CAN A CITY'S MOBILITY CULTURE BE CHANGED?

A case study of the 'Circulatieplan' and its effects in Gent, Belgium

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Summary

Increasing car-related traffic and its negative impacts on quality of life (e.g pollution, congestion, occupation of valuable space etc.) are ongoing trends. For decades, many municipalities have planned for motorized individual traffic and not for people and this basic paradigm has seldom been successfully challenged.

This thesis will investigate the changes in local mobility culture due to policy change and its resulting spatial intervention. The main focus is on the question whether – and if so, how – a local mobility culture changes as a result of a specific spatial intervention.
The case study for this research analyzes the intervention of the *'Circulatieplan'* and its effects in the city of Gent in Belgium. This car-restrictive measure aims to promote more environmentally friendly modes of transportation, while at the same time restricting 'through-traffic' in the city center and its surrounding neighborhoods.

The overall aim of this research is to analyze if the *'Circulatieplan'* has impacts on Gent's mobility culture. If yes, to what extent can changes be observed until now? And which changes might have been apparent beforehand, that made this policy change possible?

Key words

Circulation plan

Gent, Belgium

Mobility culture

Modal choice

Travel behavior

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List of abbreviations

CP – 'Circulatieplan' / Circulation Plan

PT – Public Transport

UMC – Urban Mobility Cultures

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1. Introduction

Problems such as congestion, air and noise pollution, usage of valuable urban space and others are ongoing trends during the last decades due to increased car-related traffic. However, this dependence on car-traffic, its negative influences and modal splits in general differ between cities or regions. For example, in the German city of Bochum 58% rely on cars, while in Groningen in the Netherlands its only 36%. In Groningen 65% use non-motorized transport modes like walking and cycling, while this share is at 36% in Munich, Germany (Bratzel, 1999).

But while looking at these rather descriptive numbers, asking for the reasons behind those differences seems more interesting. Are these European or municipal differences due to topographic, socio-economic, cultural or other reasons? Or is it rather a combination of all these reasons that lead to such broad differences in people's travel behavior?

'Transport' as a field of study consists of more than just physical infrastructures as roads, a rail-way line or bicycle paths. However, these 'hard' or 'objective' factors such as urban form or also socio-economic factors certainly have a major influence on how people move and why they move the way they do. For studying the built environment, the concept of the 3 D's (Density, Diversity and Design) became quite influential during the last decades and has been used by several authors (Klinger, Lanzendorf 2015). However, looking at transport related problems *only* from an infrastructural perspective implies that solutions for these problems also are located within the development of infrastructure. To come to a broader understanding of how to promote more environmentally-friendly modes of transportation, an understanding of barriers, motives and attitudes of individuals is needed – these are generally more 'subjective' factors (Haustein, Nielsen 2016).

While trying to explain travel behavior and resulting modal splits, transportation research has been "characterized by an objective-subjective divide" (Klinger, Lanzendorf 2015: 245) for decades. As mentioned, 'objective' factors have an influence on travel behavior, but 'subjective' factors do as well. Focusing only on 'objective' factors tends to disregard individual' attitudes and decisions, while focusing too much on 'subjective' factors tends to disguise the influence of urban form or infrastructures.

A broader theoretical framework which combines both of these factors is needed to achieve a better level of understanding of this overall subject.

The concept of urban mobility cultures offers such an approach. It refers to a specific socio-cultural setting which combines both the "material and symbolic elements of a transport system" (Klinger et al., 2013: 18). This framework links the 'hard' factors such as the built environment, 'soft' factors such as travel-related attitudes, as well as urban transport policies (Klinger, Lanzendorf 2015).

The concept of urban mobility cultures in general is based on the assumption that both subjective and objective factors depend on each other and are interconnected (ibid., 2015).

In this thesis at first the statement of the research problem is described, followed by research questions and the scientific as well as societal relevance. This is followed by an overview about the theoretical framework of 'urban mobility cultures'. Afterwards, the methodology with research philosophy, research methods and strategy will be introduced. Subsequently the results chapter, which is divided into the four different analytical categories of Urban Mobility Culture(s) (UMC), is presented. Then the results will be reviewed in the discussion chapter. Finally, the research questions will be answered in the conclusion where also recommendation for further research is placed.

1.1 Research problem statement

This research will explore whether a specific intervention might lead to changes in a city's mobility culture. Can a new urban transport policy and its resulting intervention shape the existing local mobility culture in the short-term[1]? And will there be further influences in the future? These are the key issues that shall be addressed and analyzed during this research.

The car still remains in its position as the hegemonic form of transport in Europe, with all its related problems such as congestion, air pollution, noise and other reductions in quality of life (Haustein & Nielsen, 2016). These negative effects are particularly pressing in urban areas, because "most European cities have failed substantially to change their car-oriented urban transport policies over the past (decades)" (Bratzel, 1999: 177). Because the negative effects

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[1] Short-term refers to the time frame of the spatial intervention (2017 – 2020).

of this transport policies are "culminating in urban areas" (ibid., 177) there is a strong need – especially in cities – to change these car-oriented policies.

Some cities such as Amsterdam and Groningen changed their transport policies to some extent to promote more environmentally-friendly modes, especially in the center, in the 1960s and 70s (ibid.). In both cities, "strong resistance formed against the official auto-oriented policy plans of urban development and transport planning" (ibid., 186-187). The Circulation Plan which was implemented in Groningen 1977 for example enacted strict restrictions on cars entering the inner city.

These changes in local policies – which in comparison to other European cities happened quite early – can fundamentally shape the way in which people move in such a city. Political decisions, as well as urban planning and the resulting 'historically produced space' are crucial for a city's 'urban mobility culture' (Klinger et al., 2013). The concept of 'urban mobility cultures' combines the symbolic and material aspects of the transport system in a specific socio-cultural setting. These settings consist of "political strategies on the one hand and institutionalized travel patterns and the built environment on the other hand" (ibid., 18). The resulting influences of these political and spatial decision-making processes shall be the focus of this research.

Nonetheless it is assumed – after the literature research – that crucial political decisions lay (as one central element) at the heart of mobility cultures. Without those decisions which prioritize a certain travel mode – for example environmentally friendly modes – a mobility culture which can be considered sustainable would not exist. Political and spatial planning decisions in this way lay the foundation for a mobility culture to develop. And if positive results due to those decisions occur, a newly developing / more sustainable mobility culture may lay the foundation for more similar decisions in the future.

1.2 Research aim and research questions

The main focus of this research will be if effects on the local mobility culture can already (at the time of the research) be observed due to a specific intervention. Did this political / spatial intervention change the mobility culture of that particular city and if yes, in which way and to

what extent? Furthermore, it shall be elaborated during the research process if the mobility culture might change in the long-run.

<u>Main research question:</u>

- To what extent can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?

This main research question will be specified later, in section 2.5, by five sub-questions. These sub-questions are placed there on purpose, to give the reader a better understanding of them – after reading the theoretical background and seeing the conceptual model for this research.

1.3 Scientific and societal relevance of the research

"Cities have options for shaping their own future developments" (Klinger et al. 2013: 18).

As this quote highlights, the future development of cities does not just develop itself. Cities can adjust their own future development, e.g. prioritize certain environmentally friendly modes of transport and restrict unsustainable modes. Furthermore, Klinger et al. (2013) point out that some cities are used as best-practice examples, in particular they name Copenhagen, Groningen or Münster as 'good practice communities' (ibid. 2013) for sustainable urban transportation due to their high percentage of bicycle usage. Bratzel (1999) used Groningen, Amsterdam as well as Freiburg as "relatively successful cities" (ibid., 178) that implemented policies which lead to "an improvement of the transport-related environmental situation (which) was intentionally achieved by political action" (ibid., 178).

Deffner et al (2006) summarize with their conclusions on mobility cultures, that 'cultures' are shapeable or influenceable, although not in a linear form. 'The mobility culture' can not only be changed in a top-down process, the change depends on interactions. Furthermore, Klinger and Lanzendorf (2015) highlight that it needs an integrated approach of 'objective' and 'subjective' factors, because only focusing on one ('hard' *or* 'soft') is going to disregard important issues (elaborated in more detail in part 2.1 & 2.2). Due to the fact that the concept of mobility cultures is relatively recent, it needs to be applied in more studies to test the concept empirically (Klinger et al. 2013). To the authors' knowledge the concept of UMC (in the holistic understanding which will be used in this study), was at first mentioned by Deffner et al. in the year 2006. Although, the term 'mobility cultures' was also used in different other

contexts beforehand, as they mention for instance with a normative understanding of the term 'culture' which is not the case here (Deffner et al., 2006, see section 2.1). In this way this research will also produce new knowledge to contribute to the general academic discussion on this topic.

2. Literature review and theoretical framework

This chapter gives an overview of the relevant literature and the theoretical framework of 'urban mobility cultures' which will be applied during this research. Firstly, the terms of 'mobility' and 'culture' will be explained and defined for the sake of this research. This is followed by an overview about the theoretical concept of 'urban mobility cultures'.

2.1 Definition of the terms 'mobility' and 'culture'

When working with such a broad concept as 'urban mobility cultures' which takes into account so many different aspects, there is a need to firstly define what 'mobility culture' actually means. To do this both terms shall be defined separately at first.

'Mobility' can generally be described as "the ability to move or be moved" (OED 2002) or in other words, as the "capacity for movement or (the) change of places" (ibid., 2002). Furthermore, in the context of transportation research, mobility has been defined as "the potential for movement, the ability to get from one place to another" (Handy, 2005: 132; Hansen 1959). However, Grischkat (2008) notes that 'mobility' is also more than just 'traffic', more than the simple movement from A to B. This is because it also includes social and symbolic aspects. Grischkat (2008) highlights that there are different forms of mobility, such as spatial mobility or socio-cultural mobility. With spatial mobility Grischkat (2008) means that a physical (temporal) translocation takes place, this is than considered being 'traffic'. In this view, 'traffic' could be described as realized 'mobility' (ibid., 2008, Blechschmidt, 2012).

