Institutional barriers to an intermodal integrated public transport system in the City of Cape Town

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Abstract

Across the world, public transport is acknowledged as a crucial feature of any major city. In many countries, an efficient public transport system has been achieved by establishing an intermodal integrated transport system. In other words, integrating public transport modes for better coordination and efficiency. However, public transport in the City of Cape Town is inefficient and lacks coordination. Thus, the City of Cape Town experiences high volumes of congestion as a result of increased private car use. Over the years, the City has produced many plans and policies in line with the national and provincial legislation to create an intermodal integrated transport system. However, this transport system has yet to materialise. Therefore, this study aims to investigate the institutional barriers that impact the extent to which an urban public transport system can be integrated. The aim was achieved through collecting data from several interviews with public and private professionals involved with transport in the City of Cape Town. The interview data was analysed in relation to literature and policy documents. The results of this study show that fragmentation of the ownership of public transport modes is one of the most significant and overarching barriers to integration. Solving this fragmenting has proved difficult due to continuous institutional restructuring at local and national government levels, which results in the draining way of leadership and capacity. Another significant barrier to integration is the unique difficulties of integrating the paratransit (minibus taxi) sector as it is fragmented, operates at an enormous scale, experiences resistance to integration and is characterised by instability as a result of violence. Political tensions between opposing political parties at different levels of government and within the City of Cape Town also acted as barriers since they resulted in instability and a lack of coordination. Funding constraints for various aspects of integration are also a barrier. Finally, one of the most profound barriers was that although there are plenty of policies for integration throughout the three spheres of government, the findings suggest a lack of common vision and political will behind policies hinders implementation. This is coupled with siloed planning and old mindsets. Some also argue that many overarching policy visions for integration may be entirely incorrect in the first place.

Acronyms and abbreviations

BRT	-	Bus Rapid Transit
CITP	-	Comprehensive Integrated Transport Plan
CODETA	-	Congress of Democratic Taxi Associations
CoCT	-	City of Cape Town
DoT	-	Department of Transport
DoT and PW	-	Department of Transport and Public Works
EDU	-	Empresa de Desarrollo Urbano
EPM	-	Empresas Públicas de Medellín
GABS	-	Golden Arrow Bus Service
GLA	-	Greater London Authority
IDP	-	Integrated Development Plan
IPC	-	Intermodal Planning Committee
IPTN	-	Integrated Public Transport Network
IRPTN	-	Integrated Rapid Public Transport Network
ITP	-	Integrated Transport Plan
IUDF	-	Integrated Urban Development Framework
LLITT	-	Local Level Integration Task Team
LTAB	-	Land Transport Advisory Board
MoA	-	Memorandum of Action
MoU	-	Memorandum of Understanding
MRE	-	Municipal Regulatory Entity
MSA	-	Moving South Africa
MSDF	-	Municipal Spatial Development Framework
NDP	-	National Development Plan
NLTA	-	National Land Transport Act
NLTSF	-	National Land Transport Strategic Framework
NTPS	-	National Transport Policy Study
OLB	-	Operating License Board
PLTF	-	Provincial Land Transport Framework
PRASA	-	Passenger Rail Association of South Africa
PRE	-	Provincial Regulatory Entity
PTOG	-	Public Transport Operating Grant
SOE	-	State-owned enterprise
STM	-	Secretaria dos Transportes Metropolitanos
TCT	-	Transport for Cape Town
TDA	-	Transport and Urban Development Authority
TfL	-	Transport for London
TOC	-	Transport Operating Company
TOD	-	Transit-Orientated Development
UN	-	United Nations
VOC	-	Vehicle Operating Company
WGG	-	Western Cape Government

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Chapter 1: Introduction

1.1 Background of the study

Cities worldwide are continuously growing and evolving with the world's growing population. Thus, to keep up with this growth, cities need effective and efficient transport systems that can take people to and from their places of work or leisure (Giovani and Banister, 2010). However, private car dependency, congestion, and high levels of air pollution are common problems experienced in cities all over the world. These issues can be mitigated through the increased use of public transport, although this means that public transport will also need to be effective and efficient (Salaria, 2014). Unfortunately, in many parts of the world, particularly in the Global South, public transport systems are inefficient as they are fragmented and lack coordination between modes (Pojani and Stead, 2018). Moreover, ineffective public transport can be particularly detrimental to the poor, as it is often their only means of transport from peripheral areas to the more central places of economic opportunity (Gwilliam, 2003). Thus, public transport must operate efficiently and effectively due to its vital role in cities. The solution lies in implementing an integrated public transport system. This is something that has been implemented in cities across the world (Potter and Skinner, 2000).

The term 'integrated public transport' is quite challenging to define, and many interpretations exist (Preston, 2010). For this study, the focus is on the intermodal aspect of integrated public transport which is one of the most commonly understood definitions of an integrated public transport system (Givoni and Banister, 2010). It refers to the integration between modes through a single ticket, timetable (operational integration), and integrated interchanges (physical integration). It also refers to all modes operating under a single authority (organisational integration) (Saliara, 2014). Thus, the term intermodal integrated transport system is used in this study.

However, achieving an intermodal integrated transport system is difficult as many challenges need to be overcome (UN-Habitat, 2013). According to UN-Habitat (2013: 193), these transport challenges "can only be addressed if they are seen as political challenges, requiring political consultation, decision, and implementation as opposed to seeing them as purely technical challenges requiring the 'right' technical solutions." Therefore, the importance of intermodal integrations governance and institutional aspects must be acknowledged. This often entails strong political leadership, political authority, and collaboration between various government authorities and other relevant planning or operational organisations (UN-Habitat, 2013). In addition, policy needs to be integrated 'vertically' and 'horizontally.' Vertical integration is where there is integration between different spheres of government from the national sphere to the local sphere. Horizontal integration is the integration between different sectors and departments (Stead, 2003). Another fundamental feature is the devolution of transport functions downwards from the national government level to lower-level decentralised authorities for more effective coordination and decision-making (Mackinnon et al, 2010).

1.2 Problem statement

The City of Cape Town (CoCT) needs an efficient and well-functioning public transport system due to its growing population (CoCT and TDA, 2018). However, the City of Cape Town experiences various challenges and issues that has resulted in an inefficient public transport network. These include rail failure, increasing traffic congestion, affordability (CoCT and TDA, 2018), reliability issues, and safety concerns (CoCT, 2017). According to the CoCT and TDA (2018: xii), "Cape Town's road network is the most congested in South Africa, with motorists spending more time in traffic each year." This congestion is due to the dominance of private car ownership since commuters are less incentivised to choose the City's inefficient public transport. Furthermore, Cape Town's sprawled apartheid spatial form alone creates longer travel times for low-income residents and higher travel costs when using public transport, thereby increasing inequality. According to Wilkinson (2010: 391), there exists a transport "duality" in the CoCT where lower-income residents on the periphery mainly use public transport, whereas middle to higher-income residents use private cars. Thus, improved public transport in the context of the CoCT can improve travel for lower-income residents and break down this duality if more private car users can shift towards public transport use, thereby decreasing congestion. Furthermore, an inefficient transport system hinders economic growth and increases environmental degradation due to resource inefficiency and air pollution (TDA, 2017).

The current transport system in the CoCT is inefficient and uncoordinated, meaning none of the modes work together, and none are connected through integrated tickets, timetables, or fully integrated interchanges. The City recognises the need for an intermodal integrated transport system and that this "requires that all functions and modes are under the jurisdiction of a single authority" (CoCT, 2020b: 278). These main public transport modes are contracted buses such as Golden Arrow, rail, minibus taxis, and the Bus Rapid Transit (BRT) system known as MyCiti. The minibus taxi sector, however, is quite a unique mode since the way it is structured and operates is quite different from the other, more conventional modes (Behrens et al, 2016). Furthermore, the City also recognises the need for a "strong integrating authority" (TDA, 2017: 9) to achieve integration between modes. This is the role that the City of Cape Town wishes to adopt for its public transport network. It has done so by advocating for a single authority in the 2006 Integrated Transport Plan (CoCT, 2006). Thus, a transport planning authority called Transport for Cape Town (TCT) was created in 2013. Over the years, the City's transport planning authority has subsequently undergone changes to become the Urban Mobility Directorate. Moreover, integration is a requirement stipulated in the National Land Transport Act (Act No. 5 of 2009). In accordance with this Act, the City has also drawn up plans for integration, such as the Comprehensive Integrated Transport Plan (CITP) and the Integrated Public Transport Network (IPTN) in an attempt to achieve integration. However, despite the City's clear plans, attempts, and desires for an integrated public transport system that spans as far back as the 2006 Integrated Development Plan, a proper integrated public transport system has not yet materialised.

Thus, further investigation, from an institutional perspective, is required as to how the current institutional and political realities surrounding the CoCT's public transport system are impacting the City's ability to achieve an intermodal integrated public transport system.

1.3 Aim of the study

The study aims to investigate the institutional barriers that impact the extent to which an urban public transport system can be integrated. This is needed since an integrated public transport system has the potential to improve travel times, decrease the cost of travel, and decrease impacts on the environment.

It must be made clear that this study intends to focus on the institutional aspects of an intermodal integrated transport system, rather than the technical aspects.

1.4 Main research question

What are the institutional barriers that impact the extent to which an urban public transport system can be integrated?

1.5 Subsidiary research questions

Subsidiary questions were used to lead the research and answer the main research question. They are:

- How does the institutional framework of a transport planning authority's public transport system impact the integration of transport modes?
- What are the institutional challenges experienced when devolving functions from one sphere of government to another?
- How do political dynamics between different spheres of government impact the integration of transport modes?
- How do political dynamics within transport planning authorities impact on the integration of transport modes?
- How do the unique institutional dynamics within the informal paratransit sector impact on their ability to integrate into a formalised integrated transport system?
- Does having extensive and comprehensive policies for transport integration mean there is a common vision and political will behind it for implementation?

This research considers these questions in relation to the City of Cape Town's public transportation system.

1.6 Dissertation structure

Chapter 2 serves as a literature review. This literature review gives details surrounding the importance of integrating transport modes are given, and the definition of integrated transport is explored. This chapter also explains what paratransit is and its relevance to the study. Policy and institutional integration are explored, including common institutional barriers to integration. Two Global South examples and a

Global North example of successfully integrated transport systems are given. These examples identify the lessons that can be learned to overcome institutional barriers to integration.

Chapter 3 provides an overview of the study area in which the research will be conducted. The research methods, as well as the research techniques and tools used in the study, are also identified. Finally, the chapter ends with limitations that were experienced throughout the study.

Chapter 4 serves as a policy review. A policy review was undertaken to gain a thorough understanding of the transport policy relating to the CoCT from the national government level to the provincial (Western Cape Government) level and the local (municipal) level. This review was used to identify any institutional barriers that were brought up in the policy documents. The information was also used to assist with formulating interview questions.

Chapter 5 provides the results obtained from the field work, which entailed interviews with a variety of public and private professionals within the transport sector in the CoCT.

Chapter 6 provides an analysis of the results where the results are discussed in relation to the literature and the research questions.

Chapter 7 is the final chapter and provides recommendations for the issues raised throughout the study. It then concludes the chapter with a summary and response to research questions and indicates areas for further research.

Chapter 2: Literature review

2.1 Introduction

This chapter serves as a literature review to unpack the debates around integrated public transport systems, the institutional aspects embedded within them, and how they relate to the South African context. It is first essential to understand why integrated transport is needed and how the term 'integrated public transport' is defined throughout the literature. This can assist in understanding further debates surrounding the topic. As this dissertation has a strong institutional focus, literature regarding the role that institutions and policy integration play with concerning an intermodal integrated transport system are analysed as well as indicating how it applies to the South African context. Finally, examples from Medellin, São Paulo, and London are used to identify lessons that can be learned from the way in which their institutions enabled effective intermodal integrated transport systems to materialize.

This literature review aims to assist with uncovering themes for my analysis of my research and identifying gaps that may occur in the literature that my research can address.

2.2 The importance of an integrated public transport system

A transport system is an essential feature of any city since it allows people to connect with others and access economic opportunities. That is why transport is often referred to as a city's "blood system" (Givoni and Banister, 2010: 2). However, in many cities globally, transportation is predominantly characterized by the high usage of private cars as they are often seen as being more convenient than other forms of transport (Saliara, 2014). The dominance of cars leads to higher levels of traffic congestion and slower travel speeds since there is often only one person in the car while consuming large amounts of road space. The congestion further impacts the functioning of public transport systems and their passengers (Poliak et al, 2017). Furthermore, car dominance also causes increased air pollution leading to adverse environmental impacts (Givoni and Banister, 2010). In developing countries, the usage and ownership of vehicles are proliferating at 15 to 20% annually (Gwilliam, 2003). This, combined with weak institutions and planning, exacerbates the congestion problem (Bruun et al, 2016). South Africa experiences far higher car ownership than most developing countries. Cape Town, for example, has car ownership that is 13 times higher than Dar es Salaam and consists of around 50% of the City's modal split (Bruun et al, 2016).

Besides encouraging non-motorised transport such as walking or cycling, one way to improve this would be for more people to shift their behaviour to using public transport as it can reduce the need for using cars. For this to happen, the public transport system would need to be more efficient and convenient to increase the demand or "pull" factor to make public transport more attractive to the user (Saliara, 2014: 536). However, over time, and as transport systems have become more specialised and complicated, there has been a tendency for public transport modes and operations to be fragmented or lack coordination, thus lacking

efficiency, especially in the Global South (Pojani and Stead, 2018). Fragmented public transport systems lead to unnecessary, higher travel activities that waste resources and increase negative environmental impacts (Givoni and Banister, 2010). For example, in Cape Town, bus, minibus taxi, and rail services often operate along the same route, making the services unnecessarily redundant and thereby adding to congestion and pollution (Bruun et al, 2016). Fragmented public transport particularly affects the poor since public transport is often the only way in which they can access certain parts of the city. In developing countries, the poor are often confined to periphery locations and need to travel long distances. During the journey, they often need to change modes, which can increase the cost of travel (Gwilliam, 2003). This is the case in many South African cities. Cape Town still bares the fragmented, low density, and sprawled spatial form of apartheid. It has quite a unique form since its central business district (CBD) is located far to the one side of the city. With so many low-income residents living on the periphery, commuting to places of work in the CBD can be costly and time-consuming (Kane, 2010).

Furthermore, as the physical size and population of cities increase, more pressure will be placed on the ability of public transport systems to enable people to commute to their desired destinations (Wilkinson et al, 2011). According to UNEP (2013), by 2050, 70 – 80 percent of the world's population is expected to live in cities. The population of people living in cities is expected to grow 84 percent, from 3.4 billion in 2009 to 6.3 billion in 2050. This growth is particularly apparent in developing countries, where the most rapid urbanization and population growth tend to occur (UN, 2010). This is the case in many South African cities which is exacerbated by receiving the in-migration of millions of foreign nationals from other African countries (Walters, 2013).

Therefore, due to the vital role public transport systems play in an increasingly growing and complex world, it is crucial that cities, especially in developing countries, such as South Africa, can come up with efficient and effective public transport systems that are attractive to users. This has been achieved worldwide by cities such as Medellin, São Paulo, and London through adopting an integrated public transport system (Potter and Skinner, 2000).

South Africa has noticed this trend and is committed to pursuing integrated transport planning within many of its cities. A vital feature will be integrating public transport across modes, enabling a basis enhanced regulation and planning. However, a significant challenge is creating the necessary institutional framework for integration to materialize (Wilkinson, 2010).

2.3 Unpacking the meaning of an integrated transport system

One of the biggest challenges attributed to achieving an integrated public transport system over the last few years has been its failure to be adequately defined (Preston, 2010). According to Potter and Skinner (2000), the definition of an integrated public transport system is not always clear and is subject to various interpretations. Although it may seem like a simple concept, in reality, it is what Preston (2010: 330) describes as "multi-faceted". This is indicated in table 1, which summarises the prominent interpretations of how an integrated transport system is understood throughout the literature.

Hull (2005)	Preston (2010)	Potter and skinner (2000)
1) Operational and physical integration (Fares, timetables, ticketing, interchanges) 2) Modal integration (bus, rail, walking). 3) Economic/market integration (Congestion costs, efficiency) 4) Social integration (Related to issues of different social groups, such as equity) 5) Environmental integration (Considers environmental issues related to transport) 6) Institutional integration (addressing issues across administrative boundaries) 7) Policy sector integration (Improved coordination between transport planning and land use) 8) Integration of policy measures (Considers integration between economics, the environment, land use, education, health, and affordability)	1) Integration of public transport information, fares, terminals/stops, and patterns of service. 2) Integration of infrastructure, transport pricing, and management. 3) Passenger and freight transport integration. 4) Transport authority integration. 5) Integration of land use and transport measures. 6) Integration of transport, education, health, and social service policies. 7) Integration of transport policies, environmental policies, and economic development policies.	1) Functional/modal integration. 2) Integration of transport and planning. 3) Social integration. 4) Integration of Economic, Environmental and transport policy.

Table 1: An integrated public transport system's stages, levels, or rungs (Adapted from Stead, 2016; adapted from Hull, 2005; adapted from Preston, 2005; adapted from Potter and Skinner, 2000).

These levels inevitably overlap. The levels, stages, or rungs are arranged to indicate the level of difficulty for integration. The higher the number, the more difficult it is to achieve (Stead, 2016). Although it is arranged in a particular order by the different authors, Stead (2016) argues that achieving the higher levels is not necessarily dependent on achieving the lower levels. However, Potter and Skinner (2000) argue that achieving the lower levels can provide a foundation for more easily achieving the higher levels, of which the highest is seen as the most holistic level of integration. At the same time, Givoni and Banister (2010) argue integration at other levels is needed to achieve the lower levels. The lower levels are the most basic and widely understood definition of an integrated public transport system (Givoni and Banister, 2010). It is the most relevant for this dissertation as the broader definitions that link to the integration of land use, and the environment is beyond the scope of this dissertation, although their importance is still acknowledged. The terms 'intermodal' and 'multimodal' are often used interchangeably to describe this type of integration (Givoni and Banister, 2010). Table 2 indicates what Saliara (2014) defines as intermodal integration.

Saliara (2014)		
Organisational • Between operators and • An independent authority that ensures coordination of functions and cooperation of operators	Operational • Network layout • Schedules • Information transfers • Tickets • Fares	Physical • Facility accessibility • Facility location • Station design • Management of vehicle movement.

Table 2: Intermodal integration (adapted from Saliara, 2014)

Within this definition, Saliara (2014) explains that three levels of intermodal integration are needed: organisational, operational, and physical.

- **Organisational integration** is also sometimes referred to as institutional or administrative integration (Luk and Olszewski, 2003). This refers to a single authority, often at the local or metropolitan level, that coordinates functions and responsibilities of the operators and organisations involved with the unified fare, ticketing, stakeholder contracts, and other services. One authority is an effective way to overcome barriers involving different agencies or institutions, as it can ensure that responsibilities and functions are unified and that there is cooperation between actors. An integrated system is also better for planning and optimizing routes (Hidalgo, 2009)
- **Operational integration** refers to coordinating services such as schedules, routes, and the ticketing system. The modes must be coordinated efficiently, and there must be a hierarchy of modes that can better define the roles of the modes and can make the system easier to use. The unified ticket and timetable ensure a seamless and more cost-effective transfer between modes.
- **Physical integration** refers to the planned routes and effective physical interchanges that make traveling between modes easier.

This section has identified the various discussions around the meaning of integrated transport. As shown, there are various interpretations, making it is difficult to define clearly. It would seem from the literature that a fully integrated transport system (or an integrated transport system in the most holistic sense) would involve the integrating intermodal public transport system with land use and environmental policy. On the other hand, an intermodal public transport system, is a more basic yet widely used and understood definition of an integrated transport system. It seems to be a subsection of the holistic definition, but also a foundation for achieving full integration. It is also sometimes used interchangeably with the term 'integrated transport system'. In a nutshell, the intermodal integrated public transport system is where one authority, often at the local or metropolitan level, controls the functions of all modes of public transport. This system includes an integrated ticket, timetable, and physical interchanges to enable a seamless transition from one mode to another. This can improve travel time, decrease costs for passengers, and is less harmful to the environment. Throughout the literature, there was a lack of attention given to the paratransit sector. It usually described integration between the more formalised modes such as bus and rail. Paratransit is an essential mode of transport, particularly in the Global South context and thus, it is a vital aspect to consider within an intermodal integrated transport system. This will be discussed further in the following section.

