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MPA Mini Thesis

RESEARCH TOPIC:

Exploring the Current State of the City of Cape Town's Transport System and its Spatial Policies.

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DECLARATION

I declare that this mini thesis is my own work, and that it has not been submitted before for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

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ABSTRACT

There are many reasons why Cape Town is the most congested city in South Africa besides there just being “too many cars on the roads”. This paper explores Cape Town’s transport system and spatial policies and how it impacts traffic congestion as traffic congestion serves as a primary indicator of poor spatial planning and development. A desktop study was conducted with secondary data being utilized. The City of Cape Town is aware of the issue of traffic congestion and the impact that it has on commuters, especially those with little financial means. There are numerous policies and frameworks in place to combat the issue of traffic congestion, but corruption and the politicization of spatial planning hinders the resolution of the problem.

KEY WORDS:

Congestion, public transport, spatial planning, urbanization, transportation

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ACRONYMS AND ABBREVIATIONS

BMT	Bus and Minibus Taxi
BRT	Bus rapid transit
CBD	Central Business District
CITP	Comprehensive Integrated Transport Plan
CoCT	City of Cape Town
CTSDF	Cape Town Spatial Development Framework
FUM	Future of Urban Mobility
GABS	Golden Arrow Bus Services
GDP	Gross Domestic Profit
IPTN	Integrated Public Transport Network
MTM	Market-type mechanisms
NPM	New Public Management
NTU	Nanyang Technological University
PRASA	Passenger Rail Agency of South Africa
PRE	Provincial Regulatory Entity
SCOOT	Split Cycle Offset Optimization Technique
SOG	School of Government
TCT	Transport for Cape Town
TDA	Transport and Urban Development Authority
TDI	Transport Development Index
TDM	Travel Demand Management
TMC	Transport Management Centre
TOD	Transit Orientated Development

TODSF	Transit Orientated Development Strategic Framework
TSS	Traffic Signal System
V&A	Victoria and Alfred Waterfront
WCPSDF	Western Cape Provincial Spatial Development Framework

CHAPTER 1: INTRODUCTION

Introduction

> *"Cape Town is currently the most congested city in South Africa, due to its sprawling nature and a lack of significant investment in public transport" (Transport Directorate of Cape Town, 2017).*

Traffic congestion is a primary indicator of poor spatial planning and development. The impact of traffic congestion in conjunction with inadequate spatial planning significantly impacts the poor who make use of public transport frequently. This essential aim of this mini thesis is to highlight the spatial problems combined with hyper-urbanization in Cape Town to demonstrate how it contributes to the chronic issue of traffic congestion and related road transport policy implementation problems. A subsidiary aim of this research will be to determine how extensive the transport network problem is and what alternative policies are in place for multiple modes of transport for the city's commuters.In the same vein, this study will also shed light on the CoCTs' spatial planning and urban development policies and plans, as well as land development and reform with regard to addressing accompanying socio-economic inequality. In essence, this study will explore how the CoCT's transport policies are managing the predicament of extreme traffic congestion, and what planned policy solutions are in place to address the problem.

It has been nearly 30 years since South Africa became a democracy and official apartheid ended. Despite this, the City of Cape Town's (CoCT) spatial development problemsare worse than ever, indicating the persistence of spatial apartheid and related socio-economichardship for the poor. The spatial inequalities in South Africa are still rife. While this is not unique to South Africa, it is exemplified in the South African context as the current South African spatial inequalities have a foundation set in apartheid spatial planning which served the minority. While spatial planning during apartheid was unashamedly exclusive, it is highlylikely that the reason for the continued spatial inequalities is the politicization of urban planning. In this context, Harvey's

(2012) framing of spatial planning is useful. Bond (2013: 44) states that the notion of "the right to the city is therefore not foremost about liberal constitutionalism, but a vehicle for political empowerment."

Harvey (2012) thus draws our attention to the ways in which technicist bureaucratic decision-making around issues of spatial planning and accompanying problems contain an inherently political dimension that directly relates to socio-economic inequalities.

Lefebvre (1996: 154) states that:

> only groups, social classes, and class fractions capable of revolutionary initiative can take over and realize to fruition solutions to urban problems. It is from these social andpolitical forces that the renewed city will become the oeuvre. The first thing to do is todefeat currently dominant strategies and ideologies… Reformist, the strategy of urban renewal becomes 'inevitably' revolutionary, not by force of circumstance, but against the established order. Urban strategy resting on the science of the city needs asocial support and political forces to be effective. It cannot act on its own. It cannot but depends on the presence and action of the working class, the only one able to put an end to a segregation directed essentially against it. Only this class, as a class, can decisively contribute to the reconstruction of centrality destroyed by a strategy of segregation found again in the menacing form of centers of decision-making

This is profound as it suggests that government cannot solve socio-economic issues and spatial inequalities by itself, and that the working class holds much more power than they realize but fail to exercise. Exclusive urban planning ultimately serves people of a certain socio-economic status. Thus, working-class groups need to lobby government for fully inclusive urban planning.

Background

In 2013, CoCT overtook Johannesburg as South Africa's most congested city. It is a transport

network problem that the city has retained ever since, despite massive upgrades to the major N2 highway into the CoCT city Centre. Sesant (2017) states that over 260 000 vehicles enter the CBD each day with the city's road network being at risk of collapsing due to the constant increase of vehicles. The CoCT has also admitted to not having the capacity to sustain the increase of motor vehicles on its roads. However, the volume of vehicles on the city's roads is not the only contributor to traffic congestion. Most commuters in the city rely on public transport, and most public transport users rely on Metrorail trains. During the 2016/2017 financial year, it was found that there were close to 3 million fewer rail journeys per month, which means that railway commuters were using alternative modes of transport, mainly on the roads by means of personally owned vehicles or taxis (Sesant, 2017). These areimportant transport policy and spatial planning issues that cannot be ignored as they affect the quality of life of all citizens in CoCT.

The CBD and the roads leading to it were built at a time in South Africa when a minority government was in power, and thus public transport system and the roads to the CBD catered almost exclusively for them. This has greatly contributed to the spatial development issues faced by the CoCT due to the decentralized form of spatial planning under the apartheid regime. The Transport Directorate of Cape Town (2017) noted that despite technological advancements and changes in how business is conducted, the CBD is still the central hub for employment, educational, business and tourism purposes. Under the apartheid regime, the suburbs surrounding and neighbouring the CBD were occupied by the privileged white minority. This mean that most of the population was not considered, leading to spatial apartheid and what could be called the transport system of apartheid that placed a heavy burden on poor black working-class commuter communities. The pattern of apartheid spatial planning is still evident and continues today with poor townships being found on the outskirts of the city.

CoCT has a small city bowl and as expansion has occurred, the major highways have experienced a sprawl of suburban areas along these routes which further contributes to spatially

driven congestion. However, the injustices of the apartheid regime are not the only factors to blame. Another factor that has contributed to traffic congestion is the hyper-urbanization from neighbouring towns and provinces as people, notably from the apartheid-constructed homelands in the Eastern Cape, come to CoCT in the hopes of finding employment and a better life. CoCT is South Africa's third largest city, with a population of roughly 4 million (Horn, 2018). Most of the CoCT's migrant population is from the Eastern Cape and Gauteng. The rise in migration from the former apartheid "Homelands" (as they were called) in conjunction with the city's natural population growth, has led to the depletion of the city's natural and financial resources which are under constant pressure. This has also resulted in the escalation of housing shortages within the city (Horn, 2018). The high cost of living and petrol has also contributed to more people relying on public transport to get around the city, as they cannot afford to purchase personal vehicles. This has led to more taxis being on the roads and more commuters using trains. In May 2010 the CoCT introduced new means of public transport with the MyCiTi buses, but this has not made a drastic change in traffic congestion because the buses only travel on certain routes and other modes of public transport are more affordable for the average Capetonian.

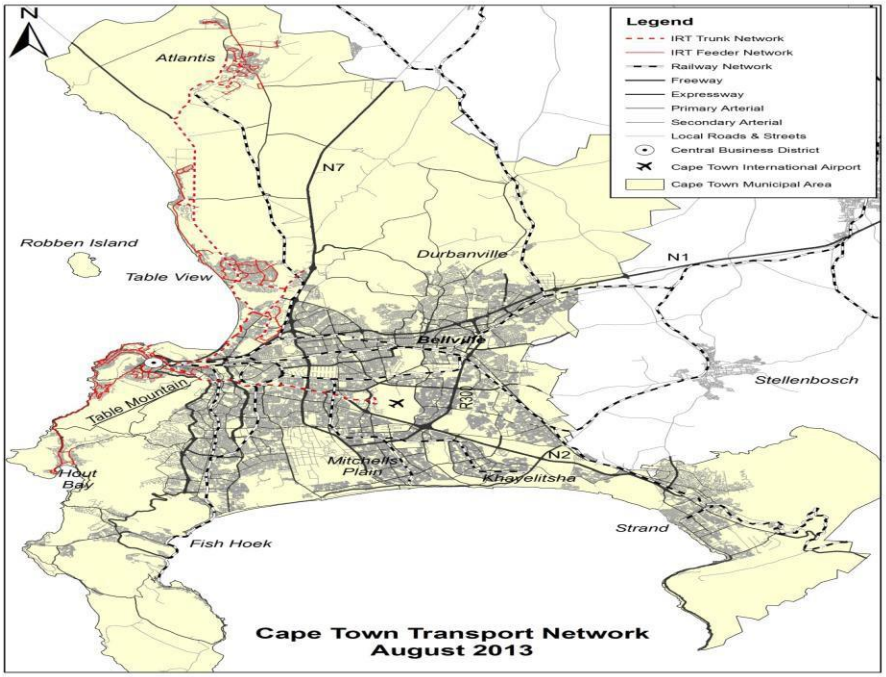


Figure 1: CoCT Transport Network as at August 2013

Current Realities

In 2017, the CoCT launched its Transport and Urban Development Authority (TDA). The TDA combines and manages the CoCT's transport, urban planning, public housing, and environmental sustainability needs. The vision of the TDA is to reverse the long-lasting effects of the apartheid spatial planning legacy. The TDA identified CoCT as being South Africa's most congested city. This is due in part to the city's rapid urbanization which has led to an increase in the population which has had a domino effect on traffic congestion and public transport needs. The population of the city of CoCT grew by 30% over 10 years between 2001 and 2011, and the highest population growth occurred within low-income groups. In 2006, the TDA established its Travel Demand Management (TDM) strategy, which is a core component of the city's Comprehensive Integrated Transport Plan 2013-2018. The TDM consists of five key elements: an expanded park-and-ride at rail and bus station program; flexible working programs; a parking cash-out strategy; a high occupant vehicle priority strategy; and a comprehensive marketing and communication campaign (TDA, 2018). There has been some controversy around the TDA as of late. According to Dentlinger (2018), the CoCT's Deputy Mayor, Ian Neilson, referred to the TDA as being run 'cowboy fashion'. This comment came after the cancellation of the tender for the Foreshore Freeway Project. The Deputy Mayor states that the cancellation of the tender called for deep introspection to take place regarding how the TDA was being run. The Foreshore Freeway Project was initiated in 2016 with the intention of addressing social housing needs in CoCT as well as alleviating traffic congestion. The Deputy Mayor also mentioned that the way the tender was drafted created opportunities for corruption throughout the tender process (Dentlinger, 2018). This is rather troubling considering the extent to which traffic congestion and the lack of reliable public transport affects the citizens of CoCT. As the TDA was established in order manage and possibly solve the traffic congestion problem that the city is facing, but is seemingly not able

to do so effectively, management and procurement issues could derail the function of this important policy initiative.

The cancellation of the R8 billion project caused an uproar among social housing activists. Former CoCT Mayor, Patricia De Lille, claimed to have been taken by surprise by the cancellation of the project, given that she had a strong pro-social housing stance (Felix, 2018).

> "The last meeting I had with the city manager, he told me that there were deficiencies.I understood that, but now this has happened without my approval nor the approval ofthe mayoral committee. I am convening a meeting about this so it can be rectified. Theneed for social housing in the inner city remains our core priority. We need to addresstraffic congestion and apartheid spatial planning," states De Lille (Felix, 2018).

It is quite surprising that there was little reported on the matter in the media, nor was there any public outcry which makes one reflect of the statement made earlier that working-class groups need to lobby for a fully inclusive city. A mayoral committee member, JP Smith, later admitted that the matter was not discussed with the mayoral committee. The CoCT manager, Lungelo Mbandazayo, said that the tender bidders for the project were notified of the cancellation of the project and that numerous appeals and objections were lodged which led to the CoCT deciding to cancel the project after receiving legal advice (Felix, 2018). It is extremely worrisome that a project which would not only have contributed to traffic alleviation but would have also provided affordable social housing for the working class within the CBD was cancelled without consultation of stakeholders by the mayor at the time. It could also hint at party-political interference to ensure that the CBD remains accessible only for the elite.