The term 'culture' was and is used in social sciences and other fields of study, in which the term was sometimes not clearly distinguished (Blechschmidt, 2012).

Janowicz (2006) describes the term culture from four major perspectives: a normative, a holistic, a differential-theoretical and a knowledge-oriented perspective. These four different perspectives on the term culture will be introduced in the next sections. The normative term of culture defines culture as a whole as quite the opposite from a natural status. It refers to an 'advanced culture' as a status in delimitation towards barbarism or a state of nature. (ibid., 2006; Blechschmidt, 2012).

The holistic – in contrast to the normative – framing is rather value-free. It defines culture as a specific form of living of a certain collective in a distinct period of time. Non-material aspects

as well as material objects of that form of living are included (Janowicz, 2006). Malinowski (1988) summarizes the holistic understanding of culture as follows: "Culture comprises inherited artefacts, goods, technical processes, ideas, habits and values" (ibid., 1988: 121).

In contrast, the differential-theoretical understanding of culture describes culture rather disconnected from other parts of society, such as economy or politics (Janowicz, 2006). In this understanding culture refers to commonly shared values and norms, framed as a "shared symbolic system" (ibid., 2006: 5), which structures social interaction and therefore ensure living together (ibid., 2006). In the knowledge-oriented perspective, which is the most recent in the historical development of the term, culture is seen as a complex of meaning systems with which stakeholders construct their reality as meaningful (ibid, 2006). This perspective also breaks with the understanding of 'one culture', because culture is always understood in its historically and socially-constructed background, which is why it makes more sense to use the plural cultu*res* instead of only *one* culture (ibid., 2006).

Janowicz (2006) specifies the term culture for the appropriate use in the mobility cultures concept, after his general overview of the development of the term in the four perspectives which were outlined earlier.
He concludes his statements about culture, that *the* one specific mobility culture, is most likely not going to be found. It is not about a static stabilization of the term culture, but more about the process-related aspects of culture that are in the focus of interest. Janowicz (2006) specifies this as follows: "it is rather about the different contextual processes of configuration that construct a certain meaning, which are characterized by changes, conflicts and mixtures" (ibid., 2006; translation FM). Not a single text, a social practice or a specific institution are the focus of interest, but rather the interactions between these entities in their specific contexts – which constitute culture (ibid., 2006).

To conclude the statements and different understandings of culture, a definition from Götz and Deffner (2009) will be outlined, which is nonetheless based on the work from Janowicz (2006). His statements and findings about the term culture were used by Deffner et al. (2006) as a background or foundation for an adequate definition of the term in the context of 'urban mobility cultures' in general.

Götz and Deffner (2009: 39) describe *culture* in the context of urban mobility cultures as follows: "Culture does not mean 'soft' factors of mobility in contrast to 'hard' factors. It refers to a connection between the symbolic *and* the material (…). A good example is cycling. The bicycle, in different social and cultural settings, has a different symbolism, it is perceived and respected differently. Respect towards cycling can be influenced by rules or regulations, but furthermore also by changing its significance – the suitable instrument is communication" (translation FM).

This definition by Götz and Deffner (2009) will also be used as the framing of the term culture in this research. As Götz et al. (2016) conclude, "the term culture shall not be used in a normative way, neither as a term to achieve 'a cultivation of the uncultivated traffic', but rather to analytically differ between cultur*es* with different characteristics and different possibilities for transformation" (ibid., 2016: 793; translation FM). This understanding of cultur*es* implies the plurality of the term, because it refers back to the knowledge-oriented understanding which sees cultures in its historically- and socially-constructed background (Janowicz, 2006). Furthermore, this plurality and the differences between cultures also implies the different possibilities for transformation of the cultures themselves (Götz et al., 2016). Götz and Deffner (2009) conclude their discussion about culture and the adequate use of the term in the context of the mobility culture concept with the following statement:

> "Such a definition of the term culture, which includes the built environment, modes of transport, the streets (…) and their symbolic as well as discursive meanings, implies that there is no linear management of the transport system itself. Culture is dynamic, intended but also non-indented effects can arise, as well as complex feedbacks and reactions" (ibid., 2009: 40; translation FM).

2.2 Urban Mobility Cultures

In this chapter the concept of Urban Mobility Cultures (UMC) will be introduced and discussed. Firstly, two definitions will be outlined that describe the concept generally. Afterwards, the importance of 'hard' and 'soft' factors in combination will be described. This is followed by an overview about the four central dimensions of the concept and a section about the variability of mobility cultures. Last but not least, the indicators or dimensions of change of UMC will be

described, as well as the conceptual model that will structure the concept for the empirical part of this research.

> *"The term urban mobility cultures encompasses (…) mobility-related discourses and political strategies on the one hand and institutionalized travel patterns and the built environment on the other hand"* (Klinger et al, 2013: 18).

The definition by Klinger et al. (2013: 18) mentioned above gives a broad overview about the concept of urban mobility cultures in general. In the following, a more detailed definition is introduced by Deffner et al. (2006: 16). They describe the concept of urban mobility cultures as follows.

> "Mobilitätskultur meint die Ganzheit der auf Beweglichkeit bezogenen materiell und symbolisch wirksamen Praxisformen. Sie schließt die Infrastruktur- und Raumgestaltung ebenso ein wie Leitbilder und verkehrspolitische Diskurse, das Verhalten der Verkehrsteilnehmer und die dahinterstehenden Mobilitäts- und Lebensstilorientierungen. Sie bezeichnet das prozessuale Ineinanderwirken von Mobilitätsakteuren, Infrastrukturen und Techniken als sozio-technisches System. (…) Der Begriff Mobilitätskultur enthält nicht a priori einen normativen Gehalt – dieser entsteht erst durch die Verknüpfung mit Nachhaltigkeitszielen (oder anderen Zielen)"[2]
> (Deffner et al., 2006: 16; Translation in footnote 2).

This broad definition of the term offers a general overview of the holistic concept of urban mobility cultures. To make it better-suited for empirical research the four central dimensions will be introduced and discussed later in this chapter.

Firstly, the importance of 'hard' and 'soft' factors in combination will be discussed in the following section.

Transportation and Mobility research can be subdivided into an objective – subjective approach while trying to explain travel mode choices (Klinger & Lanzendorf, 2015). On the one

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[2] "Mobility culture refers to the entirety of mobility-related physical and symbolic practices. It includes infrastructural and spatial formations, general principles and mobility-related discourses, as well as, travel behavior and underlying mobility- and lifestyle-related values. The concept characterizes the procedural interaction of mobility actors, infrastructures and techniques as a socio-technical system. (…) The term mobility culture as such does not contain a normative setting – this only arises with the connection to aims like sustainability (or other aims)" (Deffner et al., 2006: 16; translation FM).

hand is the analysis of 'hard factors' such as the built environment or urban form as being influential on peoples travel behavior. For example, while having a closer look at the built environment, the concept of the 3 D's – Density, Diversity and Design – developed by Cervero and Kockelman has become central (ibid., 2015). Klinger (2017) also highlighted the 3 D's as a central factor to analyze one major category of the concept of mobility cultures (subsection 2.2.1.).

On the other hand, the analysis of 'soft factors', such as attitudes and preferences for particular travel modes, has become increasingly implemented in transport research (Klinger & Lanzendorf, 2015). Furthermore, as the authors highlight, these "individual attitudes and preferences can form patterns of collective values and social norms" (ibid., 245). These collective norms in turn influence travel mode choice and individual travel patterns. This effect was described and framed by Goetzke and Rave (2011) as the 'social network effect'.

However, choosing a research framework which is too narrow, either only focused on hard *or* soft factors is going to disregard some important issues. On the one hand, Klinger and Lanzendorf (2015) elaborate focusing only on hard, objective factors tend to disregard individual attitudes, perceptions and decision making. On the other hand, focusing too much on individual factors could disregard the connection of objective factors, such as the infrastructure itself or urban form, on individual's travel mode choice (ibid., 2015).
The authors conclude that it needs a combination of both factors of influence: 'hard and soft' – 'objective and subjective' (Klinger & Lanzendorf 2015; Haustein & Nielsen 2016).

The concept of urban mobility cultures which will be described in broader detail in the following offers such an approach to combine objective and subjective factors and aims at a more holistic analysis (Klinger et al., 2013).

Deffner et al (2006) note that the concept of mobility cultures deals with the change of interrelations of material and symbolic processes. The analysis of mobility cultures aims at the reconstruction of the interrelations between different spatial, social and political elements and their dynamics in urban mobility. Furthermore, the authors identify that the *material* and *symbolic* – or *objective* and *subjective* – factors cannot be seen completely separated (ibid.,

2006). This is due to the assumption of the concept, that objective and subjective factors depend on each other and are interrelated (Klinger & Lanzendorf, 2015). Deffner et al. (2006) further elaborate that formation of a mobility culture through a concrete intervention can only be realistic when:

> "*Planning and communication, changes of the built environment and political decisions, traffic infrastructure and traffic-related discourses, urban environments and traffic behavior" (ibid., 14; translation FM)* are seen as interrelated factors.

