact of immobility and to understand what transport-related social exclusion looks like in this context.

A Review of the Literature

This thesis has highlighted how providing transportation, especially during off-peak periods in the day is an unmistakable need to be addressed. The theoretical designation of the thesis connects three main concepts, namely the concepts of mobility, accessibility and social exclusion concepts. These concepts fit well together and are well knitted together given the nuanced context in which this study is steeped.

This thesis reviewed literature to show that recognition of the exclusion of urban-poor and peripheralized people especially from accessing life enhancing opportunities is a growing phenomenon globally (Rahman and Timms, 2020; Foley et al., 2021; Hidayati, 2021; Luz and Portugal, 2022; Ma and Xiu, 2021; Stachyra and Roman, 2021; Dzisi et al., 2022).

In South Africa, problems such as social and spatial distortions in particular exacerbate social exclusion (see Turok et al., 2021 and Vanderschuren et al., 2021). Vulnerable people are marginalised because,

for example, they lack the financial means or access to private vehicles (De Swart et al., 2005; Davids et al., 2009; Bhorat, 2015; Bastiaanssen et al., 2020). With regard to participation and inclusion in society, sociological perspectives on time use and activity planning have been discussed in this thesis (see Sorokin and Merton, 1973; Zerubavel, 1980; Roorda et al., 2009 and Snyder, 2013). The concept of social exclusion is the most relevant area of work in transportation to unravel the barriers that typically lead to a lack of participation in social, economic and political life for marginalised individuals (see Social Exclusion Unit, 2003; Hodgson and Turner, 2003; Stanley, 2007; Currie et al., 2009; and Lucas, 2012).

The literature selected in this thesis also discusses the critical role of the geographical or spatial distribution of opportunity (see Bouch, 1993; Orcutt, 1997; Sinclair-Smith and Turok, 2012; Bikam, 2016; Thomas, 2016; and Herranz-Loncán and Fourie, 2018) and discusses the contestation of space and urbanity (see Lefebvre, 1977; Harvey, 1990; Brenner et al., 2009), while understanding the complexity of the transport system that gets people to these desired destinations in the first place (see Axhausen, 2008; Bocarejo and Oviedo, 2012; Wellman, 2015; Martens, 2016; Watkins, 2018; Rink, 2020 and 2022; and Oviedo and Attard, 2022).

To date, accessibility discourses and measures have been the main viewpoints for discussing and understanding these issues (see Horton and Reynolds, 1971; Kwan, 1998, 2000 and 2003; Miller 1991, 1999; Clifton and Handy, 2003; Hine and Grieco, 2003; Geurs and Van Wee, 2004; Geurs, 2006; Crosbie, 2006; Neutens et al., 2010; Farber et al., 2013; Ding, 2015; Kaza, 2015; and Chen, 2021).

A number of authors have contributed to this literature, particularly for the context of South African peri-urban areas (see Khosa, 1997; Clark and Crous, 2002; Venter and Behrens, 2005; Lucas, 2012; Pirie, 2013; Walters, 2001 and 2013; and Rink, 2020).

This thesis is also based on concepts of time-geography concepts (see Hansen, 1959; Hägerstrand, 1970 and Burns, 1980). In order to observe the relationship between the concepts of mobility, accessibility and social exclusion in this context, this thesis considers a qualitative space-time analysis to be the best approach to study travel patterns and to observe possible constraints to participation in discretionary activities on the periphery of the community.

Finally, this thesis has developed an analytical framework that draws on transportation justice (Martens, 2015 and 2016) and transformation for redress (see ANC, 1994; Soudien, 2010 and Hoppe et al., 2014) to examine the challenges of mobility and accessibility in a township in Cape Town. This was done to examine the state of mobility in South Africa's urban periphery and to describe the state of affairs thirty years after apartheid.

Operationalising

This study used two approaches to provide a qualitative analysis of township-dweller's mobility for discretionary activity participation during off-peak hours.

Firstly, research subjects ($n=15$) sat down for an in-depth, face-to-face interview. Participants were guided through an interview discussion and their responses were captured on a recording (using a Dictaphone) and transcribed in preparation for analysis. The interview data was analysed using a thematic framework to develop descriptions of township-dweller's experiences, and to understand and explain the causes that surround the phenomenon surrounding township-based immobility and social exclusion.

Secondly, this study uncovered the travel patterns of township residents using travel diaries ($n=15$). Study participants were asked to recall their travelling activities over a three-day period. One weekday and two weekend diaries provided insight into the typical week of travel for people who relied on paratransit. Respondents provided information on the mode of transportation they used for each trip and detailed information on why a trip was taken, when a trip was taken, how long the trip took, as well as how much the trip cost. The travel diary data was analysed using a qualitative space-time geography approach. This approach essentially combines qualitative narrative data analysis techniques with the mapping of respondents' activity locations using an open source geographic information system (GIS) platform.

8.2. Endowment from the *amaphela*-operated area

This thesis takes a few aspects out of conducting this empirical study. These include the notion that the study of accessibility needs to have a temporal dimension – and this investigation supports this. This thesis finds that *just* transportation should be available for citizens at any point in the day and no matter where people live – since people do want to leave their townships to participate in discretionary activities of their choice. Individuals wishing to attend events outside of their townships in the evenings, or those needing to attend skills training or other night-based education, were often left either stranded or may find themselves in dangerous situations because of limited transport availability.

The reasons for the lack of public transport in the townships after peak hours varied and were largely understood in this study based on the reasons identified from the analysis of interview data and travel information.

Nine main rationales emerged from analysis of the interview data.

These rationales related to township-dwellers' perceptions of public transportation shortfalls or shortcomings in the sector; concerns about the unreliability of public transportation services; political associations concerning public transportation services in townships; perceptions about the main crime-related PT mobility challenges; perceptions about the main time constraints-related PT mobility challenges; perceptions about the main distance-related PT mobility challenges; rationales for transport-related issues when accessing social or discretionary activities; daily experience with fragmented public transportation in the city; aspirations for improved transportation circumstances for a better life.

From the travel log diaries, eight rationales for trip-making patterns emerged.

These rationales related to township-dwellers' rationales for mode choice for work and or school trips; rationales for mode choice; perceptions related to mobility comfort and convenience; perceptions about the main economic-related PT accessibility challenges; rationales for the uses for PT; knowledge-sharing regarding PT for discretionary activity participation after peak time and mobilities from the urban-periphery; perceptions about ideal travel-time; rationales for desired or active discretionary activity locations

What do the rationales reveal?

These rationales relate to the lived experiences of township-dwellers who attempted to engage in trip-making during the public transportation off-peak times for discretionary reasons. This study has revealed the main constraints identified by participants in accessing paratransit for getting to important activities within their city (including discretionary activities). Comfort – which describes the travelling experiences of township-dwelling research participants, particularly discussing the effects of weather conditions, built environment and locale circumstances while making a journey - was raised a few times during the interviews. Respondents reported feeling forced to depend on minibus taxis which had poor minibus taxi interchange facilities. One of the biggest constraints for activity participation is the experiences of crime within the neighbourhoods discussed in this study. To travel at night-time - one needed a significant motivation as even in a private vehicle, safety was not guaranteed. As a result of high crime, some respondents chose to remain home where they were safe until the following day (light).

The once-off activities – which can be described as events that take place, or activities that may only be conducted on occasion – revealed the true value placed on evening activity engagement for the respondents. As a result of rushing about on busy paratransit during the week, respondents liked to spend weekends conducting special event activities (like going to a dinner, going shopping for hours

at a mall once a month, and so on). Affordability was cited as a critical factor when township-dwellers made their decisions about paratransit modes and this was based on cost per week or on monthly costs. Respondents expressed unaffordability of transportation after peak-times; unaffordability of engaging in events and Job security. Continuing with constraints, results from the analysis yielded information regarding the disruptive and frankly, time-consuming outcomes of a fragmented or disjointed transportation network. It appeared one needed to have an insider perspective to know the mode of transportation to use, and when. The time-consuming nature of waiting in long queues; a need to make multiple connections to reach a destination added to the effort of daily commuting from the township neighbourhoods.

...Continued constraints

Respondents also felt that they were simply too far removed from opportunities that contributed to livelihood or education. Some respondents expressed a need to live close to educational opportunities in order to earn a living. Living so far away from opportunities also had to do with not being able to go to the seaside or into nature. The final point relates to the main constraints experienced by respondents concerned transport shortages. Study participants reflected on how to reduce or overcome their problems with the lack of paratransit at certain times of the day. A number of coping mechanisms were mentioned. Nevertheless, some felt that the return journey was more challenging than travelling to a leisure destination (the thought of "how do we get back").

These were some of the main limitations described by participants as the main reason why access to certain activities was difficult to achieve, especially at night. Another important contribution that respondents made in this study was the discussion of their experiences with paratransit when participating in discretionary activities leisure activities after peak hours.

What do respondents want to engage in?

The thesis reflects first by sharing that respondent revealed their interest in participating in evening-based discretionary activities (such as going to gym; attending cooking classes or chef school; attending a concert; attending "First Thursday's" and so on). These potential or desired activities – which described where participants liked to go, given a particular time of day as well as the spatial challenges which prevent their participation at the present moment. Overall participants felt a conflict related to constraints rather than non-participation being a matter of choice. Getting to social events was challenging when relying on public transportation only as some reported that minibus taxis could only get them so far, while one needed to travel with a private car to get to the next destination in some cases. Responses for familial or community-based trip-making occasions – which were the trips

involving visiting and being in close to loved ones and in close contacts were discussed in relation to travelling – respondents reported relying on mini-bus taxis for moving between their homes and visiting their families (even within the community). The majority of respondents reported making a journey using mostly minibus taxis to visit friends and family.

Experiences of getting to recreational or cultural events or activities were centred around an exploration of respondents' various ways to engage in social or cultural activities, and the impact it had in their lives. This discussion yielded responses such as the negative impact of not being able to attend evening events or activities being a sore point (even political, as respondents felt "othered"). Township residents also travelled for leisure and social activity participation – this research then explored which out-of-home (and home-based) activities respondents went to or got up to for leisure and socialising - most respondents chose to leave the township to engage in various activities. A map was created pin-pointing the eminent and or desired activity locations. This revealed a clear pattern regarding most attractive opportunities for participants that were generally located outside of their townships.

What do township-dwellers aspire to?

Expectations of participating in discretionary activities were underpinned by participants' expressions of wanting better resources, an improved range of transportation services or mobility without difficulty or effort – they believed this would be the catalyst for a better or higher outcome than what they currently experience. Overall, a car represents easy off-peak mobility, which is the goal for most respondents.

For the travel patterns of people living in the community, participants were asked to recall travelling activity over a three-day period. For the more predictable (usual) and repetitive journeys for subsistence, one had to be flexible and able to make adjustments, such as occasionally hiring a private vehicle for monthly grocery shopping.

Through the analysis, each individuals' daily movements through space and time was presented, quotations sharing each individual's constraint for participating in after-work time activities were presented (covering issues from time-budgeting; and criminality within the township environment to issues of distance. Participants expressed their wish to have more ease of daily movements through space and time.

The analysis revealed that some transport-dependent activities (which corresponded to participants' need to be mobile to complete important tasks) were actually too far away to reach on foot. Trips of

necessity – i.e., mandatory trips where not making these trips could disrupt life – provided insight into the core of the problem of paratransit's impact on the lives of township residents. Respondents indicated that they would like less disruption, such as – the (such as strikes, crime, and the need for lights for safety) – while taking trips or planning a trip (such as strikes, crime, and the need for lights for safety). In terms of convenience – where participants' travel decisions were examined based on the convenience, availability and affordability of the mode of transportation as well as a specific destination – it was found to play a role in exacerbating issues such as journey length.

CONCLUDING REMARKS ON THE FINDINGS:

Setting The Problem

This thesis reveals five main findings. First in relation to the main research question, this thesis concludes:

The results of the study show that trip-making for discretionary activity participation among township-dwellers is limited not by their choice but by their income constraints, spatial disadvantage, a sense of not belonging to traditionally white-only spaces in the city, and inadequate frequency of preferred public transport during evening hours.

Furthermore, this study has made discoveries of the following nature:

- Data confirms that township-dwellers are spatially and temporally disadvantaged when it comes to accessing leisure and life-enhancing opportunities (such as attending night school, gym or recreational opportunities) when relying on public transportation.
- Verbally, there is confirmation that people who live far away from opportunities such as work, school and healthcare find it hard to enjoy full participation in their society.
- Even more so, there is now evidence that discretionary activities are much more difficult to access when people can't afford private transportation, when people live far away from decent opportunities for recreation and leisure and when public transportation appears to be more limited after peak-times.
- Even if there were no limits to mobility (i.e., accessing free PT) for leisure regardless, of the destination – respondents would still not frequent certain geographies within the province due to feeling as though they do not belong there or that they were too uneducated about these places

Contribution to knowledge

This thesis has developed a conceptual framework for township-dwellers' spatial-temporal access to leisure and other life enhancing activities during off-peak time in Cape Town. The conceptual

framework reveals the *effects of township-based mobility issues by looking at the role poor accessibility can play in exacerbating social exclusion for discretionary activity participation.*

After analysing the interviews and examining the travel behaviour of the township residents, this thesis concluded that the research participants in Cape Town experienced a high degree of immobility, inaccessibility and social exclusion. The study participants clearly reported a low level of mobility and accessibility to discretionary activities. They were tied to their place of residence for things to do and did not have access to the many opportunities the city had to offer in the evening. The paratransit services in the townships that travel into the city at night were ineffective - the services stop operating before the respondents could travel out of the township after work. The analytical framework developed in this thesis explored people's spatial and temporal constraints qualitatively to reveal the impact of the service on people's behaviour and how their behaviour could change if transport was not a problem (latent demand was revealed).

Why effective paratransit is important: linking mobility, accessibility & social exclusion

In the theoretical framework, a link was established between mobility, accessibility and social exclusion. The study established that although people from the *amaphela*-operated areas had the potential to travel but they did not have the ability to do so, which socially excluded them from participating in certain activities. This thesis has made a significant contribution to knowledge as this link demonstrates the impact of immobility and social exclusion in a context fraught with problems of stable paratransit. The mobility characteristics that play a role in this context, in predominantly populated Black areas and they resultantly have lower levels of participation in City of Cape Town sanctioned evening activities such as First Thursday as they live in a context whose population is heavily reliant on paratransit. Paratransit is informal, slow to reform and often entails problems with safety and unreliability.

Findings from similar studies

Chapter 4 presented supporting empirical studies that helped to verify and authenticate the findings from the interviews with township residents from the *amaphela*-operated areas of Cape Town. These studies not only confirmed the experiences of the interviewees, but also reinforced the importance, indeed the necessity, of addressing the lived experiences of transport disadvantaged people in academia. I conclude this section with a review of studies that help to verify my approach to analysis, sampling and epistemology given the chosen context of this study.

Studies in transportation use a small case study (≤20 subjects) with in-depth interviews and travel diary information and focus on low-income persons specifically

McQuoid and Dijst (2012) pioneered the recording of people's activity locations in a qualitative format, as was the case in this thesis, by conducting a study of emotionally sensitive time geography. Their study aimed to capture the emotional component of the space-time pathway using a case study of a single mother in San Francisco (USA). The authors were able to capture the complex space-time organisation of their subjects' daily lives by using a mixed methods approach. McQuoid and Dijst (2012) used an approach consisting of qualitative interviews, car photography and travel diaries. The space-time path of the travel diary was visualised using GIS software. These were accompanied by discussions about the embodied and emotional experiences of daily life.

Transport studies with (≤ 20) study participants, using qualitative methods, and focussed on public transport-dependent township-dwellers in South Africa

For studying township-dwellers views regarding mobility for discretionary activities participation after peak times – it is noteworthy that other similar studies have been conducted.

In a qualitative study, Gobind (2018) used content analysis to investigate the impact of public transport-related anxiety on work performance. Fifteen commuters from Melville, Johannesburg, were interviewed and their responses were categorised into themes and then analysed for word frequency. The primary findings revealed that commuters have fears about the safety and security of their workplace when relying on public transport, leading to a demonstrated link between this fear and reduced work performance. The findings in relation to township neighbourhoods that remain underserved transportation are confirmed in the literature. Nelson (2021) claims that the BRT system in Cape Town still serves historically White neighbourhoods, even though apartheid had only been abolished fifteen years before the BRT system was introduced. Findings related to spatial constraints have been shown in the literature to lead to less freedom. Næss et al., (2018) claim that spatial constraints and poor accessibility to transport affect people's mobility and lead to fewer freedoms.

These results will contribute to expand the body of knowledge from which new directions will emerge. Below the thesis presents recommendations for future studies and discusses the impact and implications of this study for policy.

8.3. Recommendations

Introduction

The most important findings of this study have been the contribution of the empirical findings from the *amaphela*-operated area as they have real world and practical (administrative) significance. What has been surprising about these findings has been the depth of understanding that the commuters demonstrate about the politics of transportation (like where *amaphela* were allowed and where not

allowed; how the MyCiti bus rapid transit system was kept away from their townships and the lawlessness of the minibus taxi industry at times).

However, the research findings shed light on several barriers that significantly trip-making for discretionary activity participation among a vulnerable population in discretionary activities. These barriers, which include a sense of lack of time, public transportation, affordability issues, transport deserts, unfamiliarity with socio-cultural activities, safety concerns and long distances, collectively shape the dynamics of participation in leisure activities and life-enhancing opportunities.

In an attempt to answer the main research question, this study established that the restrictions on participation in discretionary activities within this vulnerable group were not simply a matter of personal choice, but were closely linked to income constraints, spatial disadvantage, feelings of exclusion from historically exclusive spaces in the city and exacerbated by the inadequate frequency of favoured public transportation during evening hours.

The key discoveries made in this study are that:

Spatial and Temporal Disadvantage in Township-Dwellers: The data conclusively established that individuals residing in townships faced significant spatial and temporal disadvantages when attempting to access leisure and life-enhancing opportunities. These encompassed challenges related to attending night school, gym facilities, and recreational activities, particularly when reliant on public transportation.

Barriers to Full Participation in Society: Verbal confirmation highlighted the difficulty faced by those residing far from essential opportunities such as work, school, and healthcare, impeding their ability to fully participate in society. The findings underscored the broader impact of spatial disadvantage on overall societal engagement.

Affordability and Access to Discretionary Activities: The study provided evidence supporting the notion that discretionary activities became markedly more challenging to access when individuals could not afford private transportation. Moreover, living far from opportunities for recreation and leisure, coupled with the perceived limitations of public transportation after peak times, compounded the barriers to engagement in discretionary activities.

Psychological Barriers to Mobility: Even in scenarios where there were no physical limits to mobility, such as accessing free public transportation, respondents expressed hesitancy to frequent certain geographies within the province. This hesitation was attributed to a deep-seated feeling of not

belonging or lacking sufficient knowledge about these places, showcasing the profound impact of psychological barriers on mobility and engagement in leisure activities.

These findings reveal a nuanced interplay of socio-economic factors, spatial constraints and transportation-related challenges that together shape the landscape of voluntary participation in activities among vulnerable populations in this city, and likely in other major cities in South Africa with a similar apartheid spatial planning structure.

Given these findings, there are a few recommendations that this study would like to proffer. This section starts with the impact and the implications for transport justice in South Africa, which is followed by a discussion providing administrative directions for policy making.

Impact

In terms of impact, this thesis has highlighted the nature of the constraints that exist for discretionary trip-making at night-time from one of the townships within the '*amaphela*-operated network' in Cape Town. This empirical study should inform thinking about the challenges that people from the townships experience when using public transportation, particularly during off-peak hours, and provide information about the links between mobility, accessibility and social exclusion. This study may be characterised by the fact that it highlights in detail the vulnerabilities that affect mobility in township and peri-urban areas. This empirical study has provided a deeper insight into a world where much of the transport services are provided by informal providers, most of whose services according to respondents' accounts impact on affordability, reliability and equity. The thesis raised awareness of issues of belonging and social cohesion that are sometimes overlooked in transport planning. These issues are important because if they are neglected, there is a risk that people will travel away from the chosen study area to participate in life-enhancing activities.

Transport Justice

Transportation justice aims to eliminate inequalities and create fair and accessible transportation for all, especially those who rely on informal transportation networks. In the South African context, where minibus taxis and other informal networks play an integral role, transportation measures can promote a more equitable and effective system. Building on the research findings, this study proposes several ways in which such change can be achieved. These recommendations are aimed at the City of Cape Town, transport planning in the Western Cape and the national government (particularly the Minister of Transport in the Department of Transport):

- Spatial and Temporal Disadvantage in Township-Dwellers.

Transport justice is compromised when individuals in townships encounter significant spatial and temporal barriers to accessing leisure and life-enhancing opportunities. To address this, efforts should focus on enhancing connectivity and service frequency in these areas, including:

Infrastructure Development:

- a) Upgrade facilities like taxi ranks, bus stops, and road networks to ensure safe and efficient operations.
- b) Incorporate accessibility features within the built environment of public transport interchanges to accommodate the needs of vulnerable populations, including individuals with disabilities, the elderly, and those with limited mobility.

