Equity in public transport planning?
An investigation of the planning and implementation of a new public transport system and its social consequences in Cape Town

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Preface

The gathering of empirical data for this study has been conducted in Cape Town, South Africa. It has been made possible due to a MFS scholarship from the Swedish International Development cooperation Agency (SIDA). A MFS scholarship purpose is to increase understanding and knowledge about a developing country and the issues it faces, but also to contribute with knowledge to the developing country. The gathering was conducted during eight weeks from 2017-03-01 to 2017-04-27 in order to collect material for our bachelor thesis in urban development and planning from Malmö University.

Firstly, we would like to say thank you to Martin Grander, Hoai Anh Tran and Christina Lindkvist Scholten, for support during preparation for the scholarship application. We also want to say thank you to Professor Roger Behrens, at the University of Cape Town (UCT), for being our contact person in the application period and supporting us during our stay in Cape Town. Thank you for introducing us to officials and transport planning students, and the interesting conversations that followed. Special thank you for the access to UCT facilities, without that we would not have been able to make the progress that we did.

Secondly, we would like to say thank you to Anna Sturesson, for helping us solving practical problems and for showing us the best parts of Cape Town. Thank you for helping us take our mind of our study, always being supportive and also thank you for introducing us to different people in the city. People that became our friends as well as helped us gather participants to our focus groups.

Thirdly, we would like to say a special thank you to our supervisor Christina Lindkvist Scholten, for all the support and constructive criticism during our study. For the extremely swift response on e-mails, for being flexible with meetings over Skype and for being positive and guiding us in the right direction when we were a bit lost.

Finally, we want to say thank you to Cape Town, for the wonderful environment, the hikeable Table Mountains and to ourselves, for choosing to go abroad and for keeping a high pace throughout the entire study.

Thank you! Dankie! Enkosi!
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Malmö, 2017-06-02
Abstract

Since the 1990’s sustainability has been a keyword in all kind of development. Urban planning is not an exception. The three most common aspects of sustainable development are economic, social and ecological. However, there are many academics that claim that these three aspects are not prioritised equally. Patsy Healey (2007) among others argues that the economical aspect is hegemony and that sustainable social and ecological development is depended on economic measures.

The purpose of this thesis is to study the planning and implementation of a new public transport system in Cape Town, South Africa, and to investigate how it relates to sustainable social development in particular. This since Cape Town has a long history of segregation of different groups, and today there are large income inequalities and geographical distances that increase the social exclusion in the city.

The theoretical framework is concentrated into three themes; Social justice and equity in public transport planning, accessibility and mobility and finally, social exclusion. The empirical data is collected with a qualitative method in the form of a case study.

We can conclude that even though the notion of investing in public transport to combat social exclusion is present in the planning documents in Cape Town, the implementation and investments in the new public transport system do not always follow the documents’ principles. This contributes to little or no change regarding social exclusion in Cape Town.

Keywords: Cape Town, public transport, BRT system, equity, accessibility, social exclusion
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1. Introduction

1.1 Problem statement

Modern societies of today are founded on ideas of mobility (Adey, 2010, p.1ff). It is hardly possible to imagine a society without the need for people to be mobile. The possibility to move from one place to another is vital in order to access employment, education and social activities. Due to global urbanization many cities around the globe are continuously growing (Worldbank, 2016), and because of urban sprawl distances within the cities increases. In many cities, the economic opportunities are located in the central areas and the urban trend of urbanisation has contributed to a situation where centrally located housing is very expensive. People with low income often have to live in the outskirts of the city where they can afford housing, and therefore have to be mobile to be able to access economic opportunities. Karen Lucas (2010, p.2) argues that the lack of access to transportation undermines the possibility to participate in social activities and economic opportunities. For people with low income, public transport might be the only alternative to access these kinds of opportunities. The lack of transportation makes people less mobile and can also creates social barriers. In her research, Lucas (2010) pinpoint that not everyone can afford to have a car of their own. Since people with low income not always have the opportunity to buy a car, the need for mobility can in many cases only be met by public transport. If people’s need for mobility is not met there is a risk that they experience social exclusion. Levitas (2005, p.170) argues that in order for public transport to counteract social exclusion, it is essential to plan and implement a system that is affordable for everyone. This means that by implementing a system that is affordable for people with low socioeconomic status, public transport can create opportunities for mobility and make economic and social opportunities accessible for more people. Public transport plays an important role in our society today, since public transport in many cases is vital for people to access opportunities. Without affordable public transport, many people with low economic status cannot access these opportunities because of a lack of mobility. The implementation of public transport can have both positive and negative results for a society. Because of the importance of public transport, it is vital where the investments are made and how public transport is implemented, in order to improve the social situation in a society and counteract social exclusion.

The risk of social exclusion for low-income people is a global problem. One of the cities where this problem is predominant is Cape Town, South Africa. Cape Town is the city that the study will focus on. In Cape Town, 37.3 per cent of the residents have an income of R3200 or less (CTIP, 2013, p.29), which is considered as beneath the poverty level in Cape Town (CTIP, 2013, p.18). Most of these people live in the outskirt of the city, far from economic opportunities. According to the Transport and urban Development Authority (TDA) in Cape Town (TOD, 2016, p.10), the urban sprawl of the city continues to increase the physical distances between different areas. The urban form and lack of public transport has resulted in the need to travel by car, with severe congestions during peak hours as a result. This contradicts a sustainable development, both in social, economical and ecological aspects. The urban development in Cape Town has worked against a sustainable development, and the physical structure has instead strengthened segregation within the city.
In Cape Town, the cost of transport is between 40 up to 70 per cent of the disposable income (CTIP, 2013, p.228), this compared to the international standard of 5-10 per cent. The high travel cost in Cape Town indicates that there is a need to reduce it. Followed by the national public transport act from 2007, the city of Cape Town have planned and implemented a new public transport system called MyCiTi. The new system aims to provide a high quality bus service that is cost efficient, reliable and time reducing (MyCiTi, 2017). In theory, the new public transport system would provide opportunities for those who experience long distances and difficulties to access economic and social opportunities to become less socially excluded, if the system is implemented in the areas where the need for public transport is the greatest.

1.2 Aim of the study and research questions

The aim of this study is to examine the link between planning and implementation of public transport and social exclusion. Using a case study of the new public transport system in Cape Town (MyCiTi), we want to investigate the arguments and policies behind the implementation of public transport to find out if, and to what extent, public transport can contribute to better access to everyday destinations for people with low socioeconomic status. This since public transport is an important factor for improving mobility and access to economic and social opportunities, particularly for people with low socioeconomic status, as argued by Lucas (2010, p.2). The study is based on an equity perspective, due to the large income inequalities in Cape Town. To be able to fulfil the aim of this study, we have formulated the following research questions:

1. What is public transport supposed to contribute to according to policy documents and public transport planners in Cape Town?
2. To what extent have the implementation of the new public transport system, MyCiTi, enhanced access to everyday destinations according to commuters in Cape Town?
1.3 Delimitations

We will be focusing on the new public transport system MyCiTi. Since the aim of the study is to analyse public transport planning from a social perspective, we have limited the theoretical framework to three themes; Social justice and Equity in transport planning, Accessibility and mobility and Social exclusion. There are also some limitations in our empirical data. The gathered material represents the experiences from employed people in the age group 21-39 years.

In relation to the spatial demarcation of our study, we have decided to use the central part of Cape Town, Southern Suburbs, south and middle parts of Northern Suburbs, Cape Flats, Atlantic seaboard, southern parts of Blauwberg and northern parts of the Peninsula. The spatial demarcation represents the main part of Cape Town and involves a wide range of people with different socio-economic status. See Figure 1 for the spatial demarcations.

1.4 Disposition

This thesis is divided into six different chapters, and the different chapters are divided into sub-chapters. Chapter 1 is the introduction chapter and chapter 2 shows our theoretical framework. In chapter 3 we present our method and in chapter 4 we present South African and the background of the public transport systems in Cape Town. In chapter 5 we present the empirical data and our analysis and chapter 6 is a summary and conclusion of the thesis. The final chapter also contains a segment that discusses how the results of this study can be used by planners, and for further studies.
In this chapter we will present our theoretical framework. The framework is divided into three themes, however the content in these are connected and have effect on each other. The theoretical framework provides us with a terminology so that we can categorize our results and connect the results to what other researchers have found in other studies.

2.1 Social justice and equity in transport planning

Susan S. Fainstein (2010, p.35ff) claims that in evaluating urban planning from a social perspective, the term equity is the most suitable to use. According to Fainstein, the goal of urban development should be to distribute the economic resources for development, in a just way to different part of the city. This means that planning should strive to allocate resources to those with the largest need, rather than allocate resources evenly. With this perspective, the planning of public transport should focus on implementing public transport where the need is the greatest, not where the cost of a public transport system would be the most economically beneficial. This argument is even more important in the context of developing countries, like South Africa, where there are large social and economical differences, and the need for an equity perspective in the urban and public transport planning is particularly great.

Schiller et al. (2010, p.16) claims that the dependency of individual transportation is not just associated with social, ecological and economical problems, an auto dependency also implies problems regarding social justice and inequality within an urban area. Furthermore, Schiller et al. (2010, p.18) claims that those who must manage without a car in a auto-dependence city suffer not just a lack of mobility, but also a lack of accessibility. Arguing that the level of equity is lower in a auto-dependence city. In an auto-dependent city, with a vast urban sprawl, there is an unequal distribution of the cost of travel (Schiller et al. 2010, p.18). This is clearly connected to the context of Cape Town where the amount spend on travel can be as much as 70 per cent of a person’s disposable income (CTIP, 2013, p.228). The location of the household is critical for the cost of travel, i.e. those living in the outskirts of the urban area needs to pay more for transport than those living close to the economic opportunities (Schiller et al. 2010, p.18). This is particular critical for those with low income.

In relation to equity, Gössing (2016, p.7) establish that different modes of transport have different impact on social justice in the city. The motorised modes of transport i.e. car, motorcycle and buses are the main contributors to negative aspects of transport, i.e. congestions, accidents, pollution and climates change. Whereas it is users of the non-motorised modes of transport that are the ones most affected by these negative aspects. In despite of this, it is evident that individual motorised transportation is the mode of transport that has the largest share of transportation infrastructure, something clearly visible in the Cape Town context. However, there are also hierarchies in how different motorised modes affects sustainable development, were motorised public transport offer a better alternative than transportation with a private car. With a very car dependent city, there can be a number of reasons to attract private car users to use the public transport, as it, among other things, decrease the emissions of greenhouse gas and improves the congestion situation. One can argue that
there are positive aspects for the individual mobility for car users, they do not have to rely on the design of public transport systems in terms of access to opportunities. However, the individual’s access to a car is highly connected to economic status and therefore not all people are able to use a car. In this study we have therefore decided not to focus on the positive mobility aspects of car usage.

Martens (2006, p.7f) claim that to reach the goal of a sustainable development, transport planning need to have social justice in mind. Traditional transport planning has had focus on the overall performance of the transport network. For working with social justice, the transport planning would focus on the distribution of transportation investment over population groups, and measure the performance in relation to the network of these groups. Further Martens (2006, p.12ff) argues that it is common that high mobility groups are the ones that *demands transport* and low mobility groups are the ones that *needs transport*. In this thesis these categories will be referred to as *choice users* (demand) and *captive users* (need), this is the terms used by officials in public transport planning in Cape Town (CTIP, 2013, p.132). In traditional transport planning, the investment is mostly focused to the area where high mobility groups lives. This since economic calculations shows that the people are mobile and therefore will use the new system and the system will be economic sustainable. Martens (2006, p.7f) also claims that many cities have the urban form that makes the access to a motorized transport not a luxury, but a necessity to be able to be involved in the contemporary society. Therefore, transport planning needs to focus on the ones that needs it rather than the ones that demands it.

Moreover, Patsy Healey (2007) concludes that of the three sustainability aspects, *economic, social* and *environmental*, the economic sustainability aspect is hegemony. This means that in order to achieve a social and environmentally sustainable development, there is a need to also achieve an economically sustainable development. If an economically sustainable development is not achieved, it is unlikely that the social and environmental development will improve. In relation to economic sustainability being hegemony, Martel (2008, p.10) argues “the improvement of the link between a well-to-do suburb and a large employment area will virtually always perform better in a cost-benefit analysis than an improvement in the transport link between a disadvantaged neighbourhood and the same employment area”. In the South African and Cape Town context, this would mean that it financially would be better to connect wealthy suburbs, where the people do not need public transport as much, to the city centre, rather than connecting low-income areas, where the need for public transport is greater.

Connected to Patsy Healey’s notion of economic sustainability being hegemony, is Vallence *et al* (2011, p.344ff) notion of maintenance of social sustainability. They argue that this aspect of social sustainability sometimes contradict itself, since the aim of social sustainability is prevented by maintaining social norms, values and traditions that people would like to see preserved. Therefore ideas that would be good from an environmental and social perspective but would mean a change of behaviour is hard to achieve. This would mean that the social norm of transport by car is hard to change, because this would mean that people needs to change their behaviour in order to promote social sustainability. In the context of Cape Town, people with high socio-economic status is not likely to choose public transport instead of their private car, it would mean that they would use a mode of transport that is considered as being used by lower socioeconomic groups.
There are many different aspects that affect public transport planning to consider from a social justice perspective. Schiller et al (2010) argues that the structure of a city affect the need for transportation and Gössing (2016) argues that there is a hierarchy in terms of sustainability between different modes of transport. However, one of the most important aspects is the redistribution of resources as argued by Fainstein (2010). A redistribution of resources that both Healey (2007) and Martel (2008) claim is not being made, the economic aspect is prioritised and therefore social aspects will always come in second. For this thesis, this theoretical framework is useful to examine public transport planning in a context where there are large economic and social differences to be able to understand from what principles the planning is conducted and if there are different ways that the planning and implementation of public transport could be conducted.