Table 1: The TDA's Comprehensive Integrated Transport Plan in the City of Cape Town:

Metropolitan area	**2,455km2**
Resident population (2011 Census)	**3,740,026**
Estimated percentage of population who rely on public transport	**55%**
Total passengers across all modes	**2,528,000 per day**
Total length of passenger rail network	**914km**
Total length of dedicated BMT lanes	**25km**
Total length of dedicated BRT median busways	**24.4km**
Signalized intersections	**1,050**
Signalized pedestrian crossings	**355**
Population growth	**Rising by about 30% between 2001 and 2011**
Highest population growth	**Lower income groups**
Number of informal dwellings	**Significant increase**
Unemployment rate	**Rising over last three years reaching up to 37% and affecting previously disadvantaged communities**
Total length of City roads	**9,836km**
Cost of upgrading/rehabilitating all "poor" and "very poor" residential roads	**R12.2 billion over 15 years**
Cost of relieving just three congested hotspots (Blaauwberg, Kuilsriver, Kommetjie)	**R887.50 million**
Current estimated value of roads	**R78.9 billion**
Increase in estimated value of roads due to growth of CoCT	**R900 million every year**
Percentage of household income of lower income groups spent on access	**45% – 70%**
International standard for percentage of household income spent on access	**5% - 10%**

Source: (TDA, 2018)

The data in Table 1 is very worrisome, highlighting that 55% of the population of a city with nearly 4 million citizens (at the time of the 2011 census) rely on public transport. This means that the majority (over 2 million) of the city's population rely on buses, taxis, and trains as a mode of transportation to get to and from work, school, university, and other destinations. The citizens of CoCT thus spend a staggering 45%-70% of their income on transportation costs.

These statistics are of even graver policy concern considering that most of the city's population live in poverty.

In respect of understanding transport problems for poor communities relating to spatial planning and its relationship to political empowerment, this mini thesis poses the following key research questions:

- What active developments from an integrated transport governance policy point of view are occurring in CoCT's transport and spatial development systems to alleviate transport blockages and related traffic congestion?
- What urban spatial reform policies have been effected to counteract the problem that most commuters are travelling towards the CBD?
- What decentralization of workplace policy strategies has the CoCT put in place?
- Does the CoCT have policy plans in place to alleviate the burden associated with traffic congestion which impacts the poor the most?

Shared Developmental Issues

There are many cities who struggle with traffic congestion. For example, in other parts of the developing world, Cairo in Egypt, and Delhi in India have massive spatial transport challenges that resonate with South Africa. In 2017, Cairo was ranked as the 4th most traffic-congested city in the world. In that year, Cairo had over 11 million licensed vehicles on the roads. Scene (2017) states that the infrastructure in Egypt is seldom updated to accommodate the exceptional increase in vehicles on the roads. One of the solutions suggested to solve Cairo's traffic congestion problem was to have cars with even-numbered plates to be allowed to occupy the roads on certain days, and to have cars with uneven-numbered plates to occupy the roads on other days (Scene, 2017).

At the Nanyang Technological University in Singapore, the technology team has partnered up with BMW to develop a program that can prevent traffic jams from forming, rather than find

a solution to them once they have already formed. Using a mathematical algorithm that analyses the patterns of traffic formation and traffic resolution, NTU's Hongliang Guo and colleagues write, 'Our objective is to maximize the probability that none of the network links encounters a traffic breakdown.' In otherwords, the computer scientists at NTU have come up with a program that runs in real time, which can learn over time how traffic flows, common bottlenecks, peak times and rush hours. The use of such a program can result in the eventual re-routing of cars in order to reduce the overall congestion. This algorithm can reduce the probability of crashes, and as an added bonus it reduces the probability of traffic from even forming in the first place (Scene, 2017: 01).

Such technology would be extremely useful in CoCT if it came to fruition. One thing is certain: alternatives methods of solving traffic congestion are desperately needed since building more roads will not solve the problem. The population will continue to grow, and the number of vehicles on the road will increase as well.

Motivation for the Study

Traffic congestion is an issue that affects all of CoCT's citizens who rely on public or private transport. The causes of poor transport infrastructure are highly significant, as the remnants of apartheid planning is still very much present, affecting the daily lives of citizens 24 years after apartheid officially ended. The enormity of the issue of traffic congestion negatively affects people's lives financially, socio-economically and in the workplace (for example, being late for work due to traffic congestion) has led to employees receiving official warnings or worse, being dismissed due to habitual tardiness. Traffic congestion is therefore an issue that often has domino effects. To understand the significance of traffic congestion, one must look at other factors which have contributed to the issue, as traffic congestion is not necessarily the disease, but rather one of its symptoms of ongoing apartheid spatial planning. The city drastically needs both transport and housing policies aimed at restructuring and reprioritizing business hubs, transportation systems, spatial planning and associated housing shortages.

According to Horn (2018):

> historically, Greater CoCT inherited a more centralized physical form than other citiesin South Africa with the Central Business District (CBD) dominating all 23 other business nodes in the city in terms of business turnover to date, despite its arguably eccentric location.

Thus, with the CBD being the dominating business hub in the city, the spatial inequality within the city is emphasized. The CoCT therefore must focus on encouraging the development of alternative business hubs or redeveloping existing business hubs in order to decrease the number of commuters travelling towards the same destination each day, which contributes tovarious bottle necks in and around the city.

Capetonians have become so accustomed to the traffic congestion that their daily routines are planned around it. Extra travel time must be considered when calculating the amount of time it will take to get to and from work or school. Alternative routes are considered or tried out. People also often wake up hours in advance to miss traffic or to sit through it and make it in time for work or school. While citizens (especially poor citizens) have come to adapt to the stresses of

Figure 2: Stock picture of traffic congestion in CoCT CBD

poor infrastructure, the effects of poor spatial planning on the daily lives of citizens should receive much greater emphasis. This mini thesis is aimed at exploring and understanding the spatial policy issues and flaws.

The main point of departure is therefore to understand in context is happening in CoCT's transport system and what the key factors are that have led to the ongoing issue of traffic congestion on the arterial routes in the CoCT. The main policy focus will be on the N2 highway, which bears the brunt of poor spatial planning. This is because the largest townships (slums) of Khayelitsha, Langa and Nyanga are situated outside the CBD, requiring workers to thus access the CBD by using public transport on the N2. The research conducted in this study aims to uncover the key factors and contributors to the traffic congestion, as well as the CoCT's policy plans to alleviate traffic congestion. This involves delving deeper into simple assumptions that the traffic congestion is due to the city's road network not being able to accommodate the high volume of vehicles. This research aims to be of both public policy interest as transport problems affects all civilians in the CoCT – from the rich to the poor. Theresearch will investigate the various forms of transportation that are currently available to thecommuters in the CoCT, as well as how reliable and safe each of the options are, in relation to spatial problems. In addition, the study hopes to shed light on the possible alternatives and viable solutions that may benefit the city.

Significance of the Study

The significance of this study is that it may contribute to a better understanding of traffic congestion, lack of reliable public transportation, apartheid spatial planning and urban development that are all still issues that affect the citizens of CoCT. This study aims to shed light on exactly how the skewed spatial planning of the apartheid regime contributed to the current transport chaos, in which the city is faced with massive spatial planning and urban development issues. In addition, it will aim to shed light on the CoCT's plans and possible

solutions. CoCT prides itself on its affluent tourism industry, yet tourists cannot rely on the city's public transport to travel in and around the city. However, not only is the city's public transport unreliable, but commuters are often victims of crime on various forms of public transport. Cramped trains and taxis are havens for pick pocketers and armed robbers. This research aims to clarify what possible policy options and solutions are for the city and what measures are currently in place to alleviate traffic congestion.

Objectives

Wolfe (2016) mentioned that low-income households on average spend up to 45% of their monthly income on public transport. Overall, the study aims to highlight the causes of the city's current crisis and to investigate any future plans that are in place to alleviate traffic congestion in Cape Town.

The objectives of this study are, thus, as follows:

- to determine what the exact causes are of the city's traffic and public transport predicament, by examining the city's spatial planning and urban development plans and policies.
- to explore how exclusive planning by the previous regime contributed to the traffic congestion.
- to show how the politicization of transport and politicized spatial planning has contributed to the traffic congestion, as well as contributed to the delays in viable solutions being put in place.
- to shed light on how the traffic congestion dilemma affects the citizens of CoCT, especially the working class.

Research Design and Methodology

This study uses a mixed methodology approach and soley makes use of secondary data (Heyvaert, Maes, & Onghena, 2018). The data that will be used for the study will be sourced from official government policies, strategies, and papers. These sources include factual data such

as the cost of the city's roads, the length of the city's railway network, the average travel time and cost for private car and public transport users. The research will explore the contents of official government sources to compile the study. The data has already been collected and quantified by the government and this study will analyses this information.

The study will combine historical information with current realities, which will be obtained from official government documents as well as historical data from past research that has been conducted on the relevant topics. For this analysis, a mixed methodology exploration is a mode of research whereby a single case study can combine experimental and qualitative methodologies to provide answers to the research questions (Heyvaert, Maes & Onghena, 2018).

The aim of conducting a mixed methodology analytical exploration is to determine how the CoCT's policy trajectory has led to its current predicament and to explore the current plans and policies that the city has in place to rectify the problem. The study will combine both secondary qualitative methods and the use of secondary quantitative data in order to promote breadth and depth of understanding of the topic regarding spatial planning and urban development (Heyvaert et al.,2018). Secondary quantitative data on the effects of apartheid planning for this study will be required for numerical data on traffic flows and commuter numbers, so as to analyze how thedata factors into transport reform policies. Qualitative research also has to be included in thisstudy, because quantitative research cannot fully explain more psychological phenomena regarding social issues.

When conducting a secondary data exploration, the analyst has to explain in depth what the analysis intends to accomplish and then to determine if the conclusions are relevant to the objectives of the exploration (Holden & Zimmerman 2009:21). This framing applies to both the quantitative analysis as well as the qualitative research on commuter perceptions. Similarities in spatial planning and transport infrastructure between South Africa, India, and Egypt can be found and are mentioned earlier in this thesis. However, because of the length

constraints of this mini thesis, it is not possible to conduct a comparative analysis of the causes and effects of traffic congestion in South African, Egyptian and Indian cities, and as such this research will focus on national to local exploration, as international exploration will be left out due to the scope of this mini-thesis.

Ethical Issues

The main concern regarding this research is to remain objective. The issue of traffic congestion in CoCT can become a heated topic, because thousands of people are affected by it daily as the cost of transportation in the CoCT is expensive and predominantly affects the poor. Traffic congestion affects people's lives, many spend hours on end in their vehicles or on public transport each day. The issue further becomes more sensitive when spatial planning and urban development are included as it involves our apartheid history and failures in the public and private sector.

Part of the research will be to conduct a policy analysis which may be of interest to various governmental organizations dealing with urban and special development. The research could be of interest to the public since personal and public transportation are essential in the daily lives of the city's citizens. It dictates not only the way commuters get to and from work, but also determines the general mobility in CoCT. The research that will be conducted could potentially be beneficial for city and urban planners since it will include factors which the city may have to consider in their traffic alleviation planning and development.

CHAPTER 2: LITERATURE REVIEW

The literature review of this study aims to determine the key factors in and contributors to traffic congestion in CoCT, such as socio-economic issues, gross inequality, spatial planning, land and urban development; all of which hinder the quality of life for the poor and previously disadvantaged citizens of the city. The poor are precariously integrated into the political economy of the city and the cost burden for transport is borne by the poor because of the cost of mobility and transport. This study acknowledges that traffic congestion and spatial planning is not solely a Cape Town or South African problem, but as mentioned in chapter one, the focus of this study will be from a national to local perspective and will out international problems and policies due to the scope of this mini thesis.

Harvey (2012) argued that the socio-economic inequalities of poor social planning are an urbanization crisis, and the solution should be urbanization of a different sort. This is what makes the right to the city (accessibility and inclusion) so challenging and critical as there is an opportunity to do things differently. This sentiment was articulated in a slightly different way by Lefebvre (1996). In his writing, *The Right to the City*, he mentioned that access to a city is both a cry and a demand – the cry being a response to the existential pain of a wicked crisis of everyday reality in the city and the demand being a command to look that crisis clearly in the eye and to create an alternative urban life that is less alienated and more meaningful. In this regard, understanding how spatial inequalities contribute directly to traffic congestion and the cost burden on the poor is critical. Harvey's (2012) and Lefebvre's (1996) writings are over a decade apart but share the same sentiment about the realities that are still very much present, especially in Cape Town being a congested city with high degrees of spatial apartheid persisting to this day.