Regulation and Formalisation:

- a) Develop clear and fair regulatory frameworks for informal transportation, encompassing safety standards, licensing, and operational guidelines to legitimize and regulate the sector without stifling its entrepreneurial flair.
 - b) Explore integration of informal transportation networks into the formal public transportation system, such as the *amaphela*, by involving coordinated scheduling, ticketing systems, and interchange facilities.
- Societal Engagement Impediments due to Spatial Disadvantages.

Transport justice perspectives call for policies addressing spatial inequities, ensuring equal access to essential opportunities. Inclusive planning and decision-making strategies can contribute to achieving this goal, involving:

Participatory Approaches:

- a) Engage all stakeholders more inclusively, including representatives from informal transportation networks such as the “*twelf-down*” evening shared mobility service, in planning and decision-making processes to consider the needs and perspectives of operators and users.
 - b) Gather input from communities served by informal transportation to understand their specific needs, informing the development of transportation policies and infrastructure.
- Affordability and Access to Discretionary Activities.

Transport justice is directly impacted when individuals cannot afford private transportation, hindering access to discretionary activities. Policies for affordable and accessible services in township-based transportation can include:

Reasonable Fare Structures:

- a) Implement fare structures affordable for all income groups, considering subsidies or incentives to ensure accessibility for vulnerable populations – that includes the minibus taxi industry, *amaphela* operators, etc.
- b) Expand transportation services to underserved areas, guaranteeing adequate access to reliable transport for vulnerable communities.

Job Security and Fair Labour Practices:

- a) Encourage and try to enforce fair labour practices for operators and workers in the informal transportation sector. This could encompass job security, reasonable working hours, and access to benefits so as to ease the prevalence of dangerous driving on the roads in pursuit of customers within the taxi industry.
 - b) Provide opportunities for training and skill development for taxi industry people as well as government officials (traffic, policy makers, law makers) to enhance capabilities, foster cohesion, potentially opening new career pathways and room for innovation.
- Psychological Barriers to Mobility for Discretionary Activity Participation

Addressing psychological dimensions of transport justice involves fostering inclusivity and dispelling misconceptions. To give people better access to information could involve improving data and technology availability.

Smart Solutions:

- a) Implement technology solutions like mobile apps, GPS tracking, and data analytics to enhance efficiency and safety in paratransit transportation services. Thus, the *Blue Dot Taxi Project* in Cape Town should be extended and improved upon to ensure safety and efficiency in the industry.
- b) Make more use of primary data for evidence-based decision-making, considering the needs of vulnerable populations in planning and resource allocation.

Environmental Sustainability:

Encourage environmentally friendly practices such as encouraging the wealthy to take more shared or communal forms of transportation in the city, and in the country.

Implementing transportation justice measures in South Africa involves a comprehensive and collaborative approach. By addressing regulatory, economic, social, and environmental aspects, it is possible to transform the “informal” transportation sector into a more equitable and sustainable system that benefits all members of this society.

Significance

The significance of this thesis can be explained as the contribution made to transport justice, and especially the body of literature studying inter-township mobilities: the ideas of “*nojikeleza*”, “*amaphela*”, “*twelf-down*” and many other forms of transit that operate in this unique space only, need to be documented and reported on more vigorously in future. With so much need in the townships for reliable transportation to move goods, to transport school children, to move building and construction materials (and so on) – it would be valuable for more research to be carried out in this space. The implication for understanding place-based mobility modes in such a detail as has been carried out in this thesis could add value for decision-makers in mainstream local transportation

institutions. Explained in this thesis, in-depth, is the township paratransit environment. This research has added to extant literature on studies about trip-making within township environments and the challenges encountered (from the perspective of commuters). Authorities might catalogue mobility needs by area and plan accordingly, if the delivery of transportation services is to be meaningfully improved.

Meanwhile, extending MyCiTi services to township is an administrative issue, and the same case applies to *amaphela* operations in the city. Nevertheless, paratransit is known to be demand driven, and their lack of operations during off-peak could be a deliberate business decision. To change this may require city and government involvement probably through subsidy for night services.

A criticism, however, is that the creation or updating of policies for *amaphela* will not effectively address the issue of discretionary activities outside the townships. Considering the findings of this study which pointed to issues of affordability and safety, a mere expansion of services will not necessarily expand the accessibility opportunities for discretionary activities outside the township for dwellers. Below is a look at the policy level changes that could nonetheless help salvage the situation.

Policy

In terms of policy change, this thesis has highlighted the need to develop a coherent policy incorporating social, spatial and economic considerations on mobility in the city of Cape Town. There is now direction (an empirical study) for policy makers and transport planners on how to improve living conditions for the poor – which can help push the boundaries of the current level of development. This includes accelerating the introduction of services such as Bus Rapid Transit (BRT - beyond the current Mitchel's Plain and Khayelitsha lines) and Metrorail trains (including increasing security checks, especially on the Klipfontein line), as well as increasing the number of public transport vehicles (i.e. vehicles) during peak hours to reduce waiting times.

In terms of redress, there is room for improvement. The hopeful echoes of South Africa's RDP still remain in spirit – however the follow-through of mobility policy remains grey – resulting in desertion of the most vulnerable groups in our society. This thesis recommends that bodies of decision making in city town planning and public transportation in the Western Cape should act faster in urbanising the outskirts – expedite housing developments, expedite approving plans, and provide support to independent organisations (such as partnering with small developers) to increase the pace of construction.

Future directions for policy

Transport policymakers and planners play a crucial role in responding to discretionary travel demands and constraints in peripheralized areas like Cape Town. Peripheralized areas typically refer to regions that are located at the outskirts or fringes of urban centres. To address the unique challenges faced by these areas, policymakers and planners employ various strategies:

In response to the constraints identified in the study regarding discretionary activity participation among vulnerable groups, policy improvements are recommended to enhance overall transportation access and mobility:

Infrastructure Development should focus on improving and expanding road networks, connecting peripheral areas with the city centre to facilitate easier access to essential services, jobs, and amenities for residents. Additionally, public transportation services can be enhanced by extending bus routes, introducing new transit modes, and ensuring reliable and efficient services to reduce reliance on private vehicles.

Efforts towards Accessibility and Connectivity should involve creating an integrated transportation system that allows seamless transitions between different modes (buses, trains, and shared mobility services). Addressing the "last-mile" problem by providing convenient and affordable options for commuters to reach their final destinations from transportation hubs is crucial.

Community Engagement plays a pivotal role, emphasising stakeholder involvement in the planning process to better understand the needs, preferences, and challenges of local communities. Establishing mechanisms for ongoing communication and feedback ensures that policies and plans remain responsive to the evolving needs of peripheralized areas.

Land Use Planning recommendations include encouraging mixed-use development to create more walkable and vibrant neighbourhoods, reducing the need for extensive travel, and promoting local economic activities. Identifying and developing employment hubs within peripheral areas is essential to reduce commuting distances and create local job opportunities.

Technology Integration can contribute to improved transportation efficiency and user experience. Implementing technology-driven solutions, such as intelligent traffic management systems, real-time information apps, and smart parking, is recommended.

Affordability and Accessibility are critical aspects that should be addressed through the implementation of affordable fare structures for public transportation, making it an attractive and

viable option for residents. Ensuring that transportation infrastructure is accessible to people with disabilities and accommodates the needs of diverse populations is equally important.

Environmental Considerations involve promoting sustainable transportation options, such as cycling lanes, electric buses, and carpooling, to reduce the environmental impact of commuting.

Monitoring and Evaluation strategies should be in place, including the establishment of key performance indicators and regular evaluations to assess the effectiveness of implemented policies and plans. Being flexible and adaptive to changing circumstances, incorporating lessons learned from previous interventions, is crucial for sustained success.

Amaphela

With regard to the integration of *amaphela* services, this research has repeatedly mentioned how easy and affordable *amaphela* services are within and outside the case study area. Therefore, the recommendations could be extended further to propose a policy that further addresses this paratransit subsector to expand and perhaps legitimise *amaphela* services. The policy for the *amaphela* should be updated to recognise it as an integral form of mobility in the township areas. This includes the establishment of designated stops, formalised fares and operating hours to ensure vehicle safety, regulate unlicensed drivers and facilitate registration with taxi associations. Expanding *amaphela* operations in terms of time and space could lead to "equitable" mobility in the region. For example, the study sample found that the reach of the *amaphela* network is important to them and should include more of the places that respondents like to go, as well as being more accessible after peak hours – especially in areas where minibus taxis no longer operate.

Below, suggestions for ways in which an impact could be made follows –

Regulatory Frameworks:

Establishing clear legal recognition of *amaphela* transportation services and mapping their jurisdiction in a clear way. This involves creating regulations and policies that acknowledge the existence of *amaphela* operators and provide a legal basis for their operations.

Licensing:

Implement a licensing system to ensure that operators meet certain standards, such as vehicle safety, driver qualifications, and adherence to traffic regulations.

Partnerships and Collaboration:

Foster collaboration between government authorities and *amaphela* transportation operators through Public Private Partnerships (PPPs). This can involve joint planning, decision-making, and shared responsibility for service provision. Collaboration with the private sector could also be an offer of support for business management practices to help operators run their services more efficiently and sustainably.

Community Engagement:

Involve local communities in the decision-making process to ensure that the formalization process addresses their specific needs and concerns. Research methodologies such as PAR are useful in a policy framework like this.

Integration with formal systems could involve route Integration and shared terminals, coordinated schedules etc. Further to that is to establish transit hubs or terminals where *amaphela* and formal transportation modes can converge, facilitating easy transfers and enhancing connectivity.

Capacity Building and Training:

Training Programs: Provide training programs for *amaphela* operators to enhance their skills and professionalism like those provided for the minibus taxi industry. This can include driver training, collaborative research, customer service skills, and awareness of safety regulations.

Financial Incentives:

Introduce financial incentives or subsidies to encourage compliance with formalization measures. This can include reduced licensing fees, fuel subsidies, vehicle upgrading, terminus upgrades or other financial benefits.

Access to Finance: Facilitate access to financial resources, such as loans or grants, to support the upgrading of vehicles and infrastructure, such as those seen with the mini-bus taxi recapitalization program.

Overall, improving policy for the *amaphela* should include investment in infrastructure development transportation infrastructure, including taxi ranks, bus stops and road networks to enable the formalisation of business. In improving accessibility, it could be ensured that infrastructure improvements include measures to improve accessibility for all passengers, including those with disabilities. To improve quality of life, services in the Cape Flats region can be improved to reduce the

burden of long queues and long journeys for education and healthcare, ultimately benefiting residents.

Some more improvements where the *amaphela* are concerned:

Education & Teaching for Transportation Practitioners should be strengthened, with a focus on meaningful projects in townships that benefit the youth. These efforts must incorporate community needs to ensure effectiveness, as evidenced by considerations in a walkability project in Johannesburg.

Addressing crime as a community issue requires regular stakeholder engagements to facilitate communication between commuters voicing travel needs and service providers engaging with local government regarding safety concerns. Collaborative efforts are recommended to ensure the safety of public transportation services.

By employing a combination of these strategies, transport policymakers and planners can better address the discretionary travel demands and constraints in peripheralized areas, promoting sustainable, accessible, and efficient transportation systems for residents.

The South African National Taxi Council (SANTACO)

The findings reveal that in spite of the poor operations of the minibuses, they remain the main mode of transport serving the townships. Given this, SANTACO has a crucial role to play in transforming minibus taxi operations for more equitable public transportation for the poor.

In this case, SANTACO can advocate for inclusive policies that prioritise the needs of poor communities, while fostering partnerships with local organisations to ensure that local transportation challenges are addressed. This requires closer co-operation with the government and affected communities. By offering affordable fares and improving service quality through professionalism, safety and reliability, SANTACO can improve the accessibility and attractiveness of minibus taxi services for both low-income people and a more affluent section of society. By investing in technology, operator training programmes and environmental sustainability initiatives, SANTACO can further improve the overall transportation experience and contribute to the development of communities in peripheral areas. This way, the public image of the minibus taxi industry could be softened as it could work to improve the lives of vulnerable groups. Collaboration with government agencies and stakeholders is key to developing integrated transportation networks that seamlessly connect minibus taxis with formal transport systems and ultimately improve accessibility and social inclusion of the poor. If SANTACO and the government care about minibus taxi riders, they should do everything they can to make this partnership work.

Replicability

This study presents a particular case of immobility and social exclusion and provides methods that could be used to adapt this methodology to answer a similar set of questions in a different context. This study is replicable - if the study were repeated with the same or similar respondents, the results would show some similarities (Babbie and Mouton, 2001). In this thesis, the forms of data verification were adhered to by following a systematic process of data collection methods (using the same semi-structured interview schedule for all interviews) and data analysis methods (consistency in linking themes and categories across all interviews). Further studies could use this method to investigate the differences between different groups of travellers [e.g. transport-related economic and social exclusion].

Extendibility of this research

This thesis recommends that further research investigates these issues of mobility for peripheralized communities:

- Identify services within the township areas that contribute to enhanced quality of life for users.
- Map the *amaphela* network stops, and drop-off points throughout its network in the Cape Flats area.
- Undertake follow-up studies that document the “*twelf-down*” evening paratransit and shared mobility service in detail, to inform policymaking for its inclusion in the local transit plans.
- Investigate stakeholder relationships, role players and the existing power relationships within the minibus taxi industry in particular.
- Investigate teaching and best practise approaches for coherent intra or inter Township public transport policymaking.
- Investigate regulatory reforms to enhance the *amaphela* shared mobility service.

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10. Appendices

10.1. Interview Schedule

SECTION A: (10 minutes)

Introduce yourself: Please share your name, where you come from and what your hobbies/ interests are.

Activity

What are all the broad practises/ customs you use transportation for in your daily life? (Please use attached "travel log diary" form).

What are your likes and dislikes about travelling at **night-time** particularly?

SECTION B: Accessing transport from different neighbourhoods around Cape Town (15 minutes)

1. What do you believe is the underlying cause or major challenge in the transport sector?

2. Let's talk about transportation as a service. When you think about transportation generally, please discuss the main types of services that come to mind for you (in terms of easiest to get, most affordable and so on...)?

3. Now, bearing in mind that you most likely use transport services for the previously mentioned variety of habits – please explain what in your experience are the **explicit needs** that you mainly fulfil from accessing these places daily?

4. Apart from the main reason/s you named above, what other practise would you like to use transportation for, which you are currently **not using** it for?

5. Could you put into a few words what you associate with township-dwellers' daily experience with public transportation in the city?

SECTION C: Private time vs. social time (20 minutes)

1. When I talk about *leisure and recreation*, in general, what are all the thoughts, images and feelings that immediately come to mind for you?

2. If I ask you "what should leisure and recreation *not* entail?", would you answer that it should not involve:

- a. Remote travel
- b. Costs attached to entry
- c. Run only during non-working hours
- d. Be something that happens occasionally

3. What time is mainly “you-time”? Whether it’s for being social or being at home – what part of your everyday routine is chiefly dedicated to “you time”?

4. If you had to place a value on what your “you-time” means for your state of well-being, from 1 to 10 (1 being a low value score, and 10 being a high value score), what would the value amount to for you?

5. “You-Time” Answers:

5.1. *Social answers:*

5.1.1. When you use your “you-time” for social purposes, how often does being social take you out of your neighbourhood? does being social mean leaving your neighbourhood most of the time?

5.1.2. Normally, how does one wishing to leave the neighbourhood for a short period move in and out of the neighbourhood? 3

5.1.3. Have you heard of any of these events in the City of Cape Town – “*First Thursdays*”, “*Moonlight Hike*”, “*Cape Town Carnival*”, “*Festival of Lights*”?

5.1.4. Do you think there are enough people from your neighbourhood who feel the way you do about ways to spend “you-time”?

5.2. *At home answers:*

5.2.1. What are the three main reasons behind spending most of your “you-time” at home instead of being social?

5.2.2. If transport could be made available for you to use at any point in your “you-time” period, how could it change your practise of “you-time”?

5.2.3. Do you think there are enough people from your neighbourhood who feel the way you do about ways to spend “you-time”?

SECTION D: Limitations in accessing various transportation (15 minutes)

(Please remind participants that they may use the tablet computer or print-out copy provided to “map” their daily travel routine)

1. Measure how long and how far you normally travel to desired destinations and how long it is taking you to get there.

2. If you wanted to go and do something during the night (far away from your home or usual base at night), how would you plan to get there?

3. Has there ever been an incident during the day where you didn’t get a taxi, bus or train at all? Please share the circumstances...

4. Share your views about what constitutes a decent amount of time one should spend travelling to work, school, to go and do shopping and so on...

SECTION E: Close (5 minutes)

SUMMARIZE DISCUSSION (WITH CONFIRMATION)
REVIEW THE DISCUSSION PURPOSE, AND ASK IF PARTICIPANT BELIEVES ANYTHING IS MISSING
THANKS, AND DISMISS

10.2. Thematic Analysis

Theme One: *Life Enhancement or Well-being*

LIFE ENHANCEMENT or WELL-BEING

This theme focussed on participants' views related to mobility for interactions that enhance the quality of their lives.

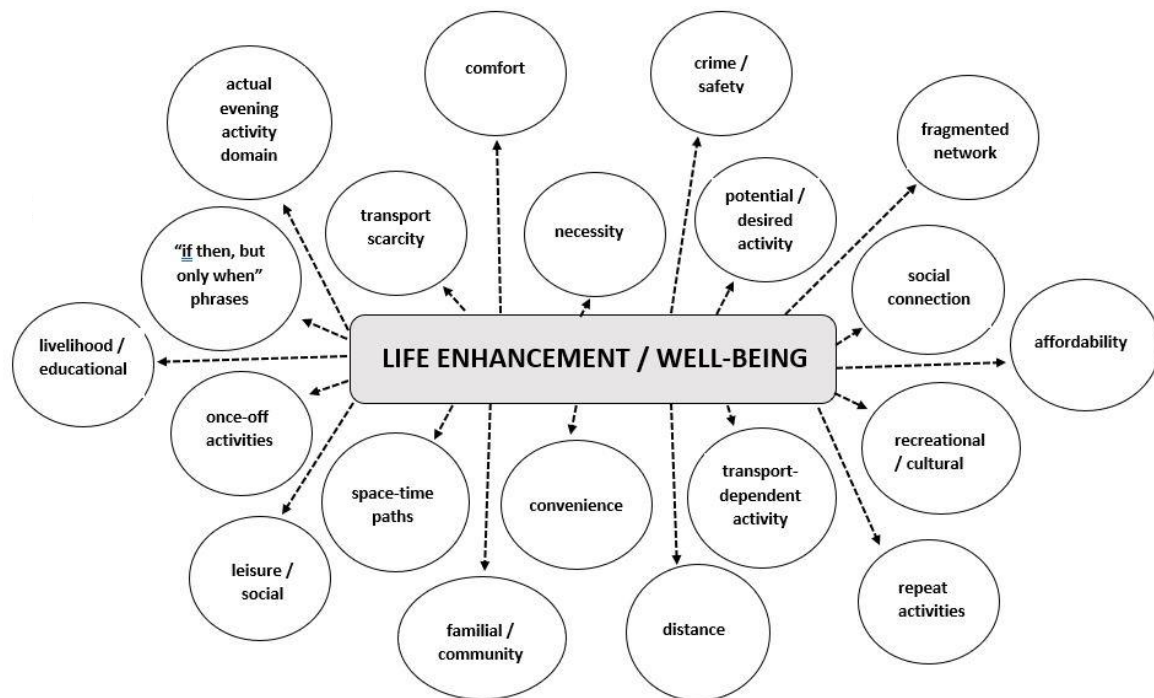


Figure 22: Coding Tree for Thematic Analysis One

Actual Evening Activity Domains: **GETTING TO SOCIAL EVENTS WITH LIMITED ACCESS TO PT**

The category “actual evening activity domains” yielded 18 noteworthy quotations for the theme “life enhancement or well-being”. The overall account of the experience of “*getting to social events with limited access to public transportation*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Participant 2 uses public transportation normally when she goes out, but sometimes visits vineyards – needing to rely on alternatives to public transportation –

“I like going out, so I would use public transport (P2: pp.2)...Yes, but I use the car to go there [vineyard] that’s the thing” (P2: pp.13)

Participants reported feeling more comfortable using private transportation and below we hear why:

For using PT on the “big days¹⁹”:

¹⁹ This term is a vernacular underscoring of the bulk summer public holidays (16th, 25th, 26th & 31st December) that take place during the December festive season. These specific days are characterized by families descending

"...like the thing is you can't rely on public transport...like our public transports because sometimes there are events like during December, because this guys that are driving taxis, they drink... while they are driving, sometimes you need to take public transport, you've maybe got family that is coming over to you, you would need to take everyone to maybe Canal Walk...but you can't, because these guys are drinking and driving and nobody is doing anything about it...so its limiting..., which means you should use your own car but then your own car is too small for everyone to get in...and we do not have busses, in my location because if one bus goes in there, it is going to get into flames, they are going to burn it down..." (P9: pp.14)

This experience described above is supported by other studies:

In a study that focussed on the effects of crime for township tourism with interviews conducted with local police and resident participants from Gugulethu, Nyanga and Khayelitsha - Mbane and Ezeuduji (2022) found a similar trend as P9 has relayed above. The authors claim that the festive season in December sees an influx of tourists to Cape Town's township areas who come as 'visiting friends and relatives' (VFR). As the celebrations (heavy drinking and partying) increase, so does the crime increase in the area, as the high crowd volumes draw in new opportunities for deviant behaviour.