2.4 Paratransit as a significant feature of intermodal public transport in the Global South

Integrating rail and bus systems is a common feature of intermodal integrated transport systems worldwide. However, when looking at public transport in countries of the Global South, a key difference is the prominent role that paratransit plays, and the difficulties faced with integrating it with other modes such as buses and rail. Moreover, paratransit is vital to acknowledge since its operational structure and

functioning are quite different from the conventional bus and rail systems that it usually works (and competes) alongside (Behrens et al, 2016).

The term 'paratransit' describes a mode of transport that often services the informal sector. Paratransit usually occurs in the form of minibuses and can accommodate anywhere between 8 to 25 passengers. In South Africa, they are predominantly 16-seater minibuses. The paratransit sector is characterized by flexibility since they often do not use a fixed timetable (Behrens et al, 2016) and stop at random places along the road to pick up or drop off passengers (Bruun et al, 2016). They sometimes operate as informal businesses with fragmented ownership but are often weakly regulated. Examples are Dakar, Cape Town, and Kinshasa, where paratransit operators are part of formally licensed organisations, often with unlicensed operations operating alongside them. Even the fully regulated and formally operating paratransit modes often began as informal, unregulated businesses. Paratransit often emerges when public transport provision and regulatory frameworks by the government are weak and where there is a lack of public transport provision, leaving gaps in the market (Cervero and Golub, 2007). A lack of market restriction often leads to a surplus of operators along popular routes, leading to increased competition. This increased competition, in turn, leads to violence, reckless driving, exploitation, and dangerous operations (Behrens et al, 2016). In South Africa, competition is made worse by competing with subsidised bus and rail transport since the subsidies make them cheaper than minibus taxis (Clark and Crous, 2002).

However, they have their benefits and are remarkably efficient at transporting passengers. In South Africa, their smaller size allows them to easily navigate many of the narrow roads in the city and informal settlements that would otherwise be difficult to access with bigger buses. This efficiency has made minibus taxis the most popular mode of transport in the country, with a 60% market share (Clark and Crous, 2002). They also provide a much-needed livelihood for many people.

Behrens et al (2016) stress the importance of the paratransit sector as a mode of transport and that it is far more beneficial to promote transport strategies that acknowledge and include them. In many cases, they play a vital role as a feeder service to other, higher-capacity modes of transport such as rail (Cervero and Golub, 2007). Besides their benefits, they would also be virtually impossible to eradicate due to government resource limitations. It is argued that formalisation is needed for more control of the system, which would, in theory, be able to improve the quality of paratransit as a mode of transport (Bruun et al, 2016). Thus, integrating them with other modes of transport serves to include and formalise them within the public transport system, although this has proved to be a challenging endeavour (Schalekamp and Behrens, 2010). It is also argued that it is difficult to conclude, from a policy standpoint, what the best course of action is. Cervero and Golub (2007) argue that perhaps developing countries should take advantage of the benefits of the informal service while not turning the paratransit sector into something that completely resembles formal transport. The risk is that ticket prices could rise due to the shift from the private sector to the public sector. Whatever the case may be, each context is different and requires its own assessment (Cervero and Golub, 2007).

2.5 The policy and institutional dimensions of integration

2.5.1 Policy integration

Policy needs to be integrated vertically and horizontally to achieve an intermodal integrated public transport system (Stead, 2003). Vertical integration refers to integrating different tiers (or spheres, in South Africa's case) of government, meaning the local, provincial, and national spheres. Horizontal integration refers to integration between different sectors and departments within local authorities (Stead, 2003). Integrating vertically and horizontally reduces policy redundancies in the process of policy formation. It also improves the ability to achieve objectives across departments and government spheres rather than achieving siloed objectives. Furthermore, it can encourage creating and implementing more innovative policies (Stead, 2008). Vertical integration is particularly relevant to this dissertation as the different spheres of government play a significant role in how transport is currently structured in Cape Town, which will be elaborated on in chapter 5.

In the South African context, many policies and strategies have been adopted to improve the public transport system and move towards integration. However, public transport policy is often a highly complicated part of transport policy in South Africa due to complex political linkages, funding limitations, and attempts to subsidise businesses that were previously excluded (Walters, 2013). Both Walters (2013) and Wilkinson (2010) are critical of the national policies that have been produced in South Africa concerning improving public transport. However, Walters (2013) and Wilkinson (2010) acknowledge that there are policies for integration in South Africa. Similarly, Walters (2013) states that there is a holistic vision in the policy and strategy documents. According to Walters (2013), the problem is a lack of implementation. However, Wilkinson (2010) argues that there some policy issues seem to be repeated but in different ways each time, although he does not elaborate on these issues. A unanimous indication for South Africa's policy implementation issues, as indicated by Walters (2013), Wilkinson (2010), and Clark and Crous (2002), is a result of South Africa's fragmented institutional and management structures. Clark and Crouse (2002) and Wilkinson (2010) state that part of this problem is also attributed to a lack of a single transport authority in the metropolitan areas despite national legislation allowing for a metropolitan authority. Since the writing of these papers, the City of Cape Town has established that transport authority, Transport for Cape Town (TCT) (Behrens et al, 2016), which later became Transport and Urban Development Authority (TDA) in 2017 and was then replaced by the Transport Directorate. It was recently changed to the Urban Mobility directorate. However, this planning authority has yet to receive all the devolved transport functions (TDA, 2017). The fragmentation indicates a lack of vertical integration as described by Stead (2003). South African policy will be analysed in more detail in Chapter 4 to understand better where the policy issues may occur.

This section has indicated the important role of policy and policy integration. However, it has also shown that policy is linked to institutional structures and decision-making within and between institutions. Anderton (2010) argues that institutions involved with transport and their coordination with one another are crucial for enabling policy integration. This is important for enabling an intermodal integrated transport system to materialize. As such, single, devolved transport institutions are a vital enabling factor. This will be discussed in the following section.

2.5.2 Devolving authority and responsibilities to lower levels of government

As noted earlier, when defining integration, an essential feature of public transport integration is that the modes are coordinated under a single authority, often at the local level. Often there needs to be a process of devolution for this to happen. Devolution (or political decentralisation) is where authority and responsibilities are transferred from the national government (sometimes known internationally as the central government) to lower levels of government (Mackinnon et al, 2010). Agranoff (2004: 26) describes devolution as transferring power "downward to political authorities at intermediate or local levels." According to Rodriguez-Pose and Gill (2003: 337), devolution has rapidly become a 'global trend' since the start of the 21st century, and "few spaces around the world have remained untouched by this trend." For example, it is prevalent in European and Latin American countries. Devolution does not only entail the transfer of power or responsibilities. It also often implies that resources, such as funding, are transferred to cater for the increased cost of carrying out additional responsibilities.

There are several advantages to devolution. The first is that it leads to increased accountability as the administrative distance is reduced between the decision-makers (such as politicians) in charge of carrying out specific responsibilities and the 'voters' or citizens (Bennett, 1990; Hatry,1994 cited in Rodriguez-Pose and Gill, 2003). Second, it enables decision-makers to respond more effectively to the context-specific needs or desires of the citizens (Bennett, 1990 cited in Rodriguez-Pose and Gill, 2003). Third, local politicians with a specialist local knowledge are more likely to be elected who can respond to the needs of citizens (Putnam, 1993 cited in Rodriguez-Pose and Gill, 2003). This local knowledge and proximity enable them to implement innovative policies that would have been more difficult to implement at the national level (Bennett, 1990; Donahue, 1997 cited in Rodriguez-Pose and Gill, 2003). Overall, the crux of the argument is that the diverse needs of a country are better addressed when public policy and authority are brought closer to more local areas.

However, there are some disadvantages. First, sometimes responsibilities and the required funding is not devolved together, leading to a mismatch and the risk of developing debt. Second, more responsibilities result in higher administrative costs. Third, there is the possibility of increased corruption due to increased pressure from the close proximity to citizens (Rodriguez-Pose and Gill, 2003).

Although the process of devolution is widespread, it can take various forms (Rodriguez-Pose and Gill, 2003) and depends on a range of contextual factors (Mackinnnon et al, 2010). According to Mackinnon et al (2010: 275), these include the "nature and extent of devolved powers, political leadership and ideology, electoral pressures and relations with interest groups." Furthermore, devolution also requires establishing or restructuring administrative or political structures to accommodate the increased responsibilities and authority (Mackinnon et al, 2010). Devolution can help build horizontal relationships (Turok, 2013) but still requires vertical relations between the local and national governments (Mackinnon et al, 2010). Although powers may still be devolved, vertical government relations are still important. In South Africa, Turok (2013) argues that decentralisation is helpful but notes that it is not necessarily a panacea for integration and requires municipal leadership, institutional capabilities, political will, and national government support.

As indicated, devolution of powers and responsibilities is essential for integration. However, they do have their disadvantages. These should be seen in conjunction with the other overarching barriers to integration which will be discussed in the following section.

2.5.3 Institutional barriers to integration

Throughout the literature, a clear requirement for integrated public transport is coordinated and cooperative action between public and private entities involved with transport provision. This places an emphasis on the need for effective decision-making and carrying out those decisions by the relevant transport institutions (Hatzopoulou and Miller, 2008). Thus, when barriers to an integrated transport system are discussed throughout the literature, the barriers frequently acknowledged are the institutional barriers.

Poliak et al (2017) and May et al (2006) argue that an institutional barrier can be the insufficient legal power to carry out a particular policy instrument for integration. Often legal responsibilities are divided between different departments or government agencies which hinders the ability of the local-level authority to implement certain policies (May et al, 2006).

One of the most common barriers throughout the literature is the split or fragmentation between institutions, whether public or private, which makes coordination difficult (May et al, 2006) and results in departments operating in siloes (Pojani and Stead, 2018). This can be a problem for policy formulation and implementation, as touched on earlier. This is where the importance of institutional integration and devolution comes in for having one regulatory authority to make decisions and implement policy (Anderton, 2010). According to Toro et al (2019), "Institutional integration refers to the existence of a mechanism or entity, either public or private, that allows for the coordination of the different services offered by the public transport providers in a city." This coordination is a significant issue experienced in South Africa, as mentioned, due to its fragmented transport institutions.

According to Banister (2002), cited in Hatzopoulou and Miller (2008), an institutional barrier can also be related to the lack of political acceptance of certain policies, due to cultural or political differences. In the South African context, both Walters (2013) and Wilkinson (2010) identify political tension between different spheres of government which could prevent integration. Wilkinson further explains that tension is caused between different political parties, such as the Democratic Alliance (DA) and the African National Congress (ANC), which have power in different spheres. Furthermore, in many contexts around the world, there is often a lack of political will in general for change toward institutional integration, policy integration, and integrating the transport modes. This lack of will, in part, can be attributed to a lack of incentives to promote cooperation and coordination between institutional structures and departments. In plain terms, it is often not a priority for many (Stead, 2008).

Furthermore, financial constraints can also be an institutional barrier preventing integration since funding may only be provided to implement policies that favour a particular governmental objective (Banister, 2002 cited in Hatzopoulou and Miller,

2008). Even if that is not the case, the issue may be attributed to a lack of funds in general and the limited flexibility of being able to direct funds from elsewhere to make up the deficit (May et al, 2006). Funding can sometimes be an issue at the local level as they often cannot raise all the funds they need for their single transport authority to facilitate transport planning and management. In many cases, funding needs to come from the national government, which can lead to political conflicts (Pojani and Stead, 2018). In South Africa, funding issues come up throughout the literature and affect many aspects to do with improving the transport system, such as being unable to fund policy implementation measures and the inability to replace aging bus, rail, and taxi infrastructure or fleets (Walters, 2013).

Many of the barriers mentioned above can also be linked to institutional capacity issues (Wilkinson, 2010; Walters, 2013). In South Africa, part of this is the financial side, as mentioned above, but there is also a lack of appropriate skills in national, provincial, or local spheres of government.

These barriers are found worldwide but are particularly prominent in the Global South context and provide challenges for the urban governance of implementing an integrated public transport system (Pojani and Stead, 2018). Therefore, understanding and overcoming these aforementioned institutional and political barriers is essential for enabling an intermodal integrated public transport system.

The following section will examine Global South examples and how their institutions enabled an intermodal integrated transport system to materialize.

2.6 Examples from the Global South

The literature highlights the importance of integrating institutions, stakeholders, and policy as both an enabling factor for an intermodal integrated transport system and a barrier. Global South examples from Medellin and São Paulo will be examined to identify how their institutional processes enabled them to overcome barriers to achieve an effective and efficient integrated public transport system. It is acknowledged, however, that examples are often context-specific, and what works in one context may not work in another, although the lessons we can learn from them are still useful (Stead, 2016).

2.6.1 Medellin

The Colombian city of Medellin has a history of violence and crime coupled with a struggling economy. However, in recent years, the city has seen improvements in this regard which is attributed to the cities' remarkable urban transformation related to improvements in the quality and functioning of public transport (Coupe et al, 2013). These improvements have allowed the marginalised, lower-income residents improved access to the city and a higher quality of life.

Transport improvements were made in the form of an intermodal integrated transport system involving Metrocables (a cable car system), tram, rail, and bus rapid transit (BRT). Although the literature does not indicate an integrated timetable,

it has an integrated ticketing system between modes and a single transport authority (Okami et al, 2022). This integrated system has improved tourism as tourists are able to commute more easily to parts of the city that were previously difficult to access.

Around 30 years ago, Colombia introduced a decentralised institutional framework where many functions, including public transport management, were devolved to the local level, giving the municipality considerable autonomy regarding public transport decision-making (Dávila et al, 2013). Medellin's effective transport implementation has partly been due to having three successive mayors, all of whom were highly educated, and had a strong will and vision to improve conditions in the city through transport-related interventions. In terms of having solid institutions, the integrated public transport system in the city is managed and operated by Metro de Medellin (Okami et al, 2022). It is controlled predominantly by the central (national) government (Brand and Dávila, 2011), but part ownership is also shared by the Medellin municipality and the province of Antioquia. The board consists of two representatives from Medellin, two from the provincial government, and four from the central government (Coupe et al, 2013). The central government representatives, however, consist of local business actors to bring a more business-like perspective rather than a political one (Brand and Dávila, 2011). Although the Metro company is not solely municipally controlled, it is still an example of effective institutional integration vertically between local, provincial, and central (national government) into one transport authority.

One other significant municipally owned body, particularly in terms of finance, has been their public utility company Empresas Públicas de Medellín (EPM). This company provides services such as water and energy to Medellin. However, it also provides finance for city projects such as the Metrocables, which is part of the intermodal integrated public transport system (Coupe et al, 2013). An interesting feature of this company is that it was created as an apolitical company aimed at providing efficient services with high standards and based on a business-like approach (Guerrero et al, 2016).

Project implementation was also coordinated using the Urban Development Agency, known in Medellin as Empresa de Desarrollo Urbano (EDU), which was created in 2002. This development agency included academics, young professionals, and technicians who effectively come up with fresh ideas within limited timeframes. Furthermore, the fact that this was an apolitical body meant that past ineffective political practices could be avoided (Brand and Dávila, 2013).

A fundamental aspect of Medellin's transport planning was the concept of 'social urbanism' (Levy, 2013). Social urbanism enabled transport planning to go beyond the technical aspect since it brought a strong participatory focus. It was also seen as a more integrated approach to transport planning and urban development. It was a way for people and the local government to learn from one another and gave participants a sense of empowerment (Levy, 2013). Social urbanism in Medellin aimed to target the poorest areas for quality infrastructure investment and public space upgrading (Brand and Dávila, 2013). The legislation was created throughout the 1990s to enable participatory planning, including participatory budgeting.

Participatory budgeting was where local communities decided how 5% to 10% of the municipal budget was spent which could be used for anything from transport to scholarships. Although it seemed risky, it proved to be effective in addressing community needs. The extent to which Medellin bases its planning system on participation makes it one of Colombia's most advanced planning systems (Coupe et al, 2013). The crux of participatory planning is that it creates transparency, trust, community empowerment and learning. It also develops social capital. Social capital is crucial for promoting efficient administrations and community participation which has been shown to decrease violence, help share information, decrease corruption, and allow previously excluded sectors to participate in planning (Coupe et al, 2013). Implementing this innovative concept is a testament to the strong leadership and political will of decision-makers in Medellin.

While there is a lack of literature that explicitly investigates the institutional aspect of achieving intermodal integrated public transport in Medellin, this example provides many vital lessons for integration. This example has shown that devolving functions to the local level and having strong leadership with a shared vision, robust institutions that incorporate young minds with fresh ideas, and institutional integration at the local level can effectively bring about transport transformation. Thus, we can infer that this has led to the effective intermodal integrated public transport that Medellin has today.

2.6.2 São Paulo

São Paulo is the largest city in South America and plays a vital role in Brazil as a hub of financial, industrial, and commercial activity (Hidalgo, 2009). The city of São Paulo is 1 of 26 municipalities located in the São Paulo metropolitan region, also known as the state of São Paulo.

São Paulo has a sophisticated, fully integrated intermodal transport system with integrated ticketing, timetable, and interchanges (Bernal, 2016). Similarly in Medellin, most of the public transport competencies were devolved from the federal government to the state (provincial) and municipal levels. The public transport system of São Paulo is coordinated by the state-level public agency Secretaria dos Transportes Metropolitanos (STM), which translates to 'Secretariat of Metropolitan Transport'. STM coordinates the various transport agencies, such as commuter rail and inter-municipal buses, while the local public agency, SPTrans, handles bus services in the city. The state plays a very active role as the metropolitan transportation agency and there is large city-level involvement from SPTrans regarding bus services (Kezič and Durango-Cohen, 2012). This institutional structure is interesting because the literature that describes an intermodal integrated transport system earlier indicates that there should be one transport authority at the local/city level. However, in the case of São Paulo, they effectively use a state (provincial) level transport authority, along with the SPTrans local bus company, to coordinate the city's transport functions.

As with the Medellin example, there is no exact literature that analyses the institutional aspect of achieving their intermodal integrated transport system as a whole. Therefore, the institutional workings of São Paulo will have to be inferred from information from the perspective of the integrated bus system, the Interligado bus system:

In 2005, the BRT system, part of the current integrated transport system, was stalled when political parties changed. A new mayor came to power who favoured a subway and car agenda despite 88% of passengers using bus transport. As a result, congestion worsened. In 2013, São Paulo received a new mayor, Fernando Haddad. He had a strong BRT and public transport agenda, which was aimed at integrating BRT with other modes of transport (Maluf, 2013). Another mayor with a strong will to improve transport and integration was Marta Suplicy (Hidalgo, 2009). Thus, with a combination of similar agendas within the São Paulo leadership, the BRT and integrated system were eventually completed. This drastically improved mobility and congestion within the city.

Organising all transport required institutional coordination for integration, as this was lacking, particularly at a local level (Maluf, 2013). This was done effectively through coordination under the Transport Planning Advisory, where directors of SPTans, CET (metropolitan rail operator), and the municipal secretary of transport came together to plan (Hidalgo, 2009).

Although intergovernmental coordination was complex since the state government wanted a more rail-focused agenda, whereas the municipal agenda was more bus-focused, the state and municipality were able to agree on a bus system. The bus system was developed with a municipal focus but also designed in a way that could link with other transport modes that were state-operated (Hidalgo, 2009).

Legal challenges also needed to be overcome, and bureaucracy led to some project delays (Maluf, 2016). In addition, some components needed for the integrated system did not have a legal basis or were prevented by regulations. Thus, regulations were changed, allowing for the integrated fare system (Hidalgo, 2009).

One of the biggest challenges was resistance to change by industry leaders controlling illegal operations through self-employed van operators since they wanted to keep their businesses. However, the municipality adopted a participatory approach and created the Municipal Council for Transport and Traffic to assist with the negotiations and supply information to industry leaders. This well-executed participatory approach eventually successfully overcome their resistance (Hidalgo, 2009).

There are many lessons we can learn from this example. This example has shown that for an intermodal integrated transport system to form, devolving functions to lower levels of government is valuable, and there does not necessarily have to be a local authority controlling the system. It could be a single provincial-level authority. The consistency of the vision of subsequent mayors has shown to be a determining factor for achieving integration since processes stall when there are constant changes in political decision-makers. Bureaucracy can also stall processes, and thus legal reform is often needed.