Furthermore, they conclude that 'culture' as a term is often used in a normative way, which does not apply for the academic use of mobility culture (ibid.). The appropriate use of the term culture was outlined in broader detail in the previous chapter 2.1. Culture is seen in a knowledge-oriented way, which implies the plurality of the term. As Janowicz (2006) concludes, there is no such thing as *one* culture, it always needs to be seen in its specific historically and societally-constructed background. Furthermore, the connections between the material and the symbolic are in the focus of interest (Götz and Deffner, 2009).

Mobility culture as such only becomes positive or negative if certain attributes like, 'sustainable' or 'multi-optional' are added to the term (Deffner et al., 2006: 107). To set the normative framing, it is important to define these judgmental attributes beside the analytical understanding of mobility cultures. Götz and Deffner (2009: 40) suggest the trinity of an economical, ecological and social development. With this normative setting they specify how traffic and mobility shall develop in a certain city or region (ibid., 2009). With social development for example they do not only mean the prevention of mobility-related injustice, but also enabling a socio-cultural diversity in mobility-styles for example (ibid., 2009).

Furthermore, to aim at practical changes of a mobility culture they highlight, that a sustainable mobility culture in their understanding shall be multimodal. And from the user's-perspective, respectively the local citizens, multi-optional. Deffner et al. (2006: 6) specify that "multi-optionality means that potential users have a variety of options". Different modes of transport cannot be seen 'in contrast to each other', they have to been seen as integrated options. This understanding of a multi-modal and multi-optional character of mobility cultures reflects the authors (Deffner et al., 2006) opinion on 'how a mobility culture shall develop in respect towards sustainability'.

Götz et al. (2016) specify the aim of the concept as follows: "it is about analyzing the structures of mobilities in social-spatial unities, such as cities, regions or countries in a comparative way and furthermore, to describe the complex interdependencies of infrastructural, constructional, discursive, social, (and) sociocultural (…) factors" (ibid., 2016: 782-783; translation FM). Furthermore, by analyzing these complex interdependencies the 'modes of action' shall be identified that enable municipalities, as well as other actors, to aim at a transformation of their mobility culture system towards sustainability (ibid., 2016).

The different factors (objective / subjective) of the mobility culture concept do depend on each other and are interrelated, as Klinger and Lanzendorf (2015) highlight, which was mentioned earlier in this chapter. However, Götz et al. (2016) note that the objective or subjective factors at first need to be analyzed separately. Only their impact in general needs to be seen as interrelated. Due to the complexity of the concept Götz and Deffner (2009) suggest four different analytical categories ('the built city'; 'lifestyles and milieus'; 'communication' and 'politics and planning'), to structure the concept's complexity and furthermore to make it more suitable for empirical studies (Klinger, 2017).

Figure 1 shows a visualization of the entire concept of mobility cultures. To give a brief overview about the different analytical categories, that are part of the concept, they shall be introduced in the following.
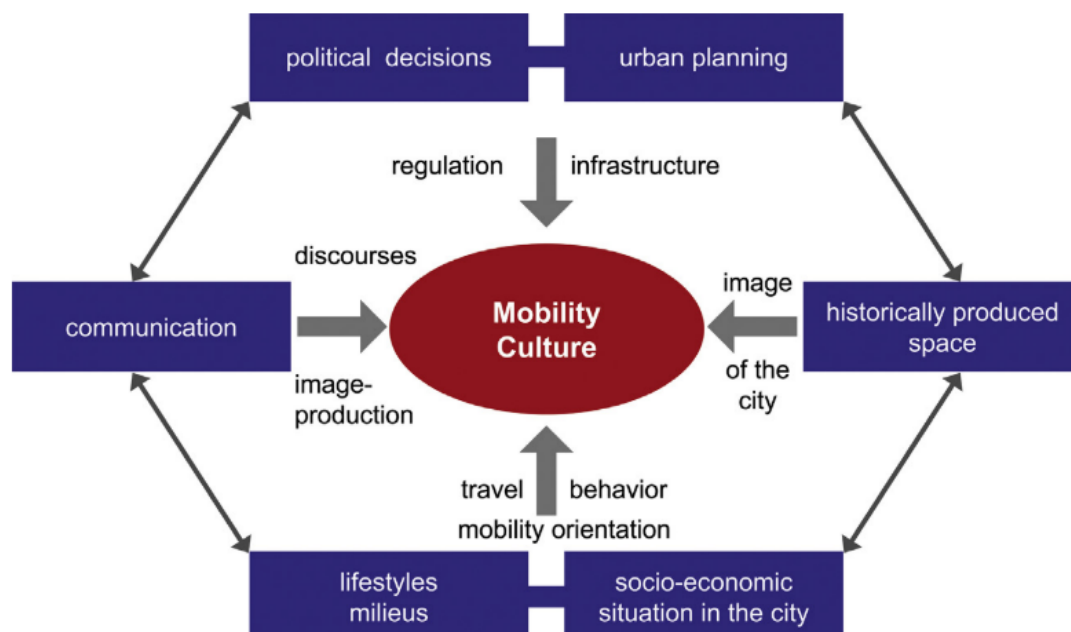
Figure 1: Concept of urban mobility culture (Klinger et al. 2013: 21, Deffner et al. 2006: 16).

The four different analytical categories: 'The built city', 'Lifestyles and milieus', 'Communication' as well as 'Politics and planning' represent the different dimensions of the mobility culture concept in general and structure the concept's complexity (Götz and Deffner 2009, Klinger 2017). The category 'the built city' is mainly represented by 'historically produced space' (on the right side of Figure 1), but also partly connected to historical (political) planning decisions, so lies in between those factors.

All four different categories will be introduced after one another in the following subsections.

2.2.1 "The built city" – 'Culture converted into stone' (Klinger, 2017; translation FM)

The category 'the built city' mainly refers to the part of 'historically produced space' on the right side of Figure 1, but is also connected to historical planning decisions which shape the current mobility culture due to already existing spatial structures (Klinger, 2017; Blechschmidt, 2012).

This category 'refers to the 'classical' spatial patterns that were and are used in transportation research during the last decades (Engbert, 2017; Klinger and Lanzendorf, 2015). Klinger (2017) explicitly mentions the 3 D's – Density, Diversity and Design – as central factors in this category. In the sense of the concept of urban mobility cultures these factors can be described as 'culture which was converted into stone', because they are the results of general principles and paradigms which themselves are based on shared societal norms and values (ibid., 2017). Furthermore, this category also includes traffic infrastructures and modes of transportation which are typical for a specific city – which in that sense can also contribute to local identities (Trommer, 2006 quoted from Klinger, 2017).

This category reflects historical principles and paradigms which were, to some extent, a spatial reflection of the dominant mobility culture at the time, in turn strengthening that culture. This reflects a historical part of mobility cultures, which were than 'converted into stone' – or clearer: into the still existing spatial structures. But these spatial structures do not only reflect a historical aspect of mobility cultures, they still influence current mobility culture. For instance, the density of a certain city, or the structure of the current transportation infrastructure. For example, people's modes choices are influenced from the current transport infrastructures, which are in turn the result of historical decisions and planning principles.

This dimension of the concept of urban mobility cultures will structure the beginning of the empirical part of the research process.

2.2.2 Lifestyles and Milieus

The category of lifestyles and milieus refers to the research about 'mobility-styles' (Klinger, 2017). Mobility-styles are the manifestation of specific preferences towards a certain transportation mode, while other modes at the same time are disregarded, or simply not-used (ibid., 2017). In this understanding these styles actually influence modal choice at its very core, in other words, specific individual preferences are central for peoples' mode choice and presuppose these choices (ibid., 2017).

The term 'Milieu' refers to "an environment" (OED, 2002), or more specifically to "social surroundings" (ibid., 2002) of a certain group of people. It defines the scope of this group based on "a shared [cultural] outlook, or a social class" (ibid., 2002). Klinger (2017) illustrates this with the delimitation of a cycling-oriented group towards a rather car-oriented milieu.

Klinger (2017) concludes that the categories 'The built city' as well as 'Lifestyle and milieus' refer to the dialectic of objective and subjective factors of the concept in general. The following two categories 'Communication' and 'Politics and planning' can rather be understood as intermediate parts (ibid., 2017).

During the empirical part of this research process it will be analyzed if specific preferences towards a transportation mode can be identified.

2.2.3 Communication

The component communication refers to the understanding that societal reality, as well as urban mobility, are constructed in discourses. Mobility-related discourses in this understanding can be interpreted as the link between objective and subjective factors of urban transportation (Klinger, 2017). This understanding is based on the assumption, that in social sciences as well as mobility research, societal processes are ultimately based on language (Jäger 2012, quoted from Klinger, 2017).

Those societal discourses, of a specific urban population for example, are (directly) connected to their specific preferences or their patterns of lifestyles (Klinger, 2017). This would refer to a rather subjective factor of influence in the concept of mobility cultures. In contrast

discourses can also be understood as quasi-objective formations, which construct the statements and actions of individuals in a way that those do not act freely or independently. Societal discourses in a specific city e.g. set the 'range of action' of individuals responsible for the topic of this discourse. Klinger (2017) specifies this in the example of the head of the transport department in the city of Münster in Germany. He notes, that the head of this department has almost no choice other than pushing the facilitation of cycling, because this mode of transport is highly anchored in the city's discourses and choices against the bicycle would result in a political suicide (ibid., 2017). As a result, the city is cycling oriented, reinforcing the societal discourse.

In the empirical part of this research it will be investigated if mobility-related discourses can be identified and furthermore, if these had influence on the (political) decision-making.

2.2.4 Politics and Planning

Politics and planning in relation to urban mobility are the last element of the concept which will be introduced here. This category can also be understood as an intermediate part of the mobility culture concept bridging subjective and objective factors (Klinger, 2017). On the one hand political representatives react to preferences and values from their city's population as a basis for their work. But on the other hand, they are also able to deploy structural power – for example in pricing policies, like the introduction of road charges as in the city of London (ibid., 2017). This example delineates that such policies can also be introduced against the will of the majority in the population, as was the case in London (ibid., 2017).

