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Final Paper: Cape Town, South Africa

I. Table: Basic Statistics

Indicator	Statistics
Estimated Population 2024 (UN World Urbanization Prospects)	4,977,833 *Compared to 618,051 in 1950
Population Density (2021)	1,915 people per square kilometer
Cape Town Metropolitan municipality	Approximately 400 square kilometers
Transportation Methods	Metrorail, City Shuttles, Trains, Minibus, Taxi, and Bus
Inequality	Gini coefficient of 0.58 (lower than South Africa general coefficient)

II. Introduction

As South Africa's second largest city, after Johannesburg, Cape Town situates itself as the legislative capital of the country (Scheba et al. 2021). With a land area of about 2 446 km2 and a population of about 4.9 million, this leads to a density of about 1900 people per km 2. Making it one of the less dense cities compared to other cities in the African continent, yet, in comparison to other cities in South Africa, Cape Town has the highest population density per squared km (Vanderschuren et al. 2022).

As many South African cities, Cape Town is known for its central fragmented form compared to its highly dense populations in suburban townships and settlements (Scheba et al., 2021). However, due to the inherited levels of poverty and the acute income inequalities, the Gini index in Cape Town is among the highest in the world, with a .62 in 2017 (Turok et al., 2021). Not only was this found to be one of the most unequal and racially segregated in the world, but it is also considered to be South Africa's most segregated city (van Ham et al., 2021).

On average, the population of Cape Town is slightly better educated than the rest of the nation with a higher attainment of years of education. Looking at the population growth rate in comparison with all the other metropolitan municipalities in the nation, the statistics indicate that Cape Town remains a national migration attraction (City of Cape Town, 2020). Thus, the statistics demonstrate that Cape Town is the city receiving the largest number of migrants in the nation.

III. Race and history of apartheid.

In 2021 researchers found this city to be one of the most unequal and racially segregated cities in the world (Turok et al 2021). This is partly due to the political strategies and the brutal force used to remove colored residents from central areas to peripheral townships in 1948 during the apartheid state (Scheba et al. 2021). Additionally, the government during this time utilized transportation system planning as a tool to create further segregation. For example, the Groups Areas Act impeded black South Africans to live near the city center (Kerr, 2017).

To this day, the historical occurrence of the apartheid state remains in the disparities found in the South African society. In terms of demography, the Community Survey of 2016 calculated that 43% of the population was Black African, 40% colored, and 16% white (City of Cape Town, 2020). Yet, it was found that the group with the highest percentage of people living in poverty is the Black African population, with a total of 61.4% of this demographic living in poverty (City of Cape Town, 2020).

IV. GDP and quality of life

Even though the city's GDP rate has been in a steady increase, there was a small decline in 2020 as a result of the COVID-19 crisis. However, it is important to note that in comparison to other areas of the country, the GDPR per capita in Cape Town is significantly higher than the average at a providence level (Western Cape Government, 2021).

For 2020, the unemployment rate in Cape Town was 22.4 and was shown to be the highest in comparison to all districts of the nation (Western Cape Government, 2021). However, the national average is 26.3% (City of Cape Town, 2020). On a survey on inhabitants of Cape Town, households demonstrated the fragility and instability of employment with the low levels of income earned from formal sector employment (de Swardt et al., 2005). This portrays the prevalence and reliance of the informal sector for employment not only in Cape Town but in the South African context.

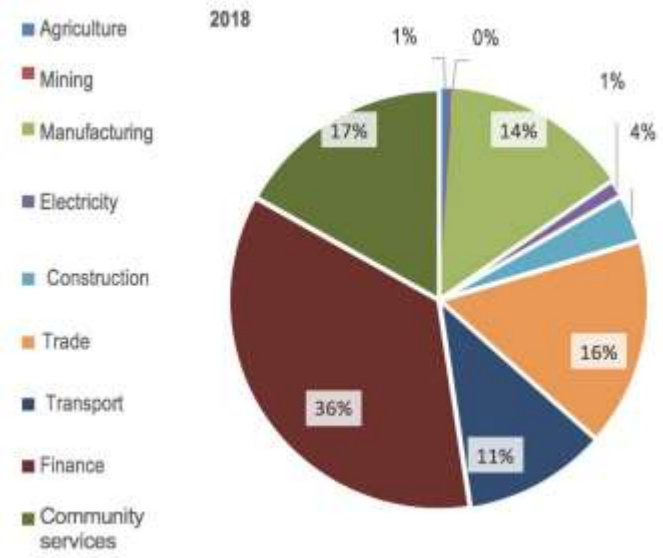
In 2019, The City of Cape Town estimated that 45.9% of the population was living in poverty with the Black African demographic group making up 64% of this statistic (City of Cape Town, 2020). However, in terms of education, 48% of the residents of the city completed the matric in 2016, 10% higher percentage than the provincial average and the national average (City of Cape Town, 2020).