2.2 Accessibility and mobility

Mobility can be understood in many different ways, it can be about movement through different types of space like social, physical and digital (Schwanen et al 2012, p.125), i.e. the movement from point A to point B (physical), the movement from one social class to another (social) or a movement of conversations and thoughts over internet (digital). The word mobility is often connected to physical movement in which a person or object move in space, but mobility can also be about the potential a person or object have to move in the space (Martens, 2012, p.5). This would mean that a high level of mobility does not have to mean that a person moves frequently, but that a person has the possibility to move frequently. For example, a location that many routes in a public transport system access would result in a high level of mobility for those who are situated at that location, this since there are many options in terms of travel.

According to Friman et al (2016, p.37) the commonly used definition of accessibility was introduced by Gerus and Ritsema van Eck (2001), and is “the extent to which land-use and transport systems enable (groups of) individuals to reach activities or destinations by means of a (combination of) transport mode(s)”. Furthermore, Friman et al (2016, p.37) claims that this definition of accessibility makes accessibility closely connected to mobility but often measured with conventional means as distance to stations, travel times and distance from stations to a selected destination. In addition to that, Kenyon (2011, p.764) claims that access to economic opportunities and social activities increases social inclusion in a society. This means that the shorter the travel time and the closer to a station a person has, the more accessible the transport system is in terms of the users’ ability to access to economic opportunities and social activities. Given that there are stations both close to the home of a person and to the location of that person’s work and social activities. This is also a fact that Schiller et al (2010, p.17) establishes, arguing that not having access to transportation can mean that a person is not able to get to work, school or other social activities which can lead to large social problems. In a sense, access to transport affects the quality of urban life.

In relation to this, Lucas (2010, p.6) points out the difficulties with accessibility and transport in a South African context. She claims that poorer households tend to spend a bigger proportion of their income on transport but also pay more for public transport than wealthier people does. This is partly due to the fact that the low-income population generally have longer distances to access service, employment and goods. This due to the spatial mismatch between where the low income population
mostly are forced to live in relation to where the key activities are located, generally in the central parts of the city.

However, Friman et al (2016, p.37) claims that it is a risky way of measuring accessibility by only defining it in relation to a users physical access to a public transport system. This since it does not take to account the perceived notion of access by the users. Instead, Friman et al (2016, p.37) defines accessibility as the individual’s view of how easy it is to live a satisfactory life using the existing transport system, describing accessibility as something that is also perceived. The perceived accessibility is something we have seen as clearly visible in the Cape Town context, because the perceived experience differ depending on e.g. gender, age and place of resident. There are many aspects that influence the accessibility of a transport system according to Friman et al (2017, p.38). Essentially, these are attributes that affect the quality of the transport system, i.e. the reliability of the transport system, prices, safety and passenger information. Among other things, these attributes affect the quality of the transport system and in that way also the accessibility of it. This would mean that if a person once have a negative experience of using the public transport system, it is likely that this person would have a negative perception about the accessibility of it. Resulting in a decreased accessibility of the system. One can argue that it can be minor differences between accessibility and perceived accessibility, longer distances can be both actual and perceived in terms of affecting accessibility. Therefore, in this study, the notion of perceived accessibility can sometimes be redundant because distance itself can make a station inaccessible.

Moreover, McLeod et al (2017, p.5) claims that radial transport systems, i.e. transport systems that are designed with lines that terminate at the city centre instead of continuing through to an opposite line, are particularly poor in improving mobility for the users. The time it would take to change to another line, instead of having a crossover, is an obstacle for improving mobility. These types of systems tend to centralize all kinds of travel. This means that a passenger traveling from one part of the city to another must go to the centre to change routes since the system do not provide an orbital route. The effect on travel time of the radial system has effect on the accessibility of a system; longer time of travel indicates a decreased accessibility to opportunities and social activities.

The terms mobility and accessibility are both contradicting to each other and connected. Mobility can be used to analyse the development of a community, where people’s need for mobility indicates that those people do not have access to opportunities where they live. People that have access to different kind of opportunities where they live do not have the same need for mobility. Whereas access to transport can be understood as something that makes is possible for people with the need for mobility to access opportunities. Moreover, accessibility depends on a number of factors. Karen Lucas (2010) points out cost as one, Kenyon (2011) argues that distance plays an important role in understanding accessibility, whereas Schiller et al (2010) argues that access to transport affect the quality of urban life. The aspect that accessibility affects the quality of urban life is connected to Schwanen et al (2012) idea of mobility, that mobility is movement, both in physical form and in societal movement in terms of quality of urban life. In the South African context, with increasing urban sprawl and large societal differences, there is an embedded need for mobility and accessibility.
2.3 Social exclusion

The term social exclusion can be defined in many different ways. In this thesis we base the term from the definition used by Schwanen et al (2015, p.124). According to Schwanen et al (2015), a person can be considered socially excluded if that person lacks a possibility to participate in social, economic and political life. This lack of participation can be a result of different factors, but the most commonly used definition is a lack of access to economic opportunities and social life. This usage of the term social exclusion can be a bit problematic since the way it is used, a person or a community is either excluded or not. The opposite state of the social exclusion is often undefined. It would be possible to argue that there are different levels of social exclusion, i.e. a person can have access to social life, but no employment and the other way around, resulting in different kinds of social exclusion. Lucas & Stanley (2008, p.36) argues that social exclusion is being heavily relying on income measures but also involves exclusion in other terms like; lack of employment, education, suitable housing, healthcare and transport. Lack of these factors can create barriers and can make it difficult for people to fully participate in society.

Kenyon et al (2002, p.210f) defines the term mobility based exclusion. This term means that, because of a lack of mobility people can experience exclusion. If they are not able to take part of the opportunities that the city has to offer, both in an economic and social way. Kenyon et al (2002) claims that this does not only affect individuals in a community, but it affects a community as a whole, since a lack of mobility of people, to and from the community, affects the possibilities for economic growth for that community. This view on mobility would indicate that an increased level of mobility would benefit a community and improve the social inclusion of it, people in that community would then be able to access to both social and economical opportunities. With this perspective mobility is considered as something good, however it would also be possible to argue that a need for mobility within a community is something negative. This because a need for mobility within a community would indicate that the people do not have access to social and economical opportunities where they live, if they would have that, there would be no need for mobility.

Church et al (2000, p.198ff) argues that there are many different factors of transport related social exclusion. The authors define seven different ways to understand social exclusion related to public transport planning. These themes define an individual’s ability to access different activities via public transport, making it possible for them to participate in society. The themes are based in how the organisation and design of the transport system can result in exclusion for the individual. The different themes range from the physical form of the city that generates exclusion to fear-based exclusion. All of the seven themes are factors that we can identify as aspects for social exclusion in Cape Town. However, we will in this thesis focus on three of the seven aspects, because these are the predominant themes we have found suitable in the Cape Town context. Our chosen aspects are:

- Time based exclusion
- Fear based exclusion
- Economic exclusion

The first theme that Church et al (2000, p.199) identifies as a reason for social exclusion is time. Church et al (2000) argues that reducing the time of travel is an important factor for counteracting social exclusion. This means that the amount of time spent on transport have a connection to
exclusion, i.e. the longer time an individual spends on transport the more likely it is for that person to experience social exclusion. This results in negative influence for the individual’s career, but also more problems in, for example, arranging childcare. According to Church et al (2000) the time of travel has particular impact on women and their decisions to be a part of the labour market. Furthermore, time spent on public transport have a direct impact on people’s ability to take part in political activities and in social life. The more time a person spends on traveling, the less time that person have for social life.

The other aspect is fear-based exclusion meaning that people experience exclusion since they cannot access, or avoid, public transport because of fear (Church, 2000, p.199). This factor affects different persons differently, it indicates that because of fear, people avoid areas like public transport stations, impacting accessibility of the system negatively. This means that safety is an important factor to consider in public transport planning, because fear has influence on the perceived accessibility of a public transport system.

The third aspect of social exclusion is economic exclusion, which Church et al (2000, p.199) argue have impact on social exclusion in a couple of ways. Among other things, the cost of travel can prevent people from using a public transport system and force people with low income to stay in areas close to their home. This affects the possibilities to counteract social exclusion greatly since this indicates that people would not have opportunities to be part of social activities, access to services, yet alone economic opportunities.

The sociologist Ruth Levitas (2005, p.170f) claims that the mobility of people is fundamental to be able to counteract social exclusion and improve the social inclusion of a city, and to be able to improve people’s mobility, it is essential to implement a transport system that is affordable and accessible for everyone. Furthermore, Schiller et al (2010, p.27) claims that public transport plays an important role in creating social relationships between people. When people share a common space, they build a type of relationship to each other. This is why it is important that mobility is achieved by public transport instead of an individual mobility achieved by means of the car.

Furthermore, Preston & Rajé (2007, p.153) points out, social exclusion does not have to be about a lack of social opportunities but the lack of access to those opportunities. Preston & Raje (2007) claims that in order to avoid social exclusion an individual need to have access to social contacts and facilities, although they points out that the composition of these attributes differ between individuals. This lack of access to opportunities can be defined by Colin Pooley’s (2015, p.100) term; transport poverty, this term is used for a households that have a combination of three factors. Firstly, low income that makes the operation of a private car difficult. Secondly, a geographical location of the household that is more than one mile (1.6 km) from a public transport station. And finally, the household is located in an area where the nearest essential service is more than an hour away by public transport, bike or foot. This term can be used to describe a combination of factors that increases the social exclusion of people and can be useful in discussing some households located in the Cape Flats1 in Cape Town.

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1 Cape flat is an area located approximately 40 kilometers from the Cape Town city centre. The area consists of different townships with low socio economic status, e.g. Mitchells plain, Khayelitsha and Mfuleni
In conclusion, the authors point to many different factors of social exclusion, important to address is that not all people that experience social exclusion are exposed for all of these factors. We believe it is important to be aware of the usage of the term social exclusion, and relate the term into specific attributes this to avoid labelling someone as socially excluded. It is also important to consider who is labelling who as socially excluded. As pointed out by Schwanen et al (2015), the usage of the term social exclusion is multifaceted, and the reasons for people to experience social exclusion can be different depending on the person. Social exclusion is also something that is not definite, a person or community can either become socially excluded or not. The notion of social exclusion is interesting for us because this is something that a lot of people in Cape Town experience and that the official documents from Cape Town states that the municipality tries to reduce.
3. Method

We have conducted a qualitative study within the framework of public transport planning in Cape Town. There are different modes of public transport in Cape Town, but we have chosen to conduct a case study of the public transport system called MyCiTi. According to Yin (2007, p.16), a case study is an empirical inquiry where the researchers intend to study the phenomenon in depth and in its own context. In a case study, the researcher aims to study an overview perspective and thereafter going in depth into the specific case (Patel & Davidsson, 2003, p.54). In this chapter will we present our methodology and the chosen methods for the study, how we have conducted the methods and our priorities and intentions with them. Finally, a discussion of our choices of methods will be presented, this for trying to se our study from another perspective and acknowledge that no method is perfect.

3.1 Case study

Our project is a single case study of the public transport system MyCiTi. We choose MyCiTi since it is the only public transport system that the planning authority in Cape Town can control the implementation of. A case study is characterized by a number of different techniques to collect data (Yin, 2014, p.23). We have used the following techniques; observations, document analysis, focus group interviews with drawn movement patterns and finally, interviews with officials. A structured research design is crucial to be able to combine the data from the different methods (2014, p.50). It is also important to adjust the techniques to one another and to relate the outcome of the analysis, as a way of triangulation to confirm its validity (Creswell, 2014, p.251).

Our research design is formed as follow; we started the study with observations and to read different document connected to transport planning in Cape Town, to get an understanding of transport planning in the city. Parallel with this, we created the interview guide (see appendix 4) for the interviews with the focus groups and the setup for the drawings of movement patterns. Thereafter, the focus group interviews were conducted. We also designed an interview guide for the interviews with officials (see appendix 5), and conducted these interviews. The different methods and their approaches are listed below.

DOCUMENT ANALYSIS

We have analysed documents from the Transport and urban Development Authority, TDA. These documents are the framework for transport planning in Cape Town and outlines from what principles that future development will be made. We have concentrated on four documents;

1. Comprehensive Integrated Transport Plan (CITP)
2. Integrated Public Transport Network Plan (IPTNP)
3. Transport Planning Act 2007 (TPA2007)
4. Integrated Development Plan (IDP)

We focused our analysis on two main documents: the Comprehensive Integrated Transport Plan, which is the current planning document between 2013 and 2018. Secondly, the Integrated Public
Transport Network Plan, a more visionary document reaching to year 2032. The third document that we have studied is the Transport Planning Act 2007, a planning document from the national Department for Transport that regulates what the planning authorities in South Africa are obligated to do, and what direction the transport planning should strive for. The fourth document is the Integrated Development Plan (IDP), this document is visionary and stretches over five years and establishes in what direction the general development of Cape Town is wished to take. This document is not just a transport planning document, however, the five goals presented in the text are set out by the City of Cape Town and do, in many aspects, concern public transport.

In our analysis we searched for what these different documents state when it comes to the role of public transport planning in tackling the social differences in South Africa in general and Cape Town in particular. The document analysis has been going on throughout the entire study and our keywords in the research have changed in relation to what we have learned. In the beginning we focused on keywords related to equity, mobility, accessibility and social exclusion and what role these keywords play in public transport planning. We tried to find out what the TDA aims to achieve in relation to these themes. Later in the study, our keywords was based on what focus groups informants expressed important; safety, reliability, cost, time and function. The results from the document analysis were later connected to what the officials from TDA claimed about public transport planning in Cape Town and to the focus groups experiences about the public transport in Cape Town.