Empirical studies on this specific component of mobility cultures highlight, resulting in profound changes or a strong persistency in the (political) planning structures (ibid., 2017). Keeping the interrelatedness of subjective and objective factors in mind, some studies highlight different directions of action (Klinger, 2017). Aldred and Jungnickel (2014) for example, note in their comparative reconstruction of bicycle culture in – nowadays cycling-oriented cities like – Cambridge and Hull in Great Britain, that at first a substantial share of the local population was cycling-oriented and that planning and politics reacted to this with an appropriate development of the infrastructures.

As the last subsection shows, politics and planning are a central dimension of urban mobility cultures. In the empirical part of the research process it will be analyzed if a change or a

persistency of the (political) planning structure can be determined and if this was based on societal preferences of the local population or not.

2.3 Variability of mobility cultures

Klinger and Lanzendorf (2015) conclude that the concept of mobility cultures is neither fixed nor homogenous. It can rather be understood as "a set of dynamic processes, competing interests and conflicts" (ibid., 247) which consequently means mobility cultures can also change over time. Although they are 'changeable', according to Klinger and Lanzendorf (2015), it is a rather long-lasting structure which shows a high level of path dependency and therefore only changes slowly (ibid., 2015). As already mentioned briefly in section 2.1 Götz and Deffner (2009) conclude in this regard, "that there is no linear management of the transport system (or a mobility culture) itself" (ibid., 2009: 40). This is due to the dynamic of culture in general. A culture can be influenced, although "intended but also non-intended effects can arise" (ibid., 2009: 40). The authors furthermore elaborate that this is due to the connection of mobility cultures to the built environment and physical infrastructures which are rather inert structures, that however, still can be transformed and developed differently (ibid., 2009; Klinger, 2017).

2.4 Indicators / Dimensions of change of mobility cultures

After highlighting the (potential) variability of mobility cultures in the last section 2.3 and the overview about the four central dimensions of mobility cultures (subsections 2.2.1 – 2.2.4), some key indicators will be briefly discussed which are considered crucial to answer the central research question:

- "To what extent can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?".

These indicators, which themselves are based on the four dimensions, will structure the empirical part of the research process. Their specific operationalization will be provided later in chapter 3.4 to illustrate how specifically they will be used for this research.

The first dimension which will structure (the beginning of) the research process will be 'the built city'. This is due to the 'historically produced space' which in relation with historical planning decisions shape the current mobility culture (Klinger 2017, Blechschmidt 2012).

Although, for this research the indicator 'historical planning decisions' is placed under the fourth dimension (see section 2.5 conceptual model). Indicators in this dimension are the 3 D's (Density, Diversity and Design) and how they influence urban mobility. Furthermore, modal split – before and after the introduction of the 'Circulatieplan' – will also be a central indicator in this dimension.

In the context of the second dimension 'Lifestyles and Milieus', the indicator of mobility-styles and the underlying specific preferences towards transportation modes are central. This will be addressed in the context of change, more specifically if specific mobility-styles can be identified for the case study and if these changed due to the intervention. Klinger (2017) also mentions transportation modes which relate or contribute to local identities in this dimension of urban mobility cultures. It will also be researched if such modes exist for the case study as a result of historical (political) planning decisions.

Mobility-related discourses are the key indicator in the third dimension 'communication'. These discourses, and how they possibly changed due to the 'Circulatieplan', shall be taken into account as another (possible) indicator of change of local mobility culture. This refers for this research to the media connotation of the policy intervention, and if this changed from the introduction until the time of the research.

In the fourth dimension 'Politics and Planning' which was outlined in subsection 2.2.4 three central indicators could be determined. Societal preferences and values, structural (political) power and furthermore, 'historical planning decisions' and the contemporary reflection on them. This will be applied during the research process, to analyze if the pattern of societal preferences of the case study's population changed prior to the introduction of the 'Circulatieplan'. And furthermore, if these preferences or values already changed after the introduction.

The second indicator 'structural (political) power' can lead to a persistency or profound changes in the (political) planning structures (Klinger, 2017). For the case study it will be researched if the 'Circulatieplan' can be considered as a 'profound change' in the local (political) planning structure and if 'structural (political) power' was enforced. And furthermore, how it came to this decision and if it was based on local societal preferences or not.

2.5 Conceptual Model

In the foregoing sections an overview about the relevant academic literature and the concept of urban mobility cultures was given. While doing the literature desk research, four central dimensions as well as the underlying indicators of the concept of UMC have been identified. This is visualized in the following Figure 2.
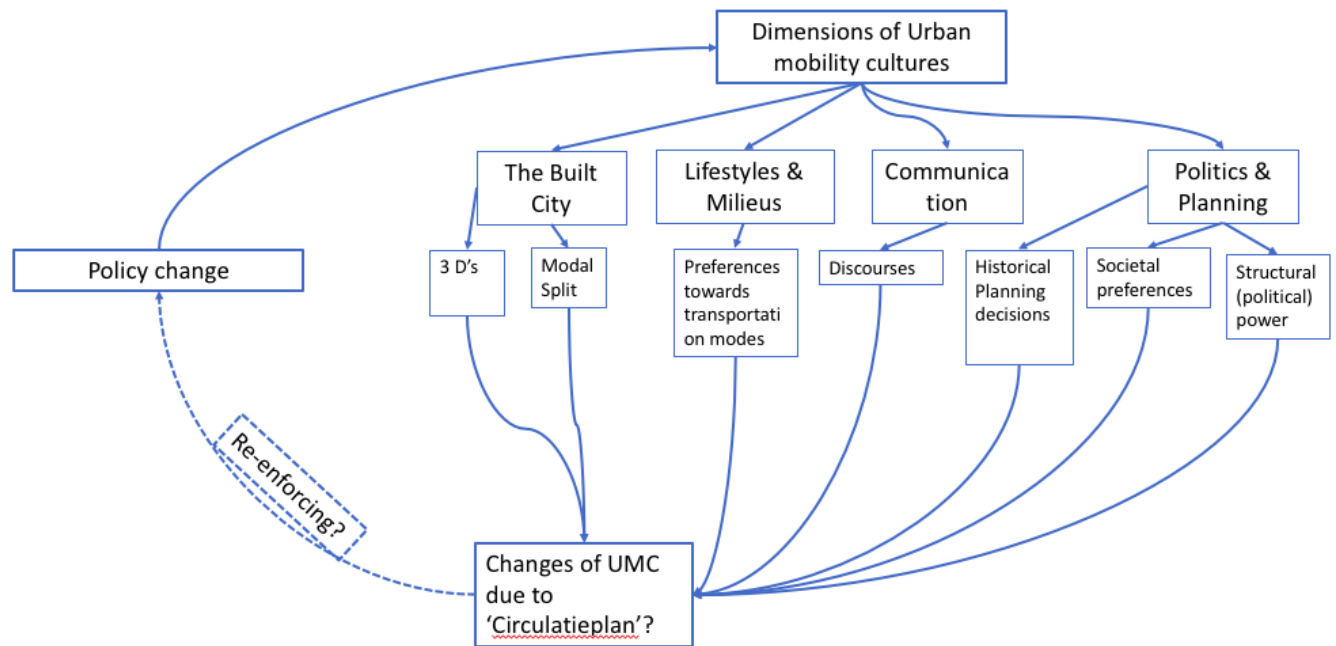
Figure 2: Conceptual Framework (author's work)

The policy change (intervention of the 'Circulatieplan'), on the left side of Figure 2, was taken as a starting point. The four Central dimensions of the concept of UMC ('The built city', 'Lifestyle and Milieus', 'Communication' and 'Politics and Planning') are the basic structure for the empirical part of the research process which resulted from the literature research. To analyze if changes in these dimensions can be identified the underlying indicators will be used. During the research process the interviewees will be asked about (possible) changes in these specific indicators and if this is due to the 'Circulatieplan' as an intervention. Lastly, it will be asked – if changes can be identified – if they might influence the further decision-making in the local policy process. And if this might re-enforce the policy change in the upcoming future.

After the main research question as presented in section 1.2, also the sub-questions for this research are listed below.

Main research question:

- To what extent can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?

Sub-questions:

- How did historical planning decisions shape the preconditions of the mobility culture?
- Did modal split change and, if yes, did it change towards more environmentally-friendly modes of transportation?
- Can specific mobility-styles be identified that influence the mobility culture?
- How can the mobility-related discourse about the intervention be characterized?
- In which way did societal preferences lead towards changes of UMC and can these be considered as 'profound changes' in the local planning structure?

These sub-questions are based on the four dimensions of the theoretical concept of UMC (see subsections 2.2.1 – 2.2.4). As such this research aims at addressing all different aspects from the theoretical framework. With such an in-depth analysis of the local mobility culture this research project ultimately aims at answering 'to what extent' the mobility culture changed.

Note that it is difficult to separate the indicators as such, because they are interrelated with and depend on each other (Klinger & Lanzendorf 2015). Yet, for purposes of practical application in the empirical part of the research process they will be narrowed down in section 3.4 Operationalization of the indicators. As mentioned earlier, at first the different indicators need to be analyzed separately but their impact afterwards needs to be seen as interrelated (Götz et al. 2016).

3. Methodology

This chapter will outline the methodological choices for this research. Firstly, the underlying research philosophy of this research is presented. Secondly, the research strategy consisting of a qualitative case study approach will be described. This is followed by an operationalization of the indicators found in the literature research. Finally, methods of data collection as well as the data analysis will be described. The chapter concludes with a section about reliability and validity of this research.