The TDM strategy (2017) complied by The Transport Directorate of Cape Town lists the continued increase in the number of vehicles, growth in population, and a lack of substantial

investment in the public transport system as the three main factors contributing to traffic congestion in the city. Cape Town motorists spend 71% more time in traffic during peak periods than in free-flowing traffic. An imbalance between growth in travel demand and infrastructure supply results in an increase in traffic congestion. The peak periods during working days (Mondays to Fridays) are affected the most, especially in the city's arterial routes which can result in 2–4 hours spent in traffic daily as travel times are long and at low speeds. This also causes an increased level of harmful emissions that contribute to local air pollution and climate change (Transport Directorate of Cape Town, 2017). As a result, traffic congestion and the amount of time spent in traffic combined with the expenses incurred causes a lot of stress for commuters.

To combat the issue of traffic congestion, Cape Town delegates identified infrastructural, behavioral and operational approaches to tackle the issues. The Transport Directorate of Cape Town (2017) also noted that that Cape Town developed its transport system in favor of motor vehicles.

> Micro economic theory describes how demand will soar in an over-supply or low-costenvironment. The same period saw a substantial lack of investment in capacity of the public transport system, aim to manage the movement of people to make better use ofexisting capacity and infrastructure, and promote more sustainable choices, rather than building new infrastructure at great cost primarily to accommodate private vehicles (Transport Directorate of Cape Town, 2017).

As such, the city's Transport Demand Management aims to change the mindset of commuters from the notion that private vehicle mobility is the only available option and to better understand and consider the alternative options available to them (Transport Directorate of Cape Town, 2017). However, in order to achieve this change in mindset, the CoCT first needs to ensure that other modes of transportation are operational, safe, functional, affordable, and mainly in actual existence before commuters can consider use of such alternative modes of

transportation. The reality is that the spatial development of Cape Town is characterized by land uses that are highly segregated and developed at extraordinarily long distances from each other. This results in non-motorized modes of transport being ineffective and creates a tidal flow of traffic in peak periods further contributing to the issue of traffic congestion. Thus, an imbalance between growth in travel demand and infrastructure supply will further exacerbate the problem of traffic congestion (Transport Directorate of Cape Town, 2017).

Steenkamp and Winkler (2014) states that there is a disconnect between the intentions/ objectives of spatial plans and decision-making regarding land use. This is clearly worrisome, as decisions regarding land use should be in line with the outlined and approved objectives of spatial plans. It has also been found that CoCT still uses an assessment tool which was developed over 20 years ago for the development of the Victoria and Alfred (V&A) Waterfront (Steenkamp & Winkler, 2014). This further emphasizes the importance of the previous statement made in this mini thesis regarding working-class groups lobbying for a more inclusive city. This manner of public participation can put the necessary pressure on government to update their methodologies to conduct fully inclusive urban planning that will benefit all and not just the elite minority. Using outdated methodologies and instruments to solve current issues comes across as insincere when one considers the role thatspatial planning plays in alleviating traffic congestion. In addition, an assessment tool used toplan and develop a commercial structure is not relevant when solving social issues.

The question is: how can a world-class city still be using an outdated tool for spatial planning which was initially developed for an alternate purpose? Huge political and social changes have occurred since the development of the V&A Waterfront, thus it is worrisome that the city is still enforcing it with little to no adjustments being made to the tool (Steenkamp & Winkler, 2014: 345). “There is a disconnect between strategic planning and land-use management due to the fact that land-use management is still being governed by ordinances from the apartheid regime”. As the planning tools and methodologies used by the apartheid regime were for the

benefit of the minority elite of the city, it should not currently be considered for use to combat issues which affects the economically vulnerable citizens of the city.

Steenkamp and Winkler (2014) mentioned the disconnect between the intentions and objectives of spatial plans and decision-making regarding land use. However, one can add that there is also a disconnect between the social classes in CoCT. It appears that the population of the cityhas become so desensitized to the spatial inequalities of CoCT that it is now considered the norm. Bond (2013: 59) states that:

> "…the challenge for South Africans committed to a different society, economy and cityis combining requisite humility based upon the limited gains social movements have won so far (in many cases matched by regular defeats on economic terrain) with the soaring ambitions required to match the scale of the systemic crisis and the extent of social protest."

Looking at history, the most significant and impactful societal changes occurred not due to government taking direct action to result in change, but rather communities and citizens coming together to demand change.

CoCT is Africa's second most dominant metropolis and South Africa's second largest economy (Wilkinson, 2000). The city is known for its spectacular natural beauty and affluent lifestyles, but it is also home to poverty and crime. Wilkinson (2000) mentioned that CoCT was seen as being well positioned in regard to South Africa's re-entry into the global political and economic scene. The city faced numerous challenges post 1994 due to numerous wicked problems which already existed but required attention and solutions once South Africa became a democratic country. CoCT had the dual challenge of promoting itself to the global market and to become a competitive player while simultaneously rectifying the inequalities of the apartheid legacy (Wilkinson, 2000). CoCT has become a tourist hot spot and is often at the top of international

lists of ‘must visit’ and ‘most beautiful’ cities. However, CoCT has not succeeded in minimizing the inequality that is still very much present in the city. The inequality causes only select affluent parts of the city to receive urban upgrades while the poor are still living in informal settlements and crime-riddled areas. To understand the inequality within CoCT, one has to question the city’s spatial issues and the relationship between city management and urban developers.

“People were taught that planning is technical and methodological but have learned that it is political and manipulative” (Horn, 2018: 177). This statement is rather interesting as it alludes to urban planning being used as a tool to service political agendas and can be manipulated by those with affluent means. Could this be a factor in the city’s lack of urban planning in the CBD for use of affordable housing to increase inclusion in residential areas in the CBD? Could housing and urban planning be used as a tool to further drive the divide between the rich and the poor and to exclude previously disadvantaged groups from access to affordable housing in the CBD? Are there concerns that affordable housing in the CBD could result in a loss of valuation for properties in the CBD?

Horn (2018) states that a common problem amongst cities globally is that city planners do not fully grasp the processes of formal decision-making and implementation of policies. This can result in a city’s policies and plans not being in line with those of planners and developers. Another factor which contributes to this is that elected representatives often make changes to already established plans and policies, which then disrupt the implementation process or results as the restructured plans deviate from their initial objectives (Horn, 2018). Issues such as these are relevant in CoCTs’ spatial planning and land development policy implementations. Since2001, the CoCT has had an urban edge as a growth management instrument within its Spatial Development Framework. An urban edge is a demarcated area in which urban developments are allowed to occur. However, in 2017, this instrument was retracted. With the retraction of

the urban edge, the city aims to encourage dense development. Horn (2018) noted that a shift has occurred within urban government – from managerialism to entrepreneurism. This shift has had a domino effect on decision-making within urban government since it influences the objectives and intentions of urban government, meaning that decision-making is done in a manner that supports entrepreneurism. There are negative aspects to this, since entrepreneurism may promote capitalism which may have a negative impact on working class and impoverished citizens. "There is a growing consensus that planning in the Global South is largely undertaken by communities and informal providers rather than the state" (Horn, 2018: 178). As the CoCT is a metropolis, one has to focus on intra-metropolitan spatial planning. The same forces which motivate cities towards regional competitiveness, productivity and innovation are the same forces that are responsible for driving the urbanization of the rural poor (Crankshaw, McGaffin, & Rabe, 2015).

Sinclair-Smith (2015) noted that rapid urbanization in Cape Town and Johannesburg has resulted in a disproportionate swell in population growth compared to other cities in the country. A major policy issue for the CoCT is where best to accommodate urbanizing populations. This poses the dilemma of whether the city should expand on its current economic concentrations such as the CBD and Belville, or whether it should target smaller areas for growth (Sinclair-Smith, 2015). If the former is selected, then it would result in congestion being aggravated instead of alleviated, whereas the latter could potentially result in more opportunities and reduce the burden on the highways leading to the CBD and Belville. Sinclair-Smith (2015) noted that Cape Town is insufficiently developed to be consider a global city region and mentioned that several governmental policies recognize this and identify the need for improved regional planning, regional integration and improved connectivity within regions. Sinclair-Smith (2015) states that The National Spatial Development Perspective from the 2007 Presidency was influenced by European Spatial Development Perspective. The focus,

therefore, seems to be in line with combating current spatial planning challenges; however, using a Eurocentric approach in a developing country should be questioned as the infrastructure, socio-economic challenges and resources are not in line to be compared or mirrored. As Harvey (2012: 69) states:

> "What looks like a good way to resolve problems at one scale does not hold at anotherscale. Even worse, patently good solutions at one scale do not necessarily aggregate up (or cascade down) to make for good solutions at another scale (the global, forexample)."

This point further underlines that using same methodologies and solutions that were applied elsewhere will not have the same impact or results in a different location. Thus, solutions and methodologies should be relevant to the issue as well as the region. Policies such as the Provincial Spatial Development Framework and the Cape Town Spatial Development Framework propose that:

> "…future development be spread across a network of existing regional settlements rather than confined to the dominant city, Cape Town. The growth of satellite towns and smaller cities is encouraged to complement or even act as counter magnets to the growth dynamic of metropolitan Cape Town. This approach was followed up with thecommissioning of an extensive investigation into the growth potential of towns in the Western Cape growth" (Sinclair-Smith, 2015: 136).

In relation to the above, Crankshaw et al. (2015: 726) states:

> By elevating the local over the systemic as the cause of and solution to urban problems, spatial targeting in the telescopic mound gives rise to three forms of spatial bias which lock in suboptimal local outcomes and gradually undermine the resilience of the urban system.

This suggests that city management should treat urban development for the benefit of the impoverished with the same urgency as it treats the urban development for the benefit of the private sector. Local government should prioritize the needs of the people first and foremost. As spatial planning and urbanization affects mobility and transport opportunities in the city, it also contributes to the management of traffic congestion. As congestion and the cost thereof falls mainly on the poor, the city should therefore prioritize the needs of the poor as a result. With CoCT being a city of vast inequality, it should be prioritizing urban development which supports job creation, affordable housing, encouraging development of alternative business hubs, and efficient public transportation – all of which will greatly alleviate traffic congestion within the city.

A problem cannot be solved if there is not a relevant policy or plan in place, nor can it be solved if the decision-making process is aimed towards entrepreneurialism. CoCT is Africa's second most dominant metropolis (Lemanski, 2007). Yet, it is still a very unequal city with a high rate of unemployment, crime and socio-economic issues. A difficult question for developing nations is often whether the priority should be to become globally competitive, or whether focus should be aimed at socio-economic issues. CoCT may be one of the most developed cities in Africa, but on a global scale it has a long way to go before becoming a developed city on a global and western scale. This alone should sway the CoCT to look at Afrocentric solutions to solve local issues. Inspiration may be drawn from Eurocentric approaches, but ultimately the problems should be addressed in a manner that is suited, relevant, and realistic to the city's requirements and capabilities. The city has immense potential; however, the problems faced by it are not easy problems to solve (Lemanski, 2007). Therefore, it is also important to ask what developments have been made within CoCT since the abolishment of apartheid.

Turok (2001) noted that gradual changes and improvements have taken place to provide basic public services available in the townships of CoCT. There is still vast inequality in CoCT and

most of the social and economic developments are centered in the more affluent areas of CoCT. If one considers how the city's rail system is set up it clearly shows the inequalities and how it further contributes to the issue of accessibility and mobility of the poor. This study will shed light on how the remnants of apartheid still influence and affect the daily lives of citizens, especially those of the less privileged. Poverty is a serious problem in South Africa and is one of the many wicked problems that often gets overlooked by society seeing as citizens have become desensitized to it.

Data shows that 55% of the CoCT's population relies on public transport and most public transport users fall within the low-income group. This indicates that there is clearly a need for an equitable and reliable public transport system. It is concerning that 45–70% of household incomes of lower income groups are spent on access, which is alarmingly high compared to the international average of 5–10% (CoCT, 2013). The poor are unable to use private vehicles for mobility purposes and, thus, cannot keep their travel expenditure under control. Instead, the poor have to make use of mixed transportation methods such as walking to the bus stop to get to a train station, then using the rail system to get closer to their destination and then making use of a taxi to be able to be in walking distance of their final destination. It is most likely that the same method would be used when it is time for the commuter to return home. All these various modes of transport have an associated cost. Besides the high costs, using various modes of transportation is time-consuming and results in commuters having to start their day much earlier than the average private vehicle user.

With the CoCT facing such wicked issues, it is no surprise that some issues are overlooked to tend to others. South Africa's public transport system is a system which has been neglected, but some have finally realized that the solution to the transport problem in South Africa is not to build more roads or to create more lanes, but to improve the public transport system (Walters, 2008). The reason for this is that road expansion does not result in a decrease in congestion

but, instead, results in an increase in congestion as it motivates road usage. The main modes of public transport that are used by South Africans are buses, trains, and minibus taxis. Having an effective, affordable, and reliable public transport system will be the best way to solve the issue of traffic congestion in South Africa's major cities (Walters, 2008). Transport such as taxis, buses, and trains can transport multiple commuters at once, whereas private vehicle usage results in multiple vehicles on the roads often with single occupants. Multiple private vehicles on the roads also contributes to air pollution.