OBSERVATIONS
When we arrived in Cape Town, we started with conducting the observation study, which is intended to give the researcher an understanding and meaning of a phenomenon they aim to study (Creswell, 2014, p.48). Since it was our first time in Cape Town this method was crucial for us to get an understanding of the city, public transport in this context and MyCiTi in specific. We conducted our observations during a one-week period in the research area. The study was conducted at seven occasions in one week, in 1-4 hour intervals and took place at different routes in the MyCiTi bus system. The observations were conducted at different times during the day, in different days and on different routes, to collect as many different observations as possible (see appendix 1).

Our focus during the observations was to get an own opinion of the system, our feelings and what we heard and saw at the buses, i.e. to collect non-verbal data. To prevent the observations of becoming strolls, it is important to have a structure in how you are going to fulfil the method (Patel & Davidsson, 2011, p.91). We decided to use some guidelines in what we would be focusing on during the observations (appendix 2). Due to safety reasons, we conducted the observations during the same time periods and at the same buses, but we took our notes individually. This because according to Yin (2014, p.21ff) if there is more than one researcher, the outcome of the observation will have more reliability. Therefore we made our notes individually but discussed our experiences and gathered the notes in one merged table. When the opportunity appeared, we also made spontaneous interviews, we believed they were interesting for hearing other travellers’ opinions, as well as some drivers. The spontaneous interviews were only for widening our experience during the observations and for being able to see if the situations on the bus during our observations were something recurrent.
To be able to analyse the result, we used the merged table and formed different categories in which we collected information from the observations (appendix 3). In analysing the data, we compared our categories and outcomes with the answers from the different interviews and for what is stated in the official documents.

INTERVIEWS WITH FOCUS GROUPS

A focus group is commonly a collection of 6-8 informants in each group and the interview is structured with open-ended questions that are intended to start up a discussion within the group and elicit different views and opinions (Creswell, 2014, p.239ff). In doing so, we would be able to create a discussion between the informants and also get a wide range of perspectives from different people. Our intention was to get differences according to age, gender and ethnicity. To collect participants to our focus groups, we received help from different contacts that we got to know in the city, we got help from our supervisor and send emails to around 40 NGO associations located in the townships Khayelitsha and Mitchellsplain.

At first we had troubles getting in contact with possible participants. We managed to get in touch with people from NGOs but due to a big fire in the township Imizamo Yethu, none of them were at the time able to help us. Finally, we managed to collect three focus groups but had to be very flexible with time and place to meet them. The outcome of our effort to find people for the focus group interviews were people that, to our knowledge, do not differ especially much from each other e.g. in age, and in having employment. The informants in our focus groups were all employed and commuted to their work, they were in the age range from 20-39 and were resident in different areas in the city.

We organized an interview guide (appendix 4) with help from of data from the observations and the document analysis. The questions were formed after four themes;

1. Transport and mobility. This was chosen as first theme because we wanted to get a perception of the informants’ situation and how they usually move in the city.
2. Public transport. This was chosen to get their perception of public transport in general and for having a natural transition into theme 3:
3. MyCiTi. In this theme we wanted to get information about the informants perception of MyCiTi in specific.
4. Interview Person (IP) knowledge. The last theme was for letting the informant express issues they felt important.

The interviews were conducted in a semi-structured way, this means that there is a prepared structure for the interview but during the sessions there are room for changes (Patel & Davidsson, 2011, p.81f). During the interviews, we were open for the informants to express their thoughts and start discussions that were not in straight line of the questions, as long as the discussions stayed within our area of interest.

The interviews were conducted in places chosen by the informants in the different focus groups. The interview with focus group 1 was conducted at their workplace during their lunch break over the

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1 Khayelitsha and Mitchells plain is the two largest townships in Cape Town, located 40 km north east of the city centre
course of two days, for about 45 minutes each day. The interview with focus group 2 went on for almost two hours; this was also conducted in their workplace. The interview with focus group 3 lasted just over one hour and the interview was conducted in a restaurant. Before each interview, we asked for consent to record the interviews and explained that no names will be used in referring to their statements.

We started the interviews with handing out maps over Cape Town and letting the participants illustrate their movements in the city. Different colours represented different reasons for the trips. These are listed in the table 1. Figure 2 shows an example of a map, drawn by one of the interviewees during the first focus group interview.

Our intention by starting the interview with letting the participants draw their movement in the city was to create a base that we were able to have a discussion around. The map also made it possible for us to later compare the interview person’s movement patterns. The movement patterns was also compared with the existing routes of the MyCiTi system, this to see how they correlated with each other. In the analysing of the sessions, we transcribed the discussions from the recorded material, compared the different answers and tried to find similarities and differences in the answers by grouping the answers into different themes.

### INTERVIEWS WITH OFFICIALS

We conducted two interviews with officials from the TDA; one with a person that works fulltime at the TDA and one with a person that is doing his/her PHD study stationed half time on the TDA and the other half on the University of Cape Town. To get in contact with the officials we got help from our supervisor in Cape Town. The interviews took place at locations expressed suitable by the informants. We decided to conduct the interviews after the observation study was completed and some of the focus group interview had been conducted because we wanted more background knowledge and a possibility to form questions that was not based only from the observation study, but also with input from the commuters.
The interviews with officials were formed in a semi-structured way and we used a interview guide as checklist (appendix 5). Both of us were present during the interviews, one was leading the interview and the other was taking notes and following up with- or rephrasing questions if the interview object had trouble understanding the question. The interviews took around one hour each and they were recorded and transcribed. As with the focus group interviews, we asked for consent to record the interviews and explained that no names will be used in referring to their statements. In the analysis of the official interviews, the data was formed into themes and compared with both each other and with data from the other methods.

3.2 Discussion about the choices of methods

In relation to our problem statement and our research questions, we believe that a qualitative study was the right choice to fulfil the aim of the study. This since we aim to find out the planning authority’s intent for the public transport system and the citizens apprehension of the system and its outcome. We are interested in getting to know people’s opinions and experiences of public transport, and we find it hard and insufficient to answer these questions with quantitative data. Therefore, we chose qualitative methods to gain qualitative data. A common problem when you use different qualitative methods is that it results in a lot of data in different forms (Creswell, 2014, p.245). This is also something that we have experienced. However, we consider the amount and different kinds of data as a strength rather than a weakness, and it makes it possible for us to triangulate the data we collected. In conclusion we are satisfied with our choice of methods and the outcome of them, even though we could have made some minor differences in the approach. There are strengths, weaknesses and problems in all methods. These are discussed below.

The document analysis is a qualitative research method and together with our collection of theory, it represents the secondary data in the study. Creswell (2014, p.258) claims that a document analysis is one way of triangulating the results of a study. The more different methods one use to triangulate the results, the higher the validity of the research. All of the chosen documents in our study are official and approved politically by the city of Cape Town or the National department of transport. It is therefore important to be aware that the documents have a specific function and could be considered as bias. It is also important to address that we have chosen mainly four documents to conduct the document analysis, and therefore not all existing document about public transport planning in South Africa and Cape Town are included. The documents chosen are the primary document that controls the planning of public transport, there are other document produced by the TDA that relates to public transport. However they focus more about things like transit oriented development, TOD, and financial models for the company that runs the MyCiTi system. We found these documents interesting, but not relevant for the aim of this study.

In the choice of literature we decided to look for suitable theories within the areas:

1. Social justice and equity in transport planning
2. Accessibility and mobility
3. Social exclusion

These themes involve a wide range of different literature, therefore we have made a selection of documents and theories that we believe are suitable for our study. There is a risk that we have not
included literature that could have been useful for our study. However, for the purpose and aim of this study, we find them sufficient. In the theme accessibility we also chose to involve perceived accessibility since we have observed big differences to physical accessibility and perceived accessibility in our specific case.

Regarding the observation, we tried not to speak with each other or show people that we were familiar with each other, this to make an as small impact on people’s behaviour as possible. Still we found people observing us assuming that they understood that we did some sort or research. We had different experiences depending on what route we were studying. On the route to Mitchell's Plain, we had trouble to blend in with the other travellers and even had a MyCiTi employee asked us if we were standing in the right queue. In this case it became very obvious that we were there for a specific reason and not just to use the system. Despite of this, we do not believe that this made a significant difference for our results; we observed travel time, reliability and general feeling of the system, and did not focus on the passengers of the bus. Right after the observation study, we found it hard to understand the outcome of the research, also expressed by Creswell (2014, p.245) as one weakness with observations. Our solution was to wait a few weeks until we had got a wider understanding on the public transport planning in Cape Town and thereafter starting to analyse the result of the observations.

Before the focus group interviews, we reflected over possible risks with group interviews, i.e. one person taking over the interview or the risk of not getting information from all of the informants. One of the sessions took almost two hours, during the transcribing it got visible that not the whole interview was related to our study. During this specific interview we should have been better to lead the informants back to the themes we were aiming to discuss.

Further, we intended to collect different people to our focus groups regarding age, gender, socioeconomic status and where they lived in Cape Town. We had problems collecting people from a wide age range and with different socioeconomic status. The lack of participants from NGOs resulted in focus groups without people that are unemployed, and therefore the result of this study cannot represent the opinions from people that are within the lowest socioeconomic group in Cape Town. We did not ask about the focus group informants’ socioeconomic status, however most of them were employed in similar line of business, and can therefore be seen as representing wage-earning people in the age 21-39 years old. This can be seen as a problem if they are supposed to represent all of the residents in Cape Town. We managed to collect both male and female informants that were residents in different areas in the city, some of them were resident in the areas with the lowest socioeconomic status and they can be seen as representing the situation in these areas. We need to remind ourselves that the informants only represents themselves and maybe have a similar point of view as other people resident in their area, having a similar income and are in around the same age. As a result, this study may not reflect the opinions of people under 21 or people more than 39 years old.

When conducting the focus group interviews we experience something that the informants in the focus groups called “African time”, meaning that it is the norm that a person shows up at least 15 minutes late to a meeting, with no explanation what so ever. This is quite the opposite from the culture that we are used to, and this forced us to be flexible and patient when conducting the interviews. We had a preconceived idea of how to conduct the interviews, but as it was not always
possible to conduct them as planned, we had to be able to adapt. Therefore, we had to be flexible, e.g. in repeating questions multiple times and being prepared of late call changings of time and place.

Regarding the official interviews we are very glad that we were able to interview one PHD/official and one official. The two interview sessions differed a lot even though we asked the same questions. The official was more restricted in his/her answers. Even though s/he answered all of the questions, there were no longer answers and not much room for interpretations. The PHD/official on the other hand answered the questions with his/her own opinions involved and made long explanations of why s/he believed this had happened. Even though that the answers from both of them were similar, it was very interesting how they answered and what motivations they used. We believe that the differences in how the officials answered depends on what position the informants have, i.e. one of the officials was representing Transport and urban development authority (TDA) and the other was more representing him/herself and had a more academic perspective.

The interviews with the focus groups and officials was transcribed after the sessions, this to be able to easier analyse the result. Kvale (2014, p.221ff) claims that the results and the reliability of the interview are depending on how the transcribing has been done, the transcription will be a interpretation of the researcher. Since the interviews were conducted in groups and also in places with (sometimes) disturbing noise, some information possibly could have gotten lost. We have also decided not to always involve sound that is connected to the spoken dialog like coughs, sighs, mhms and so forth. This can make a difference in how the conversation was in real life and how it is in written form. According to Kvale (2014), this is something that is impossible to avoid because the spoken and written dialog is two different ways of communicate, but still important to address. Despite of this factor, we believe that the transcription is an honest representation of the interviews, and that no significant information has gotten lost.
4. The South African context

4.1 South Africa

South Africa’s modern history started around the year 1650, when Dutch sailors founded a settlement in what is now Cape Town (Globalis, 2017). The colonisation followed by the Dutch settlement led to an enslavement of the native population, and it was not until under the rule of British government as slavery was forbidden. However, the relationship between the European colonial powers and the native population have for a long time been defined by discrimination and segregation. In 1948, the National Party (NP) adopted laws that structurally excluded the country’s black majority population from its social, political and economic rights, in a system called Apartheid. It was not until 1994, when Nelson Mandela as leader for the African National Congress (ANC), was elected president that the structural discrimination of the people in South Africa ended by law. The long discrimination and segregation of the black population in South Africa have to a large extent, influenced the physical form of the cities. Today, the ANC is still the majority party in South Africa (Globalis, 2017), and the current president is Jacob Zuma. In the recent years new parties have become more and more popular, one of them is the Democratic Alliance (DA), which is the largest party in the city of Cape Town.

In 2007 the South African government, and the Department of Transport, introduced the Public Transport Action Plan, PTAP. It lays out the plan to formalise the national Public Transport Strategy (DoT, 2007a, p.1). The action plan establish that the aim for the major cities in South Africa is to upgrade both commuter rail services to “Rapid Rail” and bus and minibus services to “Bus Rapid Transit”. The goal was to create a network of the different public transport systems in the cities. The PTAP describes a situation in 2007 were the majority of the people whom uses public transport is very displeased with the condition on both the transport system, but also regarding the condition of the facilities connected to the public transport systems in South Africa (DoT, 2007a, p.5). One reason that this action plan was introduced was that during 2010, the FIFA World Cup was going to be held in South Africa and one important aspect of the preparations for the event was how all the visitors would be able to move between the football stadiums.