3.1 Research Philosophy

The aim of every research process is to develop new knowledge to some extent. However, to identify what can be considered being knowledge, some philosophical groundwork needs to be determined (Saunders et al. 2009, Guba & Lincoln 1994).

To do this and to determine a researcher's philosophical point of view, both the ontological question (what is the nature of reality?) and the epistemological question (what creates acceptable knowledge?) need to be defined.

As this research is focused on the impact on local mobility cultures and is particularly reliant the opinions and perceptions of local actors, the ontological choice is constructivism. According to Guba and Lincoln (1994: 110-111) this approach assumes, that "realities are (…) (comprehensible) in the form of multiple, intangible mental constructions, socially and experientially based, local and specific in nature (although elements are often shared among many individuals and even across cultures), and dependent for their form and content on the individual persons or groups holding the constructions". For this research, which aims at analyzing changes in local mobility cultures, this constructivist approach fits, because several realities (of the different interviewees) will be analyzed. Guba and Lincoln (1994: 111) furthermore note, that the constructivist approach assumes that "sometimes conflicting social realities (…) are the products of human intellects, but that (these) may change as their constructors become more informed and sophisticated". This will, most likely, also be the case during this research. How the respondents see, understand and interpret social realities (such as local mobility cultures) depends a lot on their personal background.

While taking the epistemological question into consideration, it becomes clear that in a constructivist view "knowledge consists of those constructions about which there is relative

consensus (…). Multiple 'knowledges' can coexist when equally competent" (Guba & Lincoln 1994: 113). To be able to analyze these constructed knowledges, this thesis takes an interpretive point of view. This is due to the fact that no concrete hypotheses will be verified or falsified in this research. Instead taking an interpretive point of view is seen as more useful to identify possible changes in local mobility cultures. Interpretive research asserts that there is a fundamental difference between the natural sciences and social sciences and therefore a different epistemology is required to address this. "The fundamental difference resides in the fact that social reality has a meaning for human beings and therefore human action is meaningful" (Bryman 2012: 30). According to Bryman (2012: 30) this leads to the second point, depicting the task of the researcher to "gain access to people's 'common-sense-thinking' and hence to interpret their actions and their social world from their point of view". Interpretive research focuses on words and details of a certain situations (and the realities behind this) and generally aims to discover the subjective meanings behind those words or situations (Saunders et al. 2009).

3.2 Research Strategy

Following the ontological and epistemological underpinnings outlined in the last section, a qualitative approach which aims at in-depth investigations is most suitable for this research (Saunders et al. 2009).

Qualitative research has been defined in multiple ways and is subject of debate. For this thesis the following approach is taken, it is the study of a research problem which investigates the meanings that individuals or groups ascribe to a social or human problem (Creswell, 2007). This contains the collection of data in a natural setting, being sensitive to people under study and a data analysis which is inductive and forms certain patterns or themes (ibid.). "This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them" (Denzin & Lincoln, 2005; quoted from Creswell, 2007). Qualitative research allows one to study the participants own perspectives, their subjective views that they address to a certain problem or issue. It provides the researcher with the possibility to study a societal phenomenon in a holistic way and to draw an inclusive and detailed picture about the research interests (Creswell, 2007).

As such, a qualitative approach suits the interest of this research the best. It gives the interviewees the possibility to frame developments (and possible changes) of local mobility cultures in their specific understanding. Furthermore, with a qualitative approach the subjective dimensions of the concept of UMC can be analyzed in more depth.

As a research strategy, the case study approach has been selected for this research. Such an approach is particularly suitable if the aim is to gain insights into the context and processes that have been undertaken (Morris and Wood 1991, quoted from Saunders et al. 2009). Furthermore, Saunders et al. (2009: 146) note that a single case study is often used "where it represents a critical case, or alternatively an extreme or unique case". Additionally, a single case study is suitable if the researcher aims to observe and analyze an aspect that few others have considered before (ibid.). In a case study the case itself is the object of interest and according to Bryman (2012) the researcher aims at discovering the unique characteristics of the case. Through an in-depth investigation, this thesis attempts to elucidate these specific characteristics.

3.2.1 Case Study

This 'unique or extreme character' could be identified for the city of Gent and the introduction of the 'Circulatieplan'. This is the reason why this research will focus only on the city of Gent and the introduced 'Circulatieplan' as a case study. The decision to focus only on this case is due to different reasons which will be explained briefly as follows.

Firstly, Gent was chosen due to the broad scope of the intervention. Major decisions were made to change the local mobility structure. The decision to implement such a plan, with a highly restricted inner-city area for motorized traffic, will possibly result in a broader scope of effects. The way people move and possibly (in the long-run) even their mobility culture might adapt and change as a result of this intervention.

The 'Circulatieplan' was introduced on April 3rd, 2017 by the city council "to unburden the city center of motorized through traffic" (Stad.gent, n.d). The Plan aims to improve the general livability for both inhabitants and visitors, but also to facilitate accessibility for cyclists, pedestrians, public transport, as well as cars that have a *specific* destination in the city center (Stad.gent, 2017).

The 'Circulatieplan' drastically restricts car-traffic; in total the restricted traffic area was increased by 150%, street parking is prohibited and when driving between the other six neighborhoods surrounding the center, cars now need to use the inner ring road (R40) (stad.gent, n.d.). The core of the city already has been made car-free in an earlier mobility plan, but the scope of the restricted traffic area was increased substantially due to the 'Circulatieplan'. At a total of 14 locations motorized through-traffic has been restricted. Only pedestrians, cyclists, public transport as well as taxi's and other vehicles like emergency services with a permit are allowed to pass through. Furthermore, the travel directions of about 80 streets were changed (stad.gent, n.d.).

With these measures, primarily through-traffic in the central area of the city shall be prevented. Additionally, a higher level of livability in the center will be achieved as "cyclists, pedestrians, trams and busses confiscate less limited available public space than cars" (stad.gent, 2017). Valuable public space which was occupied by cars can thus be used more sustainably with slower modes of transport. This decreases air and noise pollution, uses space more efficiently and leads towards a greener, safer and more livable city (Gehl, 2015). In 2012 on one out of three days the air quality in Gent was considered being a bad quality and 15% of the city's inhabitants were confronted with noise pollution higher than 70 decibels (Stad.gent, n.d). Only one year after the introduction of the 'Circulatieplan' the air quality in the city center was reported to be 18% better than before (transportenvironment.org, 2019, stad.gent, n.d.).

Furthermore, changes in modal split became apparent just 12 months after the plan was implemented. Car-traffic was reduced and more environmentally-friendly modes like public transport and cycling were promoted (stad.gent, n.d., further information in subsection 5.2.2).

Secondly, Gent was chosen due to the practicability of the example, because it was introduced in early 2017, but the project is continuing until 2020. As such, interviewing local experts on this very current topic is seen as more up-to-date than studying a similar example like Groningen which was implemented a long time ago. Due to its recent introduction and already existing *and* still upcoming effects, access to data and its analysis is more feasible. As

mentioned earlier, a single case study is particularly suitable to analyze an issue that few others have considered before, or on one where there is no research yet (Saunders et al. 2009). This is the case for this study about local mobility cultures in Gent and their possible changes. To the author's knowledge, this has not yet been researched, which is indicative of the explorative character of this research.

While selecting the strategy for this research also a comparative case study, which deals with the comparison of two different cities and their mobility cultures was taken into consideration. But due to the complexity of the theoretical framework and the explorative character of the research, it was decided not to pursue this research strategy. This is because in the scope of this thesis, the illustration of a single case study is seen as more fruitful. As such, it is aimed at a more in-depth analysis of local mobility cultures in the selected case study, finding information to illustrate all four central dimensions of urban mobility cultures (as explained in the subsections 2.2.1 – 2.2.4) and focusing on possible changes of these dimensions due to the implementation of the 'Circulatieplan'.

3.3 Methods of data collection

This research will investigate the following (main) research question:

- To what extend can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?

To address this research question, the following methods were used during the research process.

3.3.1 Semi-structured interviews

As a central research method, qualitative (semi-structured) interviews with representatives of the municipality, local experts in transportation and others with an insight into the implementation and the effects of the CP will be used. This form of research is suitable to investigate and analyze a societal reality (Lamnek, 2010). Before conducting this form of research, the researcher prepares with theoretical knowledge about the topic that will be researched. This allows the central elements of a certain societal problem to become clear and can be connected to a theoretical framework that the researcher uses during the study (ibid.). This theoretical knowledge is condensed into "a list of questions or fairly specific topics

to be covered, often referred to as an interview guide" (Bryman, 2012). Although, the research process is flexible and the emphasis is on how the interviewee sees and frames certain issues, events or realities. In contrast to the character of an unstructured interview, which tends to be similar to a normal conversation, the semi-structured interview follows a script, at least to a certain extent (Burgess, 1984 quoted from Bryman 2012).

Such a script or guideline of questions will be used in this research. However, the primary emphasis is to start the interview with a broad introductory question to let the interviewees at first tell a story about the development of local mobility, its culture and related policies. This 'story-telling-style' at the beginning of the interview will be used deliberately to let the experts create their own understanding of local mobility cultures. Where needed, the questionnaire will be used to ask follow-up questions to specify certain points of interest. In this way the researcher at first gives the interviewee "a blank page to be filled in by the subject" (Merton & Kendall, 1946: 546).

In semi-structured interviews, the list of themes and questions may vary between the different interviews. This is due to the different specific organizational contexts of the interviewees, meaning the interviewer may even omit certain questions (Saunders et al., 2009). Furthermore, the order in which the questions will be asked may also vary between the different interviews, depending on the flow of each interview (ibid.).