Furthermore, this example clearly shows the importance of political will for change. It also shows the importance of negotiations between different government levels and the informal transport operators. Incorporating them into the system was also vital for integration. In both examples, there are gaps in the literature regarding the institutional perspective of the barriers to achieving an intermodal integrated transport system as a whole. In other word, the literature often focuses on one mode of transport within the integrated system.

2.7 Example from the Global North

2.7.1 London

London is the capital city of England and the United Kingdom (UK). It has a population of just over 9.5 million people, making it the largest city in the UK and the third-largest city in Europe (World Population Review, 2022).

London currently has an extensive and sophisticated intermodal integrated transport system, often referred to as a best practice example of integrated transport planning and institutional integration. Its public transport system includes light rail, commuter rail, the underground rail (tube), trams, taxis, ferries, busses, cable cars, cycling, and private hire vehicles (Canitez, 2020), as well as 580km of roads (Burnham, 2006). Furthermore, its public transport system is fully integrated through a single ticket, timetable, and integrated interchanges (Bernal, 2016).

All urban public transport, except suburban rail, is controlled by Transport for London (TfL) which is a public entity (Bernal, 2016) and acts as London's single transport authority (Canitez, 2020). It can manage all modes of transport since it has the contracting function for all modes and the licensing authority for taxicabs (Burnham, 2006). TfL is a devolved local government authority (TfL, n.d.) that operates under a regional governance body called the Greater London Authority (GLA) (Canitez, 2020). The TfL and GLA were established around the same time, in 2000 after the Greater London Act of 1999 was passed (Marsden and May, 2006). An important feature to note is the power this act bestows upon the Mayor of London. The Mayor acts as the head of the GLA and the chairman for TfL. The Mayor also plays a central role in setting transport policy and strategies (Canitez, 2020) which is required to be consistent with economic development and environmental planning (Marsden and May, 2006). This points to a high degree of horizontal integration. Furthermore, the Mayor also has the power to appoint the board members as well as the Transport Commissioner, and set the transport budget of TfL (Burnham, 2006).

TfL is structured to have three directorates responsible for different modes of transport: the London Underground, Surface Transport, and the London Transport Museum. The London Underground is further split into the London Underground and TfL rail. Although TfL manages all public transport matters, it manages the roads along with London's 32 boroughs (local district municipalities). They also work closely together to integrate and implement transport plans and strategies as set out by the Mayor (Canitez, 2020).

A significant aspect of the success of London's public transport system is due to strong leadership and political will by the Mayor. The Mayor saw transport as a priority for the city and emphasised the need for improvements. As such, the Mayor made sure to appoint a highly experienced Transport Commissioner and implement a senior management team that was highly motivated to bring about change. This led to a culture within TfL that was dynamic and highly driven. Since the Mayor had executive decision-making regarding transport planning matters and the will for change, decisions could be taken and implemented effectively (Burnham, 2006). Furthermore, there were clear objectives and visions of what the Mayor and management team wanted to achieve (Marsden and May, 2006). Thus, projects were often delivered on time and within the stipulated budget, indicating the ability of TfL to be a strong transport authority through strong leadership (Mackinnon et al, 2010).

Another essential aspect relating to the improvement of TfL's integrated public transport system is the accountability placed on the Mayor. The way accountability and responsibility were improved was that the 1999 Act not only assigned operational powers and decision-making powers to one authority. The Act also assigned them to one person, the Mayor. Thus, "TfL is accountable to the Mayor and must deliver the Mayor's strategy" (Burnham, 2006: 266). Furthermore, an interview conducted by Mackinnon et al (2010) revealed that the Mayor was willing to take complete responsibility for his actions or decisions if they failed. This speaks to the strong leadership of the Mayor as mentioned in the previous paragraph. However, accountability becomes less apparent when the national government makes a large portion of decision-making around, which limits the Mayor's decisions since almost half of the TfL funding comes from national government grants (Burnham, 2006).

Before TfL was formed and the Mayor was given executive powers, funding for public transport was an issue. The effectiveness of public transport, such as buses, was hindered by increased congestion, raising the operating cost. Thus, the Mayor introduced a congestion charge in 2003 in an attempt to curb congestion and increase funding streams. The congestion charge was successful as it decreased congestion by 30 percent in some areas and raised a large sum of money that could be directed back into the public transport system, although many opposed it. However, it is seen as a strategic and important revenue scheme for transport, the economy, and the environment (Burnham, 2006).

Strong vertical integration is another important feature of London's integrated transport system. According to Marsden and May (2006), there is a strong relationship and understanding between the national and local tiers of government. This allows for efficient planning between the London Boroughs, which, as mentioned earlier, have some authority over roads, and the national government, which plays an important role in funding arrangements.

2.8 Conclusion

This chapter has explored a wide range of literature on the topic of transport integration. The literature was used to identify common themes to look for when conducting the research and identify gaps in the literature.

In both global South case study examples, there are gaps in the literature regarding the institutional perspective of the barriers to achieving an intermodal integrated transport system as a whole. In addition, the literature often focuses on one mode of transport within the intermodal integrated system. This study aims to provide examples of the barriers to an integrated transport system across all the main motorised modes in Cape Town.

There is a wide range of literature on integrated transport in South Africa and Cape Town. However, some gaps have been identified. Much of the literature focusing on the institutional barriers and policy issues related to transport reform in South Africa is relatively old. For example, Wilkinson (2010), Walters (2013), Schalekamp and Behrens (2010), and Turok (2013). Thus, they do not include more recent policies or developments relating to achieving an integrated transport system. For example, the Transport and Urban Development Authority (TDA), Cape Town's transport authority and a vital feature of transport in Cape Town was not formed at the time of their writing and has thus been omitted. Behrens et al (2016) refer to Cape Town's transport authority as Transport for Cape Town (TCT) which has since become the Urban Mobility Directorate. Walters gives a good account of transport policy up until 2013. However, since then, more policy has been recently developed, a prominent one being the White Paper on National Rail policy which will have crucial implications on rail functions being devolved to South African cities such as Cape Town. This will be discussed further in chapter 4. Apart from Turok (2013), the previous South African research also does not go into enough detail about understanding the barriers relating to how the modes and their management come together under one authority through devolution. Therefore, this dissertation serves to update and add to previous research.

The following chapter will explain the research methodology used in this study to further investigate the institutional barriers that impact the extent to which an urban public transport system can be integrated. The methodology is important for setting out the process that will be undertaken to conduct the research needed to answer the main research question of this study.

Chapter 3: Methodology and research techniques

3.1 Introduction

This chapter discusses the context of the case study area, the City of Cape Town. It then explains the methodology and data collection used in this study. Lastly, limitations experienced throughout the research process is also identified.

3.2 Case study context: A brief overview of the City of Cape Town

The City of Cape Town is located within the Western Cape Province of South Africa and has a population of approximately 4.6 million people with a population density of around 1882 people/km^2 (WCG, 2020). It has an area of approximately 2 446.4km^2. The City is well known for its beauty, making it a valuable tourist destination in the country, and it also serves as an important industrial centre in the Western Cape (WCG, 2021). However, the City is characterised by significant gaps between rich and poor and has a high unemployment rate of around 23.1% (WCG, 2020). Furthermore, as briefly mentioned earlier, its spatial form is still reminiscent of apartheid, with the poor living predominantly towards the periphery of the City in informal settlements on the Cape Flats (Wilkinson, 2000) far away from the CBD and other areas of employment opportunities (Kane, 2010).

3.3 Research method

3.3.1 Case study research

A case study was appropriate to this study because of the three criteria that Yin (2009) uses to indicate when the case study was useful to use. First, when questions in the study use 'how' or 'why' questions, (i.e., explanatory questions). Yin (2004) also includes questions that use 'what' questions (i.e., explanatory questions). This study's question, "What are the institutional barriers that impact the extent to which an urban public transport system can be integrated?", relates well to this since it uses a 'what' question. Second, in this study, I, as the researcher, was not in control over the behaviour of those involved. Third, the study was conducted on a current, real-life situation.

Case studies are advantageous since, according to Yin (2004: 2), they are useful when the researcher wants to "illuminate a particular situation, to get a close…understanding of it". In addition, when one collects their own data in an actual situation, they do not need to rely on someone else's study. Moreover, collecting one's own data can allow new information to surface. Similarly, Flyvbjerg (2006: 223) states that the case study allows for a "nuanced view of reality." According to Yin (2004:5), a 'case study' can be a single-case study or multiple-case studies. This study uses a single case study since it focused only on the City of Cape Town's public transport system, rather than transport systems in multiple cities. The advantage of a single case study is that it allows the researcher to go into greater

detail in a limited amount of time. Another advantage of case studies is that it is "not limited to a single source of data" (Yin, 2004: 9). Thus, multiple sources were used in this study to verify and triangulate my findings. This was done to strengthen the research. The sources were interviews, policy documents, academic literature, a radio interview and a recorded university lecture.

It is acknowledged that case studies do, however, have their disadvantages. First is that it is difficult to generalize from case studies (Flyvbjerg, 2011, Flyvbjerg, 2006 and Yin, 2009). According to Yin (2009), one can only generalize theories, not populations. Despite this, Flyvbjerg (2011; 2006) explains that even though you cannot formally generalize, your findings are still valuable for generating knowledge. Thus, the knowledge gained from this study is still valuable even though the findings should not be generalised.

Second, according to Yin (2009) there is little rigour in case studies since the researcher does not following guidelines and may allow for their bias to affect their research. Flyvbjerg (2011, 2006) also acknowledges this critique. However, he argues that case studies have their own, unique rigour to other methods and that the case study is about falsifying the researchers' initial notions rather than verification. To overcome this critique, Yin (2009) states that the researcher "must work hard to report all evidence fairly," which I have certainly intended to do. Another way to ensure that evidence was reported fairly and with rigour was to use different sources of knowledge to back up my findings, such as interviews with various stakeholders, policy documents such as the CITP, and research papers.

3.3.2 Policy analysis

Another method that was used in this study was policy analysis. Policy analysis was used to gain a better understanding of the policy throughout the three spheres of government. This also helped to identify areas where barriers to integration may exist and were therefore used to enrich interview questions. The policy review along with the literature review were both used to create the subsidiary research questions that were stated in chapter 1

A weakness of this method is that my interpretations of the policies may be different from how others interpret them.

3.4 Research techniques and analytical tools

3.4.1 Interviews

According to Holstein and Gubrium (1995: 4) cited in Roulston et al (2003: 645), "all interviews are reality-constructing, meaning-making occasions." Thus, interviews are often a useful research technique for acquiring primary information. In this study, the majority of the results were obtained from seven interviews which include a variety of experienced public and private professionals that have been or are currently

involved with transport in the CoCT. Table 3 provides a summary and description of all the participants who were interviewed in this study.

Participant name	Description	Date of interview
Gerhard Hitge	Former City of Cape Town official who was the head of transport planning at Transport for Cape Town (TCT) from 2010 - 2014. He currently works as a transport engineer and urban planning consultant in the private sector	02/08/2022
Brett Herron	Former City of Cape Town official who was the Mayoral Committee Member at the Transport and Urban Development Authority (TDA). He is currently the secretary general of the GOOD party.	05/08/2022
CODETA	CODETA is a large minibus taxi association based in Khayelitsha. Permission was not given to use the participants name in this study. Therefore, only the organisation name has been used.	19/08/2022
Jon Snow	This participant is involved with transport policy development in the public sector. Permission was not given to use their name or specific organisation. Therefore, an alias has been used.	22/08/2022
Nico McLachlan	Nico is an institutional expert in transport, specialising in the paratransit sector. He is the managing director of Organisation Development Africa (ODA), a private consulting company specialising in business strategy, institutional change processes, and economic development.	29/08/2022
Jacqueline Gooch	Head of Department of the Western Cape Provincial Department of Transport and Public Works since 2013	02/09/2022
Councillor (Cllr) Roberto Quintas	Current City of Cape Town Mayoral Committee Member for Urban Mobility.	07/09/2022

Table 3: Interview participants

In this study, I engaged with the participants through one-on-one, interviews. Seeing the participant was important because it allowed me to make eye contact with them so that I was aware of non-verbal communication, such as body language. Being aware of body language helped me gauge how comfortable the interviewee was with the questions. The helped to determine whether I should refrain from probing certain matters further. It also made it more obvious to identify if the interviewee was confused and needed the question to be rephrased or repeated (McIntosh and Morse, 2015).

The interviews were semi-structured and included established and primarily open-ended questions. The open-ended questions allowed me to probe the interviewees responses to gain deeper insight (McIntosh and Morse, 2015). With their permission, the interviews were recorded and transcribed to add to the depth of the research. Transcribing the interviews also ensured that I thoroughly understood the conversations. The transcripts were also analysed to identify any common themes or patterns which could be identified in the results chapter and later triangulated with literature in the analysis chapter.

The interview questions were created through a combination literature review and policy review information. Questions were also updated or added throughout the interview timeframe as more information from participants was uncovered. This was done to enrich the data by probing deeper into specific topics or themes that had come up in the interviews.

Conducting interviews has weaknesses that are important to note when using them for a study. First, interviewees may behave in an unexpectedly (Roulston et al, 2003). Second, there may be unexpected locational challenges, such as the interview occurring in a noisy area. In these last two situations, asking the participant if they would like to reschedule may be best. Third, being present and not getting lost in one's own thoughts can be challenging. Yin (2009) and Roulston et al (2003) stress the importance of being a good listener. A considerable effort was made to listen carefully by remaining present, not interrupting the participant and not being self-conscious about whether I was doing a good job. Fourth is that participants may provide answers that are "more socially desirable…and convenient" rather than the complete, accurate answer (McIntosh and Morse, 2015: 8). Finally, transcribing the interviews can be time-consuming and tedious (Roulston et al, 2003). It is also important to acknowledge that I may have interpreted the transcripts differently from what the participant meant. My interpretation may also differ from how others interpret the transcripts.

3.5 Data analysis

With writing a dissertation comes the task of handling large quantities of data. Thus, it is imperative to be able to analyse this data by using the appropriate analytical tools.

3.5.1 Coding

According to Jørgensen and Phillips (2002), with qualitative research there is no exact procedure such as the ones used in the natural sciences. However, a common analytical tool to begin with, is coding. Coding involves reading transcriptions a few times to identify words or phrases that can be organised into themes. The themes can link to literature and theory that I may use but there is also the opportunity to develop new themes that may come up from an interview transcript, for example (Jørgensen and Phillips, 2002). The benefit of coding was that it allowed me to sort my interview transcripts and journal notes. Since research is not a linear process, coding allowed me to identify themes that I was missing, or that I could expand on. If information was missing, I returned to the field to collect more. In this case, coding was done by highlighting certain themes in different colours so that they were easy to identify when looking through the transcripts.

3.6 Ethical considerations

There were several ethical considerations that I adhered to when carrying out my research. First, it was my responsibility to let my institution know that I intended to do research where people are involved as participants. For this, I needed to gain ethical clearance from my institution. Second, I needed to be up-front, transparent, and informative about my research to all participants and what it would be used for. An essential component of this research was interviewing experts and professionals in transport. For this, I needed to gain the participants' trust since I was seen as an outsider. I also needed to receive signed consent forms from the participants to conduct and record the interviews (Anthropology Southern Africa, 2005). I informed them that at any time if they did not want certain information recorded or used for research, I would respect that and discard that information. According to Roulston et al (2003: 642), participants have the "right of veto" information that they do not want to be used. I also informed them that they could withdraw from participating at any time. I ensured that a research participants identity was kept confidential when requested (Anthropology Southern Africa, 2005). All data was saved on a password-protected computer that only I could access.

There were many choices I needed to make regarding what information I used and how I structured my dissertation. I acknowledge that I am not perfect, nor is my research, but I have intended to be as fair and honest as possible throughout the study.

3.7 Limitations

There were some limitations to doing interviews. First, interviews over zoom were often interrupted by connection issues which made it difficult for interviewees to answer the questions since they were sometimes cut off or had trouble hearing me. Second, since the free version of Zoom used was used, the 45-minute time limit often cut the interview short. Third, there were many people who did not respond to interview requests that I sent by email. Some did reply but declined an interview for

various reasons. There was also an occasion when a participant did not send the consent form after a Zoom interview. Therefore, the information from that interview could not be used. Fourth, transcribing the interview was also a time-consuming and tedious process. Fifth, approximately four and a half months was a relatively short timeframe for completing such a large study. Furthermore, since it was such a large topic, it was not possible to explore all barriers in extensive detail. Thus, there is room for further studies on this topic.

3.8 Conclusion

This chapter has described the research methods, techniques, and analytical tools used in this study. Case study research and policy analysis were the two most appropriate methods for this study. Additionally, the weaknesses of these studies were also acknowledged. The main research techniques used were interviews to collect primary data from professionals throughout the transport sector in the CoCT. A list of interview participants was also given. The analytical tool used was coding to enable information to be accessed quickly and easily. Finally, the importance of ethics in this study was discussed.

Chapter 4: Legislation and policy review

4.1 Introduction

This chapter reviews transport policy and legislation in South Africa among the National, Provincial (Western Cape), and Municipal (City of Cape Town) spheres of government. The specific focus is on the transport policy and legislation related to integrated transport throughout the three spheres of government. The literature review in chapter 2 revealed that there are policies that caters to intermodal integrated transport. Therefore, this chapter aims to provide more detail regarding integrated transport policy in South Africa and to identify any policy or legislation issues or inconsistencies that may prevent an intermodal integrated transport system from materialising in Cape Town. This chapter will not be a comprehensive review. Rather, it reviews key policy and legislation documents that pertain to the scope of the research.

The chapter is structured as follows: The policy will be analysed in order of the spheres of government. First, the national policy and legislation will be analysed, followed by an analysis of the relevant provincial policy and legislation. Finally, the City of Cape Town's transport policy and legislation will be analysed, followed by a conclusion.

4.2 National policy and legislation

4.2.1 The Constitution of the Republic of South Africa (1996)

The Constitution of the Republic of South Africa (1996) classifies public transport in South Africa as a concurrent national and provincial competence, while municipalities have exclusive competence of municipal public transport. Although it does not specifically refer to intermodal integrated transport, it stipulates principles that the different government spheres must adhere to so that they can assist and support integrated transport in the City of Cape Town. For example, the Constitution stipulates in section 40(1) that three spheres of government are interdependent and interrelated. Furthermore, the Constitution (1996: 21) states that in section 41 (1)(h)(ii), each sphere must "assist and support one another" and in subsection iv), each sphere must "coordinate their actions and legislation with one another." Furthermore, in section 154 (1), the Constitution (1996: 75) states that "The national government and provincial governments, by legislative and other measures, must support and strengthen the capacity of municipalities to manage their own affairs, to exercise their powers and to perform their functions." These points are important since integrated transport requires that legislation is vertically integrated and coordinated through the three spheres of government.

According to most of the literature in chapter 2, intermodal integrated transport involves a single transport authority, often at the local or metropolitan level, that has authority over the functions of all modes of public transport in a city. Section 156(4)

of the Constitution makes provision for assigning any function to a municipal authority if the municipality can administer it effectively and has adequate capacity. Thus, if there is a role or function that the National or Provincial government is failing to fulfil, such as failing to adequality manage a mode of transport, the municipality may take over the functions. This will become particularly important later on in discussions about rail, bus contract and Municipal Regulatory Entity (MRE) devolution.

4.2.2 White paper on National Transport Policy (1996)

This White Paper is still relevant today. It places a large focus on integrated transport as part of its vision and is guided by the Constitution. It recognises that the national government has struggled to provide effective transport policy and planning, and that transport modes are fragmented throughout different spheres of government. It recognises the need for policies to clarify relationships between spheres of government and that there should be better coordination between national and provincial government. This will be through the Ministerial Conference of Ministers of Transport (MINCOM). Interestingly, it does not refer to the local government being involved in the MINCOM. It further stipulates that provinces must develop structures for coordination with municipal authorities. However, the White Paper acknowledges that institutional arrangements should also recognise the importance of municipalities' role in public transport (DoT, 1996).