4.2 City of Cape Town

The City of Cape Town, or as it is also called, the Mother City, was funded in the 17th century (STATSSA, 2017). It is the second largest urban area in South Africa, with an estimated population of 3.7 million inhabitants in 2011, covering an area of 2461 km². The city’s physical form is to a large extent a result of the Apartheid regime, and the urban structure of Cape Town is defined by an urban sprawl of dispersed developments and inequitable access for many of the inhabitants (TOD, 2016, p.8). This have resulted in a structure where the poorest of the inhabitants live in remote areas, far from the city centre and economic opportunities, as shown in figure 3.
Cape Town has been working with socioeconomic differences since 1994. However, according to the TDA (TOD, 2016, p.8) a number of public-led investments have worsened the urban form of the city with a continuous urban sprawl, with consequences for the social, economic and environmental sustainability. According to the TDA the physical structure of Cape Town implies that people need to travel longer distances to and from work, education or services, making the cost for a transport system higher than with a more compact and dense city (TOD, 2016, p.8).

In Cape Town, 37.5 per cent of the population have a monthly income of R3200\(^1\) or less (CITP, 2013, p.29), and the employment rate is approximately 75 per cent (2013, p.18). Unemployment is to a large extent centred to the black and coloured population. The high unemployment rate, and the high percentage of people with low income have led to many informal dwellings, an estimated percentage of 22 of the total dwellings in Cape Town (Census data, 2011), as seen in Table 2.

![Figure 3: Map showing the socio-economic index for Cape Town](image)

### Table 2: Showing household Services Profile

<table>
<thead>
<tr>
<th>Cape Town Type of Dwelling</th>
<th>Black African</th>
<th>Coloured</th>
<th>Asian</th>
<th>White</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Num</td>
<td>%</td>
<td>Num</td>
<td>%</td>
<td>Num</td>
<td>%</td>
</tr>
<tr>
<td>Formal Dwelling</td>
<td>250,762</td>
<td>55.4%</td>
<td>327,383</td>
<td>91.3%</td>
<td>13,852</td>
<td>97.1%</td>
</tr>
<tr>
<td>Informal dwelling / shack in backyard</td>
<td>54,600</td>
<td>12.3%</td>
<td>18,062</td>
<td>6.0%</td>
<td>150</td>
<td>1.1%</td>
</tr>
<tr>
<td>Informal dwelling / shack NOT in backyard</td>
<td>134,914</td>
<td>30.3%</td>
<td>7,531</td>
<td>2.1%</td>
<td>141</td>
<td>1.0%</td>
</tr>
<tr>
<td>Other</td>
<td>4,007</td>
<td>1.0%</td>
<td>5,034</td>
<td>1.6%</td>
<td>123</td>
<td>0.9%</td>
</tr>
<tr>
<td>Total</td>
<td>444,783</td>
<td>100.0%</td>
<td>358,830</td>
<td>100.0%</td>
<td>14,206</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

[^1]: R=ZAR, the South African Currency. 10R=0.76USD
In an attempt to improve the social, economical and environmental situation in Cape Town, the city of Cape Town has established a vision in the integrated development plan that is divided into five different goals that the city tries to achieve:

- Opportunity city
- Safe city
- Caring city
- Inclusive city
- Well run city

All but the last goal can to some extent be connected to public transport planning. The goal of an opportunity city can be connected to public transport via investments in infrastructure for public transport, either via attributes such as mobility, accessibility and social inclusion (IDP, 2015-2016, p.10). The safe city is about making the citizens safe in their own city, this in form of having access to the opportunity in the city as well as to fellow citizens (IDP, 2015-2015, p.11). The caring city is about taking care of the citizens of Cape Town and focusing on those that is in the most need of assistance (IDP, 2015-2016, p.11f). This also indicates in the environment where the citizens live. Finally, the inclusive city is about creating an environment where everyone feels a sense of belonging (IDP, 2015-2016, p.12).

4.3 Public transport in Cape Town

The Transport and urban Development Authority (TDA)\(^4\), is the agency responsible for the planning of public transport in Cape Town. It consists of many different divisions, the organizational schedule of the TDA is attached in appendix 6\(^5\). The city of Cape Town claims that a key focus in the development of Cape Town is the establishment of a high quality and affordable public transport service (TOD, 2016, p.9). This to facilitate equitable and affordable access to the public, with the main focus on those with low income. According to the TDA (TOD, 2016, p.9) 95 per cent of the users of public transport are low and low-medium income. According to the TDA website, the vision for the TDA is:

>“TCT’s Vision is to drive down the cost of user access priorities as determined by its Transport Development Index (TDI) through redirecting service delivery. In developing a new integrated transport legacy for Cape Town TCT’s vision is to invest in a real, sustainable and efficient future for the citizens of and visitors to Cape Town”\(^5\).

In Cape Town, the car has the highest modal share of the different ways of transportation, a total of 37 per cent (IPTNP, 2014, p.6). Table 3 shows the modal share of transportation in Cape Town, listed both by income\(^7\) and the total modal share.

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\(^4\) Formerly know as TCT, Transport for Cape Town.
\(^5\) As the TCT was structured before
\(^6\) The same vision applies for TDA
\(^7\) In the table there is only two income groups, and not four as in the Census data 2011.
The public transport systems that TDA includes in the planning documents, consist of different modes of transportation.

- The Metrorail, a train service that is provided by the national Department of Transport.
- Golden Arrow, a private bus company providing public transport via bus.
- MyCiTi, the brand for the public transport bus system that the city of Cape Town provides.
- Minibus taxi, are private taxis operating on semi-formal routes. All taxis are supposed to be licensed by the City of Cape Town, however to what extent all the minibuses are is not certain.

The planning of public transport is regulated by the National Land Transport Act from 2009, which obligates all transport authorities in South Africa to produce a Comprehensive Integrated Transport Plan (CITP). The CITP for Cape Town regulates the public transport planning between 2013 and 2018 and describes how it refers to other planning documents. The TDA also have produced a number of other documents that refers to transport planning, one of them is a document called the Integrated Public Transport Network Plan 2032 (IPTNP), this document lay out the vision for transport planning in Cape Town until 2032.

### 4.4 MyCiTi

Since 2007 the city of Cape Town has been working with integrating all public transport systems. One of these systems is MyCiTi, which is the brand for the public transport system that the city of Cape Town provides. The brand is owned by the City of Cape Town, but is operated by private companies that are referred to as Vehicle Operating Company (VOC) (IPTNP, 2014, p.26). There are at the moment a number of different companies operating the MyCiTi services in the metropolitan area. The service is described by MyCiTi as:

> “MyCiTi is a high-quality bus-based transit system that delivers fast, comfortable, and cost-effective urban mobility with segregated right-of-way infrastructure, rapid and frequent operations, and excellence in marketing and customer service.” (MyCiTi, 2017-03-16)

The system is based on a trunk and feeder network (IPTNP, 2014, p.26). The trunks are longer buses that operate on dedicated bus ways, with high floor and closed transfer stations, whereas the feeder
buses are smaller, with a lower floor that stops at regular bus stations, and “feeds” the trunk stations with people. The mode of payment is cashless and the travelers need a MyConnect card to be able to pay the fare on the buses. This card is called smartcard and calculates the fares depending on the time of the travel and length of travel (IPTNP, 2014, p.26). MyCiti is branded as a BRT system (MyCiTi, 2017c). BRT stands for Bus Rapid Transport, the concept was first developed in the Brazilian city Curitiba (ITDP, 2007, p.V). The Institute for Transport and Development Policy (ITDP) have produced a planning guide for cities that wishes to implement a BRT system. According to ITDP, a BRT system is:

“a high-quality bus-based system that delivers fast, comfortable and cost-effective urban mobility through the provision of segregated right of way infrastructure, rapid and frequent operations and excellence in marketing and customer service.”(ITDP, 2007, p. 1)

The system was officially launched in May 2010 for the FIFA World Cup in South Africa with temporarily services. However, the first set route between the Civic centre and Atlantis, was not in place until 2011 (CTIP, 2013, p.36). In 2016 the system consist of a total of 44 routes that connects Cape Town and many of the surrounding areas, such as Atlantis, Dunoon and Mitchells Plain. Figure 4 shows a map of the existing routes in the system.

Furthermore, the system is said to essentially have the same performance and characteristics as a modern light-rail system, but to a significant lower cost, about 4 to 20 times less than a light-rail system and 10-100 times less than a metro system (ITDP, 2007, p.1). This means that the BRT system is a concept that is very suitable for cities in developing countries. It is also in these types of countries that the majority of the BRT systems are implemented and planned.

Figure 4: Showing the existing routes in the MyCiTi system
5. Results and analysis

In this chapter we will present our results and our analysis of the empirical research. The analysis is divided into three themes and will be discussed with help from the theoretical framework presented in chapter 2. The three themes are Accessibility, Resources and Security. These themes are based on the results of the case study and are chosen based on expressed and experienced significance by the informants in the focus groups, officials and in the planning documents. The different themes are also divided into different sub-themes.

5.1 Accessibility

Accessibility is a recurring aspect during our study, expressed as an importance factor by the focus group informants, officials as well as in the documents. Accessibility can be about a wide range of different perspectives. In this section we have divided the aspects in four different themes; Implementation of the different phases, Design of the system and its impact on people’s mobility, Design of buses and stations and finally Mode of payment.

IMPLEMENTATION OF DIFFERENT PHASES

The development and implementation of the MyCiTi system is planned in five phases (CITP, 2012, p.38). In writing, phase 1 is the only one that has been implemented. This phase consists of the city centre lines and the BRT route from the Central business district (CBD) to the areas of Table view and Atlantis and is called the west coast corridor (CITP, 2012, p.102). One argument for implementing the west coast corridor as phase 1, was, according to the officials, the lack of public transport in the area. From the planning authority’s perspective, MyCiTi, and the dedicated BRT line up west coast, is seen as a more affordable implementation option than train routes. In implementing MyCiTi, Cape Town also created a new system that they themself have control over. With the new system, the planning authority can both control the planning of public transport and the implementation of it, something that they before MyCiTi system were not able to do. Another arguments is, according to the officials, that phase 1 is supposed to be not only for people that need the public transport system but for the people that can choose to use the public transport system. According to the officials, these two groups are called captive users and choice users and can be related to Martens (2006, p.12ff) definitions of the low mobility groups i.e. captive users, need public transport and the high mobility group i.e. choice users, demands public transport. One of the officials discusses the implementation of public transport and the focus on choice users as an exceptional idea. It seems that TDA aim to attract car users from the west coast area to choose public transport instead of their cars, as seen in the quote:

“..but it was also important because it was the first time public transport were being pitched at a level that it wasn’t just for people that couldn’t afford a car it was actually seen as something that could serve everybody..” (IP2, official, 2017-04-05)

This quote is an indication on the low status of public transport services in Cape Town. As the official expressed, wealthy people in Cape Town did earlier not use public transport systems. MyCiTi was
pitched as a system that is for everybody, not only for the one that needs the system. This is also discussed in the national Public Transport Act from 2007, where it is argued that it is important in the metropolitan areas to offer a public transport as an alternative for car users (DoT, 2007b, p.8). The congestion to areas along the west coast corridor could be reduced if more choice users would see the positive aspects of the MyCiTi system. For reducing car usage, the implementation of the system along the west coast corridor can be seen as a good idea. This since it could reduce the congestion and emissions of greenhouse gases and therefore be considered to be more environmentally sustainable. However, as Vallence *et al* (2011, p.344ff) argues, the modal shift from car to public transport may be difficult, because people are likely to maintain driving a car due to the social norms.

Furthermore, Martens (2006, p.12ff) claims, for creating social justice in a city the investments in public transport must firstly focus on low mobility groups and thereafter on high mobility groups. In the way that phase 1 of the MyCiTi system was implemented, it focused the investments to areas where there are primarily choice users and very few captive users. The result of this is that phase 1 does not contribute to social justice in Cape Town from an equity perspective as much as would be possible. Phase 1 was implemented in 2011 and now, in 2017, the implementation of phase 2 has not yet started, this is an indication that the city of Cape Town focused more on economical and environmental aspects than on the aspect of social justice. The implementation of the west coast corridor as phase 1 is interesting, because the TDA states in the CTIP that: 

"..it is the high density areas that have the highest levels of poverty and therefore the greatest need for reliable and accessible public forms of transport." (CTIP, 2013, p.19)

What we can conclude from the implementation of the phase 1 of the MyCiTi system is that it has not been implemented where the greatest need for public transport was, but instead where the highest demand was. By doing this, the implementation of the phase 1 is clearly contradicting to what is stated in the planning documents. One official argues that the phase 1 could be seen as a good example and in that way making it easier to implement phase 2; their intention was to prove that the public transport system could be financially viable. Patsy Healey (2007) argues that the focus on economic sustainability as priority is common, since the ecological and social sustainability is dependent on economic measures. This is also something that relates to Martel’s (2008, p.10) claim, that in estimating the cost of implementing a public transport system, wealthy suburbs will economically prove to be a better investment. If the intention for phase 1 was to serve as a way to promote social inclusion, it should instead be replaced with what is planned for phase 2. This since in phase 2, the planning suggests a dedicated BRT line to the low socio-economic areas Mitchells plain and Khayelitsha (MyCiTi, 2015). In that way, the public transport planning would have focused on the captive users first and in that way prioritised social justice. This is in line with Martens (2006, p.12ff) arguments about social justice in public transport planning. This would also be in line with the social perspective in the planning documents from the TDA, as the quote above states.