The semi-structured interview is characterized by such open questions limiting the interests of the researcher, but let the informants judge social reality themselves (Lamnek, 2010). This form of research is suitable if a researcher is beginning to do research on a topic "with a fairly clear focus, rather than a general notion" (Bryman 2012). This allows the researcher to address specific issues of interest more deeply, than for example in an unstructured interview.

These interviews will be conducted with local experts in the field of transportation and mobility, representatives of the municipality, with people from research institutes, but also with a spokesperson of a local union of shopkeepers. During the research process, these shopkeepers could be identified as a central group which was in opposition of the introduction of the 'Circulatieplan'. To also include critical voices in this study, a spokesperson of this group was included.

These semi-structured interviews will be the primary research method for this thesis. The main emphasis is on how the local experts see and frame issues in relation to local mobility culture, its development and changes that came along with the introduction of the 'Circulatieplan'.

3.3.2 Selection of interviewees

The interviews for this research were conducted with local experts in the field of transportation and mobility, a representative of the municipality, people from research institutes and a representative of local shopkeepers. In total eight interviews (with nine people in total) were conducted to investigate the fields of interest for this research.

In order to gain an understanding of UMC, it was deemed necessary to interview both key stakeholders that have shaped the CP and stakeholders potentially affected by its introduction. Furthermore, some academic experts were chosen as well as a representative of local shopkeepers to broaden the information and the opinions on the topic.

Firstly, the main actors were identified through desk research and then contacted to schedule the interviews. While conducting the first interviews the interviewees were also asked for other names or organizations that could be of interest. These were then contacted in the further process of the research.

For reasons of transparency it will also be briefly mentioned here which parties or organizations were contacted but who did not agree to conduct an interview, due to different reasons. The party which is mainly politically responsible for the introduction of the CP was contacted, as well as one of their cabinet chiefs. Due to their limited time they could not be interviewed directly. Another political party which is also responsible for issues of urban planning (in the current municipal committee) was contacted but refused to be interviewed. Furthermore, the local chamber of commerce, another association of local shopkeepers, an organization where local bike services are bundled and last but not least the regional office of public transportation were contacted. These actors either referred to the municipality itself or they did not answer the replies at all.

In the following a short list of the respondents is presented, as well as their organization. For a detailed insight into the location, length and structure of the specific interviews, as well as

a brief description of the interviewees see Appendix A – Clarification of the interviews. For the sake of readability in the next chapter four the interviews are coded as presented in the following Table 1.

Interviewee	Organization	Code	Label for this thesis
Prof. Frank Witlox	Ghent University (Department of Geography)	G1	Academic expert 1
Dirk Engels Hanne de Naegel	Transport & Mobility Leuven	G2 G3	Consultant 1 Consultant 2
Peter Vansevenant	Municipality Gent (Mobility Department)	G4	Mobility planner
Kris Peeters	Belgian Mobility expert	G5	Mobility expert
Prof. Luuk Boelens	Ghent University (Department of Civil Engineering)	G6	Academic expert 2
Prof. emer. Dirk Lauwers	Ghent University (Department of Civil Engineering)	G7	Academic expert 3
Dr. Kobe Boussauw	Free University of Brussels (Department of Geography) NGO Gents Milieufront	G8	Local citizen
Thomas Kindt	UNIZO Oost-Vlaanderen	G9	Representative of shopkeepers

Table 1: Interviewees, their organization, corresponding codes and label (author's work)

The presented selection of the interviewees reflects the description of the beforehand mentioned summary of local (academic) experts in the field of mobility and transportation (G1, G6, G7, G8) as well as the representative of the municipality (G4). Furthermore, people from a research institute that did specific research on the intervention and its effects (G2, G3), a representative of local shopkeepers and retailers (G9) as a strong voice of opposition and an independent Belgian expert in mobility (G5). Furthermore, the respondent (G8) is also member of a local environmental NGO and represented their position as well as his own personal view as a citizen of the city of Gent. The labels for each interviewee will be used in the results chapter in direct quotes to make it easier for the reader to understand the interviewees role and position.

3.4 Operationalization of the indicators

As stated in section 2.2 'Urban Mobility Cultures', the different factors (objective – subjective) of the concept cannot be seen as completely separated (Deffner et al. 2006). This is due to the underlying assumption of the concept that the different factors, or indicators, depend on each other and are interrelated (Klinger & Lanzendorf 2015). For the sake of practicability of this research the indicators need to be specified to be able to use the concept empirically.

3.4.1 3 D's and Modal Split

In the first dimension 'The built city' the two indicators 3 D's (Density, Diversity and Design) and modal split will be analyzed. The indicator 3 D's refers to the spatial limits that the built environment sets, such as how dense and diverse is the area affected by the CP. As Klinger et al. (2013) illustrates it, this indicator is most often used when analyzing which influence the density of the urban fabric has on shares of different transportation modes. As such neighborhoods with a high density, diverse uses and "pedestrian-friendly designs" (Cervero, Kockelman 1997: 199) are postulated to reduce vehicle trips and promote environmentally friendly modes of transport. For this research this will be analyzed as a precondition for the CP. Which means, how dense and diverse is the area affected by the CP? How is the design of the urban fabric characterized and in turn which transport modes are in favor because of this? And lastly, did the 3 D's change due to the CP or no. A dense and diverse area with a design suited for pedestrians would indicate a positive precondition, as part of the UMC concept.
As such this indicator is also connected to the next one, modal split.

Modal split refers to the proportion of private car trips, cycling, walking and public transport (Klinger et al. 2013). For this research it will be analyzed which influence the CP had on each of these transport modes and how it changed these shares. If the shares changed from private car trips towards more environmentally friendly modes like cycling, walking and public transport, this is assumed being a positive change of UMC for this study (ibid.).

3.4.2 Preferences towards transportation modes

In the second dimension 'Lifestyles and Milieus' the indicator 'preferences towards transportation modes' has been identified as central during the literature research. It will be researched if such preferences can be identified, for example if transport modes can be

identified that contribute to a local sense of identities (Klinger 2017). For this research a change of preferences towards PT, walking or cycling would indicate a positive change of UMC as these are more environmentally friendly modes (ibid). As such this indicator is highly related to modal split (which is the outcome of preferences amongst other issues).

3.4.3 Mobility-related discourses

In the dimension 'Communication' the underlying indicator is framed as discourses. For this research this means specifically how the media reported about the CP before it was introduced and if this changed until the time when the research was carried out. For example, if the CP had a positive or negative connotation in the media and how the informants describe the (possible) changes. As such it can be seen if the introduction of the CP (and its effects) made a difference on the way how the media discourse was characterized. If the connotation of the CP changed from a negative to a positive (or neutral) connotation, this would indicate a positive change of UMC in this dimension.

3.4.4 Societal preferences, structural (political) power & historical planning decisions

For the fourth dimension 'Politics and Planning' the indicators are 'societal preferences', 'structural (political) power' and last but not least 'historical planning decisions'. For this research the indicator of societal preferences refers to the preferences of the local population towards the introduction of the CP. Did the population approve the CP before it was introduced and did these preferences change until the time of the research? If the local population would approve the introduction of these car-restrictive measures, this would indicate a positive change of UMC for this research. If the population was not in favor of the CP this would mean the contrary. For this indicator it is especially relevant, if the societal preferences changed from before the introduction until the time of the research.

For the indicator structural (political) power Klinger (2017) stated that this can lead to a persistency or a profound change of (political) planning structures. During this research it will be analyzed if the CP can be considered as a 'profound change', if political power was enforced and if this decision was based on local societal preferences. For the sake of this research it would mean a positive change of UMC if the introduction of the CP can be considered as a

change in the (political) planning structure. If not, and a persistency is more apparent this would otherwise not indicate a change of UMC for this indicator.

The last indicator 'historical planning decisions' refers to mobility-related planning decisions that were made before the introduction of the CP and the contemporary reflection on them. Which planning decisions were made (or not made) beforehand and how is this observed in retrospect? Historical decisions that would lead towards a car-restrictive policy and the facilitation of environmentally friendly modes (in preparation for the CP) would indicate a positive (historical) change of UMC.

3.5 Data analysis

All interviews were audio recorded, with permission from the interviewees, and then as a first step for the data analysis all recordings were transcribed verbatim. For the analysis of the data for this thesis only the content of the interviews is relevant, not primarily *how* somebody said something. As such, small breaks, laugher or irrelevant external interruptions were not transcribed during the process (Mayring, 2016).

For the analysis of the gathered data the qualitative content analysis was chosen (Mayring, 2016). This form of analysis is particularly suitable if the aim is to analyze semi-structured interviews. During this analysis conclusions can be drawn from linguistic material on non-linguistic phenomena (Lamnek, 2010). Central for this form of analysis is a categorical schema which is based on the theoretical findings that were made beforehand, which are then further developed with the acquired data (Mayring, 2016). As such, this theory-based content analysis relies on deductive categories which are developed from the theoretical findings, but it still gives space to further inductive categories that appear in the data (ibid.).

For this research the four central dimensions will all underlying indicators (as presented in section 2.5 conceptual model) will be used as a basic categorical schema. The phrases or quotes from the transcripts were arranged in order of these dimensions and indicators. Although this form of analysis also allows the formation of new, inductive categories during the analysis where needed. As such, a structured way of analyzing the acquired data can be assured.