V. Structure

a. Economic structure

Cape Town rank as South Africa's second most populous city and the second most important contributor to national employment, both of these statistics ranking after Johannesburg (City of Cape Town, 2020). These statistics position Cape Town as being Africa's third biggest economic hub (This is Cape Town). Economically speaking, Cape Town is responsible for producing 9.8% of South Africa's gross domestic product (GDP), in addition to accounting for more than 70% of the Western Cape's economic activity (This is Cape Town). The most prominent sectors are finance, trade, tourism, and business services, giving it a diversified economy with agriculture

and mining as primary sectors. As secondary sectors there is manufacturing, electricity, and construction. Lastly, as tertiary sectors there are trade, transport, finance, and community services. The graph below breaks down the sector activity for Cape Town in 2018 (City of Cape Town, 2020).



Industry Sector Percentages (City of Cape Town Profile, 2021)

Lastly, as mentioned in the GDP and quality of life section, the informal sector is an important section of the economy, although often it is overlooked. According to the Statistics South Africa Office, the informal sector is increasing with a total employment of approximately 11.3% in 2018. Even though there had been several attempts to address the reliance of the informal sector, in 2021 Cape Town created the Inclusive Economic Growth Strategy. This strategy attempted at placing a greater emphasis on the informal sector to acknowledge its positive contribution to local employment and reducing poverty. This was done though the inclusion of measures to help informal businesses formalize their operations (this can be through the provision of support during the registry process), the facilitation to access to financial services (micro-financing and small business loans), infrastructure development, and facilitation of market access (Inclusive Economic Growth Strategy, 2021).

Yet, it is also important to consider the volatility in which the employment and income is played out when working for the informal sector as there is no form of social protection. At last, Cape Town's economic space of formal jobs and the city's firms tend to be clustered into 'productive urban nodes.' This leads to a centralization of the job market and creating accessibility difficulties (City of Cape Town, 2021).

b. Infrastructure

i. City Structure

In general, South Africa's major cities follow a decentralized pattern in which the extension of the city is far away from the city center. The proportion of land that was built on is about 20 km in Pretoria and 32 km in Cape Town of distance from the city center (Kerr, 2017). This is a large difference in comparison to European cities with an average of 5-8km distances from the city centers.

As mentioned in the introduction, Cape Town is a highly segregated city and, in part, due to its history. Past segregation policies affected society and they shape of most South African cities to a large extent today (Kerr, 2017). This can be seen in the fluctuation in the population density trends according to the distance from the city center. While most of its population is located on the outskirts of the city, the location of job opportunities is located in the city, creating a mismatch between the location of jobs and the distribution of the population (Scheba et al., 2021). Thus, not only does affect the poorest households that are forced to crowd in the low-cost properties on the periphery, but it creates an opportunity for informal areas to form as a way of supply for the rising densities in the city. In 2018, it was found that about half of all housing produced in the city was informal partly due to economic conditions deteriorating (Scheba et al., 2021).

A large issue in housing is the lack of provision of government-subsidized housing. However, a rising phenomenon has been that in the dormitory settlements provided by the government, people have sparked densification through 'backyard renting' which is becoming the faster informal housing solution for the scarcity of land in informal settlements (Scheba et al., 2021). The lack of space and inefficient policies have exacerbated the uneven residential patterns, highlighting the economic inequalities through the separation of the crowded-out low-income households being far from the economic activities.