In relation to the implementation of different phases, the planning documents from the TDA (CTIP, 2013) consider mobility as a need that everyone have. However, there is no greater reflection on what improving mobility of the inhabitants will result in, i.e. prevent social exclusion. This also seems to be the case in the Integrated Development Plan (IDP, 2016, p.36), mobility is mentioned as a part of the goal of an opportunity city, where the objective is to ensure mobility through an effective public transport system. The IDP (2016, p.62) also points out that all people that are in Cape Town,
whether they are citizens or visitors, should have the ability to move from point A to point B. The examples in the documents address mobility for every person but do not discuss the problem with implementing the west coast corridor as phase 1, i.e. implement a system into the area where already high mobility group lives. The existing routes in the system (phase 1) do not include all areas in the city and therefore do not reach out to all the citizens. This can be related to Kenyon’s et al (2002, p.210f) definition mobility based exclusion, which indicates a risk for people to become excluded due to a lack of mobility. The citizens in Cape Town that lives in an area far from the city centre and without access to a private car need to rely on the public transport systems. If the system is e.g. too expensive or the stations are located too far away from their home, there is a risk for mobility based exclusion. By implementing the phase 1 of the MyCiTi system along the west coast corridor, the city of Cape Town also cornered themselves from an equity perspective. Something that at least one of the officials is aware of, as expressed in the quote below:

“..quickly realised that but once you roll it out in one part of the city ethically you cannot then go to the poorer part of the city and say we spent all our money on that one, so now they are in kind of a catch 22. They can’t afford roll it out across the entire city but politically they can not afford not to.”
(IP1, official, 2017-03-30)

DESIGN OF THE SYSTEM AND THE IMPACT ON PEOPLE’S MOBILITY

When studying maps of the MyCiTi system, we have seen that the system is designed as a radial system. According to McLeod et al (2007, p.5) a radial system is a network in which the majority of the routes are connected to a centralized point that functions as a hub. The majority of the routes in the MyCiTi system start or ends at the city centre (Civic centre) and are not connected by an orbital route. In the planning documents, we cannot find a discussion about the systems radial design. From this we can assume that it is not considered as a problem, this could be because the economic opportunities are considered to be in the central areas of the city. During the interviews we found what the effects of the radial system are for passengers. To be able to go to one area in the city to another, a passenger has to transfer in the city centre. This is even the case when the passenger wants to travel to an area that is not located in that direction, this makes the transfer through the city centre unnecessary. McLeod et al (2007, p.5) further claims that the radial system is poor in improving the mobility of people in the city, forcing them to spend a lot of time on traveling. During our observations we have seen that the radial system forces people to travel through the city centre even if their final destination is not in that direction. We believe that if you see the city centre as the place where the economical opportunities exist, the radial system can be a good solution for letting people be able to move to that point. This since the radial system makes the routes direct, and therefore, the fastest route to the centre. However, as we have seen during our observations and from the focus group interviews, when it comes to social activities and to some extent economic opportunities, the radial system forces people to take a detour into the city centre, forcing them to spend more money and more time on the transportation.
In the focus group interviews, the participants were asked to draw different kinds of routes to get to their everyday destinations; examples are shown in Figure 5 and 6. In comparing the maps from the focus group interviews, we can see large differences in the informants’ movement patterns. Both these informants are 24 years old, one is female and one is male, but they have significant differences in their patterns of movement. The results in figure 5 can indicate on what Martens (2005, p.5) defines as high mobility. This informant’s movement pattern is shaped as a radial system with the informant’s home as a centre, and do not relate to the structure of the MyCiTi system. One important factor is that this informant has access to a car.

The results from the second informant (figure 6) are centred along one route, from the informant’s home to the city centre. As the informants express it; “kind of using the same route for everything” (IP2, focus group 2, 2017-04-05). This person does not have access to a car and therefore have to rely on the existing modes of public transport that are available in the area, which also is notable in figure 6. The person would be considered as a captive user of public transport. The reasons to why the second informant’s movement pattern is formed as it is, is not clarified from the interview. It could be due to her/his absence of a car or it could have got the form by choice. However, one explanation is that this movement pattern is an effect of the radial design of the public transport system, and the absence of an orbital route.

The two different maps of movement patterns are chosen as good examples of our entire collection of maps. In analysing the maps, we have seen differences in the informants’ movement pattern depending on if they have access to a car or if they rely on the public transport system. The access to a private car or not has a severe impact to accessibility. The movement patterns also differ depending on the area the person lives in, this because different areas of Cape Town are served by different modes of public transport. Transport poverty is described as a situation when a low-income household are resident in an area far away from the city and far away from public transport station (Pooley, 2015, p.100). According to our informants, this is an experienced situation of people and
entire townships located in Cape Town. One of our informants lives in the area Mfuleni, a township with more than 50,000 residents located in the Cape flats around 40 kilometres from the city centre (Mfuleni, Census data, 2011b). In this area people have only access to the Minibus taxi service as a mode of public transport. The informant claims that s/he experience difficulties in accessing the city centre because the Minibus taxi service only operate when there is a demand, i.e. during peak hours. During midday and evenings, the people in Mfuleni have no access to any public transport. This is since Mfuleni is a low-income area, where not everybody has access to a private vehicle; their opportunities for mobility are limited. As argued of Martens (2012, p.5) a person’s mobility can be about her/his possibility to move in space and not necessarily about physical movement in the city. The residents of Mfuleni risk of being socially excluded from the city; during many hours each day the residents do not have any possibility to access the economic and social opportunities that the city has to offer. This, even though the planning documents argues that public transport should be implemented where the greatest need is (CITP, 2013, p.19).

DESIGN OF BUSES AND STATIONS

The design of the MyCiTi vehicles and the transfer stations have, from what we have heard during the focus group interviews as well as what we have observed, an inclusive design. This makes it possible for e.g. people with disabilities to enter the stations and the buses. The buses have open spaces for wheelchair and strollers, and in the MyCiTi rules (MyCiTi, 2017d), bikes brought on the buses is encouraged and seen as something positive since this indicate on a more environmental friendly way to get to the buses. This is in line to what is expressed in the CITP (2013, p.194f), saying that public transport systems should have an inclusive approach to provide physical access to all and not excluding any group in the society. The focus group informants have expressed the high standard on the buses as a positive aspect. They expresses that MyCiTi have good quality equipment compared to other public transport modes in Cape Town. The officials also express the positive aspect of the universal access to the MyCiTi’s vehicles in form of an inclusive design with ramps, place for wheelchairs and seats reserved for older, pregnant women or injured people as an indication of good accessibility for different target groups. The transfer stations also have an inclusive design with entrances on ground level and separate and wider entrances for people with disabilities. Both feeder and trunk busses are equipped with seats and standing places for travellers. One of the officials expressed it as a necessity to be able to get as many travellers as possible on the buses. This means that the systems can be more economically viable and that the passenger capacity is increased compared to buses with only seating. This is, on the other hand, expressed as a bad thing according to one focus group informant, arguing that s/he experiences the MyCiTi buses claustrophobic during peak hours because they have no limit of people entering the bus (IP4, focus group 1, 2017-03-23). We believe that this negative perception of the buses can be a result of the commuters’ expectations of the conditions of the new system. Many of the focus group informants have expressed that the system is considered to be more expensive than other systems. Therefore, commuters are likely to believe that the standard of the MyCiTi system should be better compared to other modes of public transport in Cape Town.

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8 Peak hours 6.45-8.00AM and 16.15-17.30PM
MODE OF PAYMENT

The calculating of the cost of travel depends on a number of factors. Firstly, the system is divided into two different ways of loading money or points to your card (MyCiTi, 2017). The card is called Myconnect card, and for loading value onto the card you can chose to load either money (standard fare) or points (mover) (MyCiTi, 2017b). If you decide to load money to the Myconnect card, the value can be used for travels on the MyCiTi, and as a credit card in chosen stores. This means that the traveller can use the same cards for traveling and shopping groceries. The other way of loading value to the MyConnect card is to load it with points (1 point=1R), this fare is called MyCiTi mover. With points you save 30% or more (compared with the standard MyCiTi fares) on every trip. These points are dedicated only for travels on MyCiTi buses and cannot be used for anything else (see figure 7).

As shown in the figure 7, the system and price of travel is divided into two different price intervals depending on peak or off peak hours. During peak hours the prices are higher than during off peak. The peak or off peak hours is counted from the time that the traveller entered the system, meaning that passengers can enter the stations or the bus (tap in) one minute before or after peak hours and therefore paying the lower cost for the trip. The cost of the trip is also dependent on the distance of the trip, as shown in figure 7. This means that there is many factors to what the cost of a trip will be, and it can therefore be hard for a passenger to know the cost on beforehand. The focus group informants expressed difficulties in understanding the calculation of fares for the MyCiTi system. During the observations we also perceived the mode of payment difficult to understand and had to study the system on the MyCiTi’s webpage to be able to figure it out. The officials also confirmed the mode of payment as a problem. One of the official informants describes the fare system as:

“... and it is quite a complicated fare system, eum, but yah its not very user friendly at all in terms of it..” (IP2, officials, 2017-04-05)

The complex system of paying can frighten people to try out the new system and therefore choose a mode of transport that they are familiar with, something that informants from the focus groups have expressed. As Friman et al (2016, p.37) argues, accessibility does not necessarily have to be about having access to a system but can also be about an individual's opinion in how easy the public transport system is to use. When the system itself is formed in a complicated way this can make the system less accessible for some people, who instead may prefer to use a system that they already know. Many of our informants have expressed that they, and their friends, mostly use a system that they already are familiar with. As expressed of one official, if a person has travelled with one minibus
taxi-driver during many years, it is easier for her/him to continue travel with that driver even though that a new system have been implemented in the area (IP1, official, 2017-03-30). This person has created a relation to that driver, trust him/her and therefore feel comfortable in that mode of transport. The official further argued that in planning the MyCiTi system, the planning authority probably underestimated the level of community involved in providing transport. And as expressed by Friman et al (2016, p.38), if a traveller have a bad experience with a new public transport system it is most likely that s/he gets a negative perceived accessibility to the system. Therefore, s/he likely chooses to use a system s/he already is familiar with. As an example of commuters not having a clear understanding of mode of payment with the MyCiTi system, the quote below illustrates the confusion:

“..peak and off peak, like in the morning, in MyCiTi, before six, its for free.. You will see it does not take your points.. So from six to eight, no, six to seven it will be like 5.9 and after seven it will be like 8.9 points.” (IP4, focus group 1, 2017-03-22)

With this quote we can see that for commuters it is not clear what the cost of travel is during different times of the day. They know that the cost is different depending on time, but there is a lack of knowledge by the commuters over the cost. This means that the information regarding the cost is not sufficient, because some people believe it is free to use the system before a particular time of the day, even though it is not the case.

Finally, we want to discuss two difficulties in the system of topping up value to the Myconnect card. The first problem is that the majority of places for topping up is located in the city centre, on some transfer stations and in specific stores (MyCiTi, 2017a). Residents in the township Khayelitsha, with a population of around 400 000 people in an area covering almost 39 km2 (STATSSA 2017), only have one store to top up their card in the whole area. Otherwise they need to find another means of transport to be able to go the city centre and top up their card.

The second problem with the top up system was expressed of one focus group informant; s/he was concerned about penalties that can occur when you are using the Myconnect card incorrectly (IP3, focus group 2, 2017-04-05). The penalties differs from 10R up to 22R (except if the traveller is on their way to the airport, in that case it is 92R) and the reasons for getting a penalty is the following:

- Forgetting to tap in/out of the bus/transfer station
- If you tap the wrong validator (Example tap the out-validator instead of in-validator when entering the bus)
- Enter a bus/transfer station with to little value loaded onto your MyConnect card

This means that if a person enter a MyCiTi bus or transfer stations and missing 1R on his/her card, that person have to pay a penalty from 10-22R (depending on how many times before this has happened to this person). The penalties of 22R can, for people with low-economic income, be considered as a large amount. The penalties for using the Myconnect card incorrectly are something that can influence the perception of the MyCiTi system as a whole. A negative perception of the payment system risks to decrease the perceived accessibility of the system, and in the end, contradict mobility. Resulting in no effect in contradicting social exclusion.
5.2 Resources

In the context of public transport, resources can be considered as something that a person is able to spend to be able to move in the city. Not all resources are economical, and therefore have we divided the overall concept of resources into two themes; Time and Cost. These two themes are attributes that we have found repeatedly throughout our study, and they are expressed as important aspects by the focus groups informants, officials and in the planning documents.

TIME

“...so it could be about 2 hours per way basically.. So it’s four hours a day I spend traveling.. that’s quite a nightmare..it is…” (IP1, focus group 3, 2017-04-06)

Time of travel, is one of the most frequent issues with public transport in Cape Town, that we found in our research. The quote above illustrates that the time of travel, to and from work can vary much from day to day. The situation about a total of four hours of travel time each day is not just one specific case with a person that lives in the outskirts of the city, but rather an effect of the design of the system and the urban sprawl of the city. The amount of time spent on public transport leaves little or no time for social activities for many commuters. As expressed by one informant, transport becomes their “..everyday thing, or your monthly thing ” (IP2, focus group 2, 2017-04-05). As discusses by Preston & Raje (2007, p.153) social exclusion does not have to be about a lack of social opportunities but a lack of access to the those opportunities. One of the reasons for not being able to access social opportunities is that there is not sufficient time, and given that commuters spends so much time on public transport, access to social activities is limited for many in Cape Town. The people that spend the most time on public transport are those that live in the outskirts of the city with low socioeconomic status. These are the people furthest away from economic opportunities, and by spending the most time on public transport, they are also the people that have the less time to participate in social activities. The results of our research in terms of time, is similar to what Church et al (2000, p.199) argues are attributes for time based social exclusion, in that the people with furthest distance to economic opportunities, are also the people that have the least time for social activities. This indicates that there is a great need to reduce the time of travel, and in particular for those with the furthest distance to economic opportunities.