Cape Town's taxi industry is not shielded from this festive mood during this season of the year. As some Cape Townian amaXhosa people²⁰ visit the Eastern Cape around Christmas time Bähre (2014) claims the driving is just as wild, with taxi drivers needing to cover long distances which causes exhaustion, while others often drink and cause accidents during this time.

Affordability: JOB SECURITY CONCERNS

The code "affordability" yielded 3 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "job security concerns" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...imagine, I have got 3 kids in university, and you need to pay all those fees and then you are running out of work, where do you turn to? It is very painful, sometimes you need to sacrifice your car, sometimes you need to sacrifice your house, that is how bad it gets." (P9: pp. 8)

This experience described above is supported by other studies:

Foley et al., (2021) conducted a study which synthesized qualitative, mixed methods and quantitative data from studies in Africa to explore socioeconomic and gendered differences in travel behaviour in Africa and to develop an understanding of travel-related inequity. In their study they found it common for low socioeconomic households to have ownership of a private vehicle but not be able to afford the cost of maintaining it.

Meanwhile, the notion of socioeconomic differences in South Africa fall according to racial lines. Patel (2021) describes how income deprivation is hardest on Black South Africans, with 18% reporting

on public spaces in the city (such as beaches, the V & A Waterfront, Lagoons and Water Parks) that they normally wouldn't frequent outside of those dates for the rest of the time during the year.

²⁰ Often offensively referred to as *amagoduka* – loosely translated to the ones who return home.

needing to survive without any income, followed by 9% of So-called Cape Coloured South Africans and only 2% of White South Africans.

Comfort: PT THAT IS SAFE; COMFORTABLE; RELIABLE; EFFICIENT

The category "comfort" yielded 5 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*public transportation that is safe, comfortable, reliable and efficient*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Participant 9 and participant 2 describe how MBT's are aggressive and use bully tactics at the peril of their customers –

"Yeah, they [mini-bus taxi'] don't want buses because they feel it is taking money from them...and that is a problem because it's kind of being selfish at the end of the day...because it's like they are forcing people, and it's not even a proper rank...if it rains you will get wet, there is no roof, nothing, that's how bad it gets..." (P9: pp.14)

"I enjoy taking the bus actually, more than a taxi. Its more comfortable and its much safer in a way I could say...the taxi drivers they drive like trash, the bus drivers they know their routes, they know their times. If they come by the bus terminal at this time they are going to stick to that time." (P2: pp.18)

This experience described above is supported by Behrens et al., (2015) and Bähre (2014):

Explaining why minibus taxi drivers may often appear reckless when driving with passengers on a public road - Behrens et al., (2015) suggest that there is weak public sector regulation which interplays with the high revenue targets set for minibus taxi drivers which results in dismal quality of service for commuters. The authors add that this minibus taxi environment fosters destructive competition which doesn't always serve their passengers.

Meanwhile Bähre (2014) adds that the nature of risk-taking behaviour (such as not respecting the rules of the road and dangerous noise levels from honking) among minibus taxis across South Africa puts the safety and comfort of passengers in jeopardy.

Convenience: EASE FOR TRAVELLING AT NIGHT-TIME

The code "convenience" yielded 7 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*ease for travelling at night-time*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Convenience of travelling for free and dropped off at the door at night –

"I don't mind late shifts (at work) because I get like transport [from my job] to...come back [home]..." (P3: pp.5)

This experience described above is supported by others in the literature:

The issue of safety when travelling at night-time is a common issue for township-dwelling commuters. Gobind (2018) supports this notion, stating that female commuters in particular worry about their safety when working late and arriving home after dark to their townships.

Crime or Safety: **HYPERVIGILANCE & DAY-LIGHT AFFECT TRIP-MAKING**

The code "crime or safety" yielded 2 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*hypervigilance and day-light affect trip-making*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

South Africa has gained global visibility, not just for its peaceful transition into a new democracy, but also for being one of the most unequal countries in the world. South Africa is plagued by high levels of crimes such as murder, homicide and assault (Bähre, 2014). Below respondents describe the nature of criminal elements in their townships –

"it's like, uhm anything can happened in the township as soon as you in it anything can happened, even if you[re] in your car, it's not safe, like if you stop you have to lock your doors...and what we usually do when it's really late at night while traveling, you don't stop at the red robot, if you are the only car, you don't stop for the red robot...yeah so..." (P12: pp.7)

This experience described above is supported by other studies too:

Mbane and Ezeudji (2022) establish that a lack of employment for people living in the townships contributes to crime. This is one of their findings from a study which looked at effects of crime on tourism in townships. Respondents from their study areas included local police and resident participants from Gugulethu, Nyanga and Khayelitsha. Respondents claimed that their townships are indeed infested with crime hotspots as well as chronic safety and security challenges.

"Firstly, if your house is far from the rank, you might not get to the rank. Every morning because we have got these thugs that prey on people in the location, when you leave your house, you go to the rank, you might get robbed. It is dark it is in the morning, so they use the darkness to their advantage, you see, they can rob, stab or shoot you, take your phone, take your money and runaway but it is a day to day basis. We see that every morning." (P9: pp.5)

Borker (2022) provides insight into women's travel behaviours and discusses key barriers they face in the developing world, which align with P9's concerns. According to this author the "last mile" connectivity provides the most appropriate assessment of female traveller's experiences with accessing transportation for work opportunities, for travel in a safe environment, affordability and appropriate infrastructure from developing nations. Last mile connectivity is said to affect women with better connectivity in a much more positive way than a woman with worse-off levels of connectivity in relation to the public transport, pedestrian walkways, bikeways, transit connections, and paratransit options. Women are said to be mostly concerned with safety issues when accessing public transportation – which include streetlighting and safe sidewalks.

Distance: THE EFFECTS OF TRAVEL FROM THE TOWNSHIPS

The sub-code "distance" yielded 4 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of *"the effects of travel from the townships"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I mean its time consuming, traveling far... it adds stress and it adds fatigue" (P1: pp.6)

Asked about his experience of travelling –

"It's quite straining, its tiring... It's very tiring. You know, it's very tiring". (P3: pp.4)

About her son who wakes up early to get to school in the mornings:

"He gets in the taxi and falls asleep...he is tired, and I mean...on our way home he sleeps, he sleeps on our way home, like....standard, that I know...I think we had to be at school by 7am already because school would open at 8am or something like that." (P1: pp.7)

This experience described above is supported by other studies:

For instance, Friman et al., (2017) show how everyday travel by public transportation negatively affects travel satisfaction, demonstrating that what P3 and P1 feel is consistent with Friman et al., (2017) notion – that daily travel and commutes impact life satisfaction and emotional well-being. Respondents feel exhausted by early mornings and long commutes every day.

Meanwhile, Kerr (2017) shows that the high commuting cost on the individual is a burden of unproductive employees in the workplace as a result of early morning travels with long commuting times and late returns to the peripheral areas in the city.

Familial or Community: PT OPTIONS THAT MAKES TRIP-MAKING WITH THE FAMILY EASIER

The code "familial or community" yielded 13 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of *"public transportation options that makes trip-making with the family easier"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...to take us from A to B, I do not have a car so for me the best option is public transport. There is no other option for me. I have to use taxi or bus but most of the time I use like... when we go out with the family we use a taxi there is no other option." (P2: pp.5)

This experience described above is supported by national data:

Public transportation in South Africa is largely sustained from the minibus taxi industry. In the National Household Travel Survey (2020) we hear how important public transportation's role has become across all geographic locations surveyed in South Africa. In urban settings especially, urban workers are reported to be more likely to use a taxi than a bus as their main mode of transportation (Stats SA, 2020).

Fragmented Network: INSIDER KNOWLEDGE OF EVENING TIME PT SCHEDULES

The category "fragmented network" yielded 7 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*insider knowledge of evening time public transportation schedules*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

When it comes to using PT evenings – one needs an insider perspective to know which mode to take, and where to go –

"...well there are taxis at the taxi rank until 00:00... midnight...and it's safer because it drops you in front of the house... It's safe, but obviously it's expensive, because I remember I took one from the [V & A] Waterfront to Gugulethu and it cost me R70..." (P1: pp.11)

This experience described above speaks to the research participant's depth in knowledge of localised transportation services. In this thesis we allocate this contribution to the "indigenous knowledge systems" in transport rationale (presented at the end of the analysis section). Chakwizira and Nhemachena (2012) support this notion that local knowledge sharing can be useful for broader policy in transportation in South Africa:

Chakwizira and Nhemachena (2012) present a paper at a conference geared at transport policymakers, practitioners and scholars where the authors link indigenous knowledge systems, transport and rural development in South Africa. The authors conclude that indigenous transport knowledge systems can support better accessibility for transportation, as well as mobility service levels in rural areas across south Africa and other urban areas in developing countries.

"If Then, But Only When" Phrases: A WISH TO HAVE A BETTER LIFE

The category "if then, but only when" yielded 8 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*a wish to have a better life*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...yeah I mean, I think most people would probably leave, I mean...yeah get out and chill somewhere else.....ahhh, 'cause around here, if you chill around here you won't really have a good time, cause you might see a fight or people shooting at each other, you know, violence..." (P3: pp.11)

This experience described above is supported by findings from a study conducted by Mbane and Ezeuduji (2022):

According to the authors, the normalization of crime and general levels of unwavering lawlessness in townships has a negative impact and hampers the opportunity for township tourism to flourish. While this issue is terrible for inhabitants, they explain that it has a genesis, starting with youth unemployment. Their study found that the youth from Gugulethu and Nyanga in Cape Town felt dejected from their unemployability and turned to drug-abuse and violent crimes. Furthermore, Mbane and Ezeuduji (2022) claim that crime in South Africa negatively affects the physical and emotional well-being of people and businesses. Crime therefore is seen to have the potential to

obstruct economic expansion, investment, wealth collection, and to disrupt social and economic prosperity for township inhabitants (Mbane and Ezeuduji, 2022).

Leisure or Social: ACTIVITIES PPL ENGAGE IN FOR LEISURE THAT NEED PT

The code "leisure or social" yielded 35 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*activities people engage in for leisure that need public transportation*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...yeah I mean I have to because Gugulethu is not that privileged to have wine farms, spa's...well there are spa's...so I don't have a choice but to leave Gugulethu...how often...like I don't go to such places like every month. I would say like every second month...using public transport...during the weekend, I think" (P1: pp.9)

This experience described above is support by another study:

As discussed previously, minibuses are considered an important mode of transport in South Africa. Participant 1 simply confirms how even getting to leisure and social activities is done with minibus taxis from the townships. Dzisi et al., (2022) emphasis that the minibus taxi contributes to South Africa's economic activity. They provide a means of commute for millions of people to get to tourist destinations. Large sections of the population rely on these services for access to healthcare, recreational and other activities as well (Dzisi et al., 2022).

Livelihood or Educational: NEED TO BE CLOSER TO OPPORTUNITIES

The code "livelihood or educational" yielded 19 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*need to be closer to opportunities*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...I have a daughter who is in grade 12, my wish when she is finished is for her to be accepted to any university with accommodation and everything, because its stressful to not have a place in Cape Town and stay in the neighbourhood, you wake up and the roads are closed by protesters, children can't go to school..." (P11: pp.5)

P11 want to close the gap of township-dwellers being able to reach opportunities. This experience described above is support by evidence from the literature:

According to the Diagnostic Overview (2011) 'the spatial legacy of apartheid continues to weigh on the entire country as the poorest people In the cities live far from places of work and economic activity' (RSA, 2011: 18). As a reaction to the distance, P11 wishes that their offspring might have better life chances, by bringing her to the opportunities.

Necessity: DON'T LIKE TAXIS – BUT NOT MAKING THESE TRIPS CAUSES WELL-BEING EFFECTING DISRUPTIONS

The code “necessity” yielded 3 noteworthy quotations for the theme “life enhancement or well-being”. The overall account of the experience of *“don't like taxis – but not making these trips causes well-being effecting disruptions”* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Even skip convenience of using car to travel to work as it saves money –

“For a day its R30, per week its R160 and a month its R600...and it's also a lot cheaper if I take a taxi, cause if I drive its more... and it's a lot of traffic...it takes much longer to just get here...” (P13: pp.2)

“...no, no, no. travelling is expensive these days, and it's a bit cheaper when you use a public transport... yeah, so if I must use my car, I'll spend maybe R2000...” (P9: pp.12)

Without Public Transportation –

“I would not be able to get to work, I wouldn't be able to feed my family and child... I would not be able to get my child to school.” (P1: pp.5)

The experiences described by participants above is supported by Lucas (2011) conclusion:

Worker-commuters from the urban periphery are disadvantaged because of the high travel costs that takes up the majority of their earnings, resulting in almost net zero economic gain, opportunity cost, and stifled life chances (Lucas, 2011). But, as respondents have shared above, this is their reality. Not making these tough financial decisions for transport could cost them dearly in the short future.

Once-Off Activities: VALUE OF ENGAGING IN EVENING ACTIVITIES

The category “once-off activities” yielded 8 noteworthy quotations for the theme “life enhancement or well-being”. The overall account of the experience of *“value of engaging in evening activities”* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“I would say relaxing and going out like to have that moment to be with your friends, just relax because you know when you are at work okay I am at work 9 until 5 exhaustion I am going to be here the whole day then you know okay its Friday, relaxation and then think of meeting new people.” (P2: pp.6)

Participant 2's desired experience described above is support by evidence from the literature:

Han and Patterson (2007) claim that there is a positive effect and high value returns for engaging in leisure activities as this contributes to an individuals' experience of “positive affective states”, health and well-being.

This shows that beyond transport for work or school or for accessing healthcare, respondents equally need transport to gain health and well-being benefits too.

Potential or Desired Activities: **DISCRETIONARY ACTIVITIES PEOPLE WANT TO PARTICIPATE MORE IN DURING EVENINGS**

The category "potential or desired activities" yielded 10 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*discretionary activities people want to participate more in evenings*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Yes, most people that I know, that would leave, especially where I stay, we only have small shops and it's not big shops, it's not like the main malls like the cinema, it's nothing like that...money also is a limitation so also you do not get exposed to a lot of things, like we travelled to Thailand, and the first time I was just outside of South Africa, that was like the first time I travelled in a plane, because of money..." (P7: pp.7)

A WISH TO TRAVEL ABROAD –

This experience described above is supported by evidence from the literature on the yearning for excluded Africans to see the world outside of their communities:

Foley et al., (2021) synthesized qualitative, mixed methods and quantitative data from studies in Africa to explore socioeconomic and gendered differences in travel behaviour in Africa as well as to develop an understanding of travel-related inequity. The authors found that especially among young African men, the literature described a deep desire to travel to far-away geographies for adventure-seeking, economic mobility and for social status.

"I remember my friend went somewhere, a concert to go see a singer... and the show was like R750, so I'm like where, how do you have that kind of money...oh my goodness it's expensive... that is expensive..." (P7: pp. 7)

The sentiments expressed by P7 above are supported by Patel (2021) who claims that Black South Africans especially report barriers to accessing financial resources. This is a structural constraint (money) as respondents cannot change this cyclical circumstance overnight.

Recreational or Cultural: **INITIATIVES IN THE TOWNSHIPS FOR RECREATION**

The code "recreational or cultural" yielded 9 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*initiatives in the townships for recreation*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

An idea of interest that was touched on is that physical mobility (access to transportation) is equal to social mobility (upward progression socially). Participant seven shares this notion below, explaining that youngsters from her township use transportation to see their city and thereby learn more and gain mentally and socially by doing so. Foley et al., (2021) study travel-related inequality. The authors explain that physical mobility and social mobility are intertwined and considered inseparable as a means to opportunities. Of recreational or cultural initiatives from the townships that demonstrate this, P7 and P6 share –

"...like at our library, every week, they have a transport that takes the youth to Cape Town or Wynberg, or different area, just for them to see also, it might sound weird, but most of the youth they are just in Heildveld they do not know any other place..." (P7: pp.9)

"Yeah there's a cinema in Khayelitsha so we tried to donate for each and every kid who can't afford to watch movies there in Khayelitsha can also have an opportunity now, because remember some parents are not so privilege enough to take their kids to New metro, you know..." (P6: pp.13)

This experience described above is further supported by evidence from the literature:

Creating value for communities through recreational and educational facilities on site is one way to bring the opportunities for social mobility closer to township-dwellers who do not always have access to transportation. Ramaila and Denoon-Stevens (2015) claim that safe spaces for learning and social engagement should be the goal for transforming peripheralized communities in South Africa's urban environments. Using the case of the Mahwelereng Sports Node & Library in Mokopane, Limpopo as an example the authors provide a case for interventions at grassroots level that may yield long-term effects for upward mobility in townships.

Repeat Activities: HOW PT AFFECTS LIVELIHOOD – GROCERY SHOPPING or WORK or SCHOOL RUN

The category "repeat activities" yielded 2 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of *"how public transportation affects livelihood – grocery shopping; working; school run"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"let's say you want to do groceries, because you won't be able to put it in the taxi with all the other people that are also taking their groceries, so you can just arrange with a taxi or a small taxi and then call them once you have done with your groceries and they will take you and deliver you at your doorstep" (P11: pp.4)

This experience described above is supported by evidence from the literature. Baek (2016) studies the effects of public transportation accessibility on food insecurity, and claims:

Public transportation has a role to play for people in households to access balanced nutrition and to limit the risk of food insecurity. Baek (2016) argues that households without a car may do their grocery shopping less frequently if access to public transportation is inaccessible.

Space-Time Paths: HOW TO GET TO SPECIFIC ACTIVITIES FOR LEISURE

The category "space-time paths" yielded 31 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of *"how to get to specific activities for leisure"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

A desire for domestic travel –

"We would have to use our own cars, though the one place that is in Greyton, they have a transport. They have a driver that operates from 8 am till 3pm, that comes and picks up, for R150 that's all, we are still deciding, whether we go to Langebaan or Greyton." (P5: pp.6)

This experience described above is supported by evidence from the literature:

According to Rogerson and Mthombeni (2015), domestic tourism rates from the global South nations need improvements in transport to facilitate improved mobility to be able to see trends similar to those witnessed in the Global North – where the urban middle class individuals take domestic tourism seriously and where the economies are growing and are healthy.

Transport-Dependent Activity: ACTIVITIES THAT CAN ONLY BE ACHIEVED BY TRIP-MAKING

The category "transport-dependent activity" yielded 26 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*activities that can only be achieved by trip making*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Too far to walk to nearest church –

"...It's too far I can't [walk] I would have to catch a small taxi, I can't...so if I take a small taxi right after I leave the house at 9 am and I'll get to terminus maybe at around 9:10 am or close to 9:15 am and then I would have to go the other way, maybe it was going the other way and not Philippi way. Then until I get the one, I want, then I'll get at church at around 9:40 am..." (P8: pp.15)

This experience described above is supported by evidence from the literature:

People are highly dependent on taking the taxis especially if they do not have their own car. One reason the minibus taxi is so convenient is because of the level of connectivity and physical proximity it provides for pedestrians. According to Nelson (2021), Cape Town has a 60% street network with walking distance of a taxi stop. Participant 8 consequently feels dependent on taxi, and yet it is also about convenience for the respondent.

Transport Scarcity: YOU CAN GO – BUT HOW DO YOU GET BACK HOME FROM ACTIVITIES

The code "transport scarcity" yielded 2 noteworthy quotations for the theme "life enhancement or well-being". The overall account of the experience of "*you can go – but how do you get back home from activities*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Yeah, because you leave and then how are you going to get back home...? There are no options to get back, well not affordable options and also it's not safe to leave really..." (P14: pp.7)

"Transport, because I think I can go away like to Simons Town, I've never been, not Simons Town, Tokia, I've never been to a place like that...I'd just go for a walk there, but I need transport because the train ends at Simons Town, what am I going to do, how am I going to get to Tokia from there?" (P11: pp.4)

This experience described above is support by evidence from the literature:

For Clark and Crous (2002) the imbalance of the peak direction utilization and reverse direction utilization of the off-peak period for most modes of transportation operating in township areas (often bussing people from the city back home) is inefficient. These modes will have overcrowding on one end and then almost too few passengers on return. The authors say this exact model is because of the apartheid spatial planning of the city, which promoted an inequitable urban form.

MBT operations can act to leave ppl stranded:

Kumar and Barrett (2008) though claim that paratransit operators focussing on the lucrative commercial opportunities will often cut trips short – opting to change their trip direction based on demand. This practise leaves passengers with uncertainties about reaching their destinations and about getting their fare refunded.