The White Paper promotes the need for more integrated planning and seamless, intermodal transport with integrated ticketing, timetable, and routes. Furthermore, it stipulates that land public transport functions should be devolved to the lowest, competent level of government, and planning should be conducted by the City's transport planning authority, not individual operators (DoT, 1996).

However, it stipulated that bus and minibus taxi operations may be granted permission at the provincial level. It also stated that rail functions and maintenance concessions would be under national government ownership until a competent provincial or local government could take over (DoT, 1996).

In terms of funding for public transport, it stipulated that funding would be transferred to provincial or municipal levels. However, the funding will be distributed through a single authority for better control (DoT, 1996).

4.2.3 Public Transport Strategy and the Public Transport Strategy Action Plan (2007)

The transport strategy and public transport strategy action plan were published in 2007. The Public Transport strategy included two main objectives. The first was around rapidly improving and upgrading public transport modes throughout the country, which included creating rail priority corridors and the taxi recapitalisation plan, for example. The second was provisioning for the implementation of Bus Rapid Transit (BRT) systems, which placed a significant emphasis and focus on using BRT to

establish Integrated Rapid Public Transport Networks (IRPTN) in the main cities (Walter, 2013). Furthermore, the plan also promoted ticket and physical integration between transport modes. The Public Transport Action Plan supported the Public Transport Strategy, providing more detail for its implementation and using catalytic projects to assist in expediting implementation. Part of the importance of this plan was to ensure that public transport was improved by the time South Africa would host the 2010 world cup (DoT, 2007).

4.2.4 National Land Transport Act (NLTA), No. 5 of 2009 (2009)

The National Land Transport Act (Act No. 5 of 2009) repealed the National Land Transport Transition Act (NLTTA) (Act No. 22 of 2000). However, the integrated transport plans (ITP) created through the NLTTA have continued to inform transport planning (Wilkinson, 2010).

The NLTA outlines the responsibility of municipalities as planning authorities which stipulates that they are required to create and implement ITPs, Integrated Public Transport Networks (IPTNs), and contract public transport services. It states that municipalities are also responsible for integrated ticketing systems, although it does not provide details surrounding integrated scheduling or integrated physical interchanges.

Additionally, the NLTA makes provision for national public transport regulators, provincial regulatory entities (PRE), municipal regulatory entities (MRE), intermodal planning committees (IPC), and Land Transport Advisory Boards (LTAB). More details surrounding these entities, committees, and boards later.

The NLTA also provides for public transport to be devolved to the local government level. Thus, operating licence functions and contracting functions can be transferred to the local level. In addition, the NLTA empowers the national minister to transfer functions to the municipality if the municipality has the capacity. However, the provinces still retain contracting and operating licence function over existing bus services (although it does not refer to BRT). In terms of rail, the NLTA enables municipalities to conduct service-level planning for integrating rail into integrated public transport plans (National Land Transport Act, No. 5 of 2009, 2009).

The Act makes provision for a variety of contracts such as tendered contracts, subsidised contracts, and negotiated contracts. Bus and minibus taxis must be included in negotiated contracts. Each operator may only enter into a negotiated contract once, valid for up to twelve years whereas, other contracts are valid for seven years (National Land Transport Act, No. 5 of 2009, 2009).

In terms of funding arrangements, to assist with establishing an IPTN, a Municipal Land Transport fund can be created into which the minister, province, or municipality can deposit funds. The municipal funds can come from user charges i.e., money from patrons of the public transport services (National Land Transport Act, No. 5 of 2009, 2009). Other than that, the Act is unclear on how the national government will support public transport systems in municipalities (Wilkinson, 2010).

4.2.5 National Development Plan (NDP) (2011)

The NDP provides a holistic vision for South Africa to be achieved by 2030. Integrated transport is seen as a crucial part of this vision. It stipulates the need to strengthen institutions and align policy to be able to devolve functions to municipalities. It also emphasises establishing regional authorities to streamline institutional arrangements in municipal areas. Interestingly, regional authorities are not emphasised as much in other policy documents; the focus is usually on municipal authorities (National Planning Commission, 2011).

To improve state functioning, the NDP lists several objectives. Part of these objectives is to separate political alliance from administrative duties. The NDP states that separation is needed to avoid bias. More objectives outlined by the NDP include building skills within public bodies from the top and bottom, improving the relationship between the three spheres of government and providing state-owned enterprises (SOEs) with clear mandates and structures (National Planning Commission, 2011).

4.2.6 Integrated Urban Development Framework (IUDF) (2016)

The IUDF is closely related to the NDP. It responds to the vision of the NDP and builds on many of its chapters. In short, the IUDF is the "government's policy position to guide the future growth and management of urban areas" (DoT CG & TA, 2016: 7). The objective is to "ensure spatial integration, improve access to services and promote social and economic inclusion" (DoT CG & TA, 2016: 5). It has four overarching strategic goals which are spatial integration, inclusion and access, and growth and governance. Transport is a particularly prominent feature of the spatial integration goal. The strategic goals also inform and link to the nine policy levers in the IUDF.

The policy lever most relevant to this study is policy lever 2: integrated transport and mobility. It recognises the importance of integrated transport as a crucial aspect of South Africa's economy and the role it plays in its social development and overall urban efficiency. Lever 2 also notes that integrated public transport can be used as a "catalyst for spatial transformation and social integration" (DoT CG & TA, 2016: 53).

Some of the general issues that this document points out are that there is little progress with cities taking over transport regulatory functions and contracting function from provinces, uneven subsidy arrangements, fragmented public transport systems, historical underinvestment in public transport infrastructure, low-density cities and urban sprawl. The IUDF's short-to-medium-term goals include devolving public transport modes to the local government through a devolution strategy as well as capacitating and training key role players in the cities. Moreover, it promotes the need for integrating bus and minibus taxis with BRT and rail. Lever 2 also states that all modes should be integrated through a ticket, timetable, and integrated

interchanges. This integration includes formalising the minibus taxi industry and exploring options for providing them with subsidies. The longer-term goals of lever 2 include reducing emissions and congestion through pilot projects as well as ensuring the completion of core IPTN infrastructure (DoT CG & TA, 2016).

4.2.7 National Land Transport Strategic Framework (NLTSF) (2017)

The NLTSF is a requirement in terms of the NLTA. It provides a five-year national land transport framework from 2017 to 2022 that guides transport planning and implementation by the national, provincial, and municipal spheres of government. It links to the NDP, provincial transport planning spatial frameworks, and local government strategies, including IDPs. It is clearly defined as a framework, not a transport strategy or plan. Part of its overall vision includes an "integrated and efficient transport system" (DoT, 2017: 87). The NLTSF identifies the establishment of a National Transport Forum (NTF) by the Department of Transport (DoT) to ensure the vertical and horizontal integration between spheres of government and departments. Strong emphasis is also placed on viewing public transport holistically and integrating modes. Furthermore, it also emphasises integration between land use, social inclusion, and accessibility. This document is useful because it is intended to be flexible so it can be applied at local levels and in varying contexts (DoT, 2017).

The NLTSF clearly outlines the roles of national, provincial, and local governments concerning transport. The national government oversees the development of transport policy in the country. It regulates functions where it has competence, promotes capacity building, monitors, evaluates, and coordinates functional areas, and promotes investment across all modes. The provinces are responsible for implementing policy mandates through plans, policies, and legislation. Municipalities are responsible for ITPs and IPTNs which are needed to implement and finance an integrated transport system. However, the NLTSF critiques plans such as IDPs. It states that they are only created to comply with the law without actually being carried out. As with the White Paper on National Transport Policy, the NLTSF notes that transport systems are fragmented due to planning operating in siloes. It also mentions institutional capacity as an issue, and funding is not being spent where needed or is not aligned with policy (DoT, 2017).

The NLTSF recognises the importance of devolving public transport functions to municipalities and stipulates the need for integrated ticketing, timetable, and interchanges. The NLTSF states that the mechanism for implementing the strategies and vision of the NLTSF is through the National Transport Forum, Provincial Land Transport Frameworks (PLTF) and ITPs and IPTNs. It also emphasises that National government will need to convert strategies into programmes and that those programmes will be the driving force behind improving and integrating transport (DoT, 2017).

The NLTSF notes funding can be enabled and sourced through the Division of Revenue Act (DORA), Public transport and Infrastructure and Systems Grant, Municipal Infrastructure grant, Public Transport Operations grant (DoT, 2017).

4.2.8 White Paper on National Rail policy (2022)

This policy document has proven to be a vital turning point for public transport in South Africa. It recognises rail as the backbone of integrated public transport systems but also acknowledges that rail has had no cohesive policy. Furthermore, it recognises funding issues related to insufficient investment and strong competition from road transport diverting users, capacity issues and failings of PRASA to manage and provide rail services effectively. The fact that rail is monopolised and funded by fiscus also lowers the drive to perform well. The White Paper acknowledges the need to devolve rail functions to the municipal levels in response to these issues. This devolution aligns with the Constitution, the NLTA and NDP (DoT, 2022).

A fundamental aspect of this paper is that it acknowledges the City of Cape Town has completed the feasibility study in accordance with the NLTSF. Thus, they may receive the management authority for rail but with services still provided by PRASA. However, it notes that a lack of intermodal interchanges is a concern and that these must be established with evidence-based research (DoT, 2022).

In the past, a major concern was that municipalities would not have the capacity to receive rail functions. However, the White Paper acknowledges that the combined assets in five of South Africa's main metros, including Cape Town, amounting to over five times the value of PRASA assets and that municipalities do, in fact, possess the capacity to manage commuter rail (DoT, 2022).

The policy requires a devolution strategy to be established and approved to assist devolving functions. Once the devolution strategy has been approved, all urban rail functions such as planning, operations, funding, and maintenance, will be assigned to municipalities. From there it will be managed in accordance with their Comprehensive Integrated Transport Plans (DoT, 2022).

Furthermore, what is important about this white paper is that it provides mechanisms for devolving rail functions, which was lacking in the NLTA. These are plans to work on a framework to assist with building municipalities' capacity to receive rail functions and a national rail master plan in addition to establishing a financing model and creating space for private sector investment to help develop and revitalise the rail sector. It also states that accelerated investment and the assignment of rail functions to municipalities from PRASA will be considered, provided congestion issues are severe enough (DoT, 2022).

A concern noted in the white paper regarding the role of rail in integrated transport is that ITPs have a five-year timeframe which makes long-term rail planning difficult (DoT, 2022). If it poses a challenge to rail, it may also pose a challenge to other modes.

4.3 Western Cape

4.3.1 Provincial Land Transport Framework (PLTF) (2011)

The PLTF referred to here is from 2011 since the updated PLTF cannot be found online. This is strange since the PLTFs are supposed to be updated every five years. Therefore, there should be an updated PLTF from 2016.

The PLTF is required in terms of NLTA and functions as a strategic document and long-term vision that guides provincial decision-making around transport planning as well as district and local transport planning. Part of its long-term vision is for the Western Cape to achieve a fully Integrated Rapid Public Transport Network (IRPTN) and IPTN in urban regions. The integration is intended to be between Rail, BRT, minibus taxi and bus services. It ensures the implementation of national planning objectives at the provincial scale and assists with the preparation of ITPs. It acknowledges that municipalities can act as planning authorities for intermodal integrated transport systems to end fragmented responsibilities and operations. The Western Cape will assist with overseeing the implementation of integrated transport systems. It notes the establishment of the Integrated Transport Steering Group as a provincial-level coordinating and integrating body that intends to coordinate functions between national role players such as PRASA, provincial role players and Municipal Planning Authorities. Furthermore, the PLTF acknowledges that bus and minibus taxis have an important role in servicing areas that are not serviced by rail or BRT and that all modes should be integrated with integrated tickets, schedules, and interchanges (DoT and PW, 2011).

The PLTF states that an MoU must be signed between all modes to enable better integration, as well as service level agreements with PRASA for rail. It recognises the need for an IPC and LTAB to be established in terms of NLTA (DoT and PW, 2013).

The PLTF recognises the ability of municipalities to be able to take over contracting authority for bus services, and the province will discuss the best way to manage the contracting function with municipalities. It also acknowledges that the CoCT has done a feasibility study to take over bus functions. However, the PLTF does not give any further details on assigning these functions to the City (DoT and PW, 2013).

It stipulates that the PRE will deal with minibus taxi licensing but will provide municipalities with the knowledge and capacity to perform the MRE function in the event one is established (DoT and PW, 2013). It is important to note that since this policy was created, the City of Cape Town has established an MRE for dealing with licencing, however it does not have full authority and must still work with the PRE.

4.3.2 Department of Transport and Public Works Annual performance plan (2021)

This document outlines various policy mandates and strategic focuses of the department. It also provides updates on the performance of programmes implemented by the department. As with the PLTF, it acknowledges the importance

of an intermodal integrated transport system at the local level. However, it states that the Western Cape Province will still retain management of contracted bus services (Golden Arrow Bus Service) in Cape Town. Although this is allowed, the national policy documents and the PLTF stipulate the importance of devolving all functions. The document does not give a reason for not assigning functions to Cape Town. It also does not speak to assigning minibus taxi licensing functions to the City of Cape Town. Furthermore, it notes the importance of a single authority yet states the formulation of a Western Cape Transport Authority (DoT and PW, 2021). This raises questions as to why this is needed since the City of Cape Town has an established transport planning authority. Furthermore, it raises questions as to whether these transport planning authorities will clash with regard to their responsibilities. The annual performance plan also does not refer to working with the City of Cape Town's transport planning authority.

4.4 City of Cape Town

4.4.1 Integrated Public Transport Network (IPTN) 2032 plans (2014 – 2017)

The primary approach for the integration between modes specifically is the Integrated Public Transport Network (IPTN) as outlined in the IPTN plans. The IPTN involves the IPTN package of plans which includes: the 2032 IPTN Network Plan, approved in 2014; the 2032 IPTN Operation Plan, approved in 2015; the 2032 IPTN Implementation Plan, approved in 2017; and the 2032 Business Plan, approved in 2017. All four plans are specifically intended to guide the implementation of a multi-modal/intermodal transport system. They were developed sequentially and are a requirement in terms of NLTA (CoCT, 2021). The IPTN Business Plan acknowledges the importance of the minibus taxi industry within the intermodal transport system and gives more detail on the financial arrangements for the plan. The overall plan is that bus and minibus taxis will act as feeders to the Rail and BRT services and operate some direct services, all connected through integrated tickets, integrated timetables and physical interchanges. For the minibus taxi sector, a 'hybrid' model will be adopted where there are both scheduled and unscheduled services operating alongside each other (TDA, 2017).

4.4.2 Comprehensive Integrated Transport Plan (CITP) (2018 – 2021)

The CITP, approved in 2018, is required in terms of the NLTA and serves as a five-year statutory plan which provides the City of Cape Town and its transport planning authority with its mandate to manage its transport system. It links to the PLTF, Cape Town Municipal Spatial Development Framework (MSDF) and IPTN. The CITP stipulates what the transport planning authority is responsible for and how it will deliver an integrated transport system. It includes transport integration in the more holistic sense since it advocates for integrating public transport with land use in line with the City's desire for transit orientated development (TOD). TOD refers to linking

land use planning with transport planning since the purpose is to densify land use and populations around transport corridors for increased ridership and access. The plan argues that TOD will be most effective if the transport system is improved since a denser environment requires more efficient transport. Thus, intermodal integrated public transport is often referred to in the plan as an important aspect of improving transport services needed for TOD. (CoCT and TDA, 2018).

An analysis of the CITP and its subsequent yearly reviews, from 2019 to 2021, which are separate documents, have revealed interesting institutional changes and issues.

The 2018 CITP clearly identified the Transport and Urban Development Authority (TDA) as the City's transport planning authority that would also deal with integrating modes as well as integrating the intermodal public transport system with land use. The IPTN business plan stated that the TDA required some degree of independence from the City to effectively manage the network effectively (TDA, 2017). This notion of greater independence will become important later in chapters 6 and 7. The TDA was the transport planning authority that replaced the previous transport planning authority, Transport for Cape Town (TCT), established in 2013. The change occurred since TCT did not have a strong enough land use aspect that the city needed to achieve TOD. Thus, the city extended the function of the TCT to incorporate land use and formed the TDA in 2017. With the replacement of the TCT by TDA came a vision change. The vision of the TCT was a 'vision of one' where there would be a transport system with one brand, one contracting authority, one ticket and timetable system, one plan and one network. The new vision became the 'Integrated Transport Vision', which involved nine transport objectives and a long-term integrated transport strategy which would still build on TCT's long-term strategy. The TDA was clearly shown to be a central body to all the plans and strategies stipulated within the CITP (CoCT and TDA, 2018).

Upon analysing the CITP 2019 review, another change in institutional structure became apparent. The 2019 review revealed that the TDA, which was intended to play a central role in carrying out the CITP, had been replaced by a new transport planning authority, the 'Transport Directorate' and that the TDA was shifted to housing and settlement functions (CoCT, 2019; CoCT, 2020a; CoCT, 2021). However, no specific reason was given for the change. This is significant since literature review in chapter 2 indicated the importance of strong institutions and the importance of consistent decision-making for achieving an intermodal integrated transport system. Thus, this constant change in transport planning authorities, as indicated in the CITP, must surely be disruptive to delivering an integrated transport system. This change also raises the question as to why this change was necessary.

The CITP 2020 and CITP 2021 review provides details on the institutional structure and arrangement for carrying out the CITP and its various plans and strategies. Alongside the transport planning authority, which will be the main driving force for transport planning, there is the Land Transport Advisory Board (LTAB) and the Intermodal Planning Committee (IPC), both of which are a requirement in terms of the NLTA. These were mentioned earlier in the NLTA section. The LTAB is a board of government and private sector representatives that can advise transport officials with decision-making surrounding transport matters. The IPC consists of technical officials from

various modes, rail representatives, organised businesses, and transport users. Its purpose is to integrate and coordinate modes. The IPC is also responsible for establishing IPTNs as well as achieving objectives of more holistic integration stipulated in the CITP and IPTN plan (CoCT, 2021). These two entities are intended to be platforms for engagement towards implementing an integrated transport system.

For the transport planning authority, which in the current case, is the Transport Directorate, to be able to carry out its duties of delivering an intermodal integrated transport system, it needs to receive two things. These are the contracting authority for the bus service from the provincial government and full assignment of the Municipal Regulatory Entity (MRE) function. As mentioned earlier, the transport planning authority currently only has partial assignment of the MRE function. The contracting authority function enables the CoCT to enter into various types of contracts with bus and taxi operators. The MRE function allows the CoCT to consider and assign operating licenses to minibus taxi operators. Thus, they are essential for an intermodal integrated transport system. The 2018 CITP states that the devolution of the contracting authority and MRE functions from the province has been requested. However, three years later, the CITP 2021 review states that these functions are still being requested (CoCT, 2021). However, as noted above in the Department of Transport and Public Works Annual performance plan, the Western Cape Government does not attempt to assign bus contracting functions or MRE functions to the CoCT. In fact, this has been a problem as far back as 2010, as noted by Wilkinson (2010). This raises questions about why the City has not received these functions.

As rail is also a crucial part of the integrated transport system, the CITP has indicated the need for the City to receive rail functions. Currently, the City and PRASA are working together in terms of a signed Memorandum of Action (MoA). This MoA was also acknowledged in the IPTN business plan. Other than that, the details around integrating rail are quite vague.

In terms of the plans to integrate minibus taxis within the system, the CITP notes that the City is exploring establishing Vehicle Operating Companies (VOCs) and transport operating companies (TOCs). The VOCs and TOC are intended to transform taxi associations into more formalised and regulated entities to enable better integration. This formalisation is also in accordance with the IPTN business plan.

4.4.3 Integrated Development Plan (IDP) (2022)

The 2022 – 2027 IDP is the five-year strategic plan for the CoCT that informs all decision-making around development and planning. This plan incorporates everything from housing to public spaces to transport. An intermodal transport system is one of the key objectives of the IDP (CoCT, 2022). The IDP also aligns the CoCT's Municipal Spatial Development Framework (MSDF), which translates the IDP's vision and strategy into a spatial format. This alignment is important as the MSDF indicates transport corridors and the concept of TOD, which is also an essential feature of integrated transport in a more holistic sense.