From our observations we can conclude that the MyCiTi route along the west coast corridor, to mostly wealthy suburbs, it the only route that has a dedicated lane to reduce the time of travel. Whereas the MyCiTi service to the low-income townships in the Cape Flats do not have this dedicated lane. Resulting in that those with the lowest income have to spend more time on public transport than those who are wealthy, directly contradicting equity and sustainable social development. It is not only the absence of a dedicated lane to different locations that affect the long travel time, other reasons also contribute to this, such as that the network consist of different modes of public transport. The different modes of transport can be good to promote accessibility; together they cover a vast area. However, the different modes are not integrated; the payment methods are not the same and the stations for the different modes are close to each other, but there is still a need to walk some distance between them. This results in more time being spent.
As mentioned before, we have through our observation study found out that the public transport network, with buses; minibus taxis and train, all are designed as radial systems. Mcleod et al (2017, p.5) describes this as particularly bad in promoting mobility. This means that the design of the system itself does not counteract social exclusion. This is something that one informant describes well in retelling his/her way of travel to and from work (IP1, focus group 3, 2017-04-06). The travel consist of taking the train to the city centre, a transfer to the MyCiTi bus system where s/he chooses a longer trip with the MyCiTi bus to work because the route that is the closest is, according to the informant, “always crowded and late” (IP1, focus group 3, 2017-04-06). What we can conclude from this is that, both the design of the network and the capacity of individual routes increase the time of travel of the individual, not resulting in a counteraction of social exclusion for the commuter.

In the planning document from the TDA, the notion of reducing the time of travel is also present. The TDA claims in the IPTNP (2013, p.1) that to create a vibrant city, it is important to balance capacity with low travel time on all trips. TDA also states that one goal for public transport is to reduce the door-to-door travel time to a maximum of 60 minutes (IPTNP, 2013, p.31). This since, as stated in the CITP (2012, p.69), the time of travel using public transport is three times higher than the time of travel with a private car. The reason for this is long waiting times, transfers and the fact that cars have a higher operational speed. Moreover, the TDA claims that the main reason that it is possible to operate public transport system on time is because of the dedicated lanes that the MyCiTi trunk services use (CITP, 2012, p.78). However, in the implementation of the MyCiTi, not all routes in the system have these dedicated lanes. In other parts of the city than the dedicated lane along the west coast corridor, the feeder and trunk buses functions as ordinary buses, as we could conclude from our observation study. One part of our observations was to go from the city centre to Mitchells Plain during the peak-period in the afternoon. On the way to Mitchells Plain we stood still on the highway a number of times, trapped in traffic, resulting in that the journey took longer time (18 min) than stated by the time table (see appendix 3). What we can conclude is that the implementation of the BRT concept have only followed the planning documents when being implemented in wealthy areas, and in areas with low socioeconomic status, the implementation of the BRT concept have followed conventional planning and, therefore, the planning has not been consistent. As a result we can see that the investments in MyCiTi, was not focused during phase 1 of construction to those with the greatest need for the investment. Just like Martens (2006, p.12ff) argues is common in transport planning. However, the focus on the choice users instead of the captive users makes the planning inequitable from a social perspective, as argued by Fainstein (2010, p.37ff) because it does not redistribute resources.

The planning authority directed the investments to a group of people that previously did not use public transport and tried to advocate for them to start using public transport. It is possible to see this ambition as a way to reduce the number of cars in traffic, and improve the situation with congestion, i.e. improve the environmental sustainability. As Gössing (2016, p.7) argues, from a social justice perspective, to offer motorised public transport still is a better option than using private cars. However, with a social sustainability perspective, developing public transport to the choice users instead of captive users, does not promote mobility in areas with low-economic status. The inhabitants in these areas, that are located furthest from the economic opportunities, not only have to pay more in economic measures, but they also pay by their time. Making the investments in the MyCiTi unsustainable from a social perspective.
During the interview, one official stated that one assumption from the TDA was that if a person can access one mode of public transport, it is possible for them get access to the other public transport systems. The official argued that the different public transport system functions as a network, and once a person is in the network, that person can access opportunities. The assumption of the official is in a way true. What we have found is that commuters can use all of the different modes on a daily basis. Many of our informants described that they use one or two modes of transport to get to work, and then use a third alternative on the way back. The choice of what mode of transport a person uses seem to have a lot to do with what time of the day it is, but also the number of passengers that are traveling together will affect what type of transportation that will be used. In the interviews, we have also found out that the life situation of a person also affects if that person would be likely to chose to use public transportation.

“So now, the girl that is working, that live in Khayelitsha, they have a problem because they need to take a train, a bus and a taxi and some people have to take four taxis, because there is no other option.” (IP2, focus group 3, 2017-05-06)

That a commuter need to change mode a number of times before reaching his or hers destination, using many of the different public transport systems, affects the time of travel. It is, as one of the officials claims (IP2, official, 2017-04-05), once you have gotten into the network, you can use the whole system. Given that you have the ability to use the other payment methods, and can afford to pay for another trip with a different mode of transport, as expressed by the quote. But the need to be flexible and take the mode of transport that is most suitable for the time is not something that promotes mobility. There is no guarantee that the use of one single mode will be sufficient, instead the need of being flexible is something that causes uncertainty and does not promote mobility. What we can conclude is that not only is time of travel an issue that public transport planning aim to address, but it is also an issue for the users of the public transport network; the users will never know how long time it will take for them to get to and from work. The issue seems to be the largest in areas where many different modes of transport is required to be able to get to work. It is also in these areas where phase 1 should have been implemented from a justice perspective.

COST

"...because asking the user to pay any more than they are, or able, is asking them to pay more than they can. I mean, we are already at 40 per cent of disposable income is put on public transport..”

(IP1, official, 2017-03-30)

As illustrated by the quote above, the price of public transport in Cape Town is very high, in relation to the disposable income. In some cases it can be as high as 70 per cent (CTIP, 2013, p.228). This is extremely high in comparison with international standards, which according to TDA is 5-10 per cent of the disposable income spent on transport (CTIP, 2013, p.228). The high percentage of disposable income spend on travel in Cape Town shows just what the official states in the interview, that it is not possible to operate the MyCiTi system without subsidising the cost of travel. The high cost of travel in Cape Town is something that can exclude people with low income from being able to use the public transport network, leading to what Church et al (2000, p.199) calls economic exclusion. This means
that because the high cost of transportation, many people that have a low income can experience public transport as inaccessible and therefore decreases the chance for them to access economic opportunities.

In the IPTNP (2013, p.102) it is stated that it is important that public transport can cater for the passengers need, while being affordable, both for the city and its citizens. Exactly what affordable means in this context is not further explained, however an interpretation of it would be that all citizens could afford to use public transport. As mentioned earlier, the cost of travel with the MyCiTi system depends on a number of factors; distance of travel, time of travel and what kind of payment method the passenger uses. Distance is one of the factors that increases the cost of travel, and the people with the lowest socioeconomic status lives in the outskirts of the city, therefore trips with the MyCiTi system becomes more expensive for those with the lowest income. From an equity perspective, based on Fainstein’s (2010) arguments, the fare system should be reversed, so that those traveling the longest would pay less, and in that way make the system more affordable for those with the lowest income. A more affordable system is also something that Levitas (2005, p.170ff) argues would increase the social inclusion of the society. As the MyCiTi system is designed today, the system rather contradicts this idea.

However, there are ways for the individual to decrease the cost of travel. One of these ways is to travel during off peak periods. The lower cost of travel at off peak, is an attempt to level out the number of passengers using public transport during the day to better correspond with the capacity of the public transport system (IP2, official, 2017-04-05). This official informant also expressed that s/he had seen people waiting outside the stations for the off-peak period to come, probably to save money. From an equity perspective, this way of trying to level out the number of people travel during peak hours can be questioned for a couple of reasons. Firstly, it is likely that it is the passengers with low income that are the ones that needs to sit outside the station waiting for off-peak period to come. This means that, once again, they need to pay with their time in order to pay less money. Secondly, not everyone are able to have flexible work hours, which means that those whom are not able to control their working hours may have to spend their time waiting for off-peak to enter, in order to save money. The fact that people have to spend their private time in order to save money means that they have less time to spend on hobbies, community activities or with their friends and family. According to Schwanen et al (2015, p.124), this tends to strengthen social exclusion. The different prices for on and off peak can be good for trying to even out the number of people travel during peak periods. However, with an equity perspective, it rather reinforces the already existing gaps by forcing people with low income to travel under inconvenient hours and also pay with their time by sitting outside the stations waiting for the peak hours to end. Furthermore, the price of traveling with MyCiTi is, according to some informants, perceived as expensive and according to one person, this will prevent some people from using this specific system:

“Ehrrm, so at the point you have to load on money, if you can afford it. I think it’s more expensive, I don’t really have the words... I think not everyone hops on to a MyCiTi, you get certain people in certain classes that are on the MyCiTi. So it’s not everyone that uses MyCiTi.” (IP1, focus group 1, 2017-03-22)
Because of the high associated costs with the MyCiTi system, it is likely that the system can be perceived as inaccessible. This tend to increase the level of social exclusion of people that cannot afford to use the system, based on Church et al (2000, p.199) idea of economic related social exclusion. The perceived high cost of travel with the MyCiTi, can exclude people from using the public transport system, this would mean that those who cannot afford public transport, will also not be able to access economic opportunities, education and social activities. This means that, according to Kenyon et al (2011, p.764) those who cannot access the public transport system, also will not be able to experience social inclusion. Therefore, it is clear that there is, as Levitas (2005, p.170ff) argues, a need for a more affordable transport system, so that more people will be able to access economic opportunities and in that way be able to experience improved social inclusion. The design of the MyCiTi system is a good example of an unjust result of public transport planning. The investments have been directed to attract high-mobility groups that demand transportation, and not to those who need it the most, just as Martens (2006, p.12) argues is common. As argued by Schiller et al (2010, p.16) getting people with different socio economic background, to use the same system is something that can increase the social relationships between people with different backgrounds and in that sense promotes social inclusion.

“Yeah, people always says it’s expensive.. but i’ve never tried it. But I don’t know, just it never come to mind.” (IP2, focus group 1, 2017-03-23)

One of the aims of the public transport planning in Cape Town is to create an affordable public transport system (IPTNP, 2013, p.102). The quote above indicates that people do not consider the MyCiTi system to be affordable. The idea that it would be expensive does not have to come from a person’s own experience, but it can be something that can be generated by others. This is a clear example of what Friman et al (2017, p.37) categories as a perception of the system, and it affects the accessibility of the system. As the quote illustrates, this person have never tried the MyCiTi system, but have heard, from numerous people, that it is expensive. This indicates that it is not only the individual’s experiences that matters when creating the perception of the system, but an individual’s perception of a system is also influenced by others. The idea among people that the system is expensive indicates that the planning of the system have not managed to implement what is stated in the planning documents, in terms of achieving an affordable system. When compared with other modes of transport, the fares for MyCiTi, is not that much higher than other systems. In some cases, as when people in a minibus need to change vehicle, sometimes four times during one trip and needs to pay again when entering a new vehicle, the MyCiTi system is actually cheaper. However, from what we have learned from the focus group interviews, there are a lot of confusion and little knowledge of how the fare calculating system works. This confusion is likely what causes the idea that the MyCiTi system is expensive. Therefore, there is a large need to work with passenger information regarding the cost, or change the fare calculating system completely.

From the interviews with the officials from TDA, we can see that the operating cost for the MyCiTi system is a large issue. This since in the planning of the system, the advocators of BRT argued that the city of Cape Town would not need to pay any subsidies, and the fares would cover the cost of operating the system. As states in the quote below (next page). When the system was implemented, it was clear that this would not be possible, so today, the city of Cape Town subsidises the system, so that the fares are lower and most of the people are able to pay the cost for the service (IP1, official,
2017-03-30). If the city of Cape Town would not subsidise the cost, the price of the tickets would increase, and it would create a situation where it is impossible for the users.

“..they saw it as quick win. It was something that provided good service that they control and they were promised a much lower cost. And they (TDA) were actually promised no operating subsidies whatsoever...” (IP1, official, 2017-03-30)

5.3 Security

One attribute that clearly is an issue in Cape Town is security. This is something that focus groups informants, officials and planning documents all stress as a concern. In our research we have found that there are a number of aspect that relates to security, these aspects are in this section grouped into three themes; Spatial safety, Personal safety and Infrastructure and reliability.

SPATIAL SAFETY

“Public transport users must experience high levels of safety and personal security at all times”

(CTIP, 2013, p.118).

In the planning documents from the TDA there are numerous references to the importance of safety regarding transport. Many of these references concern road safety, however the importance of personal security is also well established, as the quote above illustrates. The quote is interesting for two reasons. Firstly it is not stated which public transport system it refers to, and because of this we interpret it as it applies to all public transport systems in Cape Town. Secondly, the quote states that high levels of safety should be experienced at all times. We interpret this as also applicable on the journey to and from public transport station. In our interviews with the focus groups, the informant express that the MyCiTi system, buses and stations, is perceived as safer compared with other public transport systems. Focus group informants claim that one of the reasons for this is that they rarely are by themselves at the stations. One attribute that contribute to this is the transfer stations in which you need to swipe your card to enter, and are supervised of both CCTV and MyCiTi employees at place. During the observations we also experienced the transfer stations as a secure place that we could relax in and not worry about something happening to us. For example, on our observation tour to Mitchells Plain, we were supposed to go of at the Mitchells Plain transfer station, change bus and go back to the city centre. Accidentally, we took the wrong bus in the opposite direction and had to get off at the next bus station and walk back to the transfer station. During this walk we experienced insecurity, many people stared at us, which increased our perceived unsafety. We had also been told that Mitchells Plain is not a place where you should walk alone if you are not familiar with the area; perhaps this knowledge increased our perceived feelings of uncertainty. Once we stepped into the MyCiTi transfer station we felt much more secure. However, it is important to address that not all of the stations are designed as transfer stations. Predominantly, stations of the feeder lines are formed as a classic bus stop on the side of the road. The experience of fear related to getting to public transport stations is not something that we are alone in experiencing, as illustrated by the quote below.
“...Where I stay, it is not safe to walk the distance to the MyCiTi bus stop. And when I am waiting at the bus stop, I can be mugged there as well. So safety, it is not prioritised and it has not been concerned.” (IP2, focus group 2, 2017-04-05)

In the CTIP (2013, p.118) it is stated that public transport users should experience safety at all times. In this it is also important to look at the safety around the public transport system stations and not only at the actual stations and on the safety during the use of the system. If a person does not feel safe in going to and from a public transport station, the safety situation of the system itself does not matter as much because the way to and from a station also affect the perception of the system, as argued by Friman et al (2016, p.37). That passengers feel safer on the MyCiTi buses and transfer stations is clear, however, regarding safety for the journey to and from bus stations, the situation is quite different. As illustrated in the quote above (previous page), the safety situation in different areas around Cape Town is different, and in some areas, people consider it not to be safe to walk to the bus stop. The planning and implementation of the MyCiTi system does not seem to have considered this.