Theme Two: *Impediments to Access Adequate Public Transportation*

IMPEDIMENTS TO ACCESS ADEQUATE PUBLIC TRANSPORT

These are the challenges, that make gaining access to, and using public transportation particularly difficult.

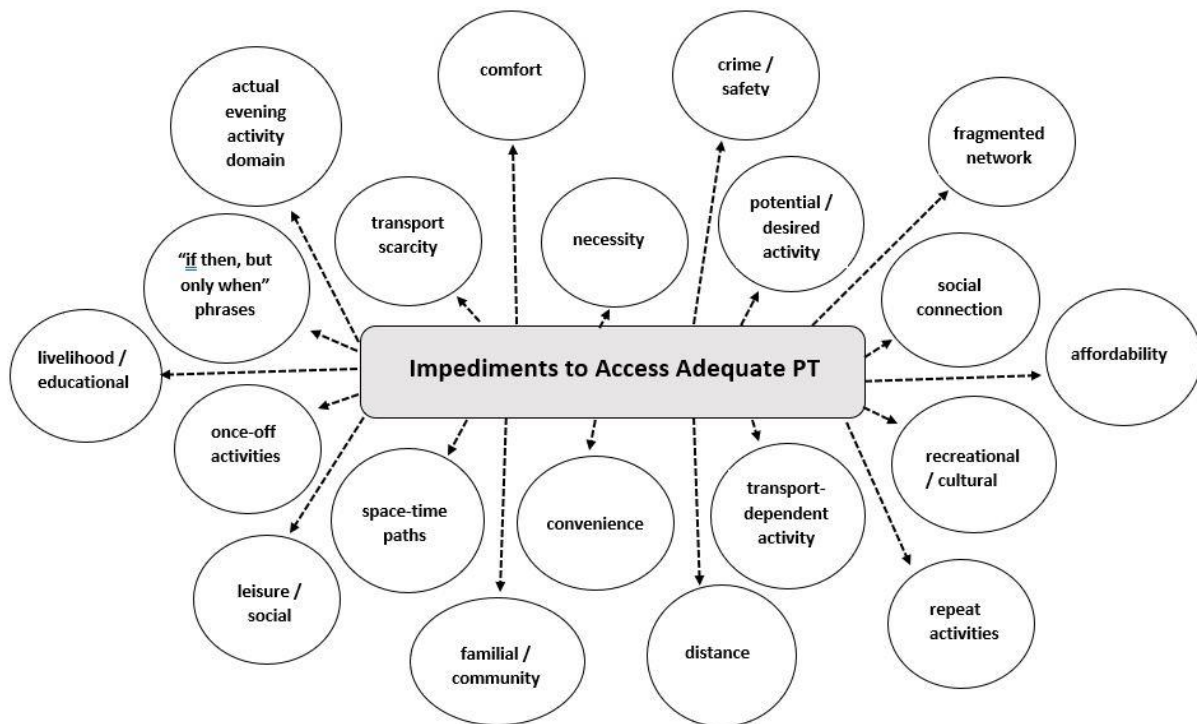


Figure 23: Coding Tree for Thematic Analysis Two

Actual Evening Activity Domains: **PUBLIC TRANSPORTATION PRICE FLUCTUATIONS**

The category "actual evening activity domains" yielded 2 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "public transportation price fluctuations" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...most people prefer [to use] busses before 4pm, the busses are actually cheaper, so people would actually prefer busses than taxis off-peak, because busses don't wait they just go, whereas [taxi's], you still need to wait for it to fill up even if it's off-peak" (P13: pp.5)

Describes the exchanges she needs to make to get to an activity in Paarl –

"...that is actually about 3 changes, imagine now when it's a returning. How much amount would it be? do you see that...?" (P6: pp.24)

Support from the literature regarding urban-periphery expensive commute experiences:

(Kerr, 2017) supports the notion stated above by P13 and P6, claiming that trips made for formal sector employment opportunities are long and expensive for people who live on the urban periphery. The author further claims that time costs of commuting in South African cities are high and journey times are much higher than the OECD country average. Since commuting costs, a substantial amount, it creates other externalities related to negative environmental impacts.

Affordability: WHEN WALKING AS ONLY OPTION

The code "affordability" yielded 10 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "when walking as the only option" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

RELIES ON WALKING ONLY (WHICH CAUSES DISRUPTION) –

"I woke up and then I went to go buy something to eat...so that by the time the kids get back from school there would be something to eat, I have to balance things out, just now I came from shopping, then the next thing, I hear that one of the other mothers I know is sick and then I have to run to Nyanga Junction and get pills, you see?" (P10: pp.4)

This experience described by participant 10 who is not employed in the formal sector and a mother-of-four reveals a pattern evident in the literature too:

Gonzalez et al., (2020) explore the range of constraints to women's mobility and access to economic opportunities in their study of 6 low-income areas in Latin America. In Buenos Aires they found that women who are nonworking (or unemployed) made more trips in a day than unemployed men, as these women were preoccupied with picking up children from school, conducting social visits and taking care of household errands.

Relying on walking is a financial matter for some people –

"Even transport for them [township-dwellers in Heideveld] would be a problem, because most of them do not even use transport and you know, people in my areas, they struggle with finances." (P7: pp. 10)

Walks to visit with friends, but is limited as walking is not always possible for some visits –

"...the other places I go to is like, social life, usually going out with my friends, but I don't take a taxi I'll just walk with my friends, but I've got friends that live far like table view, Parklands, Camps Bay they're pretty far..." (P3: pp.4)

Walking simply takes longer –

"...so its 2 hours to get to Blouberg, but then it just takes like a couple of mins to get to the restaurant by taxi, but by walking it takes 30 mins" (P3: pp.12)

The experiences described above are supported by evidence from the literature:

So walking is related to money savings (where walking is the only option) and time saving (where walking is impractical) according to participants 3, 7 and 10. In a study using qualitative data to analyse the causal mechanisms underlying differences between inner-city and suburban residents' travel behaviours observed in the Norwegian metropolitan areas of Oslo and Stavanger – distance seemed to play a big role is rationalizing non-motorised transportation. Næss et al., (2018) found that time saving as a rationale identified among research participants leads them to choose a car when walking or cycling are too awkward given the distances that need to be covered. Time saving is important especially in relation to dwelling location's distance to nearest centre to access facilities.

Comfort: OVER-CROWDED PUBLIC TRANSPORTATION

The category "comfort" yielded 16 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "over-crowded public transportation" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Ahh, what I would say the first thing that comes to mind when you say [public] transportation is, waking up early, and obviously, the funds, because I mean transportation is costly, it's very costly. The cheapest thing now is the train, but [no] one wants to get on the train nowadays, because even the...the first class is no longer first class... it's very full and yeah...so people would tend to rather opt for taxis or buses, yeah. Which are very expensive." (P1: pp.5)

"In terms of availability of transport...you know, transport that is not always packed. But MyCiTi is always packed, Golden arrow is always packed, and taxis are always packed. They are always packed there's nothing that is available that is safe" (P3: pp.8)

The experience described above is supported by evidence from the literature:

According to Pirie (1992, in Rink, 2020) public transportation today for Black poor people is plagued by high levels of crime, overcrowding and discomfort. What we see in transport nowadays is a result of apartheid spatial planning which has resulted in the urban poor remain demoted to city's outskirts and enduring long commutes just to reach good opportunities for work.

Convenience: PERCEPTIONS ABOUT PUBLIC TRANSPORTATION SCHEDULING

The code "convenience" yielded 8 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*perceptions about public transportation scheduling*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...there around 5pm and 6 pm the transport is much lesser than before... Even someone that goes to Town or Mowbray..." (P10: pp.10)

"...so yeah, uber is number one... And that's safe now, even at night because the taxis only drive until a certain time...I think like 6 pm in winter it's even earlier, its dark and it rains and they don't go to.....and if it is after 7pm and then you pay more money..." (P7: pp.4)

Taxi end earlier in the townships:

"...because sometimes in Delft the taxis would finish at about 7 or 8, It would be by luck if you get a taxi after 8 there in Delft, do you understand...and then, if you go to Cape Town there will always be taxis...even after 9pm in town. There will always be taxis in town..." (P8: p10)

The experience described above is supported by evidence from the literature:

People experience accessibility disadvantage when they have challenges to gain access to ordinary opportunities in a society when they need it. These difficulties of access could be a result of transportation, a problem of land-use patterns (such as living in a remote location with minimal activity opportunities) (Luz and Portugal, 2022).

Crime or Safety: ISSUES OF SAFETY WHILE USING PUBLIC TRANSPORTATION

The code "crime or safety" yielded 10 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*issues of safety while using public transportation*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Robbing's occurring on PT –

"Oh gosh no, you can get robbed in the train. You get robbed in the train in daylight, they would just tell you to open your bags and they will then take everything in your bag. Even in a bus, the robbers will stop the bus by the bus stop and then the driver will think that it's passengers, and then when they come inside, they will also ask you to take out your phone and wallet" (P15: pp.6)

This experience described above is supported by evidence from the literature:

Lucas (2011) has described how crime has impacted individuals commuting to work and social activities in the Gauteng area of South Africa writing that commuters were considered to be powerless against criminals who sought to mug them, while young women became victims of sexual violence while commuting.

BAD DRIVING –

"...taxis aren't really safe, because really the drivers we all know how they drive...In general, yes...like public transport is just a mess... And then sometimes you would resort in taking the taxis...and then taxis are also no safe, people would drive like literally, they have got death wishes..." (P14: pp.3)

"You know these taxi drivers, they drive on yellow lines they don't drive like other people, so they can take 20 mins or 15 although normally it takes 25 minutes" (P8: pp. 17)

Distance: EXPERIENCES WITH RELYING ON POOR TRANSPORTATION INFRASTRUCTURE

The sub-code "distance" yielded 5 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of *"experiences with relying on poor transportation infrastructure"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

The distance from home to work means many connections for morning trips –

"...there was an occasion with me, actually two occasions, I had to take two taxis, I had to take a small taxi first, to thingy, which is now R8 by the way, so its R8 to the taxi rank and then to town it's like R15 and then from there we still needed to get another taxi, then we got a lift form Kloof street." (P13: p7)

"...uhm there is a lot, I mean it depends where you stay, but for me I would have to take two taxis, I would have to go to the rank first and then at the rank I wait in a line and then I get a taxi that goes to town, it's kind of like frustrating me, because I would have to like go deep into Khayelitsha and then to town, I can't just like go straight to town, that kind of like frustrated me a lot and it wasted time and money..." (P12: p4)

This experience described above is supported by evidence from the literature:

Because of the long distances in the cities', motorised transportation is considered a necessity according to Lucas (2011). In sub-Saharan Africa, the urban form where cheaper land is located further away from the CBD – sees the positioning of many residential areas (especially unplanned newer areas) far from valued destinations.

Familial or Community: RELYING ON PUBLIC TRANSPORTATION FOR FAMILY VISITS

The code "familial or community" yielded 8 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of *"relying on public transportation for family visits"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Just picture this, if I had my own car, I would just go to N2 and then R300 and then Kuilsriver but now I have to travel with a taxi I have to go to Bellville first." (P8: pp.18)

Visiting family:

"I have got family in Langebaan..." (P9: pp. 3)

"...it is not easy it is very difficult because driving from my house, if I must go to Langebaan without my car, it is going to take me a day. A whole day before I get to Langebaan because at 5am I must take a

taxi from my house, from the rank to Cape Town. Cape Town I must get a taxi from Cape Town to Langebaan and it's very difficult for that taxi to get full. It's going to take maybe 4 to 5 hours for that taxi to get full and then it must be full before it travels from Cape Town to Langebaan." (P9: pp.3)

Respondents reiterate that the best mode for visiting VFR is by car instead of mini-bus taxi. The policies for PT need to be evaluated if more people are to depend on public transportation:

Luke (2018) points out that public transportation services and alternatives are so poor in South African cities (especially Johannesburg with high congestion too) that the trajectory where individuals are being pushed towards car ownership is likely to increase until this can be solved properly.

Fragmented Network: CONSTRAINTS TIED TO POOR PUBLIC TRANSPORTATION INFRASTRUCTURE

The category "fragmented network" yielded 11 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*constraints tied to poor public transportation infrastructure*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Like there is no one bus that can just take you to that one place...its always like you have to stop here and change...go take another one form one place to another..." (P14: pp.4)

LONG QUEUES AT TAXI RANKS –

"Okay I just want to mention that there is a free one [a feeder mini-bus taxi] to the taxi rank, from home to the taxi rank but then it's a long queue and you never know when it will arrive." (P1: pp.2)

"...okay like the queue... I can stand for like 30 mins" (P1: pp.13)

"It could be the whole day because there is a queue..." (P10: pp.8)

"...and sometimes the trains are not operating, imagine the line now...and then sometimes the bus would be on strike too, gosh you would have to stand there until Christ comes..." (P8: pp.6)

LONG WAITING FOR VEHICLES TO FILL UP –

"I must wait ... I don't know how long; I just have to wait for people... Yes, until its full..." (P10: pp.7)

LONG WAITING EVEN AT BIGGER TAXI RANKS –

"Even in Nyanga I have to wait... I just wait, the waiting is bad...it's killing me..." (P8: pp.22)

This experience described above is supported by evidence from the literature:

Dzisi et al. (2022) pinpoint the genesis of the issues described by participants above. The authors claim that the issues is tied to excess demand versus shortage of supply. According to Dzisi et al., (2022), urban transport in developing countries is typically carrying overloads at peak-times, while supply of bigger forms of transportation modes like busses are unavailable resulting in long waiting periods for commuters (Dzisi et al., 2022).

"If Then, But Only When" Phrases: TRAVELLING WITH PUBLIC TRANSPORTATION MUST BE QUICKER

The category “if then, but only when” yielded 10 noteworthy quotations for the theme “impediments to access adequate public transportation”. The overall account of the experience of *“travelling with public transportation must be quicker”* is captured in the combined quotations from participant ten below. These revelations from participant ten are further supported by already existing literature that discusses this issue:

“Just because there is ubers now and taxify, that’s the right thing...quicker...like if I were to call an uber now, like 10 mins or 5 mins the uber will be there...drop me off at work...” (Participant 10: pp. 9)

The need for efficiency is echoed by other studies:

In a study which examined whether the anxiety associated with public transport results in poor work performance, Gobind (2018) approached the research with qualitative methods. One of the findings relate to participant 10’s desire for quickness from public transportation (especially minibus taxis). Gobind (2018) highlights that participants mentioned they would like to see changes regarding the time it takes to travel to and from work because the minutes wasted while waiting for taxis means individuals have to get up very early just to stand in a shorter queue for minibus taxis.

Leisure or social: DESCRIBE PT EXCHANGES BY MODE TO GET TO ACTIVITY

The code “leisure or social” yielded 8 noteworthy quotations for the theme “impediments to access adequate public transportation”. The overall account of the experience of *“describes public transportation by mode to get to activity”* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“Yes obviously, if you want to go to a place that is far you going to have to spend more...if you are using a public transport as well so, yeah, changing of transport sometimes if you need to go to Paarl for example, you need to take a taxi from Gugulethu, to Nyanga, from Nyanga to Bellville, from Bellville to Paarl” (P6: pp. 24)

There is evidence from the literature which supports the implications of ineffective and unequal transportation service for township-dwellers:

Nelson (2021) study utilised the positioning of stops within the spatial configuration of the city to measure accessibility. The methodology allows for comparisons between different systems and clear visualisations through mapping.

The study findings show that Black and So-called Cape Coloured neighbourhoods are still disadvantaged given the poor transportation network and infrastructure for township areas in the City of Cape Town. So-called Cape Coloured and Black neighbourhoods in Cape Town have poor positioning of train stations in their neighbourhoods due to historical determinations. Meanwhile White neighbourhoods had access to many more stations in their neighbourhoods. This issue reveals the challenge of public transit for township dwellers which is characterised by a disjointed and fragmented network, with long distances in-between transit. Nelson’s (2021) findings consequently put the experience described above into context. It supports and explains the need for multiple exchanges participant 6 has to endure to get to her destination.

Livelihood or Educational: “IF OPPORTUNITIES WERE CLOSER, I COULD DO MORE”

The code "livelihood or educational" yielded 6 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of *"if opportunities were closer, I could do more"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I would just walk...I'll just walk and see, I'll walk to Table View and I will look at the sea...it won't matter if I don't have money to buy something, I would just walk there, just to get a fresh breeze" (P10: pp.4)

This experience described above regarding the desire to live in neighbourhoods with good amenities and activities nearby is supported by evidence from the literature:

On how safer neighbourhoods allow people to live better –

Lawrence et al., (2006) conducted a study in which they found that people who live in more walkable neighbourhoods experienced positive by-products (such as lower BMI, contributed less to air pollution, and drove less) emanating from their ability to walk more, drive less and use their bicycles more often than people who live in less walkable neighbourhoods.

Participant 11 also includes –

"...yes, I would go, I want to be alone and maybe go to the beach, or park, just a place with people so that I won't be "alone", just a nice me time alone, maybe read a book. I would like to go and exercise if I stayed this side, go and watch a movie..." (P11: pp.4)

This experience described above is supported by evidence from the literature:

Where transit into the city is poorer and when individuals live on the periphery of opportunity-laden cities or centres or experience spatial constraints, they are less likely to have the opportunities to improve their lives (Næss et al., 2018).

Necessity: IF I'M LATE – I LOSE

The code "necessity" yielded 4 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of *"if I'm late – I lose"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Being late means you could lose your job –

"And then sometimes you can't get in because it's too full [on public transportation], and it gets delayed and you must wait for the next one...and I'm lucky because here my boss is more understanding, and then you would like get people that are hanging on doors because they are scared if they are not going to get on that train ,they scared that they are going to be late and lose their jobs..." (P14: pp.3)

The experience related to how transportation acts as a means to access livelihood opportunities described by participant 14 above is supported by evidence from the literature:

Foley et al., (2021) found that transportation is highly related to the economy and is considered a basic need, as it represents access to work opportunities, transportation allows people to access food and nutrition, social networks, and other social benefits in society.

Once-Off Activity: **ATTEND ONLY ON OCCASION DUE TO EASE WITH TRANSPORTATION**

The category “once-off activities” yielded 6 noteworthy quotations for the theme “impediments to access adequate public transportation”. The overall account of the experience of “*attend only on occasion due to ease with transportation*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Weekends are the only time respondent 8 may attend a leisure activity –

“We normally go in the evening...maybe for dinner or...I go there [only] during weekends... When we go to Canal Walk, we are so relaxed we do not even check the time because there is no rush, rush...” (P8: pp.23)

People need to plan ahead and for a time that suits them best to engage in leisure. This experience described above is supported by evidence from the literature:

Lee and Scott (2017: 382, in Musavengane, 2019) noted that “...one’s choice of travel destination or activity is not a spontaneous or impulsive personal decision, but rather the result of a complex interplay between the tourist and his or her social and historical circumstances”. Musavengane (2019) furthermore interprets the tourism habits of Black South Africans as being underpinned by social class and cultural norms.

Potential or Desired Activities: **IDEAL TIME FOR ACTIVITY PARTICIPATION**

The category “potential or desired activities” yielded 12 noteworthy quotations for the theme “impediments to access adequate public transportation”. The overall account of the experience of “*ideal time for activity participation*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Day time or daylight better for travelling versus at night-time –

“I also know that the area that I stay in is dangerous, I don’t want to get home late, when its dark, because you can even find robbers waiting for you.... because they see that your car is not parked in and then they wait for you, maybe somewhere. And then the minuet you open the gate...” (P5: pp.24)

Travelling for leisure or recreation depends on many things. This experience described above is supported by evidence from the literature. Musavengane (2019) for instance conducts a meta-synthesis of the factors that influence the will of Black Africans to travel and or the priority placed by Black Africans on travelling for tourism. The author’s discoveries reveal similarities with participant five’s admissions related to Black people feeling too unsafe to leave:

While investigating the concept of “will to travel” and the priority placed on tourism by poor Black South Africans, Musavengane (2019) revealed that firstly a lack of will, secondly, the lack of income,

thirdly that tourism was not necessarily a priority and lastly feeling unsafe all contributed to Black South African priority for tourism.

Recreational or Cultural: RIDE SHARING TO REDUCE THE BURDEN OF TRIP-MAKING COSTS

The code "recreational or cultural" yielded 2 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of *"ride sharing to reduce burden of trip-making costs"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...not really, if I go to Khayelitsha then we have to take an Uber that side and then go to town, then from town, then come back this side or go to my friends place...Because its more convenient, everyone is there and then you can split the bill around, you see?" (P2: pp.3)

"...to go to Langebaan or Greyton for a weekend etc, we have planned that and also we tried to find out more information about that, that is basically what we want to do next, maybe November, we still saving money now, so we would go as a group of 8, as couples actually..." (P5: pp.5)

This experience described above is supported by evidence from the literature, where Foley et al., (2021 explains how income plays a role here):

Thirteen studies evaluated in Foley et al., (2021) study show that income affects travel behaviour among low-income African commuters, additionally, households with a low socioeconomic status spend an excessive amount of money on travel to the point of competing with other basic household necessities like food.