However, even though building more roads is not a long-term solution to traffic congestion, it has not halted government in expanding the country's road networks, which yet again proves the disconnect between spatial planning and decision-making. Building more roads and expanding on existing roads is an expensive exercise which does not contribute to solving the issue of congestion. The parameters used for road planning do not take into consideration critical factors such as adjacent land uses, socio-economic characteristics of the population the road serves, and the environmental context within which the road is located (Beukes, Vanderschuren & Zuidgeest, 2011). All these factors rely heavily on how the road is used and should therefore be taken into account during the planning process. Beukes et al. (2011) also found that the requirements for public transport and non-motorized transportation are not included or taken into consideration in many developing countries when they are in the planning process. This is rather troublesome, seeing as most commuters in developing countries rely on public transport to get to and from work each day. Thus, by not taking these factors into consideration, it negatively affects the transportation prospects for those who make use of public transport.

In 2006, the South African government commenced the Urban Transport Reform (Schalekamp & Behrens, 2013). This reform introduced the notion of new bus rapid transit (BRT) systems. Schalekamp and Behrens (2013) mentioned how the reform program brought about

considerable unhappiness, especially from paratransit operators, namely, taxis and private bus services. Reforms such as this need to be approached very carefully, since introducing a new transport system, may negatively impact a current transport system. Solutions should be found that will not alienate current suppliers nor should solutions lead to a loss of income. This shows how intricate and challenging the issue of traffic congestion and public transport is in South Africa as a whole.

Walters (2008) clearly states that most commuters in South Africa make use of public transport such as minibus taxis, buses, and trains. Therefore, spatial and transport planning should be focused around public transport and improving the state and development thereof. If planning is not orientated in this manner, it creates the sense that the needs of the majority of commuters, who are economically challenged, are being ignored while the needs of the elite minority, such as private car users, are prioritized. This is scarily similarly to how the apartheid regime prioritized the needs of the minority in the country.

CHAPTER 3: CURRENT STATE POST 1994 SERVICE DELIVERY IN SOUTH AFRICA AND HOW IT CONTRIBUTES TO THE CURRENT STATE OF THE TRANSPORT SYSTEM IN CAPE TOWN

Introduction: Spatial Planning and the Impact of the New Public Management Model

When South Africa became a democracy in 1994, it inherited many wicked issues because of the unjust and exclusionary apartheid regime. The newly elected government was faced with high expectations and demand and embarked on massive public sector reform. It is interesting that South Africa's reform of its public sector coincided with the global adoption of a New Public Management (NPM) reform.

As mentioned in previous chapters, it has been nearly 30 years since South Africa became a democracy. However, the City of Cape Town's (CoCT) spatial development problems are worse than ever. The CoCT is fully aware of the current dilemma of traffic congestion and how poor spatial planning, urbanization, and a lack of investment in public transport has resulted in its being South Africa's most congested city.

The National Spatial Development Perspective developed during the 2007 Presidency was influenced by European Spatial Development Perspective. Its focus, therefore, seems to be in line in combating current spatial planning challenges; however, using a Eurocentric/first-world approach in a developing country should be questioned as the infrastructure, socio-economic challenges and resources cannot be compared or mirrored (Sinclair-Smith, 2015). The trend of South Africa following Eurocentric methods to solve local issues is not new as the newly elected democratic government in 1994 adopted the NPM reform to combat the laundry list of wicked issues the government had to solve. The NPM reform was not only adopted at a national government level, but it also trickled down to provincial and local government which resulted in Eurocentric approaches being adopted to tackle issues such as traffic congestion.

This chapter outlines the role of public management in the combating of traffic congestion and how it ultimately impacts service delivery and spatial planning. Furthermore, the chapter alsolooks at governmental approaches to combating traffic congestion, spatial planning problems and urbanization as it is government's duty to alleviate traffic congestion. Because one needsto understand the problem in depth, one has to look at the systems and approaches that government has in place to further understand how it aims to use its resources, policies, and management to alleviate the issue of traffic congestion and address the negative impact it has on commuters and the poor.

Bouckaert and Pollitt (2011: 39) defined public management reform as "the deliberate changes to the structures and processes of public sector organizations with the objective of getting them (in some sense) to run better". During the 1960s and 1970s, many governments focused moreon planning within the public sector. However, during the 1980s, the focus shifted from planning towards a more business-like approach. By the time that the 1990s arrived, many governments seemed to understand that NPM as an effective way of public management. Thisinvolved governments in developing performance management criteria, offering the public quality and choice, introducing competition to the public sector, and strengthening the strategic role of local government instead of the operational role (Bouckaert & Pollitt, 2011). This suggests that the government opted for a more strategy-orientated role at local government level and outsourced services to enforce the strategies that had been devised and agreed on.

Bouckaert and Pollitt (2011: 10) made the following statement regarding NPM:

> We will assume that the NPM is a two-level phenomenon. At the higher level, it is a general theory or doctrine that the public sector can be improved by the importation ofbusiness concepts, techniques, and values. This was very clearly seen, for example, when the then US vice president personally endorsed a

popular booklet entitled Business- like Government: Lessons Learned from America's Best Companies. Then, at the more mundane level, NPM is a bundle of specific concepts and practices, including: 1- greater emphasis on 'performance', especially through the measurement of outputs, 2- a preference for lean, flat, small, specialised (disaggregated) organisational forms over large, multi-functional forms, 3- a widespread substitution of contracts for hierarchical relations as the principal coordinating device, 4- a widespread injection of market-type mechanisms (MTMs) including competitive tendering, public sector league tables, and performance-related pay, and 5- an emphasis on treating service users as 'customers' and on the application of generic quality improvement.

There are usually four themes that are associated with NPM: service delivery, modern management practices and theory, economic principles and management. These four themes are important, since each plays a vital role in the success of NPM. Service delivery is important and requires the government to fulfil its promises and duties towards the citizens. The modern management practices and theory can improve the management of the public sector. Economic principles and management will assist in the overall public management and is also a higher order function than administration (O'Flynn, 2007).

Another crucial element in the implementation of NPM was the principal-agent theory. The principal agent theory was responsible for the practical reforms such as the structural separation of purchasers and providers to establish contractual relationships. This was the foundation for the process in which many NPM governments now expect the city manager or council, for example, to draw up, agree on, and stipulate a policy together with the expected performance standards of the policy. The city manager or council then selects and grants a tender to an agent from a competitive market. The agent should then act on the city's behalf and oversee the delivery of a service or goods to the public in which the outcome that was stipulated in the tender will be reached (O'Flynn, 2007).

A practical example of this methodology being applied to combat the issue of traffic congestion and public transport is the CoCT outsourcing bus services such as the MyCiTi buses and Golden Arrow buses to service the public.

South Africa's inequality is due to a mix of colonial and apartheid policies. This resulted in the service delivery levels being unbalanced between the different population groups and throughout the nine provinces of the country. To promote the reform of the public service in South Africa, the newly elected democratic government acknowledged the various developmental needs of the country. The South African government also realized that it had to change the attitudes of public servants, which were lacking focus and commitment. However, the main motivation for the determination of the government to successfully reform the public sector was to provide quality services to all citizens and in an equitable manner. Thus, the government had the challenge to improve the quality of service delivery in previously disadvantaged communities while maintaining the standard of service delivery in advantaged communities (Kuye, 2006).

Public Sector Reform Challenges

Some might say that the initial improvement of service delivery in the newly democratic South Africa did not receive the attention and focus that it needed since the government was concerned with the formation of a public administrative system that would adhere to the democratic principles and values that were made clear in the constitution (Kuye, 2006). These principles included maintaining and promoting high standards of professional ethics amongst public servants, a developmentally orientated public administration, the efficient and economic usage of governmental resources, ensuring that the public service broadly represented the South

African population, and an increase in public accountability and transparency. Kuye (2006: 294–295) posited that:

> These challenges, which required reform, included inter alia a lack of access to basic services such as water (10,1% of the inhabitants in urban areas and 39,2% in rural areas), and a lack of proper sanitation (25,8% non-availability in urban areas and 75,8% in rural areas). In most of the rural areas, e.g. approximately eight million people from formerly disadvantaged communities lacked adequate sanitary facilities and only 50%of South Africans had access to water borne sewerage and approximately 15-16 million people did not have access to piped water. Even within the different provinces vast differences in service delivery could be identified e.g. in KwaZulu-Natal 88,2% of therural population lacked access to basic sanitation services, whereas in the Western Cape the comparative figure is 13,6% and Eastern Cape 76,4%. It should be evident that the public service reform that the democratically elected government had to undertake was extensive as well as complex.

In 2004/2005, a ten-year review of the South African public sector reforms took place. The review showed that the South African public services struggled with corruption, misallocation of resources and other malpractices. It was found that both the national and provincial departments had delayed responses and reactions to the misconduct of public officials (Kuye, 2006). It was also found that public officials were not complying with the financial disclosure requirements of the public sector. The lack of professional ethics in the public sector was attributed to departments failing to enforce, implement and publicize the Code of Conduct for Public Servants. To minimize corruption, the government implemented The Protected Disclosures Act of 2000 to promote whistleblowing. The eradication or minimization of corruption in the public sector can only be achieved with the commitment of senior managers

and department heads to introduce and maintain professional conduct that meets the ethical standards and requirements (Kuye, 2006).

Corruption is not the public sector's only problem. The review found that many citizens were not aware of certain services, let alone accessible to those services.

> Batho Pele (People First) was one of the first initiatives to improve the quality of public services. Fairness and reasonableness in the actions of public employees have been attended to in the Promotion of Administrative Justice Act, 2000. However, few departments seem to provide training to their personnel in this regard. (PSC. 2005:23).The lack of knowledge of the Act is also apparent amongst members of civil society. This detracts from the goals with reform i.e. not only improving services, but also to develop a knowledgeable society that knows what services they are entitled to and to sensitise public officials to treat their clients fairly and impartially. In addition to efforts to increase services, should also be developed. This would enable government and civil society to evaluate the services provided by public institutions. It would also enable departments to measure performance and to ensure that policies aimed at reforming the South African society are implemented as intended by government (Kuye 2006: 305).

After 1994, the South African government promulgated various Acts and formulated programs that not only aimed to improve service delivery and the lives of the citizens of the country, but also to enforce transparency and accountability within the public sector. Yet, it seems that the problem lies with the implementation, monitoring and evaluation of these programs. If they are not enforced correctly or monitored and evaluated regularly, then theexistence of these Acts and programs is pointless (Kuye, 2006). One may use the issue of spatial planning as an example of how the past inequalities prior to democracy in South Africaare still being enforced in post-democracy South Africa as the reality in the CoCT is that its

spatial development is characterized by land uses that are highly segregated and developed at extraordinarily long distances from each other (Transport Directorate of Cape Town, 2017).

The Clash of Public Sector Framings: Batho Pele versus New Public Management

In addition to the NPM reform, the South African government also implemented the Batho Pele principles. Batho Pele means 'people first'. The Batho Pele principles of the South African public service is a set of eight principles that guide each of the South African government's employees in their work with the public (Department of Public Service and Administration (DPSA), 2010).

The eight Batho Pele principles are consultation, service standards, access, courtesy, information, openness and transparency, redress and value for money (DPSA 2010: 11)

- Consultation means that citizens should be consulted about the level and quality of the goods and services that they receive from the public service and that citizens should be given a choice if possible.
- Service standards mean that the citizens of South Africa should be told what level and quality of public gods and services they will receive which will enable them to know what to expect.
- Access means that every citizen of South Africa should receive equal access to the goods and services that they are entitled to.
- Value for money means that the goods and services that are provided by the public services should be done so in an economically and efficient manner.
- Courtesy refers to citizens being treated with courtesy, respect, and consideration. The public are the customers of the civil service; therefore, public servants must be polite and friendly and helpful to their customers. There must always be willingness to assist the public and telephone etiquette is also very important.

- Information refers to citizens having the right to full and accurate information regarding the services that is rendered by the civil service.
- Openness and transparency refer to public servants being open about their daily activities, the funds their relevant departments receive and exactly how that money is spent. Information such as annual reports, strategic plans and service commitment charters shouldbe available to the public. The public should also know where they can complain regarding poor service delivery or unprofessional conduct by a public servant, and how they can complain.
- Redress refers to making it easy for the public to inform the civil service whether they are unhappy with the service that they received. It also refers to rectifying these unpleasant experiences or poor service. The civil service should train its staff to deal with complaints in a friendly and helpful manner. Customers deserve to receive an apology, full explanation and an effective and speedy solution when the promised standards of service have not been delivered.

The Batho Pele principles were therefore implemented to aid the transition into NPM, since the principles are focused on delivering professional service to the public and treating the public like customers. It was also aimed at improving service delivery as well as the attitudes that the civil servants themselves had towards the public. These attitudes were often negative, and the civil service was viewed as being incompetent. Civil servants were often viewed as being rude, dismissive and unhelpful towards the public. The reason for this is that many civil servants are overworked and earn low salaries. This is exacerbated by a lack of staff which often results in a delay in service and also a diminishment in the quality of services provided and received.