3.6 Reliability and Validity

As Bryman (2012) states, the criteria of reliability and validity have largely been developed in quantitative research. Generally, validity refers to the question if the researcher is observing or measuring what was intended to be measured. Reliability, in turn, refers to the issue of repeatability of a certain study, meaning "the degree to which a study can be replicated" (ibid., 390). The simple application of these criteria to qualitative research has been criticized, for example by Guba (1985), mainly because of the issue that these criteria presuppose that there would be a single truth about social reality that can be investigated. Instead of just applying these criteria to qualitative research, they suggest two main criteria for assessing qualitative research: trustworthiness and authenticity (Bryman, 2012).

Trustworthiness refers to the question, how trustworthy or reliable are the information of the research. To achieve an acceptable level of trustworthiness the authors, i.e. suggest the method of triangulation (ibid.). Triangulation refers to the technique of "using more than one method or source of data in the study of social phenomena" (Bryman, 2012: 392). This will be done in this research for some indicators that rely on concrete numbers, for example changes in modal split. For this, key policy documents will be used as a part of the triangulation process to achieve a reliable level of trustworthiness.

Furthermore, transferability of the findings is in general an important issue in research, although this is limited in a qualitative approach. Because qualitative research typically involves the study of a small group or individuals sharing their information with the researcher these "qualitative findings tend to be oriented to the contextual uniqueness" (Bryman, 2012: 392) of the research. Instead of just aiming at the transferability of the findings, the authors encourage the researcher to produce a rich description of the findings (Bryman, 2012). As such Guba (1985) argues, "that a thick description provides others with (…) a database for making judgements about the possible transferability of findings to other milieu" (Bryman, 2012: 392).

In the criterion of authenticity, for example fairness is a central factor. With that the authors mean if the research presents different viewpoints of people in the social setting of the research (Bryman, 2012). In this regard (as mentioned in subsection 3.3.2) the researcher tried

to interview different people from different backgrounds and organizations, to meet the criterion of authenticity and achieve a broader picture of the issues at hand.

4. Implementation of the 'Circulatieplan' in Gent

This chapter will briefly describe the implementation of the traffic 'Circulatieplan' (CP) in Gent. Some crucial information that came along with the 'Circulatieplan' (CP) will be summed up to make it easier for the reader to understand the following chapter 5 about the results of this thesis.

The CP in Gent was implemented on the 3rd of April in 2017 and expanded the area in the city which is restricted for cars by 150% (stad.gent, n.d.). As mentioned earlier in subsection 3.2.1, the core of the city had already been made car-free earlier. But with the CP of 2017, six surrounding neighborhoods were included in the area affected by car restriction. This is visualized in the following Figure 3.

Before this traffic circulation plan, about 11% was pure through-traffic and 28% semi-transit traffic, meaning people avoiding the city's ring road R40 (stad.gent, (1) n.d). This applies for the whole area inside the R40, not only the center. This is illustrated in colors in Figure 3. The municipality aimed at two different main objectives.
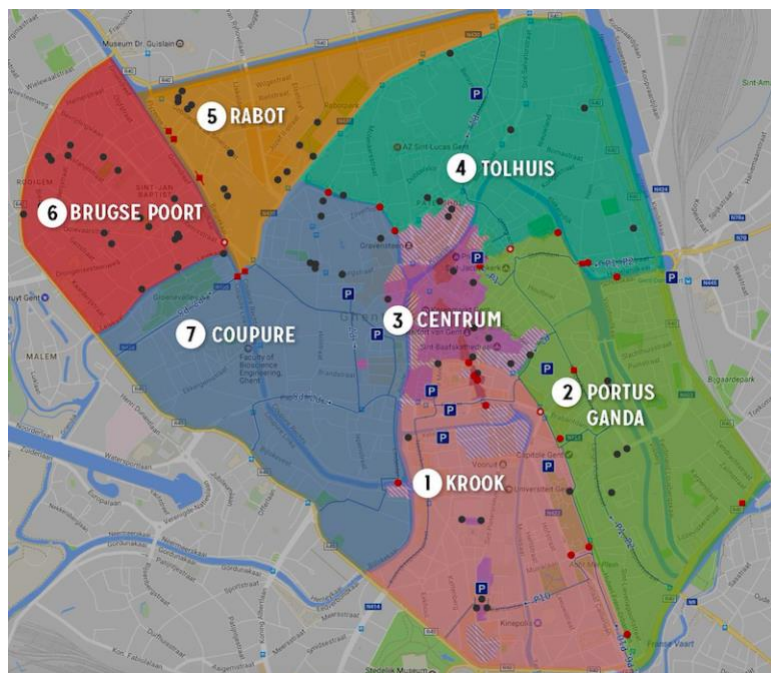
Figure 3: Scope of the 'Circulatieplan' in Gent (copenhagenize, 2018).

Firstly, to drastically reduce the through-traffic in the inner city and relocate it to the ring road (R40). Secondly, to improve the livability in the city center due to reduced air and noise pollution and re-usage of valuable space (stad.gent, 2017). At a total of 14 locations, individual motorized traffic has been restricted. Only emergency vehicles and taxis which have a permit can pass through these areas. This restriction obviously does not apply for pedestrians or cyclists. Additionally, the travel direction in about 80 streets was changed (stad.gent, n.d.).

The municipality prevents through traffic with different measures. They use bollards, blocks and paint to make it clearly visible where traffic can no longer pass through. Furthermore, 'number-plate-recognition cameras' were implemented to ensure that drivers follow to the rules (stad.gent (1), n.d.). If people do not behave accordingly, they will be fined with an amount of 58€ per sector (ibid). If people would drive into one of the neighborhoods and the city center (without having a permit for each of these), they will therefore be fined twice. This once again highlights the drastic changes that have been made. In a nutshell, in some streets through-traffic was made physically impossible – using bollards and blocks (this is called a "knip" – see subsection 5.4.1). In other streets – where public transport, emergency vehicles and drivers with a permit – still need to pass through the streets are watched over by cameras. This diversity of measures is illustrated in the following figure four, to provide the reader with a more detailed understanding.

Figure 4: Detailed measures of the 'Circulatieplan' (stad.gent (1), n.d.)

These changes were implemented quite quickly. As one interviewee highlighted, the municipality prepared the plan and the accompanying changes carefully and then

implemented them "almost overnight" (Mobility planner). During one weekend, the changes of the CP were implemented in the city of Gent and people had to adapt to the new situation. The implementation of the plan took place in a short period of time. One could also compare it to the introduction of the traffic circulation plan in Groningen in 1977. Due to its sudden implementation and the drastic changes that have been implemented to re-organize the city's mobility structure (Bratzel, 1999).

5. Empirical results

In the following results chapter the empirical results on all four dimensions of UMC (see subsections 2.2.1 – 2.2.4) will be presented and discussed. To ensure a better chronological order the dimension 'Politics & Planning' with the indicators historical planning decisions, societal preferences and structural (political) power is presented firstly. Secondly, the dimension 'Built city' including results on 3 D's and modal split will be discussed. This is followed by findings on 'Lifestyles & Milieus' and the attached preferences towards transport modes. Finally, the dimension 'Communication' with the underlying indicator discourses is presented.

5.1 Politics & Planning

This dimension will at first illustrate the development of historical planning decisions in Gent. This is followed by societal preferences and last but not least by the indicator of structural (political) power.

5.1.1 Historical planning decisions

The following quote introduces the suburbanization movement that took place in the decades after the second world war.

> "but it is quite clear that **suburbanization and car-travel went hand in hand** and many jobs certainly in the **first decades after the second world war** they remained in the city center, also in the industrial development north of the city of course, but **residents moved more and more outwards** and started to **commute by car into the city**" (*Local citizen*)

The interviewee emphasizes that suburbanization and increasing car-related travel were closely related, although many jobs remained in the center of the city. However, the people started more and more to move to the suburbs and to commute by car into the city for work.

> "And in that period during the **60's 70's and also the beginning of the 80's they invested lots of money that went into parking spaces, here in and around the city which is still there**." *(Academic expert 2)*

The academic expert 2 also mentioned these processes and highlights that in these decades a lot of money was invested into parking spaces. The cars of the commuters had to be parked somewhere, so car parking spaces were developed. Planning at the time was car-oriented and the physical infrastructures remain until today, as the next statement shows once more.

> "And **since the 80's** it was a **social democratic city** and that is of **major importance also about mobility planning**. Because in the 60's and the 70's there were also **major infrastructure developments** over here, **which is still here**." *(Academic expert 2)*

These infrastructure developments which remain until today are mentioned once more. But the academic expert 2 already indicates that Gent since the 1980s can be characterized as a social democratic city which is of "major importance also about mobility planning" (Academic expert 2) in his opinion. With this the interviewee means, that the social democratic party has more progressive stands on mobility and transport. As such, slowly limiting the hegemony of car-related mobility. The local citizen gives a small example about this as the next quote shows, because policy and planning goals were slowly changing.

> "They **moved the cars** and that was **kind of a prequel**, it must have been in the **late 70's. Yes in 1984 it was**, but it was not the first street there were like one or two smaller streets, Margelenstraat is one of them that became car-free earlier" (*Local citizen)*

During the late 1970s and early 1980s the first streets in the center of Gent became car-free. But this process was still rather selective. Then in the year 1987 "a first attempt was made to introduce a traffic circulation plan, which would prohibit through traffic in the Centre" (Boussauw, 2014: 40). This first attempt to introduce a large-scale traffic circulation plan was heavily debated at the time. There was strong opposition and protest as the following quotes illustrate.