As mentioned above, at a metropolitan level Cape Town is clustered in terms of the location of firms and the location of formal jobs. The government attempted to tackle this challenge through the creation of the Economic Areas Management Programme. This program not only it attempted to understand the space economy of the city, but it also wanted to reverse the impact of apartheid spatial planning through the creation of more opportunities in highly connected areas.

ii. Transportation

Cape Town offers an extensive transportation system with accessibility to metro rail, city shuttles, trains, minibus, taxi, and bus. In 2011, it was found that 24% of commuters walk, 26-38% use public transportation, and 34-50% travel by private vehicle. (Vanderschuren et al. 2022). In Cape Town trains remain the most affordable mode of travel. However, this mode has been highlighted to have adverse impacts on security, affordability due to unexpected expenses due to cancellations and lack of reliability, and long times of commuting.

Nonetheless to say that the average commuting time and costs in Cape Town are above the OECD average. Indicators have also demonstrated that socio-economic inequalities are still prevalent in transportation. For the case of Cape Town, this is demonstrated in the sense that lower income household tends to spend more mobility time and as in most nations, women tend to burden longer and costlier travel burdens in comparison to men (Morilly et al., 2021). However, when taking a closer look, the commuting time of a black South African is 54 minutes more than a white South African (OECD). The Economic Areas Management Programme aimed at reversing these inequalities induced during the apartheid spatial planification through rendering more accessibility to the newly created periphery. This program, in general terms, wanted to decrease the disproportionate amount of time and income spent on mobility by low-income communities (City of Cape Town, 2020).

More specifically, one of the different policies that have been instituted in terms of transportation in Cape Town is the introduction of Integrated Rapid Transit System (IRT) in 2010. This new infrastructure aimed to provide another method of transportation that was accessible, shortened travel times, and was more reliable through the creation of dedicated bus lanes for modern buses (Maunganidze et al., 2012). Additionally, the IRT was part of a plan to reduce congestion and provide a sustainable and more environmentally friendly form of transportation in comparison to private transportation. However, it is important to note that the IRT system has also faced challenges such as difficulties with the reliability, safety, and frequency of services (Maunganidze et al., 2012).

In conclusion, the city of Cape Town has attempted to address transportation challenges through physical interventions, the creation of the IRT and road infrastructure development projects (Maunganidze et al., 2012). Additionally, policymakers have been trying to promote non-motorized transportation, such as walking and cycling, through the development of cycling and pedestrian infrastructure (Department of Transport and Public Works, 2010). Lastly, there have been service enhancements through the efforts to integrate different transportation methods such as minibus taxis, trains, etc.

iii. Housing

With the rapid increase of population, it is a challenge for the city to maintain the infrastructure needed to welcome all the inhabitants. It is also important to note that there is a rapid increase in the number of households being formed, with this rate outpacing the population growth and changing the population structure (City of Cape Town, 2020). This leads to an exponential increase in the demand of housing. As mentioned, due to the high inequalities, this is also reflected in the housing situation of the city. Demonstrating that 52% of the housing is privately developed formal housing while 29% is government subsidized formal housing and 9% informal settlement structured and 8% as the illegal backyard housing (Pfeiffer et al., 2019). Slums and informal housing will be addressed more in detail later in the paper.

VI. Challenges

a. Social Inequality

A certain marginalization is still maintained due to the failure of the formal economy to provide adequate livelihoods, therefore making some populations highly vulnerable to long-term poverty traps. However, this is also linked to South Africa's linked legacy of Apartheid and its remaining architecture. With the rapid densification of Cape Town, it has also been brought to light the uneven distribution of residential patterns. Highlighting the socio-economic differences in both the labor and real estate markets and therefore, leading to unequal outcomes across neighborhoods (Scheba et al., 2021)

b. Violence

i. Crime and Violence

With South Africa being ranked the 8th most violent nations in the world with an average of 5 murders per day, a rate one children kidnapping every five hours, and one in every three women suffering from sexual assault (Imiera, 2018). Unfortunately, policymakers have not yet successfully tackled the issue through the polices implemented. This is partly due to the ineffectiveness of the police force and their incapacity to enforce the law. Leading citizens to seek private armed security when financially possible (Imiera, 2018). At a governmental level, the Integrated Crime Prevention Strategy (ICPS) was implemented as a multi-stakeholder approach to tackle crime through integrated and coordinated programmes (Integrated Crime Prevention Strategy, 2011). This includes the criminal justice process, community values, education, environmental design, housing, social services, and law enforcement (Integrated Crime Prevention Strategy, 2011).