PERSONAL SAFETY

“For me, safety is most important. I haven’t got any problems with getting late as long as I get there in one piece.” (IP3, focus group 1, 2017-03-22)

Security and safety are two recurring issues that is expressed several times in all of the group interviews. The level of security is different depending on the mode of public transport in Cape Town. During the interviews, our informants often expressed concerns about safety and security in relation to public transport. The recurring concerns about safety and security indicate that many of the users experience the use of public transport as something dangerous. This is something that affects the accessibility of the public transport network in a negative way. Friman et al (2016, p.37) argues that the perception of a public transport system has a large impact of weather or not people are going to use the system. In the case of public transport in Cape Town, there are large issues with safety, both to and from stations, but also during the usage of public transport. The perception of a public transport system to be unsafe, affects the accessibility of the system. When a system is not perceived as accessible, the system in itself becomes inaccessible for those who consider the system to be unsafe.

The perceived notion of an unsafe public transport system, affect the accessibility of the system negatively, which in itself affect the mobility of people negative. The negative effect on mobility for people that the safety concerns, causes risk leading to what Church et al (2000, p.199), calls fear based exclusion. This means that people, because of the fear that something will happen to them during the use of public transport, hesitate to use it, affecting the mobility of those people. The fear strengthens the social exclusion because of concerns about safety. As Church et al (2000, p.199) claims, fear based exclusion indicate on a person not being able to use a public transport system based on fear.

“So that is why, when you go to bed you need to say thank you God, and when you go up in the morning you say Please God.” (IP1, focus group 2, 2017-04-05)
The opinions about who uses the MyCiTi system differ depending on whom you ask. None of the informants in the focus groups or officials states that there are only one group of people that uses the MyCiTi system. During our observation study, we could conclude that there is not just one particular group of people that uses the system. However, from our study we could see that the majority of the passengers were females, and predominantly black and coloured. The fact that the majority of the passengers are women can be considered as an indication of that the system is considered to be safe. In our interviews with focus groups, many informants argued that if you are a woman, it’s important to be watchful when using public transport. This do not seemed to be the case for using MyCiTi. Some of the informants express that there are differences in who is using the system depending on what route you are looking at. That there are different groups of people using the system seems to be something that is different from the train system and minibus taxis. One informant expresses the following:

“...And what I have seen with the MyCiTi bus, even people got, you know got enough afford, they use MyCiTi. And white South African, they would never put their life in risk...” (IP1, focus group 2, 2017-04-05)

Further s/he discusses that the MyCiTi system is the only mode of public transport in Cape Town where s/he has seen white people that, according to this informant, are not in the same socioeconomic class that the rest of the travellers. This can be connected to Schiller’s et al (2010, p.17), they also claim that an important factor for public transport is to promote social inclusion. This because it is not just the mobility from point A to point B that is important, but the collective travel is important to build social relations between people. That is why public transport is important, and the MyCiTi system seems to be the first system that this mixture of people traveling with the same system is starting to occur in Cape Town. This is important, not just for the passengers, but also for the social sustainability of Cape Town.

INFRASTRUCTURE AND RELIABILITY

According to the officials, the train service counts as the backbone of the public transport network in Cape Town. However, the current train services cannot meet the need for mobility from these areas. The train service in Cape Town is way below the international standard, with cancellation of trains measured to 3,6 per cent 2011 compared to the international benchmarks for 0,5 per cent cancellations (CTIP, 2013, p.58). This is, according to the officials, one of the reasons why the MyCiTi service has been implemented, since there was a clear need for a more reliable system. As stated in the CTIP:

“..to ensure the continued functionality of the transportation system and to promote a reliable, effective and integrated transport system that supports the sustainable economic and social development of Cape Town.” (2013, p.144).

The MyCiTi routes to and from Mitchells Plain and Khayelitsha do not have dedicated lanes for the bus routes, forcing the MyCiTi bus to be part of the regular traffic. In this way the trunk routes to and from these two areas differ from the trunk service from the city centre to the more wealthy areas up the west coast. From this we can conclude that the MyCiTi service to the poorer areas in the city has
not been given the same priority, in terms of investments for improving the reliability of public transport.

The answers from many of our informants, both officials and commuters, points to one of the attributes that MyCiTi system has; reliability. One of the major contributing reasons to this is that, in most cases, the buses stick to the time schedule for that particular route. Whereas, other public transport systems do not seem to be as reliable as MyCiTi. The focus group informants expresses a numerous examples to why the MetroRail service is unreliable, that the trains under many occasions are standing still on the tracks and there is no information available for passengers to why. Furthermore, the minibus taxis do not have any time schedule, so it is not possible to say weather it is on time or not. In addition to that, there are also reports from the focus group informants, claiming that passengers on the minibus taxis can, without warning, be dropped off and forced to take another minibus taxi or use another public transport system. This without being able to refund their paid ticket. This is not issues that users of the MyCiTi system faces, making that public transport system more reliable than the others.

The concerns about safety of public transport do apply for all the different modes of transport within the public transport network in general. However, there are some modes that are, according to the interviewees, considered to be more unsafe than others. This is also connected to the areas that the different means operates. The public transport services that raise the most concerns about safety are the minibus taxis and the train services, with some routes raising more concerns than others. For example, according to the interviewees, the train service through the southern suburbs towards Simon’s Town seems to be considered quite safe, the one to Khayelitsha is considered the opposite.

The focus group informants often express the minibus taxis as insecure due to the chauffeurs’ way of driving. According to one focus group informant, the drivers have a specific amount of money that they need to report to their boss each day and the money earned over that amount will be their salary. Therefore, a lot of them drive as fast as possible and making insecure and illegal driving choices, to get as many paying travellers as possible. The safety issues on the train are, according to the focus group informants, mainly about the function of the trains and the risk of getting robbed. The coaches are old and have not been given the maintenance required. Informants witness about doors that are not possible to close, leaving them opened when the train is moving. A lot of accidents happen due to insufficient maintenance of the tracks and signal systems. A fact that one of the officials confirms;

“..it’s just as our infrastructure aged and have not been maintained the lever of effectiveness have just declined further, and further and further.” (IP1, official, 2017-03-30)

One of our informants’ states that s/he chose to each and every day use UBER\(^9\) instead of other existing public transport in Cape Town. S/he expressed that UBER is the only mode of public transport that s/he feel safe on. Whereas other informants stated that they avoid certain routes at certain times, and the choice of transport mode may depend on if they are traveling alone or not. This is a

\(^9\) Uber is a transportation network company with headquarters in San Francisco. In Cape Town, the system is perceived (by our interviewees) as a public transport system.
clear example of what Church et al (2000, p.199) define as fear based exclusion, and have a direct effect on mobility of these people.

“So I think the thing that we heard most about, are reliability and that there will be a bus at a certain time and that there is information available about when that particular bus will arrive.” (IP2, official, 2017-04-05)

During our observations, we found that the MyCiTi as a safe and time reliable system. In total we conducted 27 trips during our observation study. When compared to the time schedule, 23 of 27 were departed on time or with a maximum 4 minutes before/after (appendix 3). 3 out of 27 trips were delayed at departure with more than 4 minutes, all of these trips were conducted during peak hours. 1 out of 27 trips arrived and left 6 minutes before departure time.

The observation results shows that, at least during our study, the MyCiTi system can be considered to be quite reliable. However, there are some occasions where the bus passes stations before the scheduled time. This can cause problems for the travellers, if they schedule their time in relation to the time-schedule provided by MyCiTi, they risk missing the bus. The need for being flexible as a commuter is something common during the focus group interviews, the trains can stand still without any explanation and then the passengers may need to take another mode of transport. The MyCiTi system does however provide more reliability than the other public transport solutions. As illustrated by the quote below:

“I have also used the current bus system; MyCiTi. Which I think is more reliable, and convenient.” (IP1, focus group 2, 2017-04-05)

The fact that MyCiTi have a better reliability than the other public transport systems improved the mobility of the users. Just like Martens (2012, p.5) argues, increased mobility does not just have to be an increased frequency of travels, but an improved ability to travel. By improving the reliability of public transport, the ability to plan a trip gets easier, this results in improved mobility of the users.

In relation to the quite reliable departure time, the reliability of the MyCiTi systems scheduled arrival times is somewhat different. What we found during our observation study were that 15 out of 24 trips were either on time or differed a maximum four minutes from the time schedule, either a little too early or somewhat delayed. 4 out of 24 trips was more than 4 minutes early to the destination, of these four, three of them were during the evenings after 18.45PM. It seems that in these cases, the drivers wanted to finish their working day as soon as possible, and therefore tried to save time by driving a bit faster than expected. One of these trips was suppose to take 44 minutes but only took 28 minutes, which means that if a passenger were not very early to a station along the route, that passenger would have missed the bus. It is hard to say if this particular situation is recurring and usual, however if it is, this would significantly decrease the reliability of the system. That buses arrival that much before schedule is worrying, this would mean that there is a possibility that passengers would arrive at the station just to find out that the bus have departed before the scheduled time, leaving the passenger left behind. This would have a direct effect on the perceived accessibility as argued by Friman et al (2016, p.37) and as a consequence also an effect on mobility.
Further, 5 out of 24 trips during the observation were more than four minutes late to the destination, 3 of these 5 trips was conducted during peak hours. It is also during peak hours that we have observed the biggest problems with reliability. The reliability of the MyCiTi system would differ depending on what time of the day it is. During our observation study, we conducted four trips during peak hours and three of these were delayed at arrival but all of them were at time of departure (+-4 minutes). The peak hour trip from Civic centre to Mitchells plain was suppose to take 52 minutes but took 72 minutes and this is one of the routes that some of our interviewees also have expressed most concern about, in terms of time reliability. This route stretches from the city centre to Mitchells Plain, a route that is also served by train. The situation is the same between the city centre and the township next to Mitchells Plain, Khayelitsha. This route is also served by train services and the MyCiTi system, as well as minibus taxis. Our informants, commuters and officials, claims that on these two routes there are a lot of trouble with the train-lines. Both that there are a lot of delays, no passenger information and in many cases, passengers need to continue by another mode of transport. Once again, with affection on the perceived accessibility of public transport, this inline with the discussion by Friman et al/(2016, p.37).

An increased reliability of public transport makes it easier for passengers to plan their time, this increases the accessibility of the system. Improved accessibility of a public transport system increases the level of social inclusion (Kenyon, 2011, p.764). However, when talking about increased accessibility and social inclusion as an effect of the system, it is also important to define for whom the system have provided the increased accessibility and social inclusion. As mentioned before, the majority of the current routes of the MyCiTi system are located either in the city centre or along the west coast corridor. Only a few routes are implemented to the areas with the lowest socio-economic status, such as Khayelitsha and Mitchells plain. In these areas there are no feeder routes to an existing trunk route, as there are in both the city centre and in the west coast corridor areas. This means that people in the poorer areas will have longer distances to bus stops. What we can conclude from this is that even if there are routes to both wealthy and poor areas by the same system, the design of the routes are different, making the routes to the poorer areas less accessible and reliable. In the end, the difference in the design of the routes, depending on to what area the route goes, makes the implementation the system inequitable. This since the economic investments in public transport have been directed to the more wealthy areas, and not to the poorer areas where the need for economic investments are greater.
6. Summary and conclusion

The urban form of Cape Town, a result of the apartheid system, strengthens the exclusion of different groups from economic opportunities. The aim of this study was to examine if public transport planning and implementation can counteract social exclusion. This by examining the arguments for what public transport contributes with in Cape Town and investigating the newly implemented public transport system; MyCiTi. The study has been conducted as a qualitative case study on the public transport system MyCiTi, and has been conducted from an equity perspective, based on Susan Fainstein’s (2010, p.35-37) and others arguments. What we have found is that there are a number of aspects considered in the planning documents for public transport in Cape Town. One of them is that investments in public transport should be made in areas with high levels for poverty, since it is there the greatest need for mobility is. The ambition for public transport planning is to create an affordable, reliable and cost efficient system that increases accessibility to economic opportunities and in that way counteract social exclusion.

Our research has concluded in that the implementation of the MyCiTi system has not been conducted from an equity perspective. This conclusion is based primarily on three different reasons. The first reason is choice of area for implementation of the first phase of the system. The current implemented phase 1, with a dedicated line along the west coast corridor, served to attract what is referred to as choice users rather than captive users, these terms for different groups of users can be connected to Martens (2006, p.12ff) definition of demand users and need users. From an economic and ecological perspective, this can be seen as a positive aspect. By attracting demand users with faster and cheaper alternative to the car, the emission of greenhouse gases and congestion can be reduced. However, the areas furthest away from the city centre, where many captive users are resident, have not been prioritised. The captive users are residents, that have no access to a car and rely on the public transport systems to be able to access work, education or social activities. These are the people that have the greatest need for a new public transport system and should, from an equity perspective, be prioritised. MyCiTi routes have been implemented in some areas with low socioeconomic status, like Mitchells plain and Khayelitsha. However, there are physical differences of the routes to these areas compared to route along the west coast corridor. The Mitchells plain and Khayelitsha routes do not have dedicated lanes for public transport, resulting in that during peak hours, the MyCiTi buses is trapped in the congestion and the travel time for the residents from this area is not decreased. This means that the economic investments in the MyCiTi system’s first phase have not been directed to those with the greatest need for the investments, instead the choice users have been prioritised.