Although transport is a prominent feature in the IDP, it seems to leave out some details. The plan does not mention the CITP, which is surprising since the CITP is a key document for integrated transport. It is also very vague on details surrounding the IPTN. Furthermore, although the IDP strongly advocates for the devolution of all modes to the CoCT, it does not mention the Transport Directorate or the role that it will play. Instead, the authority it refers to is the 'Urban Mobility Directorate'. This Directorate has not come up in the other documents indicating, yet again, a sudden change in transport planning authority. An interesting observation is that the council approved the CITP review in February this year (2022), the same year that the new IDP starts to take effect. Despite this, the two documents describe different transport planning authorities.

The IDP also states that it will advocate for rail functions to be devolved to a local authority. Later, it adds that the City will advocate for functions to be devolved to a local or **provincial** authority or entity. It is not clear on the specific authority or entity. The provincial entity aspect has not been raised in other documents, such as the CITP or IPTN. However, it was raised in the provincial annual performance plan.

In terms of the bus function, like in the CITP, the IDP notes that the City is still pursuing contracting function for bus services.

In terms of getting the minibus taxi involved in the integrated transport system, it notes that the City will investigate the viability of using a Transport Operating Company model (TOC). However, it does not mention the VOC outlined in the CITP (CoCT, 2022).

4.5 Conclusion

This policy review is intended to give an overview of many of the policies relating to forming an integrated intermodal transport system throughout the national, provincial, and local spheres of government. The review has revealed that there certainly are many plans, strategies, and frameworks throughout the three spheres that emphasise the need and desire for an intermodal transport system. Thus, according to the array of policy documents, it would seem there is the political will for adopting an intermodal integrated transport system from a policy perspective. There does seem to be a reasonable degree of policy integration vertically and horizontally as well, except for the inability to gain the assignment of the bus contracting authority and MRE functions to the CoCT. The way the IDP relates to the CITP, and IPTN plans could perhaps also be improved. The CITP was not mentioned, and the IPTN plan was briefly and vaguely mentioned. The most prominent findings relate to the institutional structures described in the various documents.

The constant change in transport planning authorities from TCT to the TDA to the Transport Directorate and the Urban Mobility Directorate over the span of approximately six years is an important aspect to consider since a change in transport planning authority's and their associated vision could possibly have a negative impact on the effectiveness for achieving an integrated transport which requires further investigation.

Although the policy documents throughout the three spheres stipulate the importance of devolving functions to the local level, the rail, bus contracts and MRE functions have not been assigned to the City.

Chapter 5 will aim to probe some of these questions further in relation to the fieldwork done towards this research.

Chapter 5: Results

5.1 Introduction

This chapter serves to report on the evidence gathered during the field work. Interviews were conducted with a variety of public and private professionals and/or stakeholders within the public transport sector in the City of Cape Town (CoCT). Information from a guest lecturer was also used. These results are organised, in this chapter, into broad themes and/or that emerged throughout the research process. This chapter begins with a brief historical overview of the City of Cape Town's public transport system to provide greater context since many of the institutional realities of the City of Cape Town's public transport system that negatively impact or, in other words, act as barriers to achieving and facilitating an integrated, intermodal transport system, stem from the historical formation of the City's public transport system.

5.2 Historical overview of the City of Cape Town's public transport system

The City of Cape Town's public transport began with the horse-drawn trams as early as 1863 (Gill, 1961 cited in Wood, 2015) as well as the development of rail around the same time by the Cape Town Railway and Dock Company. Shortly after, rail was purchased by the government of the Cape. This saw the beginning of rail as a government function in South Africa. It quickly grew into a regional rail service to link to inland areas, especially due to the expansion of the diamond industry towards the end of the nineteenth century (Perkins, 2011). Around the same time, in 1896, electric trams grew in popularity, replacing horse-drawn trams (Joyce, 1981 cited in Wood, 2015). In 1910, with the occurrence of Union of South Africa, commuter rail became a state-owned enterprise which is how it has remained to this day (Gill, 1961 cited in Wilkinson, 2010).

During the 1920s and 1930s, electric tram usage declined as the City saw a rise in private car usage as well as the introduction of trolley busses, also known as the 'trackless tram' (Rosen, 1962 cited in Wood, 2015). Eventually, they were replaced by Diesel buses, now known today as the Golden Arrow Bus Service (GABS). This service has been operating for approximately 160 years (Golden Arrow Bus Service, 2022). Over this time, as road-based transport developed alongside rail-based transport, concerns grew over the increasing competition between them. The unregulated and unrestricted competition resulted in what was argued as an unnecessary oversupply of service (Wilkinson, 2010). This was used to provide justification for regulating road transport in the form of certificates and permits beginning around 1930 and which, over the years, evolved into operating licences, as they are now known and still used today. They were managed by Operating Licence Boards (OLBs) as outlined by the National Land Transition Act, (No. 22 of 2000). Its successor, the National Land Transportation Act (No.5 of 2009), disestablished the OLBs and made provision for the establishment of a Provincial Regulatory Entity for performing the function of distributing operating licenses.

When apartheid was introduced in the late 1940s, further regulation of bus services was needed as subsidies were introduced to keep fare prices down. The lower fares enabled low-income people of colour to travel long distances from the peripheries of the city to the more central areas of economic opportunity. With the introduction of the subsidies came the need for further regulation through subsidised service contracts that were negotiated between operators. These were distributed through the national and provincial government spheres. These subsidised contracts are still paid to bus services in this manner and are placing a burden on the national government (Wilkinson, 2010).

According to Khosa (1992), the taxi industry began in the 1920s but was heavily restricted to prevent competition with other modes. In the 1970s, the minibus taxi sector rapidly expanded due to inadequate bus and rail service provision, leaving a gap in the transport market (Clark and Crous, 2002). The minibus taxi industry was also seen as a significant economic opportunity for people of colour since they had been severely marginalised by apartheid policy in the past (Wilkinson, 2010). However, permits were still difficult to acquire in the 1970s. As a result, many operators operated illegally to try and meet the transport demand. In the early 1980s there was a push to restrict or ban the illegal minibus taxi sector. This was to decrease competition with the bus operators. However, the National Transport Policy Study (NTPS) and Competition Board suggested that minibus taxis should be allowed to operate and compete with other modes. They also argued for the deregulation of passenger transport. Thus, in 1988, the Transport Deregulation Act was passed. As a result, the number of permits that were issued grew rapidly, eventually leading to a substantial over-supply of service by the 1990s. This oversupply resulted in tension and violence in the minibus taxi sector (Schalekamp and Behrens, 2010). Therefore, enhanced regulation was needed. In 1995, the Taxi Task Team was created to formalise the minibus taxi sector through the creation of taxi associations. In addition, the 1999 Moving South Africa (MSA) 20-year framework and taxi recapitalisation programme attempted to a more formalised yet regulate the minibus taxi sector (Schalekamp and Behrens, 2010). This transformation led to a more formalised, yet relatively weakly regulated structure. This weakly regulated structure remains to this day.

Although BRT may appear new to the City of Cape Town's transport system, discussions around its implementation appear in a civil engineer's conference paper that extends as far back as 1973 and were based on innovative bus transport systems in North America and the United Kingdom (Wood, 2015). Around this time, Curitiba was developing a successful BRT system of its own which received many visits from South African planners and politicians. These visits helped to develop the 1996 white paper on transport and gave transport planners a better understanding of how to implement this system. Later, Bogota's successful BRT system was also used to gain knowledge for implementing BRT systems. In 2003, the City of Cape Town attempted to implement a BRT corridor along Klipfontein road. However, this did not materialise for a variety of political, financial, and technical reasons, although it sewed the seed for BRT routes that would materialise later. BRT started taking off properly at the Southern African Transport Conference in July 2006. Later in the year, the City of Cape Town hosted workshops for transport planners and politicians (Wood, 2015). In 2007, the Public Transport Strategy and Action plan were introduced to implement and fast-track BRT systems through Integrated Rapid Public Transport Networks (IRTPNs), as explained in Chapter 4. Phase 1A of the City of Cape Town's BRT system, called the MyCiti bus officially began operation in May 2011 and

was further extended in 2013. Although BRT was not a new idea for Cape Town, it was implemented very late in the City's transport system relative to the other modes.

A key objective today for public transport planning in the context of South Africa is the implementation of integrating transport systems across modes that can provide a basis for more regulated and effective public transport services. However, the difficulty with achieving this lies in the struggle of establishing an adequate policy and institutional framework that can enable such planning (Wilkinson, 2010). The brief historical overview has indicated that the City's public transport system has resulted in a rather fragmented institutional framework with different modes and management structures being established throughout different stages over the past 100-odd years. This entrenched, fragmented reality is at the heart of the challenges that the City of Cape Town faces with implementing an integrated transport system and forms a fundamental part of this dissertation, as many of the other challenges or barriers that occur are linked to this fragmentation. These challenges will be further explained in the following section.

5.3 The fragmented reality of the City of Cape Town's public transport system

Institutional framework for public transport in the City of Cape Town (Adapted from Wilkinson, 2010)			
Mode	**Function**		
	Regulation	**Operational management**	**Funding**
Passenger Rail	National DoT and National Railway Safety Regulator	PRASA (Metrorail)	Subsidised by Treasury; farebox
Contracted bus	Provincial PRE (operating licences) and Provincial DoT (subsidised contracts)	Golden Arrow and Sibanye	Net cost contract, Operator relies on fare revenue and subsidy NDOT paid via PGWC using Public Transport Operating Grant (PTOG)
Minibus taxis	Provincial PRE (operating licences) and taxi associations.	Private operators	Farebox + Taxi recap. programme (Only contributes fixed amount towards fleet recapitalisation)
BRT	City of Cape Town	MyCiTi	Fare revenue, plus annual operating contribution from City Rates and capital grants from NDOT Public Transport Infrastructure Grant (PTIG)

Table 4: Current institutional framework for public transport in the City of Cape Town. (Adapted from Wilkinson, 2010; McLachlan, email correspondence 2022, September 9)

This is the most dominant theme, as it was often the first and most common barrier that was raised throughout the interviews.

As indicated by table 4, the main modes of public transport in Cape Town are regulated by different spheres of government. In a basic sense, this fragmentation means that different entities have authority over different modes. This is problematic since an integrated transport system requires that all modes are under the control of a single authority. The table above shows that passenger rail is under the authority of Metro rail, a subsidiary of the Passenger Rail Association of South Africa (PRASA). PRASA is a state-owned enterprise (SOE) overseen by the National Department of Transport. PRASA experiences significant organisational issues of its own and, as a result, has been seeing a steady decline to the point where it has largely collapsed.

Contracted bus (such as Golden Arrow Bus Service and its subsidiary, Sibanye Bus Service) is under the authority of the Western Cape Government but are essentially funded by the National Government. The minibus taxis are run by private operators, within their associations, but their operating licences are granted by the Western Cape Governments Provincial Regulatory Entity (PRE). However, their routes and demand are planned by the City. The only mode that the City of Cape Town has direct authority over is the MyCiti bus service which, according to McLachlan (personal interview 2022, August 29) and Quintas (personal interview, 2022, September 7), services only around 5% of the current passenger demand. Thus, the City only has authority over one of its modes, and that mode only makes up a small percentage compared to the other modes. Therefore, the lack of authority over all modes makes integration challenging. Hitge (personal interview 2022, August 2) explained that, in his view, fragmentation is the "crux of the problem" to public transport integration in the City of Cape Town. This was corroborated by Herron (personal interview 2022, August 5) who explained that "if we don't get the fragmentation sorted out, we'll never get the integration…and the connectivity sorted out". Likewise, Quintas (Personal interview 2022, September 7) explained that "…the biggest fundamental challenge institutionally in terms of… planning transport…for the city is that we don't… have control over all the various modes of transport." Gooch (personal interview 2022, September 2) had a slightly different view. She stated that, although she did think the fragmentation was a considerable challenge to integration, in her view, the problem also centred around a lack of "a common objective and agreed set of objectives that the different institutions are going to work towards**".** This point of common objectives will be discussed later, but from the interviews, it is clear that a prominent barrier to integration is the fragmentation of authority over all the modes.

In theory, a central feature to solving the fragmentation of modes is through the use of a single, stable and competent transport authority at the local level that has authority over all the modes. The national legislation allows for this. Thus, in theory, this would involve devolving the rail contracts, bus contracts and licencing function to the local planning authority. However, whether it is the best option to devolve the Provincial Regulatory Entity function (PRE) and assign it to the CoCT as the Municipal regulatory entity function (MRE) is more complicated as there are various debates surrounding it. The PRE, in a basic sense, currently deals with granting all public transport operating licences such as the minibus taxi industry and buses, for example. The following section will discuss the various debates surrounding bus contracts and PRE devolution.

5.4 The challenges and debates surrounding the assignment of the MRE function and the bus contracts to the CoCT.

Although the MRE function and the GABS bus contracting function are different, there are many similar challenges with assigning them to the CoCT from the Provincial government. As noted in chapter 4, the CoCT's policy documents such as the CITP and IPTN, have been categorically requesting these functions for years, however, the assignment of these functions has yet to occurred.

This is a multifaceted and complex issue that required a lot of probing to understand. As such, it became a prominent topic of discussion during the interviews. Therefore, this theme contains several subthemes/issues.

5.4.1 Lack of continuity of decision-makers at the national level

First, the responsibility of assigning the MRE and the GABS bus contract to the CoCT lies with the National government. Nothing can happen without them signing off on it, as explained by Gooch (personal interview 2022, September 2) and Snow (Personal interview 2022, August 22). When asked why the national government has not signed off on devolving the two functions from the provincial government, Gooch (personal interview 2022, September 2) said she did not know why. Herron (personal interview 2022, August 5) explained that in his experience while working at the CoCT when they applied for the assignment of those functions, the national minister "simply just never signed off [on it]". He further explained that they (the CoCT) signed an agreement in 2014 with province and Golden Arrow for the contracting authority to be assigned to the City's transport planning authority. They also signed a separate agreement for the MRE function. Furthermore, they had done the work necessary to receive the functions such as setting up processes to transfer the staff to the city of Cape Town and software for managing operating licence applications. When they eventually managed to get the minister to agree to sign the devolution agreement sometime in 2018, there was a cabinet reshuffle, and the minister was transferred out. In fact, Herron (personal interview 2022, August 5) stated that in the eight years he was at the City, they went through approximately five, six, or even seven different national transport ministers. Thus, this was very much a political issue since the lack of continuity of decision-makers from a national level created a significant stumbling block for transport integration.

A similar situation where the national government did not sign off documents was experienced by the provincial government once they had drafted their 2016 PLTF. Snow (Personal interview 2022, August 22) explained that the document was signed by the provincial cabinet and was then sent to the national minister to be signed off. They sent the document twice, but the document was never signed. The provincial government are still not sure why. Snow (Personal interview 2022, August 22) believes it was either a political issue or that it was due to the constant changing of decision-makers at the national level. Gooch (personal interview 2022, September 2) also explained that every time a new minister is appointed, a new acting director general is appointed, proliferating the lack of continuity of decision-makers. Moreover, she made the point that many relationships are lost between government spheres when there is this constant change at the national level. When relationships are lost, communication between the different spheres of government can also become an issue. Gooch (personal interview 2022, September 2), Quintas (Personal interview 2022, September 7), and Snow (Personal interview 2022, August 22) mentioned that communication between the City and Province was generally good. However, communication with the national government was more difficult. Communication issues are not necessarily only a result of the constant restructuring

at the national level. Communication issues can also be politically driven due to tensions between the DA-led CoCT and provincial government and the ANC-led national government, as mentioned by Snow (Personal interview 2022, August 22) and Gooch (personal interview 2022, September 2). Thus, this evidence makes it possible to understand why the bus contracting function and the MRE function have not been devolved to the CoCT.

5.4.2 Restructuring at the Western Cape Government Department of Transport and Public Works (DoT and PW) would be required.

As mentioned earlier, the historical component of the CoCT's public transport system is important to acknowledge. Hitge (personal interview 2022, August 2) and McLachlan (personal interview 2022, August 29) explained that often the processes that happen today are impacted by historical processes and structures. For example, the Western Cape Government DoT and PW has been in charge of operating licences and bus contracts and receiving the subsidy for decades. Therefore, it has become a significant and well-established function within the department. As such, in terms of the devolution of the bus contracting function and the MRE to the CoCT, a large and complicated restructuring would need to take place. Part of this would entail that a large section of the province's functions would shrink and perhaps disappear altogether. This raises questions and concerns surrounding what would happen to staff, for example. While this is certainly not suggested here as a reason for not transferring the functions, it does mean that many risks and uncertainties would need to be dealt with before the MRE and bus contracts can be devolved to the City's transport planning authority. As Gooch (personal interview 2022, September 2) states, "you don't just go merely shifting contracts and responsibilities and functions between spheres of government without understanding what its impact is gonna be". Thus, this would need a significant amount of time to plan the restructuring and understand its impacts.

5.4.3 Implications for the City of Cape Town

On the other hand, it would be a massive undertaking for the City of Cape Town as the MRE function, particularly, is a massive amount of work, as explained by Gooch (personal interview 2022, September 2) and corroborated by Quintas (Personal interview 2022, September 7). Gooch (personal interview 2022, September 2) also explained that from the province's stance, if the City wants the bus contract, they should take the MRE function at the same time so that one is not prioritised while the other falls by the wayside.

Another implication for the CoCT receiving the MRE function is that they may have to consider becoming a licencing agent as explained by Gooch (personal interview 2022, September 2). This is where they would act on behalf of the province and perform the role of assessing the licence applications, accepting them and issuing them for all the municipalities in the province. This was the plan that Herron (personal

interview 2022, August 5) had when he worked at the TDA at the CoCT. Quintas (Personal interview 2022, September 7) said that this is also something that the Urban Mobility Directorate would have to work with province on if they received the MRE. However, Snow (Personal interview 2022, August 22) stated that acting as a licencing agent would not be possible as the legislation does not allow it. According to section 12(a) of the NLTA amendment bill, the MRE can only decide on applications in their area of jurisdiction which is the municipality itself (National Land Transport Amendment Bill, No B7D of 2016, 2016). Thus, there becomes this uncertainty around the topic of becoming a licencing agent. This is something the CoCT would need to consider.

A further aspect to consider with the devolution of the PRE function and full assignment of the MRE function is the instability it may cause in the minibus taxi industry. Snow (Personal interview 2022, August 22) stated that "some of these routes are very lucrative and people…are very protective over the routes and if they hear any changes within, say structures …say PRE's moving to the City of Cape Town now, they will get a bit worried, and it can lead to some volatile situations". Furthermore, if delays with the issuing of licences or renewing licenses are caused by the restructuring as well, it could result in volatile situations. Quintas (Personal interview 2022, September 7) explained that tensions in the minibus taxi industry are largely caused by operating license issues, such as delays in issuing licences. However, this is something that would also have to be taken into consideration.

Therefore, a very detailed plan and understanding of that restructuring would be needed from both sides, and the discussions around that are ongoing, according to Quintas (Personal interview 2022, September 7) and Gooch (personal interview 2022, September 2).

5.4.4 Differing views surrounding the assignment of the bus contracting function and the MRE function.

Although the CoCT's policy documents, such as the CITP and the national legislation, categorically state that the bus contracting function and MRE should be devolved to the local level, interestingly, there were differing views during the interviews on what should be done.

5.4.4.1 The bus contracting function

For the most part, there seems to be a general consensus among most of the interview participants that the bus contracting function should come to the CoCT. However, there are also some differences in opinion. McLachlan (personal interview 2022, August 29), explained that:

"they [the CoCT] want to be the contracting authority of a bus, not a bad idea. Be the contracting authority over all modes. So, should the province be the contracting authority over Golden Arrow? I think no, because you want one contracting

authority. The reason why TfL, Transport for London, can integrate between the red bus and Uber and every other mode of transport and the Black Cab taxi et cetera, is because they are the contracting authority over all modes. So that's the bad part, is the split of the contracting role".

Quintas (Personal interview 2022, September 7) agrees that the bus contract under one authority in the CoCT "would be the more viable option". However, he is happy with how province is currently running the GABS since he explained that "they've proven they can run a very functional bus service that goes all the way through to Drakenstein". He also explained that "[if] it was falling apart, not working properly, I would probably want to review it, but, well, it's not broken, don't fix it". He further stated, "if it [the bus contracting function] doesn't come to the city…it makes no difference to me", and "there is room to work in partnerships like we are doing right now." Moreover, according to Quintas (Personal interview 2022, September 7), keeping the status quo is also shared with others in the department. He states, "myself and my ED are certainly advocating amongst the other officials that… the status quo remains the same". Therefore, he is not rushing into devolving the bus contracting function since he explained that taking an incremental approach is important to bring functions together under one authority.