Repeat Activities: EVERYDAY PT EXPERIENCE OF RISK-TAKING BY PASSENGER'S & MBT DRIVERS

The category "repeat activities" yielded 3 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of *"everyday public transportation experience of risk-taking by passengers and minibus taxi drivers"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Risks people take to get to work –

"...people with financial problems, they would go by train [on the way to work], sometime it's pretty dangerous because they would go through and then they would hike into the train in-between carriages and stuff... you know what I mean ... and they fall, its bad...." (P3: pp.10)

Grateful to arrive alive –

"...it's because the taxi drivers don't actually care when it comes to fines, so...it happens a lot, they take it as if Wynberg is closer to the township, and Claremont because of traffic [congestion] it takes longer, they will take short cuts, and every time I get to Claremont, I would say 'thank God' I've finally arrived!!" (P11: pp.3)

EVERYDAY EXPERIENCE –

“...it could be 2 hours from here late to Khayelitsha, the lines are here this side, so we would have to stand a long time. and in Khayelitsha , we will also have to wait, because there would be a taxi block, and taxis won't be able to come that side they would have to stop, especially now, there are no trains and also if there are no buses we will also have a problem, which means the bus passengers will now come to the taxis as well.” (P15: pp.12)

This experience described above by participant three, participant eleven and participant fifteen is supported by evidence from the literature, where Dzisi et al., (2022) characterize the available urban transportation in African cities as being poorly regulated, unstructured and or informal in character:

Furthermore, while paratransit is the most affordable form of transportation in some African cities, the dissatisfaction shared by commuters who are heavily reliant on the service remains in contrast with the continued dominance of the service – irrespective of the recklessness, overcrowding and unreliability issues (Porter et al., 2021, in Dzisi et al., 2022).

Social Connection: **LIMITING MOVEMENTS WITHIN THE TOWNSHIP**

The sub-code “social connection” yielded 2 noteworthy quotations for the theme “impediments to access adequate public transportation”. The overall account of the experience of “*limiting movements within the township*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

The respondent doesn't feel comfortable moving around within her own neighbourhood vs. being in town –

“I only stayed in the house I won't lie; I just went to campus and I only did stuff in town, but I wasn't like...Like sometimes I would use public transport to move around in town...so like in Gugs I wouldn't [even] go to the mall” (P4: pp. 5)

This experience described above is supported by evidence from the literature which discusses residential satisfaction:

According to Grillo et al., (2010) residential satisfaction refers to an individual's contentment with their environment and whether they feel connected to their community. For the authors, residential satisfaction is often treated as a key variable of community engagement in much of the urban development research on community growth.

Furthermore, Sirgy and Cornwell (2002: 103) state that ‘satisfaction with the neighbourhoods physical features (such as upkeep of homes and yards, landscape in the neighbourhood, street lighting in the neighbourhood, crowding and noise level; nearness of neighbourhood to facilities needed, and quality of the environment in the community) contributes significantly to one's overall feelings about the neighbourhood and housing’.

Space-Time Path: **SPECIFIC ACTIVITY CONSTRAINT**

The category "space-time path" yielded 2 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*specific activity constraint*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"I guess like other people would love to participate in sports activities, but then it's happening in Rondebosch...so they can't cause they must then take 3 trains and they probably won't make it on time...for whatever the sport is...for other people I can see why it would be a problem, but with me it won't, I would take 5 taxis if I need to...and go play the sports in Rondebosch" (P14: pp.8)

This experience described above is supported by evidence from the literature:

It is well recognised that historically disadvantaged communities in South Africa continue to experience different obstacles to reach the opportunities and services that they require – this includes geographical, physical and economic barriers. Nelson (2021) posits that as a measure against this, urban-poor, peripheralized people are heavily reliant on forms of transportation to ensure their inclusion.

Transport-Dependent Activity: **SLEEP OVER AT FRIENDS TO MAKE MOBILITY EASIER**

The category "transport-dependent activity" yielded 5 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*sleep over at friends to make mobility easier*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"..yeah, that was like a lot...and also when we got exams, I literally used to sleep over at my mates place because she was like this is ridiculous...like you can't be going back and forth...when you are especially when you are writing your exams, and also when there were strikes I couldn't go home...so that was a lot, I don't know personally for me it was a lot..." (P4: pp.26)

"No not really...but I do know of First Thursdays...Yes, and the thing is I'll have to ask my friends that live around town, to sleep over and I don't really like that, like I don't like bothering people..." (P12: p.14)

This experience described above is supported by Næss et al., (2018). The authors claim that people who experience low mobility, as well as those who live far away from opportunities and services which normally reside in the city centre, often miss out on freedoms such as easily accessing an array of necessary facilities.

Transport Scarcity: **EXPERIENCES WITH BEING STRANDED DURING PT DELAYS**

The code "transport scarcity" yielded 10 noteworthy quotations for the theme "impediments to access adequate public transportation". The overall account of the experience of "*experiences with being stranded during public transportation delays*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"Uhm, for me if everybody had a car it would be the best option. Because it's difficult to travel on a daily basis, sometimes you hear trains delay, that they are not working and all the people that use train, they would go use taxi's, cause remember those who use trains normally don't use taxis now and they are flooding everything....you know what I mean, and now the taxi people will be late...because of train people" (P6: pp. 8)

These common experiences while commuting from townships into the city for work are echoed in the literature by Mmadi (2020) who provides a detailed profile of the commuter-worker sub-group and categorizes them as follows:

- (1) Commuter-workers travel to work by bus, taxi and or train;
- (2) Commuter-workers reside in one of South Africa's townships and or informal settlements;
- (3) Commuter-workers can be easily politicised because they are located in the struggles over social order. They also have specific demands around clean water, electricity etc;
- (4) Commuter-workers' experiences of daily commuting are intricately linked with and are a result of apartheid spatial planning;
- (5) Commuter-workers are often unable to access workplaces and the labour market in general during times of protests or total shutdowns;
- (6) Commuter-workers spend a considerable amount of their meagre wages on commuting to and from work daily.

Taken from : Mmadi (2020: pp.4)

Participant 6's experience is framed against this description above of the commuter-worker, as transport scarcity and public transportation delays heavily affect lateness, overcrowding - creating job insecurity in most cases for the township poor.

Theme Three: *Temporal Accessibility or Scheduling*

TEMPORAL ACCESSIBILITY or SCHEDULING

This theme considers how time scheduling and or available time budgeting throughout the day, may afford public transport-dependent commuters a workable arrangement of life. The *Temporal Accessibility or Scheduling* theme additionally considers the constraints to activity participation that may be present.

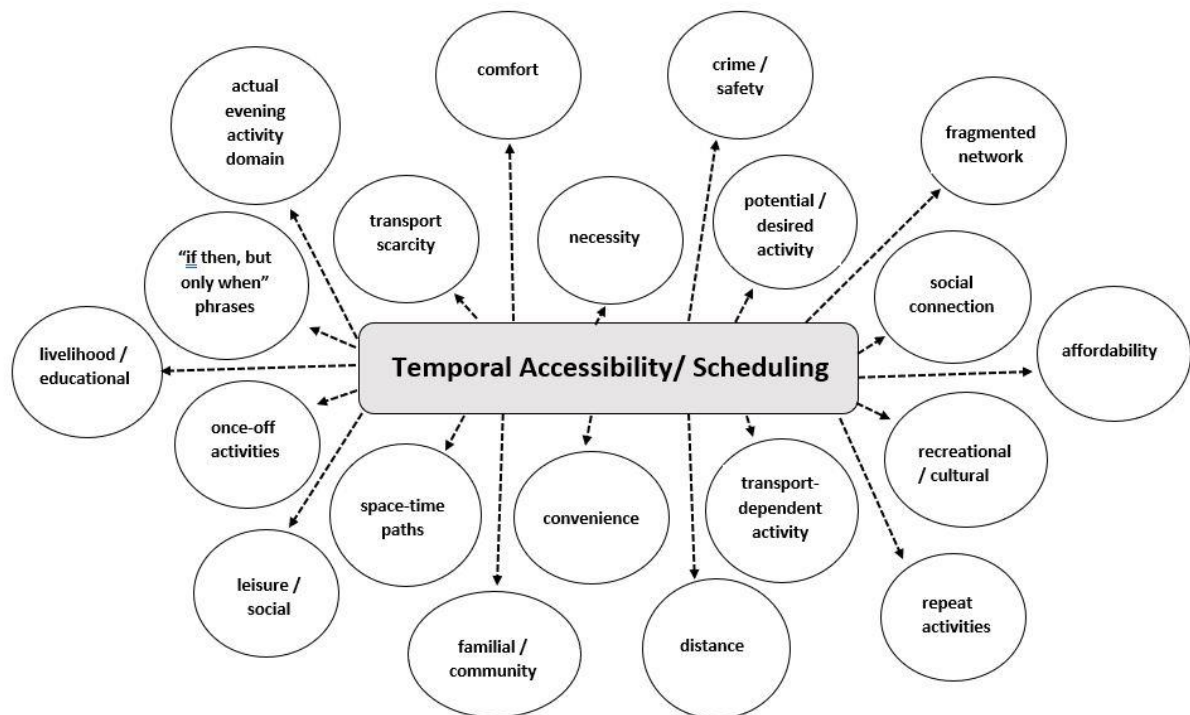


Figure 24: Coding Tree for Thematic Analysis Three

Actual Activity Domain: PT CANNOT SERVE US, ONLY PRIVATE VEHICLE CAN

The category "actual activity domain" yielded 3 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*public transportation cannot serve us, only private vehicle can*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"It's only that then on weekends its going out but I don't use the bus when I go out, only Uber or [private] taxi" (P2: pp.3)

"I would like to use [private] transport for, to go out parting, I mean it's safer, so that you don't get involved in drinking and driving". (P1: pp.5)

Even socialising in the neighbourhood, it done with ride-sharing services –

"It's quite dangerous where I live so, if you are a party animal like me then you want to go out...and you spend, I need to be honest with you guys like VW is on target now at the moment where I live, so hijacking is quite high, so we normally Taxify or uber, Taxify is much cheaper, even if I live nearby where

you want to go party, for example, Picsils, Corner Lounge, I would take an uber cause it's like R20, knowing that I'm actually safe and my car is parked at home, even if I'm going to get drunk I know I'm going to request an uber or Taxify and it will take me home." (P6: pp.5)

This experience described above is supported by evidence from the literature from Luke (2018):

The high dependence on private motor vehicles shows a pattern that reliance on public transportation in South African cities is an unreliable form of mobility, simply because the quality is so poor. Luke (2018) states that poor public transportation may even constrain people's movement. There are also too few satisfactory public transportation alternatives that could meet people's needs as well as the car does.

Affordability: CHEAPEST PT MODE OPTION NOT AVAILABLE OFF-PEAK

The code "affordability" yielded 15 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*cheapest public transportation mode not available off-peak*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...or you could take a train...I mean no one wants to take a train on the weekend...cause it's not safe and they don't run.....uhm there is like one every 3 hours...or something ridiculous...so you wouldn't do that...because you would spend your whole day waiting for train..." (P14: pp.6)

This experience described above is supported by evidence from the literature:

The latest National Household Travel Survey (Stats SA, 2020) reveals that outside of a small percentage of commuters in the Western Cape (1,6%) and Gauteng Province (1,5%), the train is reportedly the least used mode of transportation by households in South Africa. For the commuter-worker, in terms of preferred modes of travel, the NHTS states that those who used trains in 2013 stood at 12,9% and decreased to 3,2% in 2020 (National Household Travel Survey, 2020).

Even though it's cheaper, it's not safe –

"...because early in the morning its dark and they rob the people a lot in the train station so most of the people don't really use the trains, that I know of...and the uber, that everyone uses now..." (P7: pp.3)

"Train is a bit dangerous for me, I'm a female and we know that things in the communities have changed its dangerous now, so I wouldn't actually consider a train rather than a taxi, because you do have taxis from Gugulethu directly to Old Mutual station..." (P6: pp.3)

This experience described above is supported by evidence from the literature:

For most low socioeconomic status individuals, Foley et al., (2021) state that commuters will choose a mode of transportation based on cost and or affordability. The authors gathered this information by synthesizing qualitative, mixed methos and quantitative data from studies in Africa to explore socioeconomic and gendered differences in travel behaviour in Africa and to develop an understanding of travel-related inequity.

Comfort: TOO MANY OR MULTIPLE STOPS

The category "comfort" yielded 1 noteworthy quotation for the theme "temporal accessibility or scheduling". The overall account of the experience of *"too many or multiple stops"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Disjointed PT network to get to social events –

"...you have to take another taxi, iphela as well to Luzuko then from Luzuko again...because it goes around and every stop people get on and off. Then you have to get inside Philipi and then go to Crossroad and then Luzuko is the last stop." (P2: pp. 12)

In a study that looked at data focussed on the number of random stops, dwell time per stop, and travel time from route origin to destination in Kano city, Ibrahim & Alhassan (2020) found that minibus public transportation in the study area typically and frequently made random stops, had long dwell times which resulted in increased travel time for the passengers and as well as the associated delays which cost the passengers more time.

Convenience: WHAT IS CONSIDERED A DECENT AMOUNT OF TIME TRAVELLING?

The code "convenience" yielded 10 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"what is considered a decent amount of time travelling?"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"a person should not spend more than 30 mins... well 30 is pushing it... Yeah if its more than that it's too much...because that means you are waking up earlier and then that means you are spending the same amount of time getting back" (P4: pp. 26)

This experience described above is supported by evidence from the National Household Travel Survey (NHTS) 2020, which gave information regarding travel time to get to work in the mornings:

Apart from the category "walking all the way", total travel time to get to work has increased across all modes since 2013. In the year 2020, it is revealed that those who reported to use a train, taxi, and bus to reach their destination, had a higher increase for total travel time to work, while workers who used public transportation, in particular, had as much as 107 minutes long travel time in the morning to access their workplace (Stats Sa, 2020)

Additionally:

"I would say before 7 o'clock... I think for everyone, that's better because after that there is too much traffic..." (P2: pp. 16)

This experience described above is supported by further statistical evidence from the literature:

According to the NHTS (2020) members of the South African work force typically need to wake up earlier just to get to work on time when travelling with public transportation. The survey relays that typically, workers left their homes between 7am and 8 am in the mornings (Stats Sa, 2020: pp. 3).

Crime or Safety: **TOO SCARED TO TRAVEL AT NIGHT-TIME**

The code "crime or safety" yielded 2 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"too scared to travel at night-time"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...even though we have Uber, even Ubers are not safe...it's not safe because you get incidents like getting robbed, kidnapped as well." (P2: pp.19)

"Yeah, it's safer to sit in the passenger seat... she was in the uber and she noticed that the uber driver didn't follow the directions, and she would like no that's fine, and the driver would not let her out, so luckily she was sitting on the passenger's seat so she liked pressed the unlock thing and jumped out..." (P4: pp.7)

This experience described above is supported by evidence from the literature:

The two provinces in the country which showed patterns where passengers were rather more concerned about crime and their safety while travelling was a higher priority than concern with vehicle accidents on the road were revealed in the Western Cape Province and the Eastern Cape province (Stats SA, 2020).

Distance: **PEOPLE GET UP HOURS AHEAD IF RELYING ON PT**

The sub-code "distance" yielded 2 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"people get up hours ahead if relying on public transportation"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"it's like five in the morning because it take you like 3 hours to get to work so, so you have to leave your house at five so that you can be in Constantia at 8am in the morning.....So then you leave your house at 5am its still dark its dangerous...and you have to line the nearest Golden Arrow bus stop...or maybe you do not live close to a train station, so same thing...and you have to walk at 5am to a train station and it's not safe..." (P14: pp.5)

This experience described above is supported by Lucas (2011) who studies transport poverty or disadvantage in the Johannesburg areas of South Africa and claimed:

Some participants experienced inappropriate travel situations when covering long distances to access opportunities and resources. These opportunities were often placed far away from where people lived, and the transportation options had rather unsuitable vehicles that were too slow to cover long distances, they had few availabilities of reliable public transportation, the environments were often hazardous and routes were not always fitting for the desired destination.

Familial or Community: **WISHING TO VISIT FOR LONGER BUT CAN'T ACCESS PUBLIC TRANSPORTATION LATE**

The code "familial or community" yielded 16 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*wishing to visit for longer but can't access public transportation late*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

After visiting with her sister –

"I would struggle with getting a taxi in Delft...so...I avoid travelling [late] with public transport most of the time..." (P8: pp.25)

This experience described above is supported by many as evidence from the literature. Below we lean on a quotation from Frank et al., (2006, in Martens et al., 2012: pp. 686) who recognises that transport is:

"important to allow people opportunities to access family, friends and to reach leisure and recreational opportunities".

Participant eight's quotation properly captured the sentiment that public transportation was simply not enough and not allowing participants enough flexibility to enact a very basic and significant part of human life – to connect with loved ones.

Fragmented Network: **OPTIONS FOR RELIABLE TRANSPORTATION FOR EVENING-BASED ACTIVITY PARTICIPATION**

The category "fragmented network" yielded 13 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*options for reliable transportation for evening-based activity participation*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"Somebody has a car. Between whether friends or family because that when we need to go out we know that public transport is not that reliable..." (P5: pp.15)

This experience described above is supported by evidence from the literature:

Plano et al., (2020) have acknowledged how a large number of captive public transportation-reliant users coming from the periphery of Cape Towns' livelihoods depend on having efficient and reliable public transportation. Furthermore, transportation distances, the authors state, are continuously a problem for the urban-poor in Cape Town as a large number of affordable housing units for the urban-poor are often built on inexpensive land located far from desirable locations and places of employment (Plano et al., 2020).

"If Then, But Only When" Phrase: **TO HAVE MORE TIME TO DO OTHER IMPORTANT THINGS IN LIFE**

The category "if then, but only when" yielded 2 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*to have more time to do other*

important things in life" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Would like to have more time for –

TAKING CARE OF HOUSEHOLD RESPONSIBILITIES

"To cook, help with homework's, make sure that they took a bath before they go to bed, and eat and all that..." (P8: pp.10)

TAKING CARE OF HEALTH

"I would go to the gym, that's what I'm planning to do actually...Yes, I want to do that, in summertime but now I stopped because its winter. Because I realised that it's not safe for me to come back and go to the gym, vice versa. By the time I come back from the gym its dark, especially if you are a lady in the township, it's very dangerous, so I stopped doing it..." (P5: pp.5)

These experiences described above characterise township-dweller's transportation needs for reaching an enhanced life state. Support for this notion coming from the literature states that public transportation is a key enabler for enhanced quality of life and human dignity (Frank et al., 2006), as well as the importance for transportation accessibility for people to realise their needs (Lucas, 2006).

Leisure or Social: AMOUNT OF TIME SPENT DOING LEISURE ACTIVITIES

The code "leisure or social" yielded 11 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"amount of time spent doing leisure activities"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Amount of time spent at shopping mall –

"Parking is cheap there, because the first hour is free, 60 mins is free and then the rest is 5, 10. I spend around 5 hours..." (P6: pp.19)

This experience described above is supported by evidence from the literature, where Kay and Jackson (1991) identify strategies to adjust time and financial constraint for leisure participation. The authors claim that reducing (but not entirely foregoing) participation helps, saving money in order to participate, and trying to find the cheapest opportunity.

Livelihood or Educational: WORKING LATE SHIFTS AND RELYING ON PT TO GET HOME

The code "livelihood or educational" yielded 7 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"working late shifts and relying on public transportation to get home"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"...if I can get a callout at work late, maybe I will catch the last taxi maybe 7 pm down the road. To walk from the taxi rank to my house is another challenge because there is darkness and these guys,

they use it to their advantage every time, so it is a gamble. The perfect way? I do not know but it is much better when you have your own transport but without your own transport it is risky.” (P9: pp.5)

“It’s mostly that we sometimes have like [film] shoots and we end up finishing really late...and I would have like problems with getting people to like drop me off at home...because most of them live around town...so they can catch a lift with anyone, just drop them along the road...or they can just walk...” (P12: pp.6)

This experience described above is supported by evidence from the literature, where Lucas (2011) highlights the role of policymaking in South Africa and its effects on employability for those who live on the urban periphery in South African cities:

Lucas (2011) laments that the South African governments inaction for delivering social and equitable public transportation has resulted in high travel costs that deplete already very low incomes for the peripheralized poor Black township-dwellers. The author argues that travel has increased financial worries and makes it near impossible to find employment, as well as engage or maintain one’s social links as a result.