Corruption and Wasteful Expenditure

As corruption has been identified as being one of the main hindrances to the public sector's provision of inclusive, reliable, satisfactory and equitable service, this section briefly touches on the government expenditure and how it ultimately affects the implementation of policies and the quality of services provided to the public. The Constitution of South Africa makes it necessary for the government to spend within its means to progressively realize the various important social and economic rights that should be available for every citizen. In recent years, the South African government spending has doubled, which is due to funding an increase in the allocation of social wages and capital budgets.

Various investments combined with the country's political change have transformed South Africa. At first, the South African government could afford the huge increase in social services spending, due to the country's economy experiencing a strong growth in the early 2000s (South African National Treasury (SANT), 2013: 01). When it became difficult for the government to continue to provide large allocations of revenue to social services, it then used the fiscal space that it had built up to stimulate the South African economy when the 2008 global recession began. South Africa currently faces a difficult economic environment, and it can no longer meet its expenses (SANT, 2013: 01). Even though the government has put plans in place to ensure a decrease in its budget deficits in the future and ensure an increase in economic growth, there are two major challenges that it will have to face before those plans can be put into effect.

The first of the two challenges is to boost and encourage greater private-sector investment in the national economy (SANT, 2013: 02). Since the global recession occurred in 2008, the country's private investment has remained subdued, which is reflected in the country's economic performance. South Africa is a mixed economy, and in such an economy, markets

and investment should balance public action not only to improve the lives of the country's citizens, but also to sustain progress (SANT, 2013: 02).

The second challenge that the South African government is faced with is to better the state's planning capacity, and to improve how it manages and maintains its programs and infrastructure. Thus, the government should aim to abide by its plans and to implement and enforce them as effectively and efficiently as possible. This will ensure that the plans are not only correctly implemented, but that they will be a success and thus reach their goals. Service delivery failures, such as the current load shedding/electricity crisis, water and postal services strikes and stagnation, all contribute to the failure and lack of growth in the economy, as well as causing a decrease in the morale and confidence of the public (SANT, 2013: 02). The government should thus also focus on increasing the state capacity and efficiency to ensure rapid development in the country.

The majority of South Africa's debt is international debt with the country facing a sovereign debt crisis as the country's debt to GDP is forecast to increase from 65.6% per cent to 71.6 per cent by 2022/23 (National Treasury, 2020). Fiscal sustainability tells us that expenditure can be financed with debt, providing that it is good debt, i.e., domestic debt. However, continued finance with debt leads to a continuous increase in public expenditure. Thus, by continuously financing expenditure by debt, a vicious cycle is created. It can also have negative implications, such as an increase in interest rates and service charges

. The country's debt may hinder various spatial developments and investments in the transportation network due to financial constraints. This indicates that the responsibility of spatial development and investment in railway infrastructure, for example, in the CoCT is not solely in the domain of the provincial government, but ultimately the investment is determined by national government. The Covid-19 pandemic has resulted in shrinking fiscal funding due

to the sharp deterioration in the country's economic and revenue outlook with R304.1 billion in tax revenue underperformance in the 2020/21 period. To bypass this, government is set to make large scale reductions in spending and to moderately increase taxes (National Treasury, 2020).

One has to take factors such as NPM, Batho Pele principles, and South Africa's finances into consideration when analyzing transport systems as the quality of the transportation network directly contributes to the economy. Citizens and tourists need to be able to commute effectively, safely, affordably and with ease not only to get to and from work and school but for recreational activities as well.

SANT (2013) noted that the country's economy is expected to grow in the future provided that new power plants or alternative power sources are established, and once transport investmentsbegin to take effect. However, "The economic capital cannot draw more from society and the environment than what they can yield sustainably in the long term" (CNdV Africa, 2005: 21). This is striking as poor spatial planning and lack of investment in public transport has resulted in an increase in air pollution due to multiple private vehicles on the road. This has a negative impact on the poor due to expenses incurred from having to make use of multiple modes of transport as well as the stress associated with spending many hours each day in slow-moving traffic.

Thus, government public finance management and expenditure are very important to the transport system as it can be viewed as fundamental to a country's socio-economic wellbeing.

CHAPTER 4: AN EXPLORATION OF THE CITY OF CAPE TOWN'S TRANSPORT SYSTEM AND NETWORK

Introduction

In Chapter 3 of this mini thesis, it was determined that many issues that the public sector still faces, such as inequality, spatial planning, lack of investment in public transport and traffic congestion, are the result of the injustices of the apartheid regime which are still prevalent and greatly contributed to the current state of poor equitable spatial planning, poor public transport system/infrastructure, and socio-economic issues. Mismanagement of public funds and corruption has also contributed to the traffic congestion.

The City of Cape Town's (CoCT) rail and road network are the main modes of transport used throughout the city. This chapter explores the current state of the CoCT rail and road network and identifies the various stakeholders, such as the Passenger Rail Agency of South Africa (PRASA) which is responsible for providing train services, private motor vehicle users, public transport users, minibus taxi operators and bus service operators. Furthermore, the chapter explores the impact of traffic congestion on the most vulnerable and economically challenged citizens in the CoCT.

Transport Regulatory Framework Reforms

Frameworks such as the Western Cape Provincial Spatial Development Framework of 2005, the CoCT Comprehensive Integrated Transport Plan of 2013, and the CoCT Comprehensive Integrated Transport Plan 2018 and the data and statistics are analyzed in this chapter. The researcher set out to evaluate the CoCT's plans and intentions to alleviate the issue of traffic congestion, as well as the current state of the CoCT's transportation system, infrastructure and spatial planning. These three elements are crucial to the city's traffic congestion issue.

Evaluating the current state of each element will give a greater understanding of the deep-rooted issues and challenges that the city is facing and desperately need to overcome.

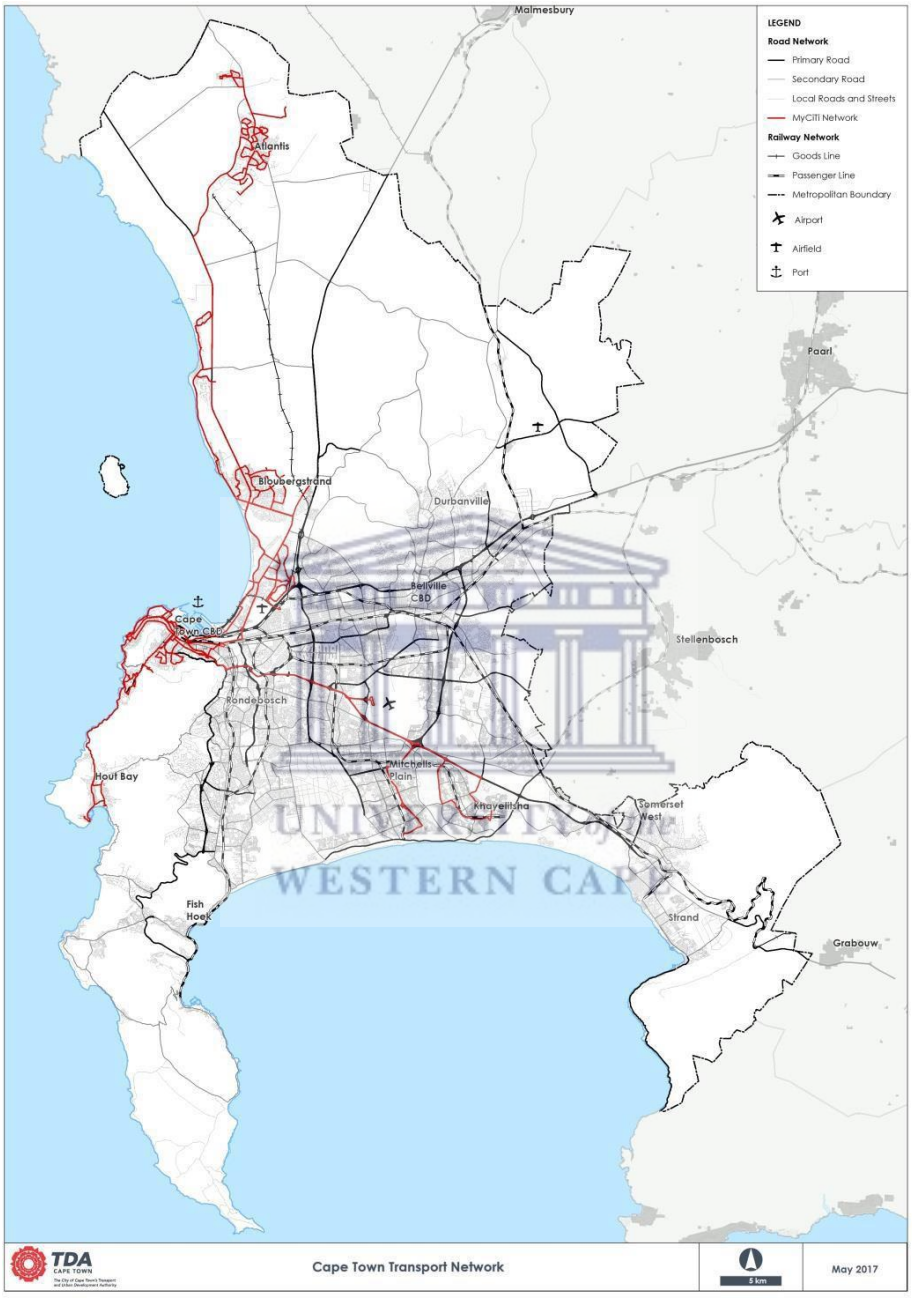


Figure 3: Cape Town Transport Network via 2013-2017 CoCT Comprehensive Integrated Transport Plan (CITP)

In October 2012, the CoCT launched a new transport authority called Transport for Cape Town (TCT). The CITP aimed to give the city and the TCT its mandate for managing the transport network and everything that moves it. One of the TCT's objectives is "an efficient and viable relationship between land use, supporting infrastructure and transport for the sustainable development of the city region" (CoCT, 2013: 4). This objective clearly indicates that there is a direct link between spatial planning/urban development and traffic congestion. The TCT also states that it has a User Access Priority, meaning that each person who finds themselves in Cape Town, be it a resident or tourist, should be able to move from point A to point B conveniently. CITP aimed for a 13% modal shift from private to public transport in Cape Town's CBD by 2014. It is important to note that non-governmental players may influence or implement policies, but ultimately, it is the government's responsibility to adopt the policies. Policies suggest government's willingness or unwillingness to do something about an issue and/or problem.

The following excerpt from the 2013 CITP paints a concerning picture regarding the state of the CoCT's transport system:

> Majority of transport in Cape Town occurs during the mornings and afternoon peak periods and includes mostly work trips… Another indicator that demand exceeds supply is where the average travel time exceeds acceptable levels of around 60 minutes per direction. In Cape Town, the extent to which demand exceeds supply is evident in the queues remaining on major highways for almost three hours, and by trains operating at much more than their design capacity on most lines (CoCT, 2013: 105).

The 2013-2018 CITP that was developed by CoCT states that 55% of the city's population relies on public transport. This is rather alarming, and as previously mentioned in Chapter 1 of this paper, the CoCT has admitted to the lack of significant investment in public transport

which is used by the majority of the city's commuters. This is exacerbated by the fact that the majority of public transport users are economically challenged (Transport Directorate of Cape Town, 2017). The main modes of transport in Cape Town are the road and rail networks (CoCT, 2013). A breakdown of the modes of travel used within Cape Town according to CoCT (2013) is rather interesting as it shows the following:

- 25% of travelers do so by means of car as a driver
- 12% of travelers do so by means of car as passenger
- 21% travel by means of walking
- 15% of travelers do so by means of minibus taxis
- 11% of travelers do so by means of train

Further data provided by CoCT (2013) shows that the most used mode of transport amongst the low-income group is walking which has the highest percentage of 33%. The mode of transport which generated the highest percentage in other income groups is transport by private motor vehicle as it is used by 24% of the middle low-income group, 55% of the middle high-income group, and 60% of the high-income group. In addition to this data, CoCT (2013) also indicated that the ratio between public transport users and private car users is 48:52 overall. However, when only considering the low-income group, the ratio is 75:25, whereas the ratio is 9:91 in the high-income group.

As previously mentioned, this is rather alarming data as 55% of the CoCT's population relies on public transport and most public transport users fall within the low-income group. This indicates that there is clearly a need for an equitable and reliable public transport system. It is concerning that 45-70% of household incomes of lower income groups are spent on transport, which is alarmingly high compared to the international average of 5-10% (CoCT, 2013). This suggests that the biggest expense for low-income groups is transport. Wolfe (2016) reported

that low-income households are affected the most by the traffic congestion and that their transports expenses take up 45% of their monthly income (this data is consistent with the findings of the CoCT's 2013-2018 Comprehensive Transport Plan). This shows how dire the situation is and that it is often the poor who suffer the most. Vallie (2018) states that the CoCT planned to invest R481 million into a traffic alleviation construction project. This project included the construction of new roads as well as the upgrading of existing roads. Vallie (2018) cited Brett Herron, the CoCT's Mayoral Committee Member for Transport and Urban Development, who admitted that this project alone could not solve the problem in the long term. The city realized that the public transport system would have to be drastically improved since traffic congestion cannot be solved by simply building more roads (Vallie, 2018).