Another aspect is that a potential complication around the contracts would be when bus services cross over into other municipalities, such as Drakenstein, and what that would mean for integration since one municipality cannot plan for another. Therefore, it may be challenging to get a neighbouring municipality to use the same ticket system, timetable, and integrated interchanges that the CoCT is using. However, this issue needs further investigation. Furthermore, the NLTA does not talk about cross-boundary movement between municipalities and what that means for contracts. When asked about this cross-boundary movement, Snow (Personal interview 2022, August 22) mentioned it may be a problem and that the City and surrounding municipalities may need to become part of a "functional region" to make agreements with different municipalities regarding the Cities services that cross into their municipalities. Quintas (Personal interview 2022, September 7) also briefly mentioned an issue relating to cross-boundary movement but did not go into any detail. Thus, this is a grey area that could act as a barrier to integration if the implications are not well understood, and it is something that would also need further investigation.

5.4.4.2 Differing views surrounding the MRE function

The assignment of the MRE function to the City of Cape Town was a topic where there was a clear difference in views. Quintas (Personal interview 2022, September 22) stated that the MRE function would probably be better with the City of Cape Town, and it would make more sense for it to be that way. This is in line with what the CITP, IPTN and national legislation say. However, he again made the point that he was not in a rush to get the full MRE function, and he was happy for the "status quo" to remain. This is similar to what he said about the bus contracting function. CODETA (Personal interview 2022, August 19) also stated that, in their view, the MRE function

should be assigned to the City. They explained that when they apply for licenses, it goes to the PRE at the provincial DoT and PW, and then the documents are sent to the City's MRE, which was a slow process. They said it would be much quicker if they could cut out the "middleman", the PRE, and just deal with the City's MRE. Quintas (Personal interview 2022, September 22) agreed with this. However, Gooch (personal interview 2022, September 2), McLachlan (personal interview 2022, August 29) and Snow (Personal interview 2022, August 22) disagree with the view that the MRE should be assigned to the city. McLachlan (personal interview 2022, August 29) explained that under normal circumstances, the PRE must receive comments from the transport planning authority (the CoCT) to see if the number of operating licences issued fits the transport planning authority's plan. Then the PRE would have the final say regarding whether the operating licences can be issued. He further explained that if the regulatory function comes to the City, there will be what he describes as a situation where you have a "player and referee" on the same team or where the City would become the "Judge and Jury". In other words, one could land up with a conflict of interest since the final say is not made by an authority outside the city or an independent power. This concern was also raised by Gooch (personal interview 2022, September 2). McLachlan (personal interview 2022, August 29) stated that licence regulation by an independent authority is important because it "introduces checks and balances". Gooch (personal interview 2022, September 2) also explained that when the NLTA was drafted, they fought against allowing the assignment of the MRE to the local level. However, the were unsuccessful. Thus, there are clearly many conflicting views about the best approach for devolving the PRE and assigning it as the MRE function to the CoCT.

The above sections have shown the difficulties, complexities and tensions that are involved with assigning the bus contracting function and the MRE function to the local level, which is required by the CITP, ITPN and the National legislation. The crux of the matter is that, for integration to occur, according to McLachlan (personal interview 2022, August 29), there needs to be what he calls "institutional authority". This is where the CoCT's transport planning authority should have the bus contracts but not the licencing function. Otherwise, it becomes a "player and referee" on the same team situation, which could lead to a conflict of interest.

The following section will discuss the difficulties and complexities that are more specific to the minibus taxi industry.

5.5 The challenges of integrating the minibus taxi industry

The minibus taxi industry is a unique case, as explained in chapter 2, since it operates differently from the more formalised public transport systems in Cape Town.

Earlier it was stated that one of the main challenges to integrating different modes of transport in the CoCT was the fragmentation of the modes. This fragmentation is further exacerbated by the fragmentation within the minibus taxi industry, as stated by Hitge (personal interview 2022, August 2). McLachlan (personal interview 2022, August 29) refers to the minibus taxi industry as "an atomized industry" or an

"individualized" industry. His explanation was that although there are minibus taxi associations, it actually means very little in terms of having a formalised and organised industry capable of integrating. An association is just a regulatory requirement. He further explained that the notion of collectivisation is often very difficult for them to come to terms with. The reason relates to the business model that the minibus taxi industry has always been using in Cape Town. The business model they use is that each minibus taxi owner has their own business and driver, and they collect the cash. No electronic cash system is used. They are also accustomed to using a "fill and go" type of operation rather than a scheduled operation. According to McLachlan (personal interview 2022, August 29), "those are all the issues that lock the system into the current status quo" or act as "resistance factors" to formalisation. He further explains that literature and transport policy often do not unpack what formalisation means. They often refer to formalisation as turning associations into companies such as TOCs or VOCs, as indicated in chapter 4. However, it is more complex than that since getting to the point of formalization where one can have an integrated ticket, timetable, and interchanges require changing the business model and operating structure. He further explains that there has been resistance to changing this business model in favour of formalisation since it creates a lot of uncertainty for the owners and drivers. Although, when speaking to CODETA (Personal interview 2022, August 19), they seemed very optimistic about formalisation into TOCs and becoming part of an intermodal integrated system with an integrated ticket and timetable. They stated that "we are quite happy about that, because at the end of the day there must be a transformation, there must be changes". However, that is just one of many associations which would need to be engaged on their views, as one cannot assume that every association will have the same view.

Apart from resisting change, an important point to make as part of the difficulties of formalising is the sheer size and scale of the minibus taxi industry in Cape Town. Schalekamp (guest lecture 2022, August 17) explained that there are approximately 15 000 minibuses in Cape Town, with approximately 7 000 individual owners with an average of two vehicles per owner. On top of that, there are 104 associations. Furthermore, since each vehicle needs a licence and that license is protected by law, that would mean that 7000 owners would need to be engaged. This large-scale engagement would require that the Urban Mobility Directorate has a massive capacity in terms of the number of staff and staff with the skills to engage the industry properly. It would also entail a very time-consuming process.

Another significant challenge for formalising and integrating the minibus taxi industry is its history of tension and violence. One of the one of the most considerable tensions, according to Schalekamp (guest lecture 2022, August 17) and Hitge (personal interview 2022, August 2), has been between the minibus taxis and the Golden Arrow Bus Service. Tensions have occurred due to competition between Golden Arrow because Golden Arrow is subsidised, whereas the minibus taxi industry is not. Thus, minibus taxis see Golden Arrow as a threat since they are less sensitive to price increases. As mentioned earlier, tensions are also caused by operating licence issues.

Furthermore, Gooch (personal interview 2022, September 2) states that many of the interchanges or ranks with minibus taxis that the City managed have become under the control of the minibus taxi industry. The loss of control can make it difficult to integrate modes but also leads to increased tensions.

However, McLachlan (personal interview 2022, August 29) has a different view on the taxi tension situation. He says that, the taxi industry and Golden Arrow "all understand complementarity". In other words, they understand that they need to work together and the understand the benefits it brings. This was corroborated by CODETA (Personal interview 2022, August 19), who explained that "we need to formalise ourself as a taxi industry in order to be accommodated for a subsidy that we are looking for. So at least now, we are in the process with the government to ensure that when the integrated transport takes place…we will be also subsidised by the government". They further explained that "at the end of the day we must understand Golden Arrow is also transporting the passengers as well as we to…and I can tell you, we have a good relationship with Golden Arrow". McLachlan (personal interview 2022, August 29) also stated that, to many people, public transport, such as Golden Arrow and MyCiti, represents the state. Thus, when people are angry about something, such as a housing issue, they take it out on public transport, and the taxi industry often gets the blame. He also explained that there "may be a rogue element in the taxi industry that kind of fuels that perception that GABS gets a subsidy and there's our competition", but overall, they are "way past that point". For him, the biggest issue that drives conflict is an "unbalanced supply and demand situation" since "there is no real measure…for balancing supply and demand". He then explained that the oversupply is caused by an influx of people into the industry. They come in unchecked and without a licence, so there is no scientific basis for adding another taxi to the road. What happens is that associations and regional structures enable this oversupply model since they do not realise the issues that this is causing. This results in the industry becoming stuck in this cycle of conflict. Although he does not deny that tensions and violence flare up in the industry, he says we must understand that the situation is a more layered and complex than one might think. Schalekamp (guest lecture 2022, August 17) states that, currently, there is no clear way forward for solving this situation due to the complexity of integration "from the side of the minibus sector, but also from [the] government".

5.6 Challenges of integrating with rail.

Despite rail being such an important component of an integrated transport system, throughout the interviews, the main issue relating to the City receiving the rail function was the sheer size of the task. Rail has always been a national responsibility and is currently run by PRASA, a specialized SOE. Although the national legislation, such as the white paper on rail, advocates devolving rail to the municipal level, the City of Cape Town can only know what the exact barriers are and how they are going to deal with the rail functions after conducting their feasibility study. Quintas (CapeTalk interview 2022, August 2) stated the study is expected to take anywhere from one and a half years to three years, depending on how well they are able to

work with PRASA. According to Quintas (Personal interview 2022, September 7), this feasibility study is where the "blockages" are at the moment. As Gooch (personal interview 2022, September 2) explained, "it's one thing to call for the devolution or assignment, it's another thing to be ready for it and to truly understand and know what…you're getting".

She also stated that, since rail goes beyond the municipal boundary, there will need to be an understanding of who takes responsibility for rail service and infrastructure once it crosses that boundary. The municipalities neighbouring the CoCT do not necessarily have the capacity to take over the responsibility of rail, so the province will have to assist them. However, the province also lacks experience with rail and will therefore need to bring in expertise to help deal with it.

For now, there is no clear answer or vision of what will happen until the feasibility study has been completed. It is not so simple to just devolve the rail and integrate it with other modes. There also needs to be a more holistic understanding and vision of what the implications are. However, the difficulties with engaging the national government may make matters more difficult, as discussed in earlier examples, due to the constant changing of decision-makers. Thus, the ability to effectively engage with them on this topic will be a significant determining factor for the City to receive and integrate rail.

5.7 Institutional restructuring at the local government level

A fundamental barrier to integration expressed through many of the interviews was the constant restructuring of the CoCT's transport planning authority. Chapter 4 identified that there had been frequent changes in the structure of the CoCT's transport authority from 2013 to now. For example, TCT was established in 2013 and was then changed to the TDA in 2016. TDA then became the Transport Directorate in 2019 and the Urban Mobility directorate in 2021. The constant name changing created a lot of confusion when conducting this study because it was difficult to determine the current name of the transport planning authority.

It is important to note that currently, the CoCT does not have a transport authority, as in a separate entity with its own organisational structure and governing legislation, it has a transport directorate. A transport directorate is a group of departments within the municipality.

As explained in chapter 4, the rationale behind changing TCT to the TDA was that the political leaders at the time, such as Brett Herron, saw the need to combine transport planning with land use planning. However, intense political disputes within the DA relating to TDAs plans and its structure led to the unbundling of the TDA back into transport planning, spatial planning, and public housing or "silo operating" as described by Herron (personal interview 2022, August 5).

When asking the interviewees about the impact of this constant restructuring on the CoCT's ability to implement an integrated transport system, the general response was that it had been detrimental to establishing an intermodal integrated transport system. However, Quintas (Personal interview 2022, September 7) stated that the integration process between all modes had been largely unaffected by the

restructuring and that there were primarily only internal issues, such as reporting lines. However, he explains that it was a "moral breaker" and had caused significant distress within the directorate. This distress has resulted in the senior administration having a "hesitancy" when it comes to trying something new.

The other interviewees did think it had an impact on integrating the other modes as a whole. Herron (personal interview 2022, August 5) described it as a "massive setback" for all the work that they had done. He gave the example that the rail study that is currently being conducted was work that they had already done in 2016/2017. Similarly, Schalekamp (guest lecture 2022, August 17) stated that due to the political turbulence and restructuring relating to the TDA situation, a lot of the CoCT's capacity "has been draining away," and there is a "lack of leadership" which makes it very difficult to implement plans. Quintas (Personal interview 2022, September 7) also stated that he was the fourth Mayco member for the directorate in five years, indicating a large and frequent turnover of staff. Nico explained that when there is constant restructuring, "institutional memory…gets lost". The situation was summed up well by Hitge (personal interview 2022, August 2), who explained that "if you don't have a stable political environment that can… balance the powers then I'd say it would be impossible to integrate". He further explained that if there is a lack of stability at the local level, it would be extremely difficult to negotiate at the provincial and national levels, and with the minibus taxis on the issues such as the ones discussed in the sections mentioned above.

5.8 Old and outdated mindsets

Gooch (personal interview 2022, September 2) raised an interesting point that had not come up often in other interviews. In her opinion, she said that one of the issues within an institutional context is that many of these tensions and differences in views are due to many people working in the government sphere who come with "historical baggage" and are very set in their positions and old ways. This leads to a loop where the same old mistakes are made, and political tensions or issues continue to interfere with how transport planning is conducted. She substantiated her view with a real-life example of where she was once part of a team who had to engage the CoCT on a certain matter that had not been resolved for several years. Every time they met, a dispute ensued, and they would get nowhere since the same people had been involved for many years and had accumulated this "baggage and history". Eventually, new people who did not have historical "baggage" were brought in, and sure enough, the matter at hand was resolved shortly. Although this may be at odds which what was said earlier about institutional restructuring and moving people around being a problem, this is a case where it did have benefits. Gooch (personal interview 2022, September 2) argues that newer, younger people with fresh ideas who do not carry historical and political baggage should be brought in. However, she states this is not to say new people with no experience must be brought in. They will still need to have the appropriate expertise and experience. Thus, there must be a balance.

5.9 Institutional silos

Siloed planning came up briefly here and there as an issue to integrating transport modes, although there was not much detail around it. As touched on earlier, Herron (personal interview 2022, August 5) described the unbundling of the TDA into siloed

operating since it was split back into transport, spatial planning and public housing. This split would be an issue of siloed planning in terms of planning horizontally across sectors.

Gooch (personal interview 2022, September 2) noted that people often tended to work only within their legal mandate rather than working more broadly when it came to transport planning. For her an issue is that there is often a lack of "systems thinking" within organisations. Hence, they are subjecting staff to systems thinking programmes and workshops. She explained that "those elements and capabilities are things that need to be built within staff". She also linked it back to the issue of "historical baggage" that people carry around. She believes that a less siloed mindset can help alleviate the historical baggage since it can help people approach problems from a different angle. She also explained that there is a lack of "co-creation" when making plans.

In fact, siloed planning was experienced while conducting an interview with Snow (Personal interview 2022, August 22). Snow is a government official involved with policy development and holds a relatively high position within his sphere of government. There were several questions that he could not answer and suggested, a few times, that I speak to someone in operations. It is certainly not expected that each person knows everything. However, the fact I was told several times to chat to someone in operations is still interesting since it indicates that the person involved with developing transport policy did not have a clear understanding of what was happening on the operations side. This example is a case of siloed planning between departments and suggests a lack of horizontal integration between departments.

5.10 Issues within the overall vision of integrated transport policy

A concern with national policy's vision of integrated public transport was also a finding throughout the research process. According to McLachlan (personal interview 2022, August 29), there is a "huge disconnect between policy and reality on the ground in the major South African metros". He explained that in the major South African Metros, the minibus taxi industry provides between "50% and 70% of passenger trips" and 70% of the trips from Khayelitsha, Cape Town's largest informal settlement, are by minibus taxi. In Cape Town, as a whole, the minibus taxi industry transports approximately 65% of the population, according to CODETA (Personal interview 2022, August 19). McLachlan explained that the huge policy and reality disconnect comes in because the national policy states that the minibus taxis will act as feeders. Given the statistics above, he says that for the minibus taxis to only play a feeder role in major metros such as the CoCT is "wishful thinking". He was not saying that they should not, be feeders. On the contrary, they are very effective over short distances. However, in his view, they cannot operate only feeders, and CoCT needs to improve how the taxi industry moves people from Khayelitsha to Cape Town rather than trying to replace it with another service at a high cost. He further explained that this vision expressed in the national policy is also expressed in the CoCT's IPTN, where the emphasis is placed first on rail and BRT. The contracted

bus such, as GABS, is next, and then finally, minibus taxis come in at the bottom of the list, predominantly as a feeder role. In his view, part of this disconnect is that the CoCT has excellent roads and great BRT stations for BRT yet it only serves around 5% of the City's population. In contrast, if you go to places like Khayelitsha, there is virtually no infrastructure for minibus taxis and passengers. McLachlan (personal interview 2022, August 29) stated that the biggest problem is that the national policy framework has not changed much since 2007. The policy framework developed at the time was the Public Transport Strategy and the Public Transport Strategy Action Plan, which was explained in chapter 4. It placed a significant emphasis on using BRT systems which would slowly displace the need for the minibus taxi. McLachlan (personal interview 2022, August 29) explained that this is still very much the vision today, a vision which is "completely" outdated. However, he does not think there is anything wrong with BRT. He likes BRT, but he thinks it has many cost recovery issues and is perhaps not sustainable on a large scale in the CoCT. Gooch (personal interview 2022, September 2) also mentioned that the BRT investment is extremely expensive, especially from an operational perspective. However, it only services a few people in comparison to the other modes across the city. The issue of BRT funding was also acknowledged by Herron (personal interview 2022, August 5), who stated that BRT funding from the national government is spread too thinly across the country. This thin spread of funding is also linked to how the 2007 policy mentioned above pushed for a BRT system but split the funding across several large metros. This split in funding across several metros is not conducive to such an expensive system.

Schalekamp (guest lecture 2022, August 17) had a similar concern around the overall vision for integrated transport, raised above, and how the minibus taxi industry fitted in. He made the point that since the taxi industry is so large and contributes so much to the current passenger demand, our current vision may be the wrong way around and that perhaps "we must actually integrate the other services into the minibus system". He also explained that part of the problem, in his view, is that "people look for quick wins", such as BRT, as a panacea to the transport problem, whereas this is not necessarily the case. He further explains that it is it not so much about the plans. There are plenty of plans. What needs to happen is that someone needs to "sit down and hammer out complex deals with taxi associations".

On the other hand, Quintas (Personal interview 2022, September 7), was quite categorical when describing that the minibus taxis should be feeders to rail and BRT. He cited a study they conducted where minibus taxis acting as a feeder enabled them to use less fuel, decrease congestion on highways, and be more affordable for commuters. According to the study drivers would also earn more money. However, this study was based on having a fully functional rail and BRT system, which the city would like but has yet to become a reality. Thus, there are differing views surrounding what the CoCT thinks should happen and what other transport professionals think the City should be doing.

Hitge (personal interview 2022, August 2) is also critical of the 2007 Public Transport Strategy and the Public Transport Strategy Action Plan. However, his concern was more focused on what it meant for rail. He explained that although the documents made references to rail, the focus was more on using BRT for the integrated transport system as it refers to an Integrated Rapid Public Transport Network (IRPTN) which is a

bus focus. Thus, this document caused a shift away from rail being a prominent feature of an integrated transport system in favour of BRT. Hitge (personal interview 2022, August 2) stated that is something that they tried to fix in their CITPs while he was working at the City. However, it seems that this has been intrenched in transport planning in Cape Town and has perhaps caused a slow start for acknowledging and promoting the importance of rail.

Another fundamental policy issue that was raised by Quintas (Personal interview 2022, September 7) was regarding the CITP. The CITP, as described in chapter 4, is the Comprehensive Integrated Transport Plan for the CoCT and is one of the key policy documents for implementing an integrated transport system. However, according to Quintas (Personal interview 2022, September 7), despite this being such a key document for integrated transport, surprisingly, it does not actually speak much to integration. He says that "the integration part is actually not a kind of key defining part of their document…it doesn't really speak to putting an onus on the city to come up with an integration plan… with rail and with… with others… or integration with other spheres of government, which is really key here". He explains that the CITP focusses on safe, affordable, reliable, and accessible transport. When asked why this was the case, he stated that one of the challenges that he is experiencing is that "it [integrated transport] hasn't featured high as a priority". This is interesting since integrated transport is legislated throughout the three spheres of government, yet it is not a priority. This suggests a lack of political will within the CoCT to implement an integrated transport system.