Necessity: MISSING CONNECTIONS = LONGER WAITING TIME FOR THE NEXT PT SERVICE

The code “necessity” yielded 3 noteworthy quotations for the theme “temporal accessibility or scheduling”. The overall account of the experience of “*missing connections equals longer waiting time for the next public transportation service*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“...you might take Langa taxi to get home much earlier, around 18:00 but if you don’t take that taxi from Langa you will get home late past 19:00 and by that time its already dark outside.” (P15: pp.4)

“I think sometimes the buses are late or they just don’t show up at all, when they are late it’s not like 10 or 20 mins late they can run to up to an hour late...” (P4: pp.8)

“Sometimes, I would have no choice, because maybe I finish late at school and then I would have to sit and wait for the line to just go...” (P12: pp. 2)

In the literature, we hear how overcrowding may be one explanation for the long lines and queues at public transportation interchanges:

According to Clark and Crous (2002) the overcrowding volumes (in percentage) that can be observed during the high peak-times for public transportation on the Cape Flats directions of Khayelitsha and for Mitchell’s Plain had stood at one-hundred and fifty percent of their carriage capacity at that time. The quotations shared above by participants four and twelve also address the notion that the public transportation operational environment itself adds to this factor. Clark and Crous (2002) characterized the operational environment for public transportation in Cape Town as highly competitive, and is defined by dispersed destinations, long distances highly peaked demand and intense in-competition within the minibus taxi industry alone.

Once-Off Activities: SPECIFIC OCCASSIONS WHEN MORE PT WAS AVAILABLE

The category “once-off activities” yielded 1 insightful quotation for the theme “temporal accessibility or scheduling”. The overall account of the experience of *“specific occasions when more public transportation was available”* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

In the township, the *amaphela* feeder taxis are filling the gap, allowing ease of movement within townships at flexible times:

Township to township transfers are easier –

“Transport is very important because it takes you where you want to...For instance in Nyanga East, now that we have malls, there is Gugulethu, there’s Philippi, and the small taxis are the only transport that is operating that side in the township...Within the townships ... the small taxis have been operating for a very long time, it clearly means there is a need for them” (P5: pp.10)

PT is a lifeline for people to be able to conduct their tasks. This experience described above is supported by evidence from the literature, where Clark and Crous (2002) cement the notion that for the very poor people living in the townships – paratransit is a lifeline for them to access employment in areas with a high volume of health employment and education opportunities.

Potential or Desired Activities: I CAN'T PARTICIPATE BECAUSE OF ISSUES OF DISTANCE AND TIME

The category “potential or desired activities” yielded 3 noteworthy quotations for the theme “temporal accessibility or scheduling”. The overall account of the experience of *“I can't participate because of issues of distance and time”* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“It is...but you know that when I’m driving to Somerset mall, when I’m actually driving back I can feel it, like damn I went shopping far.” (P6: pp.24)

“...I think town is the easiest place to get to...but then there is also time constraints...like if you have a party that you need to go to that starts at 10 pm in town, then you would have to leave at 8pm.....and then you need to be in town for an hour...before the party starts and then you can't really just leave the party whenever you feel like it, because then there is no transport to take you home...” (P14: pp.5)

“...it doesn't have to be far, but definitely you have to pay... it doesn't have to be far because sometimes it complicates, because you will always make an excuse because its far, not everyone likes to travel far, like me for example...I get frustrated when you have to travel...” (P5: pp.14)

This experience described above by respondents speaks to the challenges of being mobile at a time suitable to the respondents. Their challenges are supported by evidence from the literature:

Clark and Crous (2002) identify that it is difficult to access off-peak public transportation services especially for shoppers, students, the elderly, tourists and the unemployed – all whom may require bus or rail transit to get around out of the high peak-times. In the meantime, distance and cost add an additional burden that most poor households struggle to meet each month as well (Lucas, 2011).

Recreational or Cultural: PEOPLE HAVE LIMITED TIME AFTER WORK

The code “recreational or cultural” yielded 1 noteworthy quotation for the theme “temporal accessibility or scheduling”. The overall account of the experience of “*people have limited time after work*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Respondent 3 works alongside studying –

“Uhm yes, in terms of transport, yeah, I want to take my cooking classes, but I can’t, yeah... it’s like my schedule is quite full, and transport would be a problem if I think about it though...” (P3: pp.7)

The disadvantage of not being able to engage in life enhancing opportunities is a challenge that was raised during the interviews. This experience described above is supported by evidence from the literature, where it is said that the inability to participate in certain activities renders people deficient for upward mobility. Schönfelder and Axhausen (2003:4) claim that “the lack of exposure to certain places is linked to lower chances in the job markets, more restricted social networks” (Schönfelder & Axhausen, 2003:4).

Repeat Activities: EVERYTHING IN LIFE IS PLANNED AROUND PT

The category “repeat activities” yielded 10 noteworthy quotations for the theme “temporal accessibility or scheduling”. The overall account of the experience of “*everything in life is planned around public transportation*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“I always make sure that my route is always the same...I always lay my route out before I go anywhere, like okay I’m taking this road...Well it depends, if I feel like Nyanga today is going to be full then I don’t go to Nyanga I go to Gugulethu.” (P3: pp.16)

“I remember the other time I had a 8am test and I tried to get a 5:30 am bus or something, just in case of traffic or something...if the bus gets late, I would just take a taxi, but then the busses lines just get so long...” (P4: pp.8)

While the minibus taxi industry may seem uncoordinated, they too run their operation like clockwork. In the literature the work of the minibus taxis is described as closely related to participant four’s account of a more “reliable” and efficient source of transportation in times of desperation. Some empirical studies involving the efficiency of the minibus taxis in comparison to other modes of public transportation describe the minibus taxi as not stopping simply sporadically, with routes that are not haphazard, nor necessarily random (Nelson, 2021):

Further to the above, Nelson (2021) highlights the key characteristics which make the minibus taxis so efficient and an integral part of the spatial network of the city. The author claim that this is achieved through their positioning and frequency of their stops, which are said to respond to real commuter needs and have relations with frequency of land use, density of people and also serve as feeders to railway stations. Consequently, it is confirmed that participant four is correct and intuitively knows that to salvage yet another late-coming situation at exam time, the minibus taxi is indeed the most efficient to get her there on time.

Social Connection: EXPERIENCES WITH DISJOINTED PT WHEN YOU ARE POORER

The sub-code "social connection" yielded 1 noteworthy quotation for the theme "temporal accessibility or scheduling". The overall account of the *"experiences with disjointed public transportation when you are poorer"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"Yeah exactly, I mean cause now I'm lucky because I'm in that salary bracket where I can just catch an uber...do you know what I mean, but like there are people that are not in that salary bracket, say like a domestic worker...that lives in the back yard of someone else [s house]...let's say in Claremont and they need to go visit family and friends in Khayelitsha or Gugulethu...they probably need to leave super early from Claremont to catch a train...take a taxi and get to Gugulethu and then also have like a few hours to spend with their family, because they would have to leave before it gets dark...because public transport, especially in the weekends doesn't run till late...so then like by 4 or 5 they would have to be rushing back to Claremont again...and that...public transport is just a nightmare..." (P14: pp.7)

It is still true today, but 20 years ago the poor were Black and struggled with mobility in the Cape. This experience described above is supported by evidence from the literature:

Participant 14 talks about the simplicity that having financial and transportation freedom gives an individual to be able to make links with social networks around them. Clarke & Crous (2002) state that the socio-economic make-up of Cape Town especially is a context which reflects the unevenly distributed public transportation delivery in the area. For instance, those with the financial upper hand are fortunate that the public transportation system favours them. Hence, the access and mobility needs of the poorer individuals living within the Cape Metropolitan Area (CMA) go ignored by the scheduled public transportation. The majority users of the minibus taxis in the city are the poor, Black and So-called Cape Coloured peripheralized commuters in the city – where the unregulated minibus taxi fills an important gap.

Space-Time Path: SPECIFIC TIME CONSTRAINT

The category "space-time path" yielded 170 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of *"specific time constraint"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"No, I do not have time to go do groceries, as for the way that we struggle when it comes to transport, look I leave home in the morning at 4am and I'll still be waiting for transport at 6am" (P15: pp. 1)

Confirmation that commuting has financial and time costs, Gobind (2018) states that commuting for poor individuals living on the urban periphery is not a comfortable experience due to the hours of travel involved and the perpetual long queuing involved. Furthermore, the literature on this matter also claims that commuting from South Africa's urban periphery has implication on other dimensions of life:

Kerr (2017) for example states that long commuting times experiences by South African commuters are a burden as they take away time that may have been spent doing other important things in life such as working, relaxing or spending time with family.

Transport-Dependent Activity: A TIME I TRIED TO GET SOMEWHERE AND COULDN'T

The category "transport-dependent activity" yielded 43 noteworthy quotations for the theme "temporal accessibility or scheduling". The overall account of the experience of "*a time I tried to get somewhere and could not*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Type of activities that you would miss if you couldn't access the type of transport –

"...I would definitely be missing class and group meetings, because we really just do not have any other time besides outside class time to meet...I'll miss being with my friends..." (P4: pp.9)

Respondent 4 needs time alone, away from her family home to lower her anxiety, but struggles to achieve this –

"...but then it gets so difficult because when I go through my anxiety I would like have highs and lows and like when I get like my lows at times it would be like 2 o'clock, and I'm always with my grandma, I just need to tell her where I'm going to come back...so then if I leave at 2 pm, I at least need 45 mins for the taxi to get full and then another for the taxi to get to the destination, and by then its already 4pm, and then do I even have 2 or 3 hours of alone time, cause then I get scared and I need to go home, so I'll take a taxi..." (P4: pp.10)

Confirmation in the literature that township-dwellers will struggle or that they will not find it easy to get to opportunities:

Nelson (2021) again clarifies that because of the continuing spatial pattern of clustering and segregating by racial and socio-economic dispersal within Cape Town, poor neighbourhoods lie further away from the opportunity-rich CBD – consequently, further division continue too along racial lines in the city.

Transport Scarcity: COPING WITH TRANSPORT DESERTS

The code "transport scarcity" yielded 1 noteworthy quotation for the theme "temporal accessibility or scheduling". The overall account of the experience of "*coping with transport deserts*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

After peak-time, taxis in the townships start to mix routes in order to make-up a full load –

"...most people are[n't] going to town that time...so normally what they do is that they would mix. For the taxi to be filled up, it is too risky because the[re] would be people going to Athlone, Mowbray, Pinelands and so on, while I would be going to town, so won't really get in to town quickly because the taxi has to go past all those places first, and we also would need those people to fill up the space, otherwise the taxi would not be able to go..." (P5: pp. 12)

This experience described above is supported by evidence from the literature:

In a study, which aimed to obtain and verify a method for calculating and quantifying transit deserts in Cape Town, Vanderschuren et al., (2021) confirmed that transit gaps indeed are more likely to fall within low-income areas with mostly Black and so-called Cape Coloured populations. In addition, some township areas in Cape Town are said to have formal transit gaps such as Khayelitsha.

Theme Four: *Social Exclusion*

SOCIAL EXCLUSION

This theme unpacks levels of accessibility in relation to levels of activity participation and satisfaction for participants.

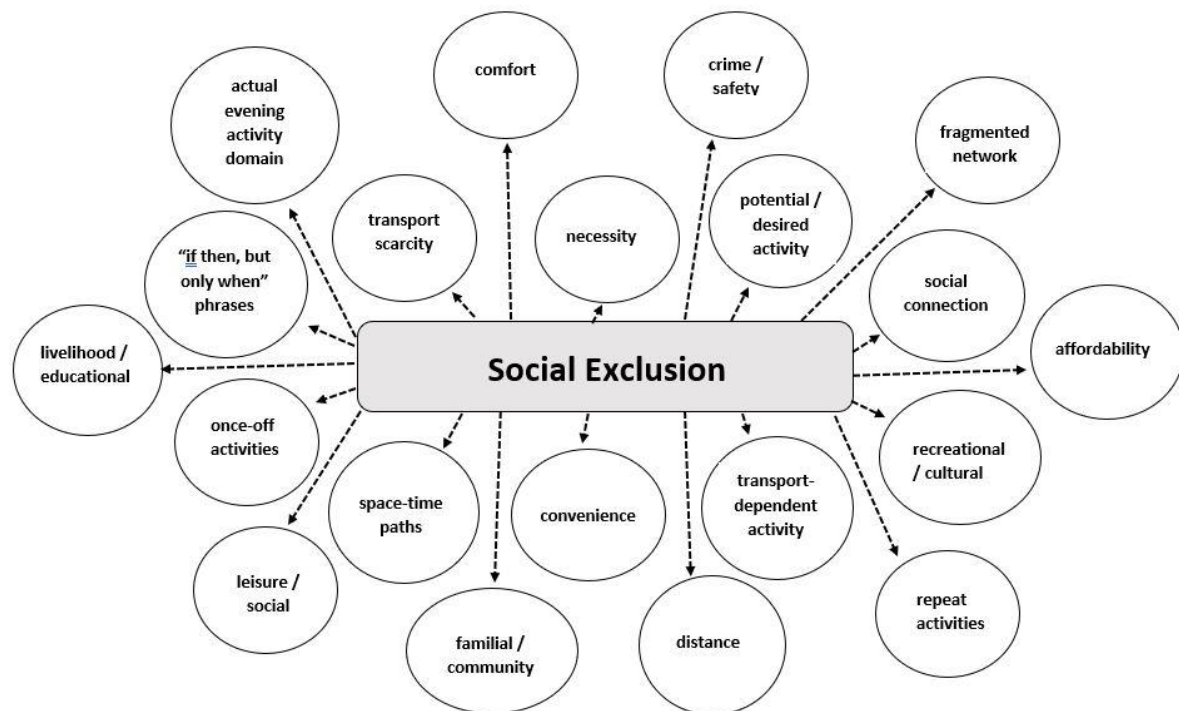


Figure 25: Coding Tree for Thematic Analysis Four

Actual Evening Activity Domain: **WAITING TIMES ON PT ON WEEKENDS**

The category “actual evening activity” yielded 3 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*waiting times on public transportation on weekends*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“You have to get in a taxi and then you have to wait for the taxi to get full, it can take like, how many minuets again...on a Sunday its slow...” (P8: pp.17)

Weekend leisure engagements –

“...ahhhm it depends, like during the week it will get full very quickly and during the weekend it would take much slower to get full, like 20 – 30 mins.” (P15: pp.8)

This experience described above is supported by evidence from the literature, where other studies have revealed similar findings:

Gobind (2018) found that among female public transportation users especially, standing in queues and waiting around for public transportation was reported as a big burden when commuting to and from work. Participants reported that they were even worried about transport to and from work

specifically due to the waiting in long lines during the peaks and arriving at work and home late - which concerned them.

Affordability: AFFORDABILITY AS REASON FOR NON-PARTICIPATION

The code "affordability" yielded 16 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"affordability as reason for non-participation"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

The affordability of public transportation (or travel costs) poses a serious threat to people's livelihoods and ability to provide sustenance for their families according to Foley et al., (2021). Below, respondents discuss how mobility and poverty play out in their everyday lives –

"I feel bad, because I'll be longing to go somewhere and then I'm unable to, I've got children I'm unable to [take] them out, I've got four children, just imagine how much I would have to pay in a taxi..." (P10: pp.3)

"I think so, when it comes to this because you have to pay... You pay for the kids, they can't just go, so it's much cheaper if you have your own car so you just pour petrol... imagine going to Century City its R18, I have to pay R18 for me my daughter, son as well as my husband..." (P8: pp.13)

"Sometimes yeah. Sometimes you do... sometimes you would think about, let's say if you are at the place..... – "should I have to pay for this?" You know, like is it really like a money's worth? To spend just to watch or do this type of thing which you can get like free, you know what I mean" (P3: pp.8)

This experience described above is further supported by evidence from the literature:

According to Patel (2021) in South Africa, 42% of people feel that their livelihood opportunities and possibilities have shrunk significantly since 1994 (the fall of apartheid and the dawn of a new democratic era in the country). Meanwhile 32% of South Africans say their financial situation has improved within the last two years. Nationally, there is a growing employment crisis especially among the youth with 40% unemployment in 2020.

Meanwhile, Dominguez Gonzalez et al., (2020) make connections between the need for mobility, for women in particular, to access economic opportunities and exclusion – where in cases that when women are mobility disadvantaged there are financial implications for their households.

Comfort: MYCITI AS THE IDEAL – BUT TOO EXPENSIVE

The category "comfort" yielded 17 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"MyCiTi as the idea – but too expensive"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

MYCITI IS EXPENSIVE –

"My City is expensive but it would be less in terms of the mass of people travelling with the Golden arrow bus, so it would be a dividing thingy, a share to share thingy, so you know other people will travel with a bus, taxi, train and my city, like in Khayelitsha, Khayelitsha has a bit of options..." (P6: pp.15)

DOESN'T REACH EVERYONE –

"The MyCiTi is great, but only like in Parklands the Camps Bay areas, which I don't get....so MyCiTi was introduced for the areas where predominantly White people live and they have cars... Well there is one line in Khayelitsha and Khayelitsha is huge...it goes down one main road and that's like not even 2% of Khayelitsha that can get in that..." (P14: pp.6)

The romanticisation of BRT in Cape Town seemed to be a trend during the in-depth interviews. Despite this, participants also acknowledged their gripe with the services, which is important as *"idealising"* it is unrealistic for the disjointed transport and road infrastructure in the city. In the literature, there is documented evidence which reveals that the MyCiTi initiative has been plagued by issues from the start especially with regard to implementation in the Cape Town environment:

The views described above by participant 6 and participant 14 are truly reflected in how this BRT policy came together. According to Diallo (2022), the BRT has important inadequacies for its Capetonian environment. So hastily was the mode implemented by the city's policymakers ahead of the 2010 FIFA World Cup event, that terrible assumptions were made regarding infrastructure-focused network alignment and with the suitability of high-end features (such as the card-based payment system) with the aim to finally absorb paratransit operations into the framework – which never did successfully materialise. The result is unsustainability in the Capetonian context.

Convenience: INCONVENIENCES OF LIFE WITHOUT A CAR

The code "convenience" yielded 8 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"inconveniences of life without a car"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Even to get to the most convenient mode of transportation (use of a friend's car) to drive her to a vineyard – the respondent still needs to struggle to get out of her township first –

"...from here I have to take a taxi to Bellville because she stays in Kuilsriver. So, then she will fetch me in Bellville..." (P2: pp.14)

Needs to use a combination of public transportation modes –

"...[get to] Town...and then I would change in town...no wait, I would change in Salt river, and then from Salt river I would catch another train to Westlake...is it Westlake, no sorry Plumstead...and then from Plumstead you take the Westlake taxi to Tokai" (P14: pp. 2)

Financial constraints tied to travelling for important tasks using public transportation:

"...not everyone can afford to take a taxi really, so I'll say you take train and then and then you must get off Wynberg and then from Wynberg you must take a Hout Bay taxi..." (P14: pp. 4)

This experience described above is supported by evidence from the literature:

Luke (2018) conducted a study which focussed on 1044 students' intentions towards car ownership in the Gauteng province of South Africa. The authors concluded that there are a few factors which made it more desirable for this cohort to own a car. These factors may be applicable, and also explanatory for the situation described by participant two and fourteen's experiences above.

According to Luke (2018), car ownership remains highly attractive in South Africa mainly because of the poor public transportation options available, the frequencies, standards of reliability, safety measures when relying on public transportation as well as level of comfort for driving. These factors according to Luke (2018) keeps those commuters – who may afford it – aiming for car ownership rather than relying on public transportation. Therefore, any policy measures to reduce car demand must be accompanied by increased levels of high-quality public transport.

Crime or Safety: **TOO MUCH CRIME WITHIN NIGHBOURHOODS or PPL AVOID LEAVING HOME**

The code “crime or safety” yielded 9 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of *“too much crime within neighbourhoods – people avoid leaving home”* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“Exactly, my love, we are really struggling. Especially when it’s that other lady’s shift, she lets us go early, and with that we can get home early as well, but you can’t, you get home late and it’s dark and you can’t do anything...” (P15: pp.4)

Participant 15 relies mostly on minibus taxis and the bus to travel from Khayelitsha to CBD. However, the “last mile” is consistently achieved by walking. Her concerns regarding lateness and darkness when travelling after work is likely related to issues of safety (which is a consistent issue among the interviews). Some literature derived from similar experiences in other part of Africa, point to more policing as a measure for safe walking:

Foley et al., (2021) acknowledge that walking is an asset to transport systems on the African continent. In their study which compared qualitative, quantitative and mixed methods travel inquiry data from studies in Africa, the authors learned about travel behaviours among African commuters. Foley et al., (2021) recommends improvements of pedestrian infrastructure and increased safety measures for environments in cities where captive walking takes place.

Distance: **“WE JUST LIVE TOO FAR FROM EVERYTHING”**

The sub-code “distance” yielded 7 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of *“we just live too far from everything”* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“The challenge will be that I’m being called for work and then I won’t have transport money, that’s a challenge...because I’ll have to find it and get it [transport money] and then go to work, even borrow, you see. Even when I want to do shopping...its difficult, but if I stayed in Town it’s very easy, I can walk...” (P10: pp.3)

Participant ten’s experience described above is supported by evidence from the literature where Foley et al., (2021) discover aspects to travel costs through the quantitative literature:

A phenomenon emerged from a synthesis of the literature for Foley et al., (2021) where individuals were travelling often to seek casual work – where casual jobseekers were investing in motorised transportation with no guarantee of finding work or being compensated for the travel costs incurred.