ii. Gender Violence

The most important factor of gender violence is in the transportation system. Road safety is a preoccupation as even in Cape Town's 'safest' train route, 7% of women indicated have reported a crime. In addition to muggings and pickpocketing, 10% of females have experience verbal and sexual harassment ((Vanderschuren et al. 2022). Therefore, in order to address the security concern of women in the city in general, it is important for policymakers to not overlook and create gender-neutral policies and transportation as there is a distinguished difference regarding the perception of danger between males and females (Vanderschuren et al. 2019). Additionally, while in a survey it was shown that in addition to women experiencing more than double the rate of mugging, they also encountered sexual and verbal harassment this can also be shown in the graph below (Vanderschurne et al. 2019).

The abuse and harassment can later then influence the choices taken during mobility. This is important to note as literature has demonstrated that women travel with multi-stop and during off-peak hours when transportation is less reliable (McGuckin and Murakami, 1999). Moreover, acts of harassment frequently happen in overcrowded and long travel distances (Vanderschuren et al., 2019). The data presented demonstrates the current gender inequity that is currently faced in the transportation system. This is both in terms of safety but also in adaptation to both women's and men's accessibility and necessities. Not only is gender sensitive planning of

networks and safety needed but also awareness campaigns that focuses on the personal safety of women.

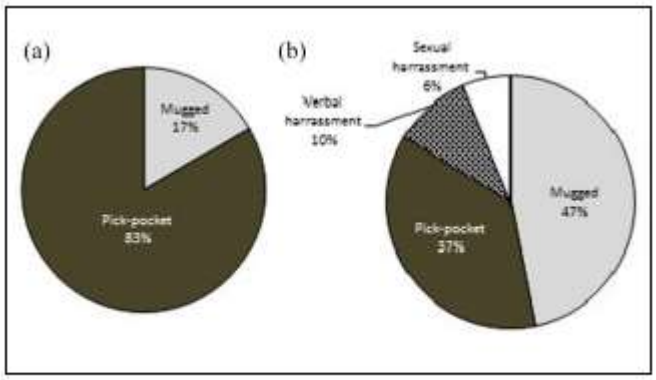


Figure 9. Types of harassment for (*a*) males (n = 24) and (*b*) females (n = 79).

Perceptions of Gender, Mobility and Safety (Vandeschuren et al. 2019)

Lastly, although this paper will not go into detail, it is important to note that within gender-based violence. South African women are at high risk of feminicides and domestic violence as one in five partnered women have experienced physical violence by partner (Department of Statistics South Africa, 2018). In terms of gender-based violence, Cape Town ranks in the middle (in comparison with other cities in South Africa) with 4% of women experiencing sexual violence and 21% physical violence (Department of Statistics South Africa, 2018). Moreover, South African women have higher unemployment rates and higher levels of poverty, bringing a higher risk of violence due to fear of reporting abuse (Department of Statistics South Africa, 2018)

c. Slums

Slums are generally directly associated with urbanization and are a result form large and rapid migration from rural to urban areas (Marx et al, 2013). These are characterized as densely populated with poor quality housing. For the case of Cape Town, the share of the population living in slums differentiates from study to study, yet it has been estimated to be around 20% (Un Habitat)

It has been argued that slums are a way of a poverty trap for human capital due to the low living conditions creating poorer health, a lack of a social net, lower probability of social mobility, among other adverse effects. The 2020 paper by Franklin brought to light new research on the evidence of the effect of improved housing on the labor market in Cape Town. Through the relocation of households to government-funded housing with a shorter distance from the city, there was a positive impact on the household income with this increase driven by the female wage (Franklin, 2020). Therefore, this demonstrated the necessity for the government to supply housing for the more vulnerable households.