Our second conclusion about equity is related to the implementation of phase 1 of MyCiTi and to time and cost of travel. As mentioned, the implementation of phase 1 resulted in reduced time of travel for the residents in the areas along the west coast corridor, because this is the only route that has dedicated lines for the MyCiTi bus. For people that earlier used a private car as mode of transport, the change to MyCiTi would be a cheaper and in some cases also faster option. However, because of the complex fare system, where the cost of travel depends on the length and time of travel, the people that need to travel the longest is the ones that needs to pay the highest fares. As argued by Levitas (2005, p.170), an affordable system that is accessible for everyone is essential to improving people’s mobility and counteract social exclusion. What we can see in the case of the MyCiTi system is that people with the lowest income, that lives in the outskirts of the city, needs to pay more for their trip with public transport compared to those living in wealthy areas closer to the city centre. From an
equity perspective, the fare system should be reversed, so that it would be more beneficial to travel long distances with public transport.

The third reason for our conclusion is a theme that we have returned to throughout the study. This is the notion of perceived accessibility as explained by Friman et al (2016, p.37). Perceived accessibility can be divided into different aspects, one of these is safety. In a Cape Town context, there are large differentiations regarding safety throughout the city. Some areas can be perceived as relatively safe to walk a distance of one kilometre to the MyCiTi bus stop, in others, a one kilometre walk is perceived as dangerous and something that you cannot expose yourself to. This means that in the areas perceived as unsafe, there is a greater need to invest in numerous safe public transport stations, than in areas that are considered to be safer. What we have found is that the MyCiTi system is considered to be safer than other public transport systems in Cape Town, and as a result the majority of the passengers are female. The main reason for the improvement of safety is the transfer stations, where passengers can wait for the bus inside the station that is both monitored and manned by MyCiTi staff. However, these transfer stations are primarily located along the west coast corridor, in the areas that are considered as relatively safe. In the areas that are considered as unsafe, such as Mitchells Plain and Khayelitsha, there is only one such station. Meaning that the investments in safe stations have not been made where the greatest need for safe stations is, affecting the perceived accessibility and in the end, the mobility of the people in those areas. Resulting in no change regarding social exclusion in these areas.

Another attribute that affects the perceived accessibility is the functions of the system, which we have divided into two aspects. Firstly, during our interviews with the focus groups, we have found that there is insufficient information about the system. The lack of information is primarily regarding the calculation of fares. The complex system makes it hard for passengers to know the cost of travel, which have resulted in a perception that the system is expensive. Secondly, the physical form of the route system is shaped as a radial system, a design that according to McLeod et al (2017, p.5) is particularly bad in promoting mobility. The radial system forces passengers to take a detour through the city centre, even though their destination is not in that direction.

In conclusion, there are many different aspects that are important to consider when implementing a new public transport system in Cape Town. We have in our research found that the implementation of MyCiTi have not been conducted with social justice and equity as the main priority. Because of this, the new public transport system is not likely to make a significant difference in counteracting social exclusion in Cape Town.

DISCUSSION

The results of this study can also be put in a wider context, since social exclusion exists in many different places around the world. As discussed in the introduction of this thesis, the public transport planning is an important aspect in order to create a sustainable society. Levitas (2005, p170f) claims that to be able to counteract social exclusion in a city, mobility of people is fundamental. With an aim to build a more social sustainable society our study has shown that the planning and implementation of public transport systems does not rely as much on what you implement but rather on where and how it is implemented. With an equity perspective, public transport has to serve those with the greatest need instead of giving the demand users more transport choices. This is also argued by
Martens (2006, p.12ff) as an important factor in implementation of a new public transport system. The **need users** are dependent on public transport systems in order to be able to access opportunities that the city has to offer and they have to rely on the public transport systems to be able to be mobile. The **demand users** in the other hand, mostly want public transport systems as a complement to other modes of transport, as a private vehicle. Therefore the public transport systems do not ensure mobility for demand users but improves the possibility for them to be mobile.

Furthermore, based on the outcome of the study, we argue that it is important to look at the context where a public transport system is implemented. A system that is functional and improves the social conditions in one city does not necessarily need to have the same effect in another context. Even if different cities have similar preconditions in urban form and economic conditions, there is no certainty that the result of the planning will be the same in these cities. There are many attributes affecting the outcome of a public transport system and it can be hard to anticipate all of them. However, there are attributes that we during our study have found important to focus on in general in the planning and implementation of public transport systems. These attributes are **time of travel**, **cost of travel** and **perceived accessibility**. The results of the study show that to create a public transport system that promotes social sustainability the planning and implementation need to focus on these attributes. **Time of travel** needs to be shortened in general, but especially for people resident in areas far away from economic opportunities, this to give them opportunities and time for social activities. **Cost of travel** cannot be based of a system that is divided into fares based on length and time of travel, because this forces people the furthest away from economic opportunities to pay the highest price for transport. A system that forces short time traveller to pay a higher amount than long time travellers, is preferable for a social justice perspective since it would redistribute the costs, this is also argued by Fainstein (2010). **Perceived accessibility** differ from person to person, area to area and time to time. Factors like gender, ethnicity and economic opportunities are all important to have in mind in public transport planning. It is therefore important that the implementation of a public transport system deals with these aspects in order to create a system that is as accessible as possible for all. These three aspects are important to focus on when planning public transport in order to create a system that counteracts social exclusion.

Based on the results of the study, we argue that public transport can serve to create a more equal society and to increase social justice in a community. To reach these goals, public transport planning needs to focus on social and environmental sustainability, as well as economic sustainability. As argued by Healey (2007), the economic sustainability often is hegemony compared to the other factors. In order to create social justice in the society, the social sustainability need to be considered as equal to the other sustainability factors.

In conclusion, we believe that it is important for urban planners to remember that planning and implementation of public transport systems have large impact on people’s everyday life, and therefore always reflect on the results of the planning.
KNOWLEDGE FOR PLANNING AND FURTHER STUDIES

The empirical data used in this study is somewhat limited regarding the informant’s background and age. To investigate how other groups of people in Cape Town have been affected by the implementation of the MyCiTi system calls for further investigation and examination with a wider range of informants. Finally, the planning of public transport systems in Cape Town faces obstacles in term of the city’s urban sprawl. The physical structure of the city and the high cost of travel increases the need for an equity perspective in the planning.
7. Bibliography

7.1 Literature


7.2 Articles


Corresponding author


### 7.3 Online references


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MyCiTi (2015). *MyCiTi phase 2a to link metro south-east to opportunities*. Collected 2017-05-08 from:


7.4 List of figures and tables

Figure 1: Map of Cape Town with demarcation. Map collected from Google maps, edited by Elin Kajander 2017-05-09

Figure 2: Photo of movement pattern of one IP. Photographed: 2017-05-04

Figure 3: Map of Socio-economic index for Cape Town, based on Census data 2011. Collected from: CTIP (2013, p.20)

Figure 4: Map showing MyCiTi routes. Collected 2017-04-03 from: https://myciti.org.za/en/routes/route-maps/downloads/

Figure 5: Map with movement patterns. Map collected from Google maps, edited by Elin Kajander 2017-05-15

Figure 6: Map with movement patterns. Map collected from Google maps, edited by Elin Kajander 2017-05-15

Figure 7: Figure showing the MyCiTi fare system. Collected 2017-04-24 from: http://myciti.org.za/en/myconnect-fares/about-fares/

Table 1: Table with explanations of colours representing different movements. Designed 2017-03-21

Table 3: Table showing modes of transport in relation to income. Collected from: IPTNP (2014, p.6).
8. Appendix

APPENDIX 1: OBSERVATION SCHEDULE

<table>
<thead>
<tr>
<th>Day</th>
<th>From</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Monday</td>
<td>3pm</td>
</tr>
<tr>
<td>2</td>
<td>Tuesday</td>
<td>9.30am</td>
</tr>
<tr>
<td>3</td>
<td>Tuesday</td>
<td>1.30pm</td>
</tr>
<tr>
<td>4</td>
<td>Wednesday</td>
<td>7.00am</td>
</tr>
<tr>
<td>5</td>
<td>Wednesday</td>
<td>6.45pm</td>
</tr>
<tr>
<td>6</td>
<td>Thursday</td>
<td>4pm</td>
</tr>
<tr>
<td>7</td>
<td>Sunday</td>
<td>3.30pm</td>
</tr>
</tbody>
</table>

APPENDIX 2: OBSERVATION GUIDE

The observations were formed in a semi-structured way, which means that we were observing some specific attributes but were also opened for gathering data concerning other attributes. The observation schedule is shown below.

<table>
<thead>
<tr>
<th>Buss nr</th>
<th>From</th>
<th>To</th>
<th>Date</th>
<th>Time</th>
<th>Departure</th>
<th>Estimated time</th>
</tr>
</thead>
</table>

APPENDIX 3: OBSERVATION COMBINING

- **Right in time**
- **Early/late with maximum 4 min**
- **More than 4 min late**
- **More than 4 min early**
<table>
<thead>
<tr>
<th>Bus nr</th>
<th>From</th>
<th>To</th>
<th>Date</th>
<th>Time</th>
<th>Depart</th>
<th>Estim. Time</th>
<th>Arrival</th>
<th>Segreg?</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Van Riebeck</td>
<td>Civic center</td>
<td>6/3</td>
<td>14.03</td>
<td>14.08</td>
<td>-</td>
<td>14.28</td>
<td>Only civic</td>
<td>Off peak</td>
</tr>
<tr>
<td>2</td>
<td>Civic center</td>
<td>Salt river</td>
<td>6/3</td>
<td>14.36</td>
<td>14.36</td>
<td>31 min</td>
<td>15.02</td>
<td>Only civic</td>
<td>Off peak</td>
</tr>
<tr>
<td>3</td>
<td>Salt river railnorth</td>
<td>Adderly</td>
<td>6/3</td>
<td>15.45</td>
<td>15.43</td>
<td>13 min</td>
<td>15.58</td>
<td>Only adderly</td>
<td>Off peak</td>
</tr>
<tr>
<td>4</td>
<td>Civic center</td>
<td>Vrenheoek</td>
<td>6/3</td>
<td>16.13</td>
<td>16.13</td>
<td>-</td>
<td>-</td>
<td>Only civic &amp; gardens</td>
<td>Off peak</td>
</tr>
<tr>
<td>5</td>
<td>Ludwig's garden</td>
<td>Camps bay</td>
<td>7/3</td>
<td>09.40</td>
<td>09.55</td>
<td>14 min</td>
<td>10.07</td>
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<td>12/3</td>
<td>15.42</td>
<td>15.43</td>
<td>14 min</td>
<td>15.54</td>
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APPENDIX 4: INTERVIEW GUIDE FOCUS GROUPS

The interviews were formed in a semi-structured way which means that we were focusing on these questions but was at the same time opened for and added other questions depending on what direction the interview went. The interview schedule was formed in themes listed below.

Background, information about confidentiality

1. Transport and mobility
   Could you please describe how you move in the city? (what way of transport?)
   Where do you travel?
   How much do you travel every week? (Defined by length and time and number of travels)
   How much do move around in the city, not concerning work?
   What places is the most important one for you to go to every day/every week?
   How would you describe your ideal way of travel?

2. Public transport
   What are your experiences of public transport and how would you describe it?
   How far do you travel with public transport?

3. MyCiTi
   Do you use the MyCiTi service? (No, why not? Yes, what is your experiences?)
   According to you, who uses MyCiTi?
   What do you think is the positive aspects of MyCiTi? (accessibility, reliability, costs, number of departures, safety)
   What do you think is the negative aspects of MyCiTi?
   In what way have MyCiTi affected your opportunities to travel in the city?
   In what way does the system connect the different parts of the city?

4. IP knowledge
   Is there something that you feel is important when it comes to accessibility and public transport?

APPENDIX 5: INTERVIEW GUIDE OFFICIALS

Background, information about confidentiality

1. Public transport planning
   Could you please describe your work?
   How would you describe public transport in Cape Town?
   How do the different public transport solutions in Cape Town differ from each other?
   What would you say are the challenges with public transport planning in Cape Town?
   How do TDA face those challenges?
   What would you say are the priorities with public transport planning in Cape Town?
   How do TDA work practically with these priorities?
2. MyCiTi
Can you tell us a little about the history and background of MyCiTi?
Why do you think Cape Town introduced a new public transport system?
What do you think is the positive aspects of MyCiTi?
What do you think is the negative aspects of MyCiTi?
What are the differences between MyCiTi and other public transport solutions in Cape Town?
To whom was the MyCiTi service intended to serve?
According to you, who uses MyCiTi?
In what way does the system connect the different parts of the city?

3. IP knowledge
Is there something that you want to add?

APPENDIX 6: ORGANIZATION MAP OF THE TCT
Without the urban planning. Collected from: CITP (2013, p.XX)
9. Division of workload

During the study we have been equally involved, we conducted our study abroad and therefore have worked together every day. The workload has been equally divided in gathering the empirical data. Both of us conducted the observations. We also divided the workload of reading different planning documents between each other. In the interviews with both focus groups and officials we both were present, and took turns of who was the lead questioner. In the beginning of writing the thesis, we divided the responsibilities of different chapters between each other. Jakob focused on the theoretical framework and Elin focused on the method chapter. However, later in the process, both have been involved in reshaping and rewriting the entire document. In the end, the only real division of workload have been that we during one day worked at different places. That day, Elin was responsible for the illustrations and Jakob had more responsibility of text editing.