Meanwhile Bastiaanssen et al., (2020), establish a clear positive association between transport access and employment probability outcomes. Therefore, it is confirmed by these empirical studies that

participant ten's experience of resorting to borrowing money just to travel for an impromptu work opportunity is a common practise. Additionally, seeking casual jobs in opportunity-rich areas like the CBD in Cape Town, in this case, may contribute to short-term financial stability for unemployed individuals like participant ten.

Familial or Community: PT DISADVANTAGES INDIVIDUALS VISITING FAMILY

The code "familial or community" yielded 2 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"public transportation disadvantages individuals visiting family"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I just thought about when I was pregnant, and I was at Milnerton Medi-clinic, and I was [living] in Wynberg and my husband didn't always go with me to visits...so it was really difficult to get there, yeah...and even now, when [son's name] was born, the Hospital was so far... they do not have a hospital there [in Heideveld], it's just a day hospital..." (P7: pp.18)

This experience described above is supported by evidence from the literature:

Burger and Christian (2020) conducted a study which looked at the progress that has been made in terms of access to healthcare since achieving democracy in South Africa. The authors state that despite the government's aim to improve access to healthcare for the poorest and most marginalised communities – health outcomes remain polarised, unequal and unfair. In terms of travel for accessing healthcare, affordability restricts access as the cost of travel is simply too high in terms of the distance some people need to make especially in underdeveloped parts of the country, which contributes to high costs for travel. Additionally opening times of facilities also impact individuals adding an additional burden and inconvenience.

Additionally, respondent 8 admits avoiding a family visit due to bad public transportation connection possibilities –

"I'm thinking, even if I'm going to Kuilsriver to my cousin... gosh, I have to change, that's why I don't go there often...gosh I have to take a taxi from Nyanga to Bellville and then from Bellville take another taxi to Silversands. and then it will drop me off, by Silversands, because I'll be going to Bardale Village, then it will be a three to two minute walk..." (P8: pp.2)

Fragmented Network: TRAIN OFFLINE HAS LIMITED PUBLIC TRANSPORTATION OPTIONS

The category "fragmented network" yielded 12 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"train offline has limited public transportation options"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...in my opinion, in terms of transport is concerned, even the train, the train is far more dangerous also. There are other means of transport other than taxi and my own car but for me travelling from my house to the train station, it is a hell of a gamble because now I am multiplying the chances of the thugs getting to me because it is a bit far, it will take me say 15 minutes and in the train you are not going to be connected to the train even though the train is there, it is always full in the morning, people are hanging like this, you cannot even go in, to go in you need to push and to push hard and that train, when the time comes it must depart while you are still pushing, god help you because sometimes some

people fall, lose their legs, you see, that is why I stopped using the train because of those things. People are hanging and then in between those carriages it is full of people hanging, it is crazy.” (P9: pp.6)

Participant 9's experience described above is supported by evidence from the literature:

Venter (2014) for instance had argued that rail had great potential as a mode of public transportation to get people to jobs. Venter (2014) conducted a study to analyse accessibility and mobility dimensions of travel to get an understanding of the quality of economic and social engagement offered by certain locations in Johannesburg's townships. The study highlighted especially that rail plays a very important role in terms of the most affordable mode of transportation to access jobs. So, while commuter rail is cheaper, it is nowadays almost non-relevant as a mode of transportation due to the risks as shared by participant 9.

“If Then, But Only When” Phrases: CURIOSITY ABOUT CAPE TOWN-BASED FAMOUS EVENTS & RECREATIONAL ACTIVITIES

The category “if then, but only when” yielded 4 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*curiosity about Cape Town -based famous events and recreational activities*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“... First Thursday that I know, I've been to one yes so I mean we would just stay after work and then we go there and then...later on then we would uber...I would [attend], I've heard of the First Thursday and the other two [events] no I haven't and yes, I'll be interested to attend...” (P1: pp.10)

This experience described above is supported by evidence from the literature:

In a study titled “looking into spatial and social logic of the Minibus Taxi network - how access may support social inclusion in Cape Town, South Africa” Nelson (2021) emphasizes the ability for individuals to be mobile is important for crossing socio-spatial impediments in a social system, so they may be part of society. Mobility allows people to engage in society as well as interact beyond any challenges of spatial proportions – which speaks to participant 1's desire to participate in the “First Thursdays” event.

Leisure or Social: TOO FAR & NOT ENOUGH TIME BUDGET

The code “leisure or social” yielded 2 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*too far and not enough time budget*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“Okay so when I get home let's say 5:30pm, for me it's too late I need to make sure that I spend time with my daughter...” (P5: pp.4)

Respondent misses an opportunity to engage in an after-work social activity (almost 30 km's from her work) as she doesn't have enough time and access to transportation to get there –

“...this thing was happening at Rands yesterday, they call it African delight. Let's say you come from work around about 6[pm] and I am craving for African food then you do not have a car, what can you do?” (P2: pp.19)

“...so, do not go out...” (P2: pp.20)

This experience described above is supported by evidence from the literature:

In their study, Næss et al., (2018) conduct a qualitative analysis in the Norwegian metropolitan areas, focusing on causal mechanisms and differences between inner-city and suburban individuals travel behaviours. The authors found that transport timetables and walking distances added a burden for residents that live far away from the city centre, as they were too time consuming for the peripheralized group to be able to move with ease between desired locations. Furthermore, they claim that cars were more suitable option in such circumstances as it allowed residents to participate in leisure activities during the afternoon time – which is usually not easy to reach for them (Næss et al., 2018).

Livelihood or Educational: **EXAMPLES WHERE PUBLIC TRANSPORTATION MADE ACCESSING NB RESOURCES CHALLENGING**

The code “livelihood or educational” yielded 4 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*examples where public transportation made accessing important resources challenging*” is captured in the quotations below, and is further supported by literature that explains and substantiates the existence of this issue:

Respondent 8 describes how she almost misses an important engagement with her kids' school –

“their [school parent-teacher] meetings start at 5pm... so, I have to wait for an hour here... So, I can wait from maybe quarter to or maybe 4:30pm and then I would walk down... and then it would be late, and I can't go to Mowbray...when it's that late... Because the meeting starts at 5pm until 6.30pm, I'll have to go straight to town because at Mowbray there would be no taxis... Yes, because there are a few people here in Mowbray...” (P8: pp.10)

“it's the resources, because at my grans house I was supposed to get WIFI, because I really just didn't find another place to stay...and I needed the WIFI and everything...but it was like a long process because like Telkom, it would just not get to the point of them coming...so I couldn't do work over there so I had to come do work here...and also we are not allowed to edit off campus” (P4: pp. 25)

This experience described above related to the role that transportation plays with low-income families maintaining connection with the schooling environment of their children, as well as the school environment creating possibilities for learners to access the internet facilities is supported by evidence from the literature:

Williams and Sánchez (2013) claim that there is a relationship between the parents and a learner's school which needs to be nurtured in order to benefit learners the most, however, some low-income families may struggle with accessing adequate public transportation which makes parent-teacher face-to-face meeting very tricky. Furthermore, in support of participant four's experiences regarding needing to travel to access reliable wi-fi connection from her college, Williams and Sánchez (2013) agree that sharing e-mail and contact information is unrealistic especially for vulnerable families of low-income status who do not have access to a computer or internet at home, suffer from limited time and limited computer skills.

Necessity: PUBLIC TRANSPORTATION STRIKES AFFECT WORK AND SCHOOL ATTENDANCE

The code “necessity” yielded 4 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*public transportation strikes affect work and school attendance*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“Here in Gugulethu, okay strikes, they affect the whole of Gugulethu actually.” (P3: pp.16)

“Sometimes, I don’t come to work, it even comes to the point to when you even driving your own car, you can’t, because they will burn your car, it gets to a point where you have to sit down and not go anywhere...for your survival, and a month back when that happened, I took two days off from work...just because of the taxi violence.” (P9: pp.13)

“..if golden arrow is on a strike then we take taxis, if Metrorail is on a strike we take a taxi, but then if the taxi drivers is on strike then everything is on shut down..” (P1: pp.15)

“When there is a taxi strike I would stay at home...they would shoot us if we go to work...” (P8: pp. 25)

These experiences described above are supported by evidence from the literature:

Gobind (2018) conducted a study which examines commuter anxiety and work performance issues tied to reliance on public transportation. The study determined that most of the anxiety experienced by commuter-workers was related to fears about their safety while travelling as well as issues of late coming. Gobind (2018) went further to explain that commuter-workers travelling from the township areas and those who rely on public transportation do suffer from poor work performance. These commuters experience prejudice from co-workers for late-coming above-and-beyond the inconveniences caused to them by poor paratransit – and therefore also jeopardising security for their job.

Once-Off Activities: SPECIFIC EVENTS RESPONDENTS CAN’T ATTEND

The category “once-off activities” yielded 1 noteworthy quotation for the theme “social exclusion”. The overall account of the experience of “*specific events respondents can’t attend*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“That’s why I don’t travel if I’m not going to travel by car...because I always count in my head, like I have to go there, I have to catch another taxi, then I have to wait...but if I’m driving its way less time because you don’t keep on changing taxis, so in my traveling time during weekends if I driving, look and hour and a half is a lot of time for me...I’m going to have to go to one taxi and then take another one, that can take me 2 hours traveling...” (P13: pp.13)

This experience described above by participant 13 is supported by evidence from the literature:

While Nelson (2021) highlights that the MBT as a service delivery system is more flexible than other forms of public transportation, it cannot be avoided that MBT can’t operate as a single mode-only per trip service because they use a transportation network and road infrastructure that is not conducive for it. Nelson (2021) also points to historic foundations particularly for the townships with Black and So-called Cape Coloured dwellers, which are hindered with disjointed and fragmented networks, with long distances in-between stations and points of transportation interchanging. Gobind (2018) supports this notion as well.

Potential Desired Activities: EXAMPLES OF WHY WE CAN'T PARTICIPATE SOMETIMES

The category "potential or desired activities" yielded 16 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"examples of why we can't participate sometimes"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

The townships don't often have public transportation options during the evenings –

"Because....otherwise there is no taxi later than 8 or whatever...leaving...the township going to town...and also it's not safe leaving your house later than that...to get to a taxi rank...or, do you know what I mean...so generally for young people it's hard for them to have a life outside of the township..." (P14: pp. 5)

Even free-to-attend social events based in the city directly affect the price of commuting (when using Uber or ride-sharing services –

"That would be really nice if stuff like that could happen like more often...but the thing is with first Thursday's everything is like spiked up...even uber spikes up, like for like an uber form here to Kloof is about like R21, but then when it was like First Thursday it was like R30 , and even like drinks are like spiked up, there is also no thing such as happy hour...food and drinks are all spiked up...like whatever club you go to" (P4: pp. 29)

Responses above are consistent with some of Radder and Han's (2011) findings. In their study, the authors intended to investigate the minibus taxi user expectations for service provision in South Africa. They discovered that commuters desire adaptability of minibus taxi operational hours, as well as better logistical organization in order for their personal needs to be accommodated better. These findings confirm that participants 4 and 14 feel that the current model is still lacking for their own needs.

Recreational or Cultural: LOCKED IN TOWNSHIPS WITH NO OPTIONS OUTSIDE

The code "recreational or cultural" yielded 3 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"locked in townships with no options outside"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Affordability –

"Like I can't call taxify or uber, I can't afford... Yes I'm stuck..." (P10: pp.3)

Crime –

"...I don't, I don't feel safe, I don't go out...even I tell my daughter, we stay behind locked gates, so I tell her we lock...you lock the gate, the burglar gate, you lock the door until I get back...so I don't, I won't go out I do everything before I get home, and then once I'm home, I'm home...like once I lock the gate when I get in I won't be out until tomorrow" (P13: pp.10)

Wish for options –

"I think also [to] travel, like travel abroad...Brazil or Korea...I just love that picture" (P7: pp.8)

The experience described above is supported by evidence from the literature. To understand the above statements, we unpack social exclusion in relation to the comments from participant 7, 10 and 13:

Luz (2022) determines that social exclusion occurs due to many interconnected factors. The author claims that individuals may experience exclusion as a result of aspects specific to them. Then, that these aspects tied to exclusion snowball and interact with each other. Social exclusion has very clear deprivation factors which the author outlines, such as limit of political power, limited financial means or resources as well as low education – all of these are considered risk factors contributing to social exclusion. Furthermore Luz (2022) states that social exclusion is both an outcome and a cause of some form of deprivation.

Repeat Activities: I HAVE TO PLAN AROUND PT SCHEDULE – PT DOESN'T PLAN AROUND ME

The category “repeat activities” yielded 4 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*I have to plan around public transportation schedule – public transportation doesn't plan around me*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“I wish we would have a good, reliable transport, by good or reliable I mean the way a transport would work hand in hand with people...” (P11: pp.2)

“...you need to like schedule your time properly, because it's [public transportation] not that reliable, it's not reliable” (P1: pp.10)

“But it depends, do you know sometimes there are slow drivers, they are so slow, they drive like a 60-year-old...” (P8: pp. 23)

This experience described above is supported by evidence from the literature:

It has been shown that minibus-taxis are more flexible than other forms of formal public transportation in Cape Town, as Nelson (2021) argues that minibus taxis respond and acclimatize to the genuine needs of commuters. The minibus taxi approach is in contrast to technocratically outlined transport needs – making the minibus taxi the most responsive (of all other modes of public transit) to low-income township people's needs in Cape Town (Nelson, 2021).

Space-Time Paths: PLACE & TIME SOCIALLY EXCLUDED FROM ACTIVITY

The category “space-time paths” yielded 3 noteworthy quotations for the theme “social exclusion”. The overall account of the experience of “*place and time socially excluded from activity*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“...so shopping, I love going out, like social events like wine tasting yes, okay.... wine tasting is my favourite. yes its far yes but I always have friends that are willing to drive... I've got a friend who stays at PlatterKloof, so the Durbanville one is close by so we always go to Durbanville, but I mean my best friend doesn't mind driving all the way to Stellenbosch.” (P1: pp.4)

Preferred discretionary activities are far away and require accessibility to transport. This experience described above reflects social exclusion. This point is supported by evidence from the literature:

Firstly, for Özkazanç and Sönmez (2017) transportation is considered the main determinant for inclusion of particular groups of people in society. To demonstrate this notion, Özkazanç and Sönmez (2017) apply spatial and social dimensions of segregation to observe how transport impacts patterns of social exclusion in Ankara. Based on their findings, the authors claim that those who suffer from transport disadvantage, are in turn suffering from social exclusion.

Secondly, Farber and Páez (2011) study time use and travel where they claim that the duration of the work commute negatively affects discretionary activity participation for individuals.

Transport-Dependent Activity: **TIME BUDGETS DON'T MATCH AVAILABLE PT FOR ACTIVITY PARTICIPATION**

The category "transport-dependent activity" yielded 8 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"time budgets do not match available public transportation for activity participation"* is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

Travels for leisure during the off-peak times:

"ahhh yeah weekends when I have to do my shopping, that's the only time I have, I get to do shopping...around, anytime around 11:00 and 14:00 yeah uhm... there as well I take a taxi... oh...yeah.. weekend I prefer...well in using transport during the weekend is much easier than during the week..." (P1: pp.3)

This experience described above is supported by evidence from statistical data:

The experience described above is consistent with national trends, since 'shopping' was reported most commonly as a reason for making a day trip during the week (15,0%), followed by 'leisure or holiday' which was reported at 11,0% as a reason for travelling for a daytime trip during the week, tailed by 'holiday or leisure' which was reportedly at less than 0,5%, the least common reason for travelling for a day trip (Stats SA, 2020)

"Yeah and you can like, you can't invite me to a place like last minuet...you have to tell me like the day before so that I can prepare myself mentally, you know just to wake up early and get everything ready so..." (P12: pp. 8)

Transport Scarcity: **SOME PLACES ARE TOO FAR TO GET TO**

The code "transport scarcity" yielded 19 noteworthy quotations for the theme "social exclusion". The overall account of the experience of *"some places are too far to get to"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"That's why I don't travel... look a[n] hour and a half is a lot of time for me, I don't go much, if you have to use taxis the changing, there was a time when I was travelling I kept on sitting at home, what was it 2016, but anyway... if I decide to visit someone I'm going to travel another 15 mins, 20 mins, stay there and then I realise I'm going to have to go...I'm going to have to go to one taxi and then take another one, that can take me 2 hours traveling" (P13: pp.13)

Distance makes it all not worth the trouble. This experience described above is supported by evidence from the literature:

The City of Cape Town remains racially segregated. Nelson (2021) used census data to show how economic opportunities in the city are dispersed according to race. Black and So-called Cape Coloured poor neighbourhoods are quartered furthest away from social and economic opportunities, which results in a need for long commutes to reach the desired opportunities. This sentiment confirms participant 13's experience does indeed exist.

Theme Five: *Aspirational*

ASPIRATIONAL

This theme identifies participants' expressions to gain improved resources, to gain an improved set of transportation services or to gain mobility in the absence of difficulty or effort – this, they believe will be the catalyst for a better and or superior outcome than what they currently experience. The theme *Aspirational* considers participants' re-imagining of a situation that currently may not be or isn't their reality.

This theme also looks out for phrases such as:

"I'd like..."

"Better if..." and

"...rather than..."

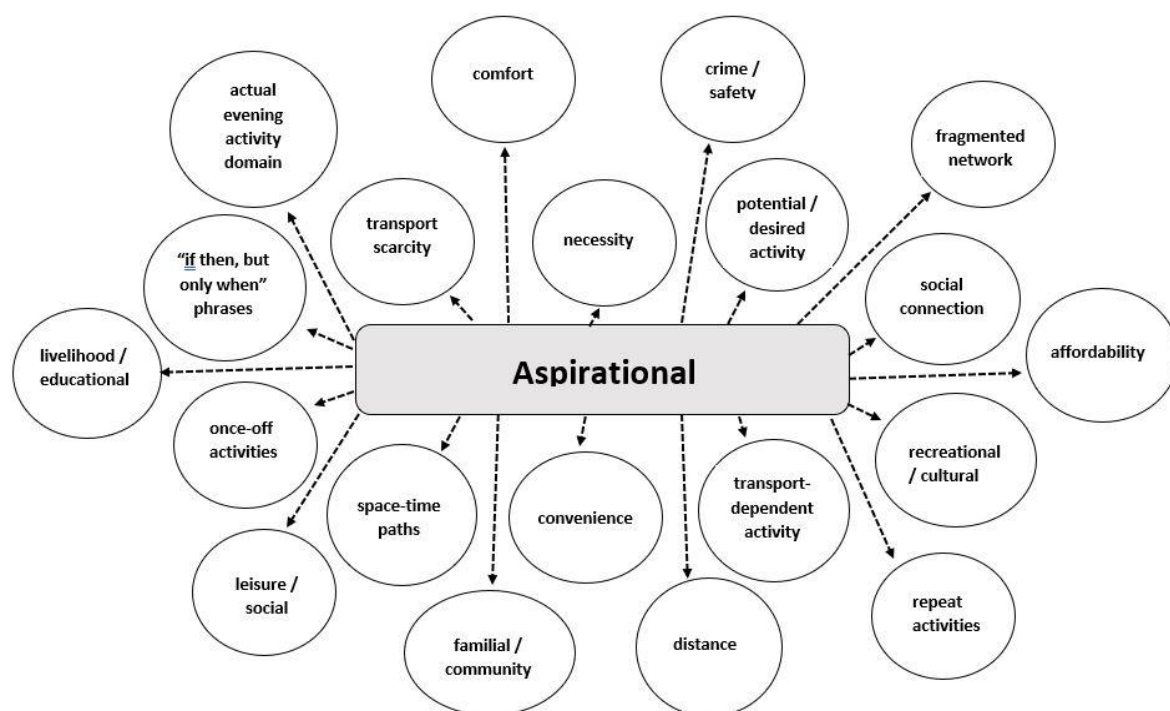


Figure 26: Coding Tree for Thematic Analysis Five

Actual Activity Domain: A SENSE OF NOT BELONGING

The category "actual activity domain" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of "*a sense of not belonging*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...so like the whole 'we are trying to integrate' or whatever, it's almost impossible...for the people inside the townships to actually have a social life outside of the township, because you can't get anywhere...if you don't have a car..." (P14: pp. 5)

This experience described above is supported by evidence from the literature, which speaks to the lack of power of marginalised individuals in society:

While conducting their study which synthesized empirical data from other studies done in Africa related to regional travel behaviours, Foley et al., (2021) made some interesting discoveries in connection with travel-related inequities. Below, we highlight some relevant deductions made by the authors which in turn support participant 14's perception of how transportation plays a key role in social mobility for marginalised people.

People who may not have flexibility of movement, access to good transportation are also the same people in society who may also not have any societal power. Foley et al., (2021) explain that in South Africa particularly, apartheid intentionally removed people's societal power by pushing marginalised people even lower down the social ladder. This was achieved by placing Black and So-called Cape Coloured people far away from life enhancing opportunities – which resulted in political invisibility of vulnerable groups of society (Foley et al., 2021).