Additionally, in the specific case for South Africa, research has shown the positive spillover effects of public housing. In addition, the fact that it becomes a cycle since large numbers living in slums eliminates the government from revenue that could aid in addressing urban challenges

(Pieterse, 2014). In 2022, UN Habitat consolidated a collaborative partnership with city governments, the Global Action Plan for Transformation, to encompass 10 key actions to tackle informal settlements. These include better methodologies for data collections, governance, financing, collaboration for implementation, and targeting progressive provision of habitable housing (UN Habitat, 2022).

d. Water shortage

After a 3-year rainfall deficit, a drought in Cape Town led to fear of 'Day Zero,' meaning that the city's municipal water supply would be turned off then. However, through awareness campaigns, educating citizens on water conservation, and water restrictions on businesses, households, and agriculture this event was narrowly avoided (Heggie, 2021). This crisis demonstrated the lack of leadership and good governance as well as the necessity for hydrology data (OECD, 2021). Even though in 1998, the South African government provided a legal framework to management the nation's water resources, this crisis demonstrated the lack of predictive and congruent management of the water system as well as the public health issue and the social consequences that were brought by this crisis.

VII. Prospects for Development and Policies

The South African government aimed at creating a framework for policies to make the transport sector safer, reliable, and affordable with a greater mobility of people and goods by 2030 though the enhancement of the transportation and physical interventions. At the forefront of the deeply rooted issues in Cape Town is transportation. This is in terms of equal accessibility. Accessibility is through the extension of the transportation network for both lower income communities, therefore price access and also location, and women, safety, and reliability. Furthermore, crime remains to be one of the highest in the nation. Policies should tackle these rates and also create inclusive policies to consider the safety of women in terms of housing, job opportunities, and transportation (City of Cape Town, 2020).

Another area of work is informal living, creating security in tenure and housing with good conditions will create another sense of safety. It is definitely a challenge since the household growth rate is difficult for the government to keep up with construction, not taking into consideration the need for accessibility and connectivity to centric areas of the city. Potential policies for the city of Cape Town should include improving living conditions in highly densely areas and targeted investments.

In terms of sustainable development, the city adopted a Climate Change Policy which updated the Energy 2040 Goal to pursue carbon neutrality by 2050 (City of Cape Town, 2020). It additionally sets out a vision to become a more climate-resilient city. Another necessity is to strengthen water governance through accurate and update water-related data, clear allocation of water policymaking and regulation, and strengthening water management (OECD, 2021). Finally, the National Development Plan set a target that seeks to reduce the Gini coefficient from 0.7 of 2010 to 0.6 for 2030, in order to reduce the income inequality (Western Cape Government, 2021).

VIII. Conclusion

It is predicted for the population to be 5.133.369 in Cape Town for the year 2025, equating to a 1.6% annual increase per year (Western Cape Government, 2021). With all the challenges that the city faces in terms of water security, crime, violence (including gender-based violence), social inequalities, transportation, and housing; there is a vast necessity for the city government to set a transparent and efficient form of governance to tackle all these issue in a comprehensive manner. Although there have been many attempts in the different challenge areas to address the issues, there is a great necessity to approach this in a neutral manner taking into account ethnicity, gender, and income.

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Keep in mind

- Agglomeration economies – cities attracting productivity but no because Morilly's paper talks about how the mobility time is too long and therefore is lowers productivity due to the time spend in transport
- Weak institutions
- Which one of these is capetown? - Urbanization based on resource exports leads to "consumption cities": non-tradable services - Urbanization based on industrialization leads to "production cities": manufacturing

Slide 44 of ppt 1

Transportation policies what are they trying to reduce: congestion, pollution, accessibility, stimulate economic growth: what are the interventions? Physical intervention, service enhancement, revenue projects? Slide 23 of slides 2 ask chat gpt what are the policies recent that are in place for in terms of transportation

- Physical intervention
  - Building new infrastructure, extending existing one
  - Physical improvement of existing infrastructure
- Service enhancement:
  - Improvements to reliability
  - Increasing service frequency
- Revenue projects: changes to the way existing transport infrastructure is supplied and consumed
  - Pricing interventions, subsidies
  - Sectoral service change, changing the ownership or operation of transport services