It is no longer a shock to witness poverty since it is evident in all areas of the city. It can, therefore, become very easy for issues of poverty to be put on the back burner by government officials. Taking these factors into consideration and that the majority of the CoCT's population uses public transport, it seems obvious that the focus should be on investing in the improvement of the public transport system as this will ultimately impact traffic congestion. A reliable, safe, affordable, and accessible public transport system would not only benefit low-income groups, but middle- to high-income groups as well, which would have a domino effect on private car use and ultimately lead to fewer vehicles on the roads and result in less traffic congestion. It could also positively attract tourists as a reliable and safe public transport system would be idyllic to move in and around the city.

As previously mentioned, South Africa's public transport system is a system which has been neglected, but some have finally realized that the solution to the transport problem in South Africa is not to build more roads or to create more lanes, but to improve the public transport system (Walters, 2008). The main modes of public transport that are used by South Africans are buses, trains, and minibus taxis. Having an effective, affordable, and reliable public

transport system will be the best way to solve the issue of traffic congestion in South Africa's major cities (Walters, 2008). Even though building more roads is not a long-term solution to traffic congestion, it has not prevented government from expanding the country's road networks.

Cape Town's Rail Network

According to CoCT (2013), the city has a 610 km rail network. This network is made up of both passenger and freight rail lines. Metrorail for the PRASA owns and operates the passenger rail lines, whereas the freight rail lines are owned and operated by Transnet Freight Rail. There is currently an agreement in place between Metrorail for PRASA and Transnet Freight Rail to share the use of the rail network. There are currently 118 rail stations throughout the city's metropolitan area which are further fed by minibus taxis, buses, private cars and pedestrians. It was found in a 2012 rail census that approximately 622 000 passenger trips are made over the rail network in the city on an average weekday. This was a decrease of 2% since the last rail census in 2007. In 2010/11 the reliability and punctuality of rail service in the city was at 96.37%, with 12% of trains being delayed, this figure might seem surprisingly high, but one has to take into account that the FIFA 2010 soccer world cup took place during that period and the CoCT went to great lengths to ensure safe accessible public transport via rail during this period.

In 2012, it was found that rail usage makes up 25% of the daily modal split for Cape Town, with the average daily passenger trip distance being 22,8km. This indicates the vast distance that users must travel to get to and from places of employment and schools/universities due to the long-lasting effects of the apartheid regime's unsustainable spatial planning that prioritized and catered to the minority. The breakdown of the city's rail system is unacceptable due to the additional strain it puts on the road network. The situation is exacerbated by the fact that

vagrants often occupy rail stations and unsavory activities, such as assault, theft and drug-dealing are rife. This discourages users from using rail as a mode of transport (CoCT, 2013). The lack of media coverage and public outcry over the breakdown of the rail system is quite surprising, but not unexpected as rail commuters are predominantly working-class groups. Commuters should consider all forms of public participation available to them in order to put pressure on government to provide inclusive, safe, and affordable public transportation for the CoCT.

Cape Town's Road Network

The total length of the CoCT's road network is 9 836 km with a total value of R78 billion. Some 927 km of the city's roads are in urgent need of attention, whereas 580 km of road will require attention in the short term (CoCT, 2013). Commuters rely on private motor vehicles, public buses, and public minibus taxis when utilizing the city's roads. Since 2007, the CoCT has been working on the first phase of an Integrated Rapid Transit system in Cape Town which has now become known as the MyCiTi buses (CoCT, 2013).

According to CoCT (2013), the most congested corridors in Cape Town are:

- Marine Drive (R27)
- N1 from Marine Drive to N7, between Durban Road and Okavango Road
- N2 from Modderdam Road to Cape Town CBD and between Borchard Quarry Road and R300
- M5 from Racecourse Road to Koeberg Interchange
- M3 from Wynberg Hill
- N2 through Somerset West

The CoCT has invested in its road network, including its Traffic Signal System (TSS). The TSS was upgraded for an approximate cost of R4 million which resulted in all signals being

equipped with LED lights as the network comprises of 1 050 signalized intersections and an additional 335 signalized pedestrian crossings. The city uses the Split Cycle Offset Optimization Technique (SCOOT) software to support the synchronization of the 760 interconnected traffic signals. As only 75% of signalized intersections and crossings were overseen by the Transport Management Centre (TMC), there was a project under way to further connect all of the city's traffic control signals to the TMC within three years by means of introducing a wireless communication network to all traffic signals (CoCT, 2013). This further suggests that focus and investment for road expansion and improvement were being prioritized by the city, even though according to CoCT (2013), the population of Cape Town was expected to grow by 400 000 people over the next two decades.

CoCT (2013) found that, on an average weekday in 2012, a total of 2 506 683 commuters travelled throughout Cape Town with a daily modal split which indicates that 52% of commuters travelled by private car, 25% travelled by rail, 10% by contracted bus, 13% by minibus taxis and less than 1% made use of the MyCiTi bus services.

The largest private bus company operating in the Western Cape is Golden Arrow Bus Services (GABS). It operates 1 056 buses on approximately 400 schedules with a total of 2 269 scheduled routes in the Cape Metropolitan area. The Cape Metropolitan area is serviced by GABS on a single comprehensive permit which covers all services and routes. In April 1997 ,an interim contract with the Department of Transport commenced which resulted in the services predominantly being provided by a contracted subsidized service which is extended monthly. This means that under the current arrangement the CoCT is unable to dictate the extent and quality of the subsidized bus services.

Thirteen percent of Cape Town's daily weekday commuters make use of minibus taxis which are unsubsidized and on demand services that operate on routes (CoCT, 2013). Passengers are

charged individual fares and operations are conducted without a timetable. Minibus taxis are required to obtain an operating license which is granted by the Provincial Regulatory Entity (PRE). However, according to surveys, 49% of observed minibus taxis function without valid operating licenses and often load up to 35% of the passengers at official facilities. In 2007, it was estimated that the total size of the minibus taxi fleet that operates in the city is 7 576 vehicles. It was found that 323 263 commuters use minibus taxis with an average of 30 836 trips being made and an occupancy average of 10.5 passengers and trips during the day. There are approximately 565 routes being utilized by minibus taxis within the Cape Metropolitan area (CoCT, 2013).

CoCT (2013) mentioned that to manage urban growth, a long-term 20-year plan, Cape Town Spatial Development Framework (CTSDF), was approved by the city council in 2012.

> CTSDF states that the notion of an accessibility grid is based on the recognition that the need to travel is a derived demand and a function of land-use distribution that supports the grid. Transport routes are therefore not seen as only movers of people, goods, and services, but also as conduits of economic opportunity…Despite thereference to the rail system, it is apparent that the CTSDF assumes that accessibility is predominantly provided through the road system. This could probably be the result ofthe poor quality of service provided by rail as a passenger mode, which means that many private-sector developers cannot envisage their clients making use of rail as a means of access to new developments (CoCT, 2013: 100).

The above quote seems to shed more light on the reasoning behind the CoCT's continued prioritized investment in the city's road network and seemingly less so on public transport improvement as it does not service the minority high-income group. However, the city is aware of this imbalance and has noted that a modal shift away from private motor vehicle use and

toward public transport use is required in areas that predominantly rely on private motor vehicles for transport. To achieve this modal shift, these areas should be targeted with appropriate implementation frameworks and strategies. The same can be said for areas that are highly dependent on, and often limited to, public transport usage as appropriate implementation frameworks and strategies are direly needed to improve the availability and quality of public transport for commuters at a low and affordable cost (CoCT, 2013).

CoCT (2013) provided a detailed analysis of public transport in Cape Town by identifying eight key characteristics of the system, infrastructure, and operational elements of the rail and road networks:

- In the previous 30 years, limited new infrastructure had been added to the rail network. This is rather shocking considering the number of commuters that rely on rail as a mode of transport within the city.
- The lack of new rail infrastructure resulted in the rail network losing market share to minibus taxis and buses due to the rail network being over-subscribed.
- Commuters travelling from the Metro South East to Belville and Wynberg have no direct bulk passenger service which results in commuters having to opt for detours on rail via Pinelands and Mutual train stations.
- Cape Town has an alarmingly high pedestrian fatality rate as well as an unacceptably high accident rate; therefore, a comprehensive Road Safety Strategy is needed to address these issues.
- An integrated approach to law enforcement in the public transport system is required as the personal safety of commuters is one of the key factors that dissuades commuters from using public transport.
- Traffic management systems for private motor vehicles has evolved to a high standard, whereas public transport management systems are still grossly underdeveloped.

- Public transport systems need to be improved to attract tourists.
- Non-motorized transport facilities need to be improved to integrate with public transport services.

The CoCT is aware that it cannot simply build its way out of traffic congestion by expanding roads or building new road networks as this will result in an increase of motor vehicles on the roads and will ultimately be unsustainable. In addition, the city is also aware that traffic congestion could be viewed a consequence of the success of the city since the activities that attract people to reside or be employed within urban areas are also the reason why people need to travel and have accessibility throughout the city. A mind-shift away from the dependence on motor vehicles as the primary mode of transport for high-income groups is needed. Therefore, it is crucial that alternative modes of transport which are reliable, inclusive, safe, and attractive are provided for commuters (CoCT, 2013).

As a result of the city's traffic congestion, the CoCT created a Congestion Strategy, Travel Demand Strategy, and Congestion Alleviation Strategy to strategically manage the issue of transport within the city and to ensure that the city's actions are all-inclusive.

The Congestion Strategy aims to create a growth strategy to co-ordinate transport planning and land use. It will also focus on developing and promoting alternative options for transport that are more space-efficient. Improvements and upgrades of the existing infrastructure will be conducted to alleviate bottlenecks and to enhance capacity. The number and lengths of trips are to be reduced by means of actively managing travel demand though the implementation of programs aimed at addressing the specific issues (CoCT, 2013).

In 2006, the TDM strategy was developed, and interventions to reduce motor vehicle usage was included. The TDM strategy introduced several pilot programs, such as carpooling and implementing park-and-ride facilities, that focused on the promotion of higher numbers of

motor vehicle occupants. The strategy also focused on advising large employers to encourage their employees to make use of alternative modes of transport besides motor vehicle usage. Supporting policies and tax incentives were developed to attract large employers to this approach. The public were also encouraged to make use of public transport by means of marketing and developing a congestion pricing strategy (CoCT, 2013).

The Congestion Alleviation Strategy was developed because of the continued growth of private motor vehicle ownership. The CoCT recognizes the negative economic, environmental, and social effects that traffic congestion is having on the city and is aware that these matters need to be addressed urgently and in a strategic manner. Numerous public complaints have been made because of highly congested areas such as Blaauwberg, Kuilsriver and Kommetjie (CoCT, 2013).

2018-2023 City of Cape Town Comprehensive Integrated Transport Plan (CITP)

The CITP for 2018-2023 outlines how the CoCT aims to build on the progress that was made during the implementation of the previous plan in terms of delivering interoperable, intermodal and integrated transport in the city (CoCT, 2018). The 2018 plan emphasizes that Cape Town is highly dependent on its rail network as it is the backbone of the city. However, due to the drastic decline in service and quality, many commuters are opting to instead make use of the road network which has resulted in an increase in gridlock traffic during peak hours. In 2015, the National Rail Policy Green Paper proposed that all municipalities should take over the operational subsidies and enter into service level agreements with PRASA. This sentiment was subsequently mirrored by a National Rail Policy Draft White Paper that was released in June 2017 in which it is acknowledged that, globally, urban rail has generally always been a function of local government. The CoCT therefore requires an effective rail component to successfully deliver integrated, intermodal and interoperable transport in the city. Because of the rail crisis,

the CoCT has developed a business plan for its approach to rail within the context of successfully achieving an integrated transport network. Besides rail being the backbone of the city's transport system, it is also the backbone of the city's spatial form transformation strategy; thus the intensification and densification of land use along the rail corridors also received focus in the CITP (CoCT, 2018).

It is evident that over the years the rail infrastructure and related technology have been unable and unequipped to service the continuous increase in demand for passenger and commuter travel. The last train sets were purchased in the 1980's but are equipped with technology from the 1950s which makes the average age of current coaches 40 years old. The rail coaches also often experience vandalism such as cable theft and defacement of the coaches through graffiti and arson which leads to severe delays or cancellations that result in a loss of confidence in the service (CoCT, 2018).