5.11 Lack of a common objective and vision on how to achieve integration

As mentioned earlier in the chapter, the point was raised by Gooch (personal interview 2022, September 2) that, for her, a prominent institutional barrier to implementing the various modes of the public transport system was a lack of a common objective or common vision. She explains that everyone agrees that that there should be integrated transport, but the problem arises with how to get to that stage and who takes ownership. Similarly, Quintas (Personal interview 2022, September 7) said that the everyone is happy with the idea of integration and ticketing systems, for example, but "how we do it becomes…a bit more intense in terms of discussion". This can be seen in the sections mentioned above around the different debates that have taken place. Another general example of this would be with the ticketing system. The CoCT is busy looking at tenders and opportunities for a ticket system, but province has a ticket system of their own that they have offered to the CoCT. However, there has not been much progress on that side since discussions still seem to be ongoing. Quintas (Personal interview 2022, September 7) explained that they "will have to see what works best for the City of Cape Town". The difficulty of coming to a common objective or vision around how something is done is something that, as Gooch (personal interview 2022, September 2) explains, is an issue "across the board". In other words, a lack of a common objective or vision is an issue throughout the three spheres of government for integrating transport modes. Most of the time, it comes back to politics and political issues. There tend to be "turf

war" issues as explained by Gooch (personal interview 2022, September 2) and "vested interests", as explained by Hitge (personal interview 2022, August 2), that drive policy and politics.

Throughout this chapter, it is possible to identify many differences in views and opinions expressed by the different participants of what should happen. It is also possible to identify different political tensions within the same political parties and between different parties. All these institutional realities would essentially hinder the ability to integrate transport modes in the CoCT, and it fundamentally comes down to a lack of common objective.

5.12 Conclusion

This chapter has provided the results obtained predominantly from seven interviews as well as some literature sources to indicate how the institutional realities surrounding the CoCT's public transport system hinder its ability to implement an integrated transport system. The fragmented institutional framework of the CoCTs public transport was found to be a significant barrier to integration. However, solving this is difficult due to the issues and debates that were explored surrounding the assignment of the bus contract function and MRE function. Institutional restructuring at a national level created challenges as there was a lack of continuity in leadership. Tensions between the two opposing political parties have also been an issue. Furthermore, assigning those functions would lead to a large restructuring being required at the provincial DoT and PW, and it would create a lot of work for the CoCT. There are also many uncertainties with restructurings, which require careful planning.

There are a variety of barriers to integrating the minibus taxi industry as it is a fragmented and extremely large industry with a long record of tension and violence. This creates instability within the industry, which can make coordination and engagement difficult.

The barriers surrounding rail are the complexity of receiving such a large and complex function as well as working with PRASA since it is a dysfunctional organisation. Moreover, completing the feasibility study is needed before any significant decisions can be made on the way forward.

Another barrier to integration has been the constant restructuring of the CoCT's transport planning authority, particularly when the TDA was unbundled due to political tensions. Without a stable transport authority, planning and communicating with stakeholders and different spheres of government can become challenging, therefore hindering the integration process.

Old mindsets that tend to stall discussions and plans were also a barrier and were linked to political tensions and siloed planning. Siloed planning and a lack of systems approach throughout the transport sector further create issues for integration since it can lead to a lack of coherence in vision and objectives.

Some argue that there is also a disconnect between policy and reality and that integration should be looked at differently, such as the significant role of the taxi industry and the fact that the BRT may not be the panacea everyone thought it might be. Again, this shows a difference in views around what should happen with integration. There is also a lack of seeing integration as a priority, indicating a lack of political will.

What the crux of the matter seems to be that throughout the transport sector, there is often a lack of common objective or common vision as indicated throughout the broad themes. If there cannot be a common objective or vision within the transport sector, then receiving integration between modes will prove to be an extremely challenging feat.

Chapter 6: Analysis of results

6.1 Introduction

This chapter aims to analyse the research results in relation to the research questions, and the literature on transportation, reviewed in Chapter 2. The aim is to build on the themes derived from the fieldwork in the previous chapter. This chapter will elaborate more on what the results mean within the greater context of transport integration and thereby respond to the research questions.

6.2 Institutional fragmentation and barriers to integration.

From this study, a significant factor hindering integration between the different modes of transport was the fragmented institutional structure of the CoCT's public transport system, whereby the various modes are under the authority of different spheres of government. This fragmentation has been deeply entrenched in the CoCT's public transport as a result of its disjointed historical formation over the last century and thus proves difficult to solve. The fragmentation as a barrier was not a new finding as it has been raised and corroborated by South African literature by Clark and Crous (2002), Wilkinson (2010) and Walters (2013). It is not only a South African issue since it is also acknowledged as an international issue (May et al, 2006).

It is important to note that this study shows that essentially nothing much has changed in terms of the institutional fragmentation issue, which was identified as an issue two decade ago (Clark and Crous, 2002). This study confirms that it is still one of the largest, overarching barriers to integration. Furthermore, the importance of vertical integration (Stead, 2003), or integration between different spheres of government in cities across the world, was discussed in chapter 2. The current institutional framework in Cape Town continues to show a lack of vertical integration and devolution. This is problematic because coordinating between the modes at the different spheres of government and with the minibus taxi industry becomes difficult. The impact that this continues to have is that transport planning for the various modes of public transport within the CoCT occurs in a siloed manner, as there is no collective control and a lack of institutional authority. This leads to a lack of policy integration as explained by Anderton (2010).

Furthermore, an interesting point was raised in the 2017 IPTN business plan (TDA, 2017: 100) explained that when you have a decision maker that is responsible for a single mode, the result is that they "tend to optimise the interests of the individual mode, rather than those of the passenger." This inability to address the fragmentation for so long is a serious concern for the future of integrating transport modes in the CoCT. It will perpetuate issues of transport inefficiency while increasing emissions, traffic congestion, and costs to the commuter, as noted in chapter 2.

The issue of institutional fragmentation continues on a smaller scale in the minibus taxi industry. The minibus taxi industry is fragmented and individualised due to its

structure of having thousands of minibus taxi owners all operating their own businesses, regardless of their association. This fragmentation is an issue that is corroborated by (Schalekamp and Behrens, 2010) and Wilkinson (2010). This study has shown that this fragmentation within the minibus taxi industry itself continues to be an issue in consolidating and formalising the industry.

The fragmented institutional reality is only the tip of the metaphorical iceberg regarding barriers to integration since many of the barriers lie with how to solve this fragmentation. In addition, the lack of consensus surrounding the best course of action for how to go about integration is also a prominent barrier.

6.3 Leadership

A lack of continuity of leadership at the national government level was shown to be a significant challenge for integration. The lack of continuity has prevented the devolution of the bus contracting function and the MRE function since decision-makers, the ministers and director generals, were continuously being shuffled over a short timeframe. This constant shuffling has also created issues for the CoCT in terms of devolving rail to the City, since rail is ultimately a national function. The other problem that is experienced is around the legal power to implement certain policies, as touched on in chapter 2 (Poliak et al, 2017; May et al, 2006). The CoCT has insufficient legal power to integrate modes since the devolution of bus contracts, minibus taxi licences, and rail functions are national responsibilities. This lack of legal power becomes an issue when dealing with a sphere of government that lacks stable leadership. Without consistency and continuity with leadership from the national level, the relationship and communication between the national government and the other two spheres of government began to break down. This breakdown has resulted in many processes stalling or being repeated. This is consistent with Gqaji et al (2016), who state that the constant shuffling of ministers hinders policy implementation since they get shuffled out before they can implement a task or project. The new minister then focuses on implementing a completely different project, while previous projects fall by the wayside. This finding of the constant restructuring of leadership at the national level and its detrimental impact on integration is a finding that was briefly mentioned by Walters (2013) but lacked much detail. Walters (2013) relates the restructuring or shuffling to the 5-year election cycle. However, this study shows that in recent years the changes in leadership have occurred far more frequently than changes that would normally occur after each election. Similarly, Pityana (2016) acknowledged the increased shuffling of ministers at the national level in South Africa since 2015 and the issues this has for policy development and implementation. This is an important finding since the South African literature before 2015/2016 mainly mentions funding or skills as issues at the national level, rather than the constant restructuring of leadership. Thus, this strengthens the more recent research on the frequent restructuring at the national level. The restructuring has become a lot more apparent and frequent over the past few years, negatively impacting achieving transport integration.

The other fundamental restructuring that has hindered integrated transport planning was the constant restructuring at the local level, or in other words, the restructuring of the CoCT's transport planning authority between 2013 and now. The structure of the transport planning authority and the people who worked within that planning authority were constantly shuffled, as explained in the previous chapter. Most of the interview participants agreed that this had detrimental impacts on the CoCT's progress towards integrating the various modes. The rationale is quite straightforward. There needs to be stability at the local level within the transport planning authority for effective decision-making. Without stability, engaging and coordinating effectively with the other spheres and the minibus taxi industry becomes almost impossible. This is consistent with international literature such Mackinnon et al (2010), who noted the importance of institutional stability. Walters (2013) states that restructuring at the local level is also due to the election cycle. However, like at the national level, this study found that restructuring at the local level also occurs more frequently than the election cycle and is a result of internal political disputes and other less well-understood reasons. This restructuring has led to large-scale draining away of institutional planning capacity and a lack of continuity in leadership at the CoCT. This is consistent with Luyt (2008) cited in Holtzhausen and Naidoo (2011), who state that policy implementation in South Africa, particularly at the local level, is problematic due to poor governance and leadership.

The examples of Medellin, São Paulo and London in chapter 2 showed the importance of having stable institutions with continuity in leadership and decision-making. In the São Paulo example, progress on their transport system was hindered when different decision makers came into power with different agendas. This is similar to what happened with the CoCT's transport planning authority since agenda changes came with changes in leadership. Moreover, in Medellin, strong leadership enabled the implementation of advanced and innovative policy concepts, such as social urbanism. This enabled Medellin to use transport planning to engage and empower the community and implement an effective intermodal integrated transport system. In London, strong leadership and political will from the Mayor, coupled with his executive decision-making powers, resulted in projects and programmes being effectively implemented. This eventually led to London having one of the world's most advanced intermodal integrated transport systems.

Thus, leadership is an essential precursor for achieving integration between all modes of transport in the CoCT.

6.4 The difficulties of integrating the informal paratransit with formalised transport

Due to the large scope of the barriers to integrating the minibus taxi industry with other modes and its unique and informal nature, the minibus taxi industry deserves a theme of its own.

As mentioned earlier, the minibus taxi industry is a fragmented and individualised industry, making it difficult to consolidated and formalise. A further aspect of this that was identified in the findings is that the fragmented operating structure has become

entrenched within the minibus taxi industry's business model. This makes it difficult for them to come to terms with changing their business model towards a more collectivised and formal way of operating, which is required for integration. Therefore, operators and owners resist change as there is a high degree of uncertainty on their side when such a large change occurs. This resistance is consistent with Wilkinson (2010), Schalekamp and Behrens (2010) and Behrens and Salazar Ferro (2016). According to Behrens and Salazar Ferro (2016), the resistance is often due to concerns about having less control over the business and income. Often there is also a lack of trust in the government. Part of the distrust is due to operators not being appropriately engaged in the past when BRT was implemented (Schalekamp and Behrens, 2010). This type of resistance is not unique to the CoCT. Resistance has also occurred in Latin America (Behrens and Salazar Ferro, 2016) an example of which was briefly given in chapter 2 in the case of São Paulo.

The sheer size of the industry was also found to be a significant challenge to integration. There are around 14 000 taxis with approximately 7000 individual owners that need to be consulted. This links to concerns around the local government's institutional capacity in the CoCT to effectively engage with the operators in the industry. This capacity concern is consistent with Wilkinson (2010), Schalekamp and Behrens (2010) and Behrens and Salazar Ferro (2016). Schalekamp and Behrens (2010) point out that there has been limited institutional capacity at the local level in South Africa for engaging and managing changes in the minibus taxi industry. More detail about challenges related to the industry's size this is discussed later in the chapter.

The previous chapter also showed that tensions and violence within the taxi industry hinder integration as it creates instability. The tensions and violence often occur between the minibus taxis and the other modes it competes against, particularly the Golden Arrow Bus service. Tensions and violence are complicated since it is related to an oversupply model that fuels competition. The tensions in the minibus taxi industry will be elaborated on in the following section.

6.5 Political tensions

The political context within which transport is managed and implemented is a reality in numerous areas within the results chapter and is evidently a barrier to integration.

One of the reasons why it is so difficult for the CoCT and provincial government to coordinate with the national government on matters such as devolving the bus contracting function and the MRE function is to do with political tension between two opposing political parties, the DA and ANC. The literature corroborates this in chapter 2, which talks about the 'turf' battles between the two parties (Wilkinson, 2010; Walters, 2013). The tensions and 'turf' battles result in difficulties with relationship building and coordination between the DA-led CoCT and provincial government and the ANC-led national government. This tension has yet to be resolved.

As mentioned earlier, political tensions were also an issue within the DA itself. The findings indicated that these political disputes led to the unbundling of the TDA back into siloed operating, where it went from being horizontally integrated with spatial planning and housing to being split back into transport, spatial planning, and housing as separate sectors. This decreases the ability to integrate at the higher "levels" of integration discussed in chapter 2. The unbundling and tensions have caused lasting impacts on the Urban Mobility Directorate as shown in the results chapter. These political issues within the DA and their impact on the CoCT's transport planning authority are unique findings that do not seem to appear in the previous literature on integrated transport in South Africa. Throughout the South African literature, political tensions are often described as being between the DA and ANC rather than with the actual political party itself. Thus, tension within the DA is an important finding to add to the literature on barriers to integrated transport in the CoCT. Tensions within the DA show that even if one political party has control over all three spheres of government, political stability will not necessarily be guaranteed since a political party itself can fall victim to internal political disputes. An important lesson for transport planning can be identified from Medellin, which has a transport authority which aims to use a more business-like approach rather than a complete political approach. They also use an apolitical public utility company and Urban Development Agency to assist the transport authority with integrated public transport matters. The key takeaway is that the apolitical and business-like stance has proven useful for them since it prevents past ineffective political practices and political from interfering with public transport planning and implementation. Interestingly, this has been acknowledged in the 2017 IPTN Business Plan produced by the TDA, just before their unbundling. The Business Plan acknowledged the tensions that arise between the need to be close to the City administration for planning processes but also the need to have "greater independence to manage transport operations". The reason is that the City's administrative processes are not always suitable for the City's transport planning authority (TDA, 2017: 100). In addition, the NDP also acknowledges the importance of separating political alliances from administrative duties (National Planning Commission, 2011). However, if one looks at the current structure of the Urban Mobility department, it lacks the more apolitical stance and independence that was previously discussed. The Urban Mobility Directorate is a group of departments within the CoCT, rather than a separate entity. Thus, it is very close to the City administrative processes that were described in the 2017 Business Plan as being problematic for managing transport operations. Furthermore, the close tie to the City increases the chance of political disruptions.

The findings surrounding tensions within the taxi industry and its volatile nature were also found to be an institutional reality that acts as a barrier to integration. However, the study found that the situation surrounding these tensions is complicated more complicated. Some of the interviewees stated that these tensions, such as the tensions between the taxi industry and the Golden Arrow bus service, were still an issue due to subsidies and competition. This was corroborated by literature such as Schalekamp and Behrens (2010) and Wilkinson (2010). The findings also suggested that the root cause is the oversupply of minibus taxi operators in the system, which is corroborated by Behrens et al (2016). However, the findings also revealed that while

some tension may still exist, the taxi industry also often tends to receive the blame for other people's wrongdoings.

Furthermore, we are also starting to see a shift in the minibus taxi industry towards understanding the need to cooperate with other modes and the benefits that being part of an integrated transport system could bring. This is something that was stated by CODETA, as shown in the previous chapter. This shift can also be seen in the willingness of the minibus taxi industry to participate in pilot projects such as the Blue Dot Taxi programme (DoT and PW, 2021) and the highly successful Mitchells Plain seventh avenue project (ODA, 2019). Thus, although tensions still may remain a challenge in some respects, what we are starting to see a shift in the right direction towards working with the minibus taxi industry.

6.6 Funding constraints

The topic of funding constraints has come up at times throughout the results. Funding constraints were common throughout the literature in chapter 2. This is something that is raised by Pojani and Stead (2018), who state that in countries of the global south, funding can sometimes be a constraint in municipalities as they are not always able to raise all the money themselves. Most of the funding issues that were raised were to do with the MyCiti BRT system. Part of this argument surrounding this is that the BRT system relies on national grants. However, the national funding for BRT networks has been spread too thinly across the South African metros, leading to a dilution of funds in the CoCT to operate and extend the MyCiti routes. Part of why funding would also be a problem is due to a lack of ridership, as the population density surrounding and supporting BRT routes is relatively low. Thus, a result is that fare revenue is also low, adding to the funding constraints. This is something the TDA tried to resolve by combining land use with transport planning. However, it was disrupted by the unbundling. Thus, the sustainability of BRT as such a large part of the intermodal integrated transport system becomes questionable, especially since it serves such a small number of people at such a high cost.

The cost of ticketing systems was also raised as an issue since it involves expensive technology that needs to be rolled out on a large scale. The provincial government has offered it free of charge to the Golden Arrow Bus Service to mitigate some of the expense for some modes, for example. However, overall, discussions around the system are still ongoing.

6.7 The centrality of a common vision as a unifying force

The lack of a common objective and vision around addressing the fragmentation of modes and their integration is probably one of the most significant findings. Throughout the results chapter, it could be seen that there were many conflicting views by the interviewees on many different matters such as bus contracts, the MRE

function, plans for including the minibus taxis industry and plans for the devolution of rail.

The findings in the previous chapter showed there were many challenges and debates surrounding the bus contracting function and the MRE function. Regarding both functions, there is no urgency on the part of the CoCT to have the functions devolved to the local level. The view is that they are happy for the status quo to remain for now and will even consider working in partnerships with other spheres of government or entities. The reason was partly to take an incremental approach which is a fair argument. However, keeping the status quo and working in partnerships perpetuates the fragmentation and goes against what the majority of the planning theory says in chapter 2 since, according to the planning theory, all modes should be under the control of one transport authority. It also goes against the CITP and IPTN policy documents from chapter 4 since they clearly state that the CoCT is pursuing the devolution of those two functions.

Furthermore, having control over all the modes under one authority, often at the local level, was also shown in many best practice examples such as Medellin and London. However, there is an exception identified in the case of São Paulo. Their provincial authority controls most of the transport in the city except for their partnership with the local bus company. Thus, partnerships can work, although, in general, they would go against most of the integrated planning literature and best practice examples. There are also different views surrounding what should happen with the MRE function, as there are different debates between the private sector and the provincial government. The argument is that the regulatory entity function that deals with vehicle licences should be separate from the CoCT so that there can be some degree of independence in decision-making so that conflicts of interest do not occur. Therefore, the literature, policy and professionals are at odds on what to do in this situation since planning theory and CoCT policy say the MRE should be devolved to the local level. This issue has not been identified in the previous South African literature on integrated transport and is thus an important finding as a barrier to integration. But there are other issues with devolving this function, such as a lack of clear understanding around how the provincial government DoT and PW will have to restructure to accommodate the changes and how the CoCT will deal with the functions when they receive them.

Thus, it is important to understand and acknowledge the implications for the body that loses functions and the implications for the body which gains functions. There also becomes a complication with cross-boundary movement when a mode of transport moves from one municipality to another. However, again, there a lack of clarity around how this negatively impacts the devolution of functions. Furthermore, when there are changes in the PRE and MRE, it can lead to instability in the taxi industry and can also cause tensions to rise. This was a unique finding. These issues can be seen as the hidden barriers to integration since plans to overcome them are not identified in the CoCT's integrated transport policy and strategies. Therefore, a clear plan and understanding of assigning the bus function and MRE function is still needed.