Affordability: WISH TO BUY OWN CAR

The code "affordability" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of "*wish to buy own car*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"I'm also praying that God would give me my own car so that I can also take my kids to the mall, or plaza, and then come straight back home and park it in my garage, because I do have a garage, although I have no car." (P15: pp. 6)

This experience described above is supported by evidence from the literature. In the recent literature, there is a case for the benefits of having access to a car as well as ownership or several household cars. According to Bastiaanssen et al., (2020), some of these benefits derived from owning a car include increased employment probability as one has the flexibility of autonomy and can reach further distances.

Comfort: MYCITI NEAR THEM or BETTER FACILITIES AT RANKS or BETTER SERVICE

The category "comfort" yielded 5 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*MyCiTi near them; better facilities at taxi ranks; better service*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"what I will actually wish for is for us to get a MyCiTi bus that's all...MyCiTi bus is safe because you don't use your money, it's not easy for the robbers to enter the bus and rob it, unlike in the past you

would think that one is probably stopping a taxi, but then turn out to be a robber and then everyone in the taxi would be robbed, cell phones, wallets etc" (P5: pp.12)

"...ahh we need more MyCiTi this side...Yeah I think it would make quite a difference...yeah

" (P3: pp.7)

"Yeah, they should have introduced it everywhere in the townships ages ago that's where they should have started with the My city in my opinion, cause that's where its need the most..." (P14: pp. 6)

"It would be beneficial to them and also be in terms of data base, how people struggle, so that he [the government] can implement new projects or new transportation ways, so it could be, and I mean in Gugs we don't have a MyCiTi but, are you aware of that?" (P6: pp. 15)

BRT is an attractive mode of public transportation. The experience described above is supported by evidence from the literature, which confirms the value-proposition for BRT:

Diallo (2022) describes the attractiveness of the BRT as being linked to its features such as exclusive traffic lanes – which ensures speed, it can hold a high number of commuters, and it provides reliable frequency so passengers may plan out their trips. However, Lionjanga and Venter (2018) maintain that having access to the BRT service alone does not accrue served passengers any specific well-being benefits as a result of access. Therefore, romanticising the BRT could be a useless position to take, in some cases.

For lessened discomfort:

"I would like it if it [travel time] were like a bit smaller, like 15 mins, because taxis are not a nice thing, because they take overloads etc..." (P9: pp.12)

Uncovered facilities at taxi ranks –

"...yeah, I know, and you don't want to wait and plus, eish...it's been freezing..." (P1: pp. 2)

"...it's hard, it's so hard for me, from me leaving my house and then getting cold" (P4: pp. 14)

"...it's not a rank it's just an open space where taxis wait. It's an unofficial taxi rank." (P2: pp. 12)

This experience described above is supported by evidence from the literature:

According to the NHTS, 56,1% of minibus taxi users are dissatisfied with the state of facilities at taxi ranks. But it is not unique to minibus taxi facilities alone – the bus stop facilities are also considered dissatisfactory for commuters (Stats SA, 2020).

Convenience: LESS WAITING TIMES FOR PT

The code "convenience" yielded 14 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*less waiting time for paratransit*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"Yes, but it depends, but at least Bellville there are students, UWC, so students are always up and down...so at least 15 mins, you understand?... not too long, because of the student...thank God for that University..." (P8: pp. 22)

This experience described above is supported by evidence from the literature:

As a result of long commuting distances, commuters from the townships often need to also wait for a long time for taxis to fill up or for slow queues to move along. Venter (2014), for example, discovered that after a certain distance even some work prospects become unattractive to some commuters of townships based in Johannesburg, South Africa – because the earnings are too low to justify making the long commute.

Crime or Safety: **EVENING-BASED ACTIVITIES CARRIED OUT SAFELY IN MORE AFFLUENT NEIGHBOURHOODS**

The code “crime or safety” yielded 10 noteworthy quotations for the theme “aspirational”. The overall account of the experience of “*evening-based activities carried out safely in more affluent neighbourhoods*” is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

“...uhm I find it that its different for different areas, like I find it comfortable traveling from town to any other suburbs at any time of the night because you feel safe and it's not dangerous...but I would never be [out] if it was in a taxi rank in Khayelitsha...at 9pm at night...like the safety for me is a big issue...” (P14: pp.7)

“So, that is the biggest challenges we have got in the location, more especially the weekends, its guns Friday night, alcohol, drugs everything guns, throughout the night its guns, you cannot just go out.” (P9: pp.5)

This experience described above is supported by evidence from the literature, which confirms the notion that townships in Cape Town do experience a culture of high crime incidents:

For their study that focussed on the intersection of crime in the townships and its effects on tourism especially in Gugulethu, Nyanga and Khayelitsha – Mbane and Ezeudji's (2022) study reveals that there is a time in the townships that turns to violent crime. The authors report that unemployed youth attempt to pass time by engaging in recreational drugs and commit crimes as a way to pass their jobless days in the townships.

Distance: **WISH FOR MORE HIGH- QUALITY ENTERTAINMENT WITHIN TOWNSHIPS**

The sub-code “distance” yielded 1 noteworthy quotation for the theme “aspirational”. The overall account of the experience of “*wish for more high-quality entertainment within townships*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“...Its quite nice because in the neighbourhood we have nicer places like Longstreet now...I mean business have grown...they're modern and they are changing it to more of like Long Street, meaning that they do not want us to go out they would rather keep us here...so we also support them locally.” (P6: pp.15)

This experience described above is supported by evidence from the literature. There is evidence that Black people want and can afford to pay to have high quality services within the townships:

Greene (2023) conducted a study in three townships in Cape Town. In the study, female hospitality and tourism entrepreneurs were interviewed from across the townships of Khayelitsha, Gugulethu and Langa to investigate how this cohort was delivering lodging services to Black South African local tourists. Greene (2023) describes how a rise of well-earning Black South African tourists coming from

other metropolises in South Africa are choosing to intentionally spend their time in the township-based guesthouses. The author claims these tourists represent a rising middle-class Black which can afford commercial lodging even when visiting local friends and family from these townships.

Familial or Community: "IF MONEY AND TRANSPORTATION WEREN'T A PROBLEM, I'D GO HERE"

The code "familial or community" yielded 4 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*if money and transportation weren't a problem, I'd go here*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"Like I would go to town with my kids, till my kids are satisfied, then afterwards we just go home" (P15: pp. 6)

This experience described above yields a utopian picture of life without problems of transportation. Participant 15's response is confirmed and supported by evidence from the literature, regarding the challenges an individual like P15 will face to achieve such an ideal:

Musavengane (2019) argues that poor Black South Africans from townships in Cape Town and Johannesburg, for instance, may not be able to travel for tourism exploration and discretionary purposes if these individuals are continually underserved in terms of income. This barrier prevents participants like P15 from fully engaging in desired travel activities of her choice for her children and herself.

Fragmented Network: CONVENIENCE – WISH FOR MORE DOOR-TO-DOOR PT

The category "fragmented network" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of "*convenience – wish for more door-to-door paratransit*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I honestly feel that like, if everybody would have a secure, or reliable driver(s) in their lives, then it would be much more safer, knowing that you've been picked up from home and you're taken safely to work as well..." (P6: pp.15)

"...because sometimes a shuttle or any modes of transport will not drop you off at your works' doorstep, you still need to walk..." (P11: pp.12)

This experience described above is supported by evidence from the literature:

The convenience of door-to-door transit goes beyond just helping vulnerable groups such as the elderly or the disabled commuters in society – participants from this study feel that it may increase safety for them living in the townships. To this end, we bring up the case study undertaken in Dhaka City by Rahman and Timms (2020). The authors wanted to investigate the fare model for the rickshaw. They discovered that there is a case and usefulness of creating an integrated transport system which incorporated NMT modes of transportation as well – such as the rickshaws. This study applied to the context mentioned above by participants 6 and 11 as Rahman and Timms (2020) say the benefits of such a service includes convenience and comfort; it better meets the needs of diverse travel; acts as an on-demand and complementary feeder service.

"If Then, But Only When" Phrases: **WISH FOR WIDE-SPREAD INFO ABOUT SOCIAL ACTIVITIES**

The category "if then, but only when" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of "*wish for wide-spread information about social events*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"They do, I think they do, however you know, I think people are uneducated about those things as well, it's not in their face, do you know what I mean and also I think, you see for me if I were to see that there is a dinosaur show which is free, I would obviously run and take my son to that and then you get some people which are going to be so arrogant about it and say 'oh it's a dinosaur show, I'm not going to take my child to that, do you know what I mean...I also think it's a matter of educating yourself, showing interest for you to attend those type of things, but I honestly think if they were to bring it to the communities as well and not bring it more to the town side it would also make us more aware as well with regards to that..." (P6: pp.12)

This experience described above is supported by evidence from the literature, which explains the notion of domestic tourism in South Africa being mostly exclusive:

Magi and Nzama (2002) disclose how in the past (during apartheid) tourism and outdoor recreation was intended and used only by non-Blacks (Whites) in the country. The laws and legislature at the time kept everyone else out from using tourism resources in the country. So, what we see today among Black South Africans is a struggle to gain access to information about key leisure and discretionary activities and events, as well as a lack of will or inability to participate – likely due to socio-economic disparities (Musavengane, 2019).

Leisure or Social: **WISH FOR HIGH-QUALITY OFFERINGS WITHIN OWN COMMUNITY**

The code "leisure or social" yielded 2 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*wish for high-quality offerings within own community*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I would never shop in Gugulethu though....It gets full there and there's not much stores, my favourites stores are like Woolworths and H&M, so you know, Zara, so I would prefer to be either in waterfront or either Canal walk. So I actually don't mind driving and I recently visited this new mall, Bayside mall²¹". (P6: pp.10)

"Yes, there is a plaza in my township, but it doesn't have a lot of things, so I'll have to go to Promenade or Town or Claremont, wherever I want to go" (P15: pp. 2)

"Because our areas malls are always bad compared to the ones in the suburbs..." (P5: pp. 24)

This experience described above is supported by evidence from the literature, which explains what may be important factors occurring within the townships of Cape Town – which influence the nature of offerings available within the township:

Oldfield (2000) believes that communities create their own dynamic positioning toward the state, organisations and bodies on the outside of their domain. Consequently, it is up to communities to

²¹ Bayside mall is located in the affluent Table View suburb in Cape Town – approximately 26 km's away from Gugulethu township.

discern a character which is either conducive or not to living and place-making within the community. For Oldfield (2000), a community will be shaped by many important socio-economic factors, as well as history-political factors that characterize a community.

Livelihood or Educational: **WISH FOR A RELEASE FROM THE STRESS OF JUGGLING LIVELIHOOD DEMANDS**

The code "livelihood or educational" yielded 5 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*wish for a release from the stress of juggling livelihood demands*" is captured in the quotations below, and is further supported by already existing literature that discusses this issue:

"I would go out road tripping, the spa, luxury relaxed, book a hotel and book in for a week...how I wish...but yeah, I would book myself off for a week at a hotel or resort...I wish that could happen" (P7: pp. 8)

"...okay I have work form 9 till 5, but then sometimes you have a break at 12 o'clock...and even if you like are doing something random in that hour, it literally changes your whole self, there are some things that need to be done to like distract you..." (P4: pp.12)

This experience described above is supported by evidence from the literature:

Magi and Nzama (2002) claim that Black people have always been traditionally side-lined from visiting tourism facilities and recreational area in national coastal regions, around big national animal parks, the wilderness or water parks and lakes. This has occurred not just through legislation, but also by means of socio-economic and spatial marginalization or the urban-poor Black communities within cities in South Africa.

Necessity: **LESS DISRUPTIONS, SO I CAN DO THE NECESSARY**

The code "necessity" yielded 6 noteworthy quotations for the theme "aspirational". The overall account of the experience of "*less disruption, so I can do the necessary*" is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...if I want to walk I can walk, it's a walking distance [to taxi rank]...[but] because I need to go to work, I need to get there early, so that means I need to go early and it's still dark outside at that time and its dangerous to walk to terminus so I have to use those small taxis, unlike if it was summer time then I will be able to walk, because its lighter." (P5: pp.3)

This experience described above is supported by evidence from the literature, which supports the notion of creating pro-female policies for safe commuting:

As a measure for attaining the Sustainable Development Goal (SDG) 11.2, Foley et al., (2021) recommends creating and following-through with policies that promote safe passage for female pedestrians in Africa. The authors say that pro-female policy may not be considered supporting the urban and peri-urban poor if that particular policy does not include dimensions such as affordability, safe, accessible and inclusive transportation for women.

Once-Off Activities: RESPONDING TO WHAT SOCIAL ACTIVITIES SHOULD ENCOMPASS

The category "once-off activity" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of *"responding to what social activities should encompass"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Participants want affordable, convenient, and easily available social activities –

"...yes, because it's very difficult, especially for us people who do not drive its difficult. For an uber from here to town it's going to cost me R250." (P2: pp. 7)

Regarding evening time activity participation – participants often share their concern related to transportation – and then how much it will cost eventually. This experience described above is supported by evidence from the literature, where Foley et al., (2021) highlight how the financial constraints of accessing paratransit transportation in Africa leads to coping mechanism such as shared mobility services instead of single-passenger options.

Potential or Desired Activities: THEY DISCRIMINATE AGAINST US

The category "potential or desired activities" yielded 27 noteworthy quotations for the theme "aspirational". The overall account of the experience of *"they discriminate against us"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

Ride-sharing App drivers prejudice township-based people wanting to use the service to go out –

"Ah some Ubers actually do not go to Gugs [Gugulethu], yeah they would just cancel on you...I remember my cousin ordered an uber and like 3 or 4 Ubers cancelled on us..." (P4: pp.11)

This experience described above is supported by evidence from the literature:

While crime might be one of the contributing factors to Uber-driver behaviour (participant 6 also accounts that some vehicles such as VW Polo's are targeted by criminals in the township), the recent literature seems to suggest that this discrimination may also be a result of demand-supply factors as well and primarily valuable trip-making needs on behalf of the drivers –

Pollio (2019) highlights that as the Uber service arrived on the shores of Cape Town, it served neighbourhoods all over and not just operated within the city. The ride sharing or e-hailing service even went up to the Northern Suburbs and Winelands region but failed to include the township areas. The assumption is that most of the Uber service customers are not residing within townships to begin with – but drivers prefer to rather take airport trips as it is more valuable for them (Pollio, 2021).

Recreational or Cultural: IMPACT OF NOT BEING ABLE TO ATTEND EVENING EVENTS

The code "recreational or cultural" yielded 4 noteworthy quotations for the theme "aspirational". The overall account of the experience of *"impact of not being able to attend evening events"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"Yeah and they would ask me, "could you come like now?" and I'll be like Gosh, I'm probably going to get there in like 2 to 3 hours, so I'll have to make people wait...quite a while...It was hear in town...it was quite early, it's just that on my side I didn't plan a head, I forgot that I had to start getting ready

3 hours in advance...so like I started getting ready in like an hours' time and I got to the bus stop and it took forever to come... so, and they were like ah we are done now.." (P12: pp.8)

This experience described above is supported by evidence from the literature:

Black and So-called Cape Coloured Cape Townians still travel for long distances which is in contrast to their White counterparts in the city (Rink, 2022). Their public transport commute experience is defined by the arduous peripheralized spatially challenging framework which means travel takes longer.

Repeat Activities: **JUST WISH EVERYTHING WITH PT WORKED ACCORDING TO PLAN (ALWAYS)**

The category "repeat activities" yielded 7 noteworthy quotations for the theme "aspirational". The overall account of the experience of *"just wish everything with public transportation worked according to plan (always)"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"...trains they are always late, delayed, or whatever the case may be, they just never on time, it's not really reliable." (P3: pp.5)

This experience described above is supported by evidence from the literature. Operator frustration is not a new idea in paratransit studies. Participant 3's admonishment of the unreliability of public transportation in his township has been discussed by Dzisi et al., (2022):

The authors recognise that to improve the minibus industry, there are certain technologies that policymakers need to consider improving the service – which will better serve the user's requirements for reliability. Dzisi et al., (2022) suggest some measure, the likes of paying using mobile means, improving customer service by implementing user feedback as well as employing techniques which match passengers and paratransit drivers.

Social Connection: **ITS EASIER FOR OTHER PEOPLE THAN IT IS FOR US**

The sub-code "social connection" yielded 1 noteworthy quotation for the theme "aspirational". The overall account of the experience of *"it is easier for other people than it is for us"* is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

"They don't see that they can go to varsity and study, and their [White] parents have all the resources to take them to varsity, their parents stay in the suburbs...those kids are living a good life...because they are not struggling" (P11: pp.5)

This experience described above is supported by evidence from the literature, where Patel (2021) confirms that in South Africa, there is a growing sense of financial and livelihood insecurity which is perceived to be based on unequal and racialised factors which have disadvantaged poorer Blacks. The notion that inequality is entrenched along racial lines is further noted by Wood (2022), who claims that transportation as well, has historically been used to regulate and to disassemble cities in South Africa.

Additionally, in support of participant 11's statement, Mbane and Ezeuduji (2022) confirm also that low-income township-dwellers do sense that their more affluent counterparts who reside in the suburban areas in the city have better infrastructure at their schools. The authors claim that their study respondents suggest that pupils from better resources schools will have a better outcome in terms of employability. But in general, Mbane and Ezeuduji (2022) discovered study respondents'

perceptions that life is better for people who live in affluent neighbourhoods as they have better chances in life due to their comfortable start in life – with good nutrition, high-quality education facilities and advantages over poor township-based pupils.

Space-Time Paths: **WISH TO ALWAYS BE ABLE TO EASILY MAKE TRIPS FOR SOCIAL WELL-BEING**

The category “space-time paths” yielded 2 noteworthy quotations for the theme “aspirational”. The overall account of the experience of “*wish to always be able to easily make trips for social well-being*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“And there are not many taxis that are.... available, I promise you, you have to wait for a taxi that goes to cape town, you have to wait for a taxi that comes back...” (P5: pp.8)

This experience described above is supported by evidence from the literature, where it is explained how paratransit waiting periods in Cape Town are longer during the off-peak times because of long commuting distances and the operational pattern of highly peaked demand in the city (Plano et al., 2020).

Transport-Dependent Activity: **A WISH TO SPEND LESS TIME TRAVELLING**

The category “transport-dependent activity” yielded 14 noteworthy quotations for the theme “aspirational”. The overall account of the experience of “*a wish to spend less time travelling*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“It shouldn't take long, let's say 15 mins maybe, because by the time that you finish...you are tired, and your feet are sore from standing for almost 2 hours, then you have to go to a public transport...it shouldn't take long man, 15 mins should be enough, that is actually my wish...” (P5: pp. 24)

This experience described above is supported by evidence from the literature:

According to the National Household Travel Survey (2020) the cost of travel has a major impact on choice of public transportation mode for households. There are other mitigating factors such as travel time and flexibility, however, in 2020 as much as 23,3% of household indicated that travel time was a major factor for households' modal choice.

Transport Scarcity: **LESS WAITING TIMES FOR TAXIS TO GET FULL**

The code “transport scarcity” yielded 5 noteworthy quotations for the theme “aspirational”. The overall account of the experience of “*less waiting times for taxis to get full*” is captured in the quotation below, and is further supported by already existing literature that discusses this issue:

“...most people prefer [to use] busses before 4pm, the busses are actually cheaper, so people would actually prefer busses than taxis off-peak, because busses don't wait they just go, whereas [taxi's], you still need to wait for it to fill up even if it's off-peak” (P13: pp.5).

This experience described above is support by evidence from the literature, when Mokwena (2021) claims that entering an empty minibus taxi raises the chances that a commuter will be in for a long wait. This is said to be due to factors such as time of day as well as location of boarding.

When will the 'lokshin' MyCiti bus arrive for First Thursdays in the City? Exploring Township-Dwelling People's Perspectives on Mobility for Discretionary Activity Participation After Peak-Time Hours in Cape Town

10.3. Ethics Approval

Application for Approval of Ethics in Research (EIR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM

Please Note:
Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data. The objective of submitting this application **prior** to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook** (available from the UCT EBE, Research Ethics website) prior to completing this application form: <http://www.ebe.ucl.ac.za/ebefresearchethics>

APPLICANT'S DETAILS			
Name of principal researcher, student or external applicant		Ayanda	
Department		Civil Engineering	
Preferred email address of applicant:			
If Student	Your Degree: e.g., MSc, PhD, etc.	PhD	
	Credit Value of Research: e.g., 60/120/180/360 etc.	360 credits	
	Name of Supervisor (if supervised):	Associate Professor Mark Zuidgeest	
If this is a research contract, indicate the source of funding/sponsorship		Click here to enter text.	
Project Title			

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY		Full name	Signature	Date
Principal Researcher/ Student/External applicant		Ayanda		11 Jun 2018 24/06/2018

APPLICATION APPROVED BY		Full name	Signature	Date
Supervisor (where applicable)		Zuidgeest		11 Jun 2018
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section 1; and for all Undergraduate research (Including Honours).		Click here to enter text.		Click here to enter a date.
Chair : Faculty EIR Committee For applicants other than undergraduate students who have		ADENIYI ISAFIADE		27/06/2018

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