The rail system in Cape Town deteriorated drastically since the 2013-2017 plan. The average daily passenger boarding was 675 607 in 2000, whereas that figure declined to 360 000 in 2017. The decline in passengers directly corresponded with the reduction in available running train carriages and further contributed to the increasing road-based private and public transport usage that results in congestion in the city Centre. CoCT (2018) mentioned the following contributing factors to this decline:

- Very poor levels of service predictability, punctuality, and reliability;
- The increase in operational risk and maintenance complexities due to informal dwellings being erected on PRASA property;
- Advanced age of the rail coaches and assets resulting in high costs and poor maintenance levels;

- Lack of off-peak services, ticketing and irregular timetables, overcrowding, slow journey times, and poor modal integration resulting in the rail system's inability to contribute effectively to an efficient and integrated transport system;
- Inability of the rail system to support economic activity by providing reliable rail services; and
- Rural and urban poor communities having limited access to socio-economic opportunities.

All of these factors unfortunately became more acute over the 12 months between the two CITPs as commuters travelling by rail decreased by 30% during that period. This resulted in the inevitable shift of commuters to road networks which put further strain on the road network and resulted in serious gridlocked traffic during peak periods. The duration of peak periods has also increased to five hours. This level of inefficiency carries with it a significant economic cost and loss for the city and is ultimately not sustainable (CoCT, 2018).

According to CoCT (2018), the business plan that the CoCT developed in response to the rail crisis consists of three pillars:

- Acceleration of the memorandum of action that TCT signed with PRASA, with safety and security being the main priority;
- To expedite the assignment of the rail function to local government; and
- Where appropriate, to explore alternative rail solutions.

The 2018-2023 Comprehensive Integrated Transport Plan makes mention of the progress that was made during the 2013-2017 plan. However, even though numerous plans and strategies were formulated, little mention is made of the progress in terms of implementation or statistics indicating how traffic congestion has been alleviated nor any mention of statistics regarding the improvement in public transport, rail mobility, inclusivity and accessibility. CoCT (2018) does, however, mention that the TCT secured R750 million over a five-year period for

congestion relief infrastructure intervention which resulted in phases 1A, 1B, and the N2 Express for the MyCiTi bus services being rolled out. Fully green facilities, The Wallacedene and the Nomzamo Public Transport Interchanges were developed and are operational. The CoCT has also secured 11 electric buses and research is being undertaken for the assessment of a possible Bicycle Manufacturing Plant for the city. TCT also developed its Transport Development Index (TDI) which is a quantitative data driven tool used to determine the baseline of the state of transport in the city in addition to accurately benchmarking service delivery (CoCT, 2018).

According to CoCT (2018), the TDI delivered rather interesting findings regarding person trips:

- For over a decade, the CoCT had been using an incorrect assumption that 80% of the public transport user group fell within the low to low-medium income groups – the correct figure was 95%;
- The average cost of direct transport for low-income public transport users was estimated to be at 43% of their monthly household income, while the national objective is to lower that cost to 10%;
- The highest cost of access priorities in many cases were the indirect costs which include congestion, safety and availability of public transport. Commuters often have to travel far distances which requires multiple stops and route changes because the low-income groups reside outside the city Centre.

Furthermore, the TDI disclosed three key access priorities:

- Safety and flexibility
- Direct costs as it relates to ticket fares, particularly among public transport users in the low-income group
- Congestion, particularly for the high-income group

The findings highlight the vast inequality between income groups. The cost of transport for low-income households is not sustainable. This gap is going to increase without intervention from the public sector. In addition, these issues are accentuated by the trend of an increasing disjunction between transport and land use. Cape Town's built environment is characterized by low densities, long distances between residential areas and workplaces and historical disparities with most low-income residents living far from work opportunities and spending a significant percentage of their income on transport. Tackling this disjunction is central to the rationale for city's establishment of TDA with its wider mandate and the adoption of the TOD strategy (CoCT, 2018).

Forging sustainable connections across communities and reconnecting people to economic opportunities are integral to the sustainability and efficiency of the city and the transport system is an integral part of this process. CoCT (2018) mentioned that the city assessed its competitiveness as it compares to other international cities across a series of criteria. This is welcomed as it indicates the city's desire to become a world-class tourism location. An effective way to do so is by comparing statistics. The CoCT used the Future of Urban Mobility Index (FUM) devised by the A.D. Little company (CoCT, 2018). Cape Town received an overall score of 37 points on the FUM. This resulted in Cape Town ranking 73rd out of 85 cities across the globe. Within the African context, Cape Town ranks 4th out of six cities and nationally Cape Town scored two points better than Johannesburg which scored 35.

The CoCT adopted its Transit Orientated Development (TODSF) policy as it recognized the potential for spatial transformation through Transit Orientated Development which uses transport as a catalyst for developing the built form of a city. This improves the way commuters and goods are transported and in conjunction reduces the need to travel. This can greatly contribute to a city becoming more efficient and perhaps, most importantly, it also promotes both social equality and economic development (CoCT, 2018).

Because of the promising and beneficial nature of Transit Orientated Development, the city committed that all public investment and land-use planning decisions would be directed from a comprehensive Transit Orientated Development perspective that will enforce the following:

- All new developments in Cape Town to be strategically located around public transport;
- New developments to be in the right areas and to have an appropriate mix of land usage;
- Improved quality of public spaces to promote the use of non-motorized transport, such as bicycles, and public transport; and
- The CoCT to deploy its strategically located land holdings and partner with the private sector to lead by example to successfully realize Transit Orientated Development.

According to CoCT (2018), the main purpose in applying Transit Orientated Development is to make the city compact and consolidated as this will improve its operational efficiencies. The city will approach this task by identifying passages that, when combined, form a compact urban core. Therefore, the investment for service delivery should be within the identified urban core.

CoCT (2018) listed the following as the specific functions of the TDA: planning; contracting; business management; enforcement; investment management; liaison, communication and stakeholder management; infrastructure management; network operations management; urban planning; human settlements; and urban sustainability. However, ultimately the overall mission of the TDA is Cape Town's spatial, social and economic transformation.

The CoCT experienced significant growth in population and urbanization over the last 20 years between 1998-2018, with an expansion of 62%. In 2016, the estimate total population of the city was 4.04 million people as shown in Figure 4.

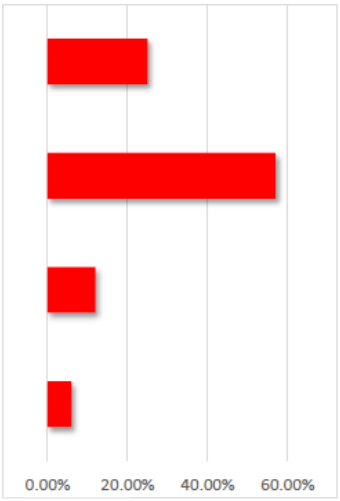
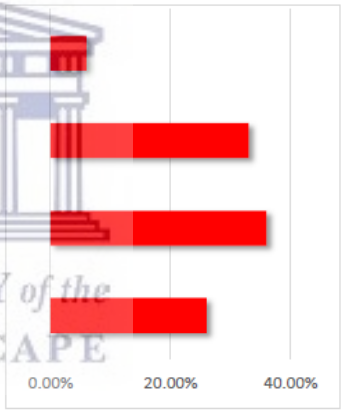
Population and profile			
Total Population (number)		4 004 793	
Population profile by income* *income group classification was obtained from the 2013 Cape Town Household Survey Report	Low income R0 – R4000 monthly	25%	
	Low middle income R4001 – R31 600 monthly	57%	
	High middle income R31 601 – R63 200 monthly	12%	
	High income R63 201 monthly or more	6%	
Population profile by age *Source: MSDF Diagram 2.2 (p.36)*	0 – 19 years (Dependent Youth)	26%	
	20 - 34 years (Working Age Youth)	35%	
	35 - 64 years (Working Age Adults)	33%	
	65 – 85+ years	6%	

Figure 4: Outline of the CoCT's population and profile as at June 2016

Source: (CoCT, 2018)

The city also experienced a growth rate deceleration from a compound growth rate of 3.3% from 2000-2010 to an anticipated rate of 1.4% during 2010-2020 (CoCT, 2018).

The transport modal split for the city has changed since the previous CITP of 2013. According to CoCT (2018), the National Department of Transport envisions a ratio of 20% private transport : 80% public transport for the city but the current data proves that there is still a long way to go and a lot of progress to be made if this goal is to be realized.

One must re-emphasize how important it is for the CoCT to actively invest and focus on improving the public transport system in the city. CoCT (2018) confirms that public transport remains the most used mode of transportation for the city's commuters. As mentioned at the start of this paper, the CoCT is well aware that the lack of investment in public transportation has greatly contributed to the current dilemma of traffic congestion in the city which is negatively impacting the quality of life for commuters, especially those who are low- -income earners and reside on the outskirts of the CBD.

Table 2 depicts the peak transport period of a typical weekday in Cape Town as at 2015 (CoCT, 2018).

Table 2: Peak transport period of a typical weekday in Cape Town

Typical Weekday Morning Peak Period					
Private	Public				NMT
	Rail	Contracted bus	BRT	Minibus-taxi	
	18%	6%	2%	12%	
53%	38%				9%

Source: (CoCT, 2018)

It was found that the public's level of satisfaction with Cape Town's transport network was average to poor. The increase in time and distance of the average peak trip most likely contributed to the dissatisfaction as residents from areas such as Khayelitsha and Mitchells Plain face the slowest and longest trips to get to and from work. This further highlights the ongoing legacy of the apartheid regime and the after-effects that are still prevalent. Residents in the South East of Cape Town are faced with daily travel barriers due to the exclusive and unjust spatial planning which not only affects employed individuals, but scholars and tertiary students as well. The average education trips last for 30 minutes on average compared to 50–

60 minutes for work trips (CoCT, 2018). If the average trip time were sorted based on the mode of transport the statistics would be as follows, according to CoCT (2018):

- Rail: 59 minutes with an average distance of 23 km;
- Contracted bus (GABS, Sibanye): 63 minutes with an average distance of 19 km;
- MyCiti Bus: 45 minutes with an average distance of 9 km; and
- Minibus taxi: 53 minutes with an average distance of 19 km.

It is important to note that many public transport users do not own a private car which means that they walk to the various stations and pick-up points to make use of public transport. The average walking time to public transport in 2014 (according to Stats SA data) is depicted in Table 3.

Table 3: Average walking times

Average walking times to PT	
Mode	**Minutes**
Rail	1 – 15 minutes **44%** 16 – 30 minutes **40%** >30 minutes **16%**
Bus	Up to 5 mins **62%** 6 – 10 mins **21%** 11 – 15 minutes **10%** >15 Minutes **8%**
Minibus- Taxi	Up to 5 mins **61%** 6 – 10 mins **23%** 11 – 15 minutes **8%** >15 Minutes **8%**

Source: (CoCT, 2018)

This clearly shows how underdeveloped and unequal Cape Town's transport network is as it does not cater to the majority of its population who rely on public transport the most. This is concerning since research has shown that the low- to medium-low-income groups make use of public transport the most which results in these impoverished households spending between 40% and 70% of their monthly income on travel expenses. CoCT (2018) indicated that the cost of an average MyCiTi bus ticket ranges from R30–R1000 package options. Metrorail ticket options cost between R7,50–R23,50 per trip. Golden Arrow bus trips costs range between R5,30 and R22,30 and minibus taxi trips cost between R7–R9 per trip. If one is to take all of these factors, such as the time, distance, cost and safety of travelling by public transport into consideration, it paints a grim picture of the cost and quality of life for the average Cape Town commuter (CoCT, 2018).

The findings of the TDI show that the average ratio of direct transport cost versus income for the low-income public transport user group is estimated at 43.1% of the monthly household income. This is much higher than the national norm of 10% as states in the White Paper on National Transport Policy. The low-income group is estimated to be 25% of the population in Cape Town. This means that the individuals spending more than 10% of their monthly incomeon transport are 25%.

It is estimated that the Western Cape Metrorail services require 88 full train sets to operate effectively. However, the average availability of full trains sets decreased from 82 in January 2016 to 72 in January 2017, and the average number of train sets running short for January 2017 amounted to 51 sets. The decrease is due to poor maintenance, vandalism and burning of coaches (CoCT, 2018).

Western Cape Provincial Spatial Development Framework

The Western Cape Provincial Spatial Development Framework (WCPSDF) was formulated and approved in November 2005 as the provincial government recognised that social needs, infrastructure, people, economic activity and natural resources had not been evenly distributed across the province's landscape. These variations are not incidental and directly impact social justice, economic growth and the ability of the natural environment to support current and future citizen activities (CNdV Africa, 2005). Historically, it has been found that in South Africa, spatial policies have been actively used as a political tool not only to shape the country's economy but its social fabric and the way its natural resources are used. In nearly all occurrences, this has been to the advantage and benefit of the privileged minority. To rectify this the WCPSDF identified three pillars of sustainability, also known as the triple bottom line (CnDV, 2005). These three pillars are:

- Ecological integrity which refers to our planet and natural resources;
- Social justice which refers to the country's people and their wellbeing. This relates to both material human wellbeing which is the absence of poverty, and spiritual wellbeing; and
- Prosperity through economic efficiency which refers to eradicating wasteful expenditure and corruption.