Given the size and scale of the minibus taxi industry and the role it plays in the current transport system, there are concerns about the national, provincial, and local policy vision of turning the taxi industry into a feeder system for rail and BRT. The debates centre around whether they should perhaps rather play a much larger role in the integrated transport system as working against the industry to just make them feeders may prove a lot more challenging. Although pilot projects have been conducted around formalising the taxi industry, as mentioned earlier in the discussion, there is still no clear way forward on how to formalise the minibus taxi industry to make them feeders in the first place. The conversations and experimenting with pilot projects are still ongoing. The results also indicated that the current vision surrounding the role of minibus taxis is outdated. This difficulty in deciding how to include the paratransit sector in policy is corroborated by (Cervero and Golub, 2007). Cervero and Golub (2007) also point out that perhaps paratransit should actually not completely resemble formal transport in the first place. Thus, there are very differing opinions in policy, among professionals and in the literature surrounding what the paratransit sector should look like. One of the main points that Cervero and Goub (2007) also made is that each context is different, so one must carefully take that into consideration. Furthermore, in the context of Cape Town, with the taxi industry being as large as it is, perhaps more careful thought should be put into the role that the minibus taxi plays in the city.

Currently, there is also no clear way forward in terms of rail. The policy is very vague on its plans for rail, and, at the same time, nothing can be done without the completion of the rail feasibility study. Again, there needs to be a clear understanding and plan for taking over the rail function and building the necessary capacity as this is a task the City is not accustomed to dealing with. Until recent years, rail was also seen to "take a back seat" in the CoCT for a while. The reason was that policy from a national level promoted the use of BRT. BRT would have been a welcoming site as rail has been widely known to be difficult to work with due to PRASA becoming increasingly dysfunctional. However, the realisation of the importance of rail has risen, and it is now just a matter of completing the feasibility study.

The findings indicated that a focus on BRT as a 'panacea' for integrated transport also came up as an issue, as some see it as a quick win and an unsustainable option to roll out on a large scale due to the high cost of implementation and operation. There are also concerns that it serves too few people despite being implemented over the past ten years. This is consistent with findings by Behrens and Salazar Ferro (2016). Thus, this view of the BRT not necessarily being the overall solution is at odds with a lot of the global south literature on the success of BRT, such as Maluf (2013), Hidalgo (2009) and Bocarejo and Velasquez (2013).

There is also a lack of clarity on how the ticket, timetable and interchanges will work. Both the Western Cape Government and the CoCT are experimenting with ticketing systems, although these systems are different, and there is no consensus on the ticket system that will be used. There was also no clarity given on how the timetable was going to work. There was also a lack of clarity on plans for integrated interchanges. A concern surrounding this is that the minibus taxi industry has taken over many interchanges, which makes it difficult to control from a government perspective. The

lack of clarity around the ticket and timetable situation would be a barrier to integrating the modes as it is a fundamental feature of the system as described in chapter 2.

The lack of vision throughout the transport sector in Cape Town on how to achieve integration is clear to see, and a fundamental feature of this is the lack of priority as shown in the results section. This was raised by Cllr Quintas, who pointed out that the CITP, one the of the key documents on integrated transport in the CoCT, does not actually speak much to integration but rather speaks more to safe, affordable, reliable, and accessible transport. This indicates a lack of priority and political will for integration on the part of the CoCT. The issue of priority and political will has also been acknowledged as an issue for integrating transport worldwide, as explained by Stead (2008) in chapter 2.

Part of what this comes down to is an old mindset, which causes people to become stuck in their ways as well as perpetuates siloed planning and political tensions due to carrying "political baggage". Therefore, new people with fresh ideas and the will for change are needed. This was identified in the São Paulo example in chapter 2. In this example, the Urban Development Agency that assisted with integrated public transport project implementation made a point of including young professionals and technicians who could come up with fresh ideas and did not carry political baggage. This proved successful for them as they now have one of the most sophisticated integrated transport systems in the world.

After acknowledging this lack of common vision and priority, two important points must be made. First, when looking at the policy from the national to the local level, it would seem like there are clear plans for integrated transport. This was raised by Walters (2013), who stated that there is a holistic vision for transport integration throughout the documents. However, whilst many may agree that this is the case, even though the plans look holistic, the findings in this study suggest that the policy is somewhat outdated, and the plans do not necessarily have a common vision behind how to implement them. The second point, closely related to the previous point, is that there is often this notion that there are enough plans and a lack of implementation which is also raised in some of the interviews as well as Walters (2013). There is no disputing that this is an issue. However, we should be acknowledging that we cannot implement a plan or policy that does not actually have the political will behind it or is marred by political tension. Furthermore, we cannot implement a plan that has no common vision behind how to deal with the hidden barriers. That, I would argue, is the real issue that should be looked at before we can conclude that it is a lack of implementation.

6.8 Conclusion

This chapter has analysed the results in relation to the research question as well as in relation to the literature from chapter 2. The following chapter will provide recommendations based on the results in the previous chapter and the analysis from this chapter. A conclusion to this study will also be provided.

Chapter 7: Recommendations and Conclusion

7.1 Introduction

This chapter provides recommendations for overcoming the barriers identified and analysed throughout chapters 5 and 6. This chapter then concludes with a summary of the study which responds to the research and indicates areas for further research.

7.2 Recommendations

7.2.1 An independent integrated transport oversight body

To ensure that the three spheres of government are held accountable for enabling integrated transport at the municipal level, an independent oversight body for integrated transport should be established. According to Holtzhausen and Naidoo (2011), oversight bodies are already mechanisms used in South Africa to promote accountability in the public sector. Examples are the Auditor-General's office, the Human Rights Commission, and the Public Service Commission. However, there is no specific oversight body for transport. According to Holtzhausen and Naidoo (2011), oversight bodies are also obligated to demand explanations for certain activities and take action if justifications are not provided. Demanding explanations and justifications for actions can be particularly useful for preventing the constant shuffling of ministers at the national level and finding out why bus or MRE functions are not being transferred, for example.

Public transport is of country-wide importance in South Africa, socially, economically, and environmentally. Furthermore, there is robust legislation for integrated public transport across the three spheres of government. Thus, an independent, Integrated Transport Commission should be created to hold all spheres of government accountable and drive processes from national level to the local level to implement transport integration.

7.2.2 A specialist Local Level Integration Task Team (LLITT)

The LLITT is a specialist task team formed to deal with any transport integration issues relating the CoCT. This task team would include various professionals such as institutional experts, who are experienced or knowledgeable in dealing with the taxi industry and devolving functions between government spheres, for example. It would also consist of some engineers, such as those experienced in dealing with rail and BRT. Some of these professionals could be from the already-established LTAB. It is acknowledged that there are bodies that have been established to deal with integration matters, such as the IPC and LTAB. However, the LLITT would operate differently from the IPC and LTAB. The IPC is more of a forum for report backs, and the LTAB is a board that gives advice on transport matters. The LLITT, on the other hand, would be a body with the sole mandate to actively investigate and deal with barriers in the system and would work with the aforementioned integrated transport

oversight body and the CoCT. A fundamental feature of this body would be strong leadership and political independence.

7.2.3 The CoCT's transport authority as a separate entity.

As explained in the previous chapter, the CoCT's current transport planning authority is not a separate entity. The current transport planning authority is a directorate, in other words, a group of departments that are closely linked to the City and its administrative processes. As shown in this study, political issues and electoral cycles in the past have been problematic for the CoCT's transport planning authority. Furthermore, an extract from the IPTN business plan acknowledged that the City administration processes are often unsuitable for transport planning. These features have caused a constant restructuring of the authority and shuffling of people working there. This leads to capacity and leadership draining away, which is not conducive to a constant vision of transport integration.

Therefore, the CoCT should have an independent transport authority at arms-length from the City. Furthermore, it should not be aligned to the 5-year election cycle. It should take an apolitical and business-like stance, such as the example from Medellin, which proved to be highly successful. This is to ensure more stability within transport planning in the CoCT. The irony of this recommendation is acknowledged as it constitutes more restructuring, which was identified as a barrier to integration. However, the difference here is the highly strategic and evidence-based nature of this restructuring that would hopefully improve processes in the long run.

7.2.4 Revisit policy from the national level through to the local level

There was quite a high degree of concern around the overall vision in South Africa being centred around emphasising BRT as one of the primary transport modes, whereas the minibus taxi industry is limited to mostly a feeder role. This was shown to be an issue in the CoCT as there are funding constraints related to BRT while the minibus taxi industry continues to show its dominance and efficiency. Therefore, it may be worthwhile for the three spheres to revisit the current policy and perhaps identify an alternative way forward where the minibus taxi plays a larger role and BRT is not necessarily seen as the "champion mode".

7.2.5 Integration pilot project

Pilot projects in the CoCT have proved to be a successful way of testing innovative projects. Examples that were mentioned were the Blue Dot taxi programme and the 7th avenue project in Mitchells Plain. However, these pilots focus on only one mode of transport. Thus, pilot projects that focus on integrating different modes and use an integrated ticket, timetable and interchanges could yield interesting results and learning opportunities from both an institutional and technical perspective. In addition, these projects could also act as a catalyst for change.

7.2.6 Strategic thinking workshops

Specialised workshops at all levels of government should be conducted to address siloed thinking. The workshops would emphasise strategic and systems thinking. These

workshops can also help spark fresh ideas and the ability to "think outside the box". This thinking could add to capacity building, especially at the local level, as identified by UN-Habitat (2013).

7.2 Conclusion

7.3.1 Summary of study and response to the research questions

Cities around the world are continuously growing and expanding along with the growth in the world's population. As such, there is an increasing need for efficient and effective transport systems to transport people to and from places of economic activities and leisure. However, many cities experience high congestion and air pollution levels due to private car dominance. Increased use of public transport is often seen as a solution to cutting down on private car dependence. However, many public transport systems around the world are inefficient and lack coordination. This is particularly an issue for cities in the Global South, such as the City of Cape Town. Cities worldwide have improved their transport systems by implementing an intermodal integrated transport system where a single authority coordinates all modes through a single ticket and timetable as well as integrated interchanges.

The CoCT experiences high levels of private car dependency and congestion as a result of a fragmented and inefficient public transport system. Furthermore, the City's ineffective public transport system makes it difficult and costly for the poor living on the periphery to access areas of economic opportunity. As such, the City recognises the need for an intermodal integrated transport system in accordance with national legislation and best practice examples. However, despite the CoCT's clear plans, attempts and desires for an integrated public transport system that spans as far back as the 2006 Integrated Development Plan, a proper intermodal integrated public transport system has yet to materialise.

Thus, this study aimed to further investigate the institutional barriers that impact the extent to which an urban public transport system can be integrated. To achieve this aim, case study research was conducted in the City of Cape Town. A review of relevant policy documents was undertaken to gain a better understanding of the policy framework. Research questions based on the literature review and policy analysis were created to guide the research as well as to help answer the main research question. Results were obtained through interviews that were conducted with several public and private professionals who have extensive experience in the transport sector in the CoCT. Results were also gathered from analysing a radio interview and a UCT guest lecture.

The subsidiary research questions were as follows:

- How does the institutional framework of a transport planning authority's public transport system impact the integration of transport modes?
- What are the institutional challenges experienced when devolving functions from one sphere of government to another?

- How do political dynamics between different spheres of government impact the integration of transport modes?
- How do political dynamics within transport planning authorities impact on the integration of transport modes?
- How do the unique institutional dynamics within the informal paratransit sector impact on their ability to integrate into a formalised integrated transport system?
- Does having extensive and comprehensive policies for transport integration mean there is a common vision and political will behind it for implementation?

The findings suggested that having a fragmented institutional public transport framework is one of the most significant barriers to integrating different modes. It acts as a barrier since coordinating between different modes is difficult when they are under the authority of different spheres of government or individualised operators. In other words, the transport planning occurs in institutional siloes resulting in a lack of collective control and institutional authority. This can also create a situation where the individual mode is optimised while the passenger's needs fall by the wayside. Thus, it is in cities' best interest to solve the fragmentation, although this contains many barriers of its own.

The political dynamics between the different government spheres can also act as a significant barrier to integration. The findings have shown that there is a lack of leadership from the national government sphere due to the constant shuffling of decision-makers. Continuous shuffling and a lack of leadership cause processes, such as devolving functions from one sphere to another, to stall. It also results in a breakdown in relationships, which is detrimental to coordination and decision-making. Furthermore, the political tension and "turf battles" between two opposing political parties at different spheres of government can also lead to the stalling of processes since it also leads to the breakdown of relationships, making coordination difficult.

The political dynamics within transport planning authorities were also where barriers to integration could occur. The results showed that continuous restructuring and shuffling of people within a city's transport planning authority is a barrier to integration. For example, a significant restructuring of the CoCT's transport planning authority occurred due to intense political disputes within the transport planning authority. This creates significant instability at the local level. When there is a lack of stability with decision-making at the local level within the transport planning authority, it becomes almost impossible to engage and coordinate effectively with the other spheres as well as with the paratransit sector (minibus taxi industry). This leads to large-scale draining away of institutional planning capacity and a lack of continuity in leadership at the local level. Furthermore, the distress that political fallouts and the resulting restructuring have can be a moral breaker for staff and can cause them to become hesitant to try new projects in the future.

Integrating the paratransit sector as part of an intermodal integrated transport system has many barriers of its own. The minibus taxi industry is highly fragmented due to its structure of the minibus taxis being owned by individual people and operating like a private business regardless of their minibus taxi association. The individualised way of operating has become deeply entrenched in the industry,

making it difficult to change. Therefore, many operators resist change as it creates uncertainties for them because they are concerned about losing control of their business, and some do not trust the government. The sheer size of the minibus taxi industry also makes it challenging to integrate as all the thousands of operators would have to be engaged individually. This engagement process is time-consuming and requires huge government capacity. Furthermore, tensions and violence between the minibus taxis and subsidised modes such as the GABS create instability within the industry. Tensions are also increased when the approval of operating license applications is delayed. The findings suggest that the root of the tensions in the minibus taxi industry is a result of constant oversupply of operators in the system. However, this study has also shown that not all operators resist integration. Some do understand the importance of complementarity and are willing to integrate. Moreover, successful pilot projects show that working with the minibus taxi industry is possible, provided they are engaged properly.

One of the most significant findings of this study is that although there may be extensive and comprehensive policy from the national level through to the local government level, it does not mean that there is a common vision or plan of how to implement it. In other words, there is a lack of vision and plan on how to address the smaller, hidden barriers such as devolve certain functions to the local level and how to solve the more obvious barriers. The findings also show that, at times, the integrated transport literature, transport policy and transport professions are entirely at odds with each other when determining how to achieve integration. The findings also show that there are disagreements between professionals, policy, and literature on the overarching visions with the role that certain modes play within an intermodal integrated system. The findings also show disagreements between professionals, policy and literature on the overarching visions and the role that certain modes play in an intermodal integrated system. In this case, a significant finding is that BRT may not be the panacea due to financial constraints, and perhaps the paratransit sector can or should play a larger role in integrated transport systems. The lack of vision is also related to a lack of political will to overcome barriers and a lack of political will for integration in general. Finally, a lack of vision and political will can be perpetuated by siloed planning and political tensions related to old mindsets. As a result, people become stuck in their ways and tend to carry "political baggage". Thus, bringing in new people with innovative ideas and the will for change is crucial.

7.2.2 Areas for further research

Further research could be conducted on how society's views influence political decision-making around integrated transport planning. Research could also be conducted on assessing the effectiveness of the committees and boards, such as the IPC and LTAB, for integrated transport planning and if they can be improved to enhance planning and coordination between the three spheres of government. Further research could also be conducted on the institutional barriers to integrating land use with an intermodal integrated transport system.

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Appendix A: Ethics clearance form

Application for Approval of Ethics in Research (EiR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

ETHICS 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.uct.ac.za/ebe/research/ethics1

APPLICANT'S DETAILS		
Name of principal researcher, student or external applicant		Ross Jacobs
Department		School of architecture, planning and geomatics
Preferred email address of applicant:		JCBROS009@myuct.ac.za
If Student	Your Degree: e.g., MSc, PhD, etc.	MCRP
	Credit Value of Research: e.g., 60/120/180/360 etc.	120
	Name of Supervisor (if supervised):	Prof. Nancy Odendaal
If this is a researchcontract, indicate the source of funding/sponsorship		No funding required
Project Title		Institutional barriers to an integrated transport system in the City of C Town

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.

APPLICATION BY	Full name	Signature	Date
Principal Researcher/ Student/External applicant	Ross Lawrence Jacobs		06/06/2022
SUPPORTED BY	Full name	Signature	Date
Supervisor (where applicable)	Prof. Nancy Odendaal		13/06/2022

APPROVED BY	Full name	Signature	Date
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).			
Chair: Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the questions in Section 1.	Prof. H. von Blottnitz		21/06/2022

Appendix B: Example of the full ethics consent form.

Information and consent form

University of Cape Town

School of Architecture, Planning and Geomatics

Institutional barriers to an integrated public transport system in the City of Cape Town

Introduction

My name is Ross Jacobs, and I am conducting research towards a master's degree at the University of Cape Town. I am researching the institutional barriers to Cape Town achieving and facilitating an integrated transport system and I would like to invite you to participate in the research. My supervisor is Prof. Nancy Odendaal who you may contact at: nancy.odendaal@uct.ac.za or 082 537 8699

Explanation

The current decentralised and fragmented public transport system in the City of Cape Town is causing increased commuter time, congestion, costs, and pollution. To fix this, the City of Cape Town is attempting to achieve an integrated public transport system, i.e., a public transport system where all modes of transport are under one authority and have a unified ticket and timetable for easy and efficient transition from one mode of transport to another. However, they have not been able to effectively do so yet. Therefore, I am interested in investigating how the institutional realities relating to the City of Cape Town's decentralised public transport system negatively impacts on achieving and facilitating an integrated public transport system at the local government (i.e., municipal) level as well as to investigate the implications for change to achieve an integrated transport system.

Participation is voluntary

Please understand that you do not have to participate if you do not want to, in other words, your participation is entirely voluntary. The choice to participate is yours alone. If you choose not to participate, there will be no negative consequence. If you choose to participate, but wish to withdraw at any time, you will be free to do so without any negative consequence. You may also choose to not answer a question that you may not feel comfortable answering. However, I would be grateful if you would be able to answer all the questions.

What is expected of the participant?

I would like to have either an in-person or online interview using Zoom or any other online platform you are comfortable with and when you are available. I will be asking you a series of questions that I would like you to please answer in the most honest way possible and to give as much detail as possible provided you are comfortable with it. I would also like to please record the interview but only with your full permission.

No direct benefit for participation

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name ☐
2) Organisation ☐
3) Words ☐

Name of participant ……Date ……

Signature of participant ……

Appendix C: Signed consent forms

No direct benefit for participation

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

If I am allowed to record, I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name [X]
2) Organisation [X]
3) Words [X]

Name of participant ..... Gerhard Uithe Date 02-08-22

Signature of participant ....

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name [x]
2) Organisation [x]
3) Words [x]

Name of participant ..... Brett Norton Herron ..... Date ..... 5 August 2022

Signature of participant .....

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name [✓]
2) Organisation [✓]
3) Words [✓]

Name of participant ..... Roberto Quintas Date 7/9/22

Signature of participant .

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name [✓]
2) Organisation [✓]
3) Words [✓]

Name of participant ..... Date 04-09-2022

Signature of participant ....

Please note there is no direct benefit to you for taking part in this interview.

Level of risk/harm

In terms of any risk of harm of participating in this research, there is virtually no risk, or the risk is very low. The only possible harm could be mistakenly disclosing confidential information and allowing me to use the confidential information which could jeopardise your position at your place of employment. However, this is unlikely.

Anonymity and Confidentiality

Confidentially will be upheld by following the University of Cape Town ethical guidelines. Any information from the interview will be completely confidential and will only be used with your permission. It will be protected on a password protected computer that only I have access to. I would like to please use the information in this interview as part of my research.

Sharing and use of data

I intend to transcribe the interview to be able to make sure I fully understand the answers that were given. It will also allow me to be able to quickly look at the interview if I need to. If you would like, I will also notify you or send you parts of the dissertation where I have used information from your interview so that you can see how it was used. However, as mentioned, data will only be used or shared with your permission.

By signing this document, you, the interviewee give consent to the interview, and you understand the above-mentioned points. Please tick the relevant box/es below.

Yes, I give permission for you, Ross Jacobs, to use my:

1) Name ☑ NICO MC LACHLAN
2) Organisation ☑ UCT
3) Words ☑

Name of participant NICO MC LACHLAN Date 01/08/22.

Signature of participant