Transport infrastructure is an important spatial structuring element. Given CoCT's spatial fragmentation and imbalance between land uses, this has not been optimal. The city's road, rail and BRT networks impact directly on its spatial form. Currently an estimated 500 000 people only have access to non-motorised transport and cannot afford public or private transport. In addition, poor households that do make use of public transport may have to dedicate up to 45% of their household income to make use of it (CoCT, 2018). The IPTN aims to improve the public transport network premised on MyCiti and an expanded rail network.

Conclusion

The data analyzed in this chapter shows the dire state of the CoCT's transport network and how heavily commuters rely on both the rail and road networks. This chapter aimed to explore the current state of the CoCT's rail and road networks and to identify the stakeholders. The state of the CoCT's rail network has deteriorated badly, which is concerning as many commuters rely on trains as a mode of transport considering the long distances that they often need to travel within the city. Upgraded rail networks could be an effective alternative method of transportation to combat traffic congestion. There are 118 railway stations in the CoCT's metropolitan area. These are all fed by taxis and buses which indicates a close relationship between the road and railway network (CoCT, 2013). What was surprising in the research, was the great service and reliability of the CoCT's railway system during the FIFA 2010 World Cup, which clearly indicates that the city has the necessary resources to run a fully functioning, reliable and safe railway network.

This chapter also explored the impact that traffic congestion has specifically on those most vulnerable and economically challenged. With over 55% of the CoCT's commuters relying on public transport, it is concerning that more investment and dedication is not applied to improve the current situation (TDA, 2018). It also further drives the divide between the rich and the poor as the majority of public transport users are economically challenged. It can be states that besides the remnants of the after-effects of apartheid spatial planning, the mismanagement of public funds and corruption in the fully democratic dispensation has negatively impacted not only the transport network itself, but also its development and improvement.

CHAPTER 5: CONCLUSION

The South African government has made commendable efforts to align its service output with the needs of its citizens through the implementation of reforms such as NPM, Batho Pele principles and integrated spatial and transport plans. However, there is still a lot to be done and the gap in inequality of the standard of living between citizens is still alarmingly high. The state of the transport system throughout the country aggravates this.

At the start of this mini thesis, it was noted that the CoCT is aware of the significant lack of investment in the public transport system. It was also found that the majority of the city's commuters rely on public transport to move in and around Cape Town. Most public transport users come from low-income households and cannot rely on or afford private vehicle usage for mobility and accessibility purposes. It is therefore concerning that the city is aware of how important public transport is for its commuters and yet, in the same vein, admits to the lack of investment in improving public transport in the city. The inequalities in the city are rife and, with such an admission, one has to draw the conclusion that the improvement of the public transport system is not a main priority for the city as it does not affect the elite, more privileged commuters. Numerous mentions of working-class groups lobbying for a more inclusive city have been made throughout this mini thesis to emphasize the important role citizens can play to drive change through means of public participation. One could say that the issue of inequality in CoCT is that, at some point, communities could become so frustrated with the city's lackluster solutions and the desensitization of the city's population that it will impact public participation. For example, such disaffection could be illustrated by means of a shift in votingpatterns, including some disadvantaged/disaffected groups opting not to vote at all as they donot believe that beneficial changes will occur for their communities.

Aligning the Objectives and Conclusions of the Mini thesis

The aim of this mini thesis was to determine how extensive the problem of traffic congestion is, what strategies, managerial systems, and policies government has in place to manage and remedy the issue, and finally to explore the current state of public transport and spatial planning and how it contributes to traffic congestion. This chapter aims to align the objectives of this mini thesis with the findings and to align the conclusions with the research questions posed in Chapter 1.

Methodology Used to Conduct the Research

Secondary data was used to conduct this study to explore the CoCT's strategies and plans to alleviate traffic congestion. Official government papers were reviewed and data reflected in these papers was used to compile the report.

Literature Review

The literature review conducted for this paper uncovered key factors in and contributors to traffic congestion in CoCT, such as socio-economic issues, gross inequality, spatial planning, land and urban development; all of which hamper the quality of life for the poor and previously disadvantaged citizens of the city. The poorer are more precariously integrated into the political economy of the city and the cost burden for transport is borne by them. It appears that the poorer a person is, the higher the costs of mobility and transport are. The literature review also identified a trend in which government chose to find adopt Eurocentric and first-world approaches to solving local issues which is worrisome. Such an approach in a developing country should be questioned due to the incompatibility of infrastructural and socio-economic challenges and resources with those of first-world economies. The literature review also revealed that there seems to be a disconnect between the intentions and objectives of spatial plans and decision-making regarding land use. This is important since spatial planning greatly

affects traffic congestion due to the role it plays in the planning of residential areas, economic hubs and public transportation options. Because of the legacy of apartheid spatial planning, many Capetonians must travel long distances to reach their places of work and education. Furthermore, historic and inflexible working practices contribute to traffic congestion during peak periods. If Eurocentric approaches are the ideal solution for the city, then perhaps it should consider adopting global changes to working practices such as shared working spaces and/or virtual working from home options to alleviate the pressure on the city's transport systems during peak periods (Transport Directorate of Cape Town, 2017). Unless radical changes are made, the general trend of travel toward centers of employment, such as the Cape Town CBD and the Belville CBD, mostly by single occupant private vehicles will continue and so will traffic congestion. Besides the negative impact on the quality of life of citizens and commutersin the city, traffic congestion also has negative impacts on the environment due to air pollution and climate change. The City's 2015 State of Energy Report for Cape Town shows that despite a decline in electricity demand, the energy demand driven by the transport sector has grown exponentially and now stands at 64% of the total energy consumed by the sector (Transport Directorate of Cape Town, 2017).

South African Government's Managerial and Strategic Approaches

A review of the managerial and strategic approaches by government to improve service delivery was also conducted. Government chose to adopt the NPM which views citizens as clients. This was expected to result in a higher level of quality in the services provided to the public. However, the results have not always been in line with expectations as government has little to no control over the quality of goods and services provided by the vendors which theyhave outsourced the provision of their public civil duties. Corruption through misappropriation of public funds and misaligned tender grants has also negatively impacted the standard of living for citizens as it results in an increase in taxes and cost of services. This is unsustainable when

considering that the income of citizens does not increase in conjunction with the cost of living. Corruption partnered with the politicization of transport and spatial planning further contributes to the traffic congestion in Cape Town.

Bond (2013: 43) states that:

> The single most portentous site for societal reconstruction with scale politics as a central question is the giant metropolis that characterizes late capitalism. There are increasing struggles for social and economic justice, as well as ecological rebalancing, going on in mega-cities across the world. To some extent these reflect the campaigns by political forces to influence what happens in a national capital city, but in a great many sites, the catalyzing force that generates unrest is specific to the urban character of the site of struggle, and the process of systematic marginalization in the mega-city.

In the research conducted for this mini thesis, it was found that the former Mayor of Cape Town, Patricia De Lille, was taken by surprise when an R8 billion project for social housing and the alleviation of traffic congestion was cancelled. This shows the disconnect between the decision-makers and policy implementers and how it can result in political agendas being prioritised over the needs of the people. How could an approved project worth R8 billion be cancelled without prior consultation or notification with the CoCT's mayor, who is an advocate for social housing?

One cannot ignore the blatant politicization of spatial and transport policies as the CoCT is clearly aware not only of the issues but also the causes, contributing factors and the solutions. Taking factors such as the introduction of NPM into consideration, as well as the continued societal division in the CoCT, one has to revisit the notion of Eurocentric ideologies being adopted to solve wicked problems that are still in existence due to the lasting impact of the

apartheid legacy. Eurocentric solutions will only benefit the minority and not the majority whom the issue affects and impacts the most.

Each of these factors ultimately impacts the transport system as a society requires an effective, affordable, reliable and safe transport system to freely move in and around the country. This would positively impact the economy as well. The importance of transport is evident when analyzing the percentage of household incomes of low-income groups that is used on transportation expenses. In South Africa, most citizens rely on public transport and dedicate up to 45% of their monthly income to transportation as they do not have the means to afford a private car (Transport Directorate of Cape Town, 2017). This clearly indicates that the most in-need group of our society is the most exploited and inconvenienced.

Organizational transformation and change such as adopting NPM and developing the Batho Pele principles is very important since it aims to improve the functioning of an organization and society, as well as its outputs and outcomes. The South African public sector transformed and changed its managerial methods and division of authority by adopting the NPM model. It has been successful in some cases but it has also been unsuccessful in other cases. The main challenges that face organizational transformation and change in the South African public service are corruption, losing skilled individuals to the private sector, and insufficient focus on its human resources. Many public servants feel overworked and underpaid; this may lead to their committing fraud and corruption, which leads to the mismanagement of public funds and in turn results in public services not being delivered. The public sector is also understaffed insome departments which results in citizens not receiving adequate service. The whole aim of organizational transformation is to improve the service delivered by the organization; thus, the transformation of the public sector becomes redundant if it does not continuously improve its functions and service delivery. The reforms that have been put in place and implemented in South Africa are extremely well drawn up and researched, but they are is poorly monitored and

evaluated. This often leads to these reforms failing at certain levels. For example, the Batho Pele principles comprise a unique and well-written policy, but it is often not implemented. Public service is still poorly managed and the services that the public receive are below par. This is evident in the increase in public protests that occur each year throughout South Africa.

The exploration of official government papers revealed that the CoCT is acutely aware of the impact that traffic congestion has on commuters and that there has been a lack of investment in public transportation which is the mode of transportation used by the majority of the city's commuters who are often poor and from low-income households. It was also found that the city is aware of how spatial planning contributes to traffic congestion and that the main solution to the problem would not be to build more roads, but instead to invest and improve the public transport system. Some of the city's achievements thus far in combating traffic congestion are the roll out of the MyCiTi bus system, an investment of R50 million at 12 railway stations throughout the city for park-and-ride facilities, and the roll out of the Travel Smart Program in partnership with the Western Cape Provincial Government (Transport Directorate of Cape Town, 2017). The CoCT also states that there are desired outcomes from a change in mindset and travel behavior of commuters, such as a reduced demand for additional road space as building more roads does not alleviate traffic congestion but motivates additional private vehicle use instead. Additional desired outcomes are more efficient use of the existing infrastructure by shifting the modal use towards public transportation and reduced vehicle energy consumption and emissions (Transport Directorate of Cape Town, 2017). In addition to the desired outcomes, the CoCT has also committed to a Congestion Strategy and Infrastructure Plan for the 2015/2016 – 2020/2021 period includes financial commitments of the following amounts annually: R45 million in 2015/2016, R1,125 million in 2016/2017, R250 million in 2017/2018, R210 million for 2018/2019, R210 million for 2019/2020, and R120 million for 2020/2021 (Transport Directorate of Cape Town, 2017).

The Transport and Urban Development Strategy's Congestion Management Program found that the morning peak-hour period on Cape Town's major arterial routes increased from 2 hours (07:00–09:00) in 2015 to a 4-hour period (06:00–10:00) in 2017. The collapse of the city's rail system resulted in many commuters leaving home at 05:00 to avoid traffic congestion for their commute to work (Transport Directorate of Cape Town, 2017). This further proves the negative impact traffic congestion and poor public transportation infrastructure has on the quality of life of commuters. The CoCT should look at decentralization of industries, manufacturing, and employment opportunities to combat traffic congestion. Instead of considering how the city could address the problem of spatial planning, public transport and traffic congestion, over the past three decades, the city has invested mostly in road expansion on the N1 and N2 highways. This is an extremely expensive task and somewhat contradictory as the city has recently states that building additional roads or expanding on existing roads does not alleviate traffic congestion but instead aggravates it. According to CoCT (2018), the National Department of Transport envisions a ratio of 20% private transport: 80% public transport for the city but the current data proves that there is still a long way to go and a lot of progress to be made. Additionally, it was found that the public's level of satisfaction with Cape Town's transport network was average to poor. The increase in time and distance of the average peak trip most likely contributed to the dissatisfaction as residents from areas such as Khayelitsha and Mitchells Plain face the slowest and longest trips to get to and from work. This further highlights the ongoing legacy of the apartheid regime and the after-effects that are still prevalent. Residents in the South East of Cape Town are faced with daily travel barriers due to the exclusive and unjust spatial planning which only affects employed individuals but scholars and tertiary students as well. The average education trips last for 30 minutes compared to 50 – 60 minutes for work trips (CoCT, 2018).

Traffic congestion and spatial planning impacts the poor the most and it is concerning that the most vulnerable groups often suffer the most due to the lack of investment in public transportation. Providing the citizens with a safe, reliable, and affordable public transport system will not only alleviate traffic congestion but will also allow for increased mobility and accessibility for commuters in the city which will result in a more inclusive city for all. The CoCT has numerous policies and strategies in place to combat traffic congestion. However, these efforts need to be accelerated and to increase investment in order for the plans and strategies on paper to start taking effect in practice.

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