> **"**But there was a kind of **first mobility plan, really restricting the traffic**, the through-traffic (…). But the main principles of that plan, at least it made it impossible that some through-traffic went through the city, **not in the way it is done now, but already a first step** on this. Because, **there was a lot of tension at that time to get it implemented**. I remember that the **deputy mayor who was responsible**, even walked around for some time with a **special vest which protected him against bullets**" *(Consultant 1)*

As consultant 1 explains in the last quote this attempt was the first to really restrict traffic, especially through-traffic in the center. This plan was not as drastic as the current CP, but "there was a lot of tension at that time to get it implemented" (Consultant 1). Several interviewees mentioned, that the deputy mayor at the time was personally threatened due to his proposal to restrict car traffic in the center. Especially one group was in strong opposition against such policy measures, which did not change until today.

> "he made as far as I know the first mobility plan for Gent. And **it focused on the very center of the city** and it **was quite revolutionary for that time and he made it car-free**, or almost car-free, the heart of the city center. **There were a lot of people who were against it, especially the shop-keepers**" *(Mobility expert)*

The mobility expert illustrates that the plan focused on the heart of the city center and aimed at making this part of the city (almost) car-free. He describes this as "quite revolutionary for that time" (mobility expert) but also emphasizes the strong opposition against the idea, especially by the shopkeepers. Again, the next statement highlights how intensive the opposition against this first traffic circulation plan was.

> "but it was introduced (in Gent) for some days, but **there was so much protest at that time, so it had to be reversed.** And it was a **kind of political suicide for 20 years to discuss in Gent about traffic circulation**. So, what was done in that period was developing something that **nobody could oppose to, to promote cycling** and to develop cycling infrastructures, especially new cycling routes along canals, new bridges and also within the city (…) To develop a let's say **a finer mesh of cycling possibilities**" *(Academic expert 3)*

The academic expert 3 illustrates that the protest was so strong in the city at that time, that the plan had to be reversed. Furthermore, he notes that for the next years after this it was a "political suicide (…) to discuss in Gent about traffic circulation" (Academic expert 3). This highlights the intensity of the issue at that time. Instead of this, other measures have been taken, that would not cause so much political struggle and protest. The academic expert 3 notes, that cycling was promoted and new cycling infrastructures were developed. The planning goal so to speak, was "to develop (…) a finer mesh of cycling possibilities" (Academic expert 3). The following quote sums up this development and points out the next steps in the city's mobility policy.

> "we started to have a **cycling plan in 1995**, that was the first plan, but that was a plan that developed over the years. And this **(CP 1997) was really a moment when we implemented another circulation** from one day to another, the inner city, the **core of the city was not accessible for cars anymore**. Then we had a **parking plan in 2016,** involving higher parking rates, and more paid parking and **then this CP of 2017**. So, these are the **important steps** in our mobility planning." *(Mobility planner)*

The mobility planner explains that these measures to promote cycling were summed up in the cycling plan of 1995, which developed over the years. Better cycling infrastructure were the result of this. Then in 1997 the first traffic circulation plan was introduced (which was not reversed as the one from 1987). This plan restricted car-traffic in the city center so that it was

not possible anymore to enter the heart of the city by car. Almost a decade later the municipality made adjustments in their parking policy with the parking plan of 2016. This included higher parking rates and more paid parking areas in general. The plan from 1997 was limited to the core of the city, as the next statement shows.

> "the first thing we did in **97 was to create this area (center) but you could still go around** and if you wanted to go from the south to here, instead of using the city ring, maybe people still went just around the pedestrian area. And we calculated that at least **10% was pure through traffic and about 30% was people who used the inner city as a short cut, instead of using the city ring"** *(Mobility planner)*

Only the center was affected by this plan. As the mobility planner notes, many people just drove around the area which was pedestrianized. In chapter 4 it was already mentioned, that 11% was pure transit traffic and 28% were semi-transit traffic, meaning that people used the inner city area as short cut to not use the city's ring road R40 (stad.gent, (1) n.d.). To restrict or cut out this through traffic was one of the main goals of the CP from 2017.

> "but it was **gradual change** and these 3 (**1995, 1997, 2017) were really plans with a large impact** and it was **not gradually but it was suddenly**". *(Mobility planner)*

As explained in the last section Gent had several steps that gradually improved the mobility system, with some plans that made a sudden difference. As the last statement shows the mobility planner labels the cycling plan from 1995, the CP from 1997 and the CP from 2017 as these sudden changes that had a big spatial impact.

This last subsection gave a brief overview about historical planning decisions in Gent. In the decades after the second world war planning was rather car-oriented. Although in the beginning of the 1980s the first streets became pedestrianized. However, this did not mean yet that a real abandonment of car-oriented planning took place. The CP of 1987 had to be reversed after some days, due to the strong opposition and protest. These societal preferences will be discussed in more detail in the next subsection 5.1.2.

Since the 1990s Gent has made several steps to reduce car dependency and promote other transport modes. Development and facilitation of cycling were summed up in the 1995 cycling plan. The first CP for the core of the city was implemented in 1997. These car-restrictive

measures point towards a positive change of UMC for this indicator. Although these (political) planning decisions are a rather historical issue, it can be asserted that these steps in the city's policy prepared for the introduction of the CP of 2017. More environmentally-friendly modes were clearly promoted at the same time when the hegemony of the car was limited. This might have led to a change of preferences in the local society, as the next subsection will show.

5.1.2 Societal preferences

> "then they really **had a kind of crisis center**, but this **after some days the stopped with this** crisis center, because **there was no real need** of it. So, I think, I wonder **Why the perception changed** also, because people realized it was more or less functioning. Because the parties or the **people who were against**, they predicted that there **will be huge congestion** on that inner ring road. **But there was no huge congestion**" *(Consultant 1)*

As this introductory quote illustrates the CP was still heavily debated at the time when it was introduced. People or even some political parties predicted, amongst other things, that there will be a huge congestion on the ring road when the CP will be in place. For the introduction the municipality even installed a crisis center, but as the interviewee describes they stopped this measure after some days, because there was no need for it. As the respondent asserts, people's perception changed, because the plan was "more or less functioning" (Consultant 1) and the predicted congestion did not occur.

> "but at that time and even now **there is a lot** of polarization, **political polarization**, but we have seen with the **communal elections it's only a noisy minority**, which was saying that the plan is not good" *(Mobility expert)*

The mobility expert frames this discussion as a "political polarization" which occurred when the plan was introduced, but partly still happens now. However, he elaborates that the communal elections showed that this is rather a small minority which is still opposing the plan. The next respondent agrees with this and describes it in more detail as the next quote shows.

> "So, it was implemented in 2017 and in 2018 we had elections, next municipal elections and the result was **one party in the opposition which was very much against the plan, they lost 3 seats**. So, and the majority there are some differences in the majority, the **green party went up** and the opposition party went down, (…), one of their **party members of this opposition parties** said, okay if **this CP, forget it**, it's digested. It's now **accepted**". *(Mobility planner)*

The interviewee describes that in the elections which happened about a year after the introduction of the CP, the party which was in strong opposition towards the plan lost 3 seats in the municipal government. The green party instead, which was the party who mainly pushed the introduction of the CP, gained votes in this election. According to the mobility planner, even one of the party members of the opposition party described the CP then as "digested and accepted". The next respondent agrees with this and even frames a connection between the elections before the CP, people's voting behavior and the implementation of the plan.

> "because if you make the connection that, the people in Gent who voted for the party and **they announced** that they are going **to make changes in the CP**. While a **majority of people in Gent voted for these parties** and they implemented their policies, so at least **the people in Gent** I think they were the most **in favor of having this mobility plan**" *(Academic expert 1)*

Academic expert 1 highlights that the parties announced the changes in the city's traffic circulation as part of their political agenda. Furthermore, he asserts that "a majority of people in Gent voted for these parties" (Academic expert 1) and these parties then implemented their policies. According to the academic expert 1 a majority of people in Gent was in favor of the CP, even before it was introduced and voted for the parties that wanted to see it in place. Additionally, he mentions the elections in 2018 as the other respondents and comes to the same conclusion.

> "and then at some point with the next election you are being punished for having this mobility plan. That was not the case, so **the parties who introduced this mobility plan they all got more votes**, so they were like, **praised for their courage** and **praised for** the fact that they have **this mobility plan installed**" *(Academic expert 1)*

The interviewee describes that after such restrictive measures political parties are sometimes punished in the next elections, but that this was not the case here in Gent. "The parties who introduced this mobility plan they all got more votes" (Academic expert 1). He even frames it, that these parties were "praised for their courage and praised for (having) this mobility plan installed" (Academic expert 1). A majority of the population agreed that something needed to change, though there were differences in how drastic the measure had to be.

> "But there is also kind of an idea in Gent, **on average people agreed that something had to change.** That it was indeed a good idea to do something, **they differ** in the ways **how drastic it had to be** you know" (*Local citizen*)

As the last quote illustrates once more there was a majority of people that agreed that changes in mobility planning had to be made. However, the opinions diverged about how drastic or restrictive these measures had to be. The next statement sheds light on some background information of these different opinions of social groups.

> "the **composition of the people changed**, the social composition, but also the preferences. **And there were more people that wanted this quality of life in the city center, so this was very important**" *(Academic expert 3)*

The social composition of people in Gent changed (historically) and the attached preferences as well (for more details see subsection 5.3.1). The amount of people who wanted a higher quality of life in the center increased. This was important for the politicians to implement such policies as the CP, as the academic expert 3 indicates in the end.

> "**we can change**, and we **have the support of the people.** And I think that was very important (…) in Gent" *(Mobility expert)*

The mobility expert agrees with this and highlights this in the view of the municipality "we can change (…) we have the support of the people". The next two statements once more emphasize, that a majority agreed that changes in the inner-city area had to be made.

> "But **the general idea** of having this **change of circulation of the inner city**, yeah that was **generally accepted**" *(Consultant 1)*

> "the **big principles** I think, **almost everybody or a lot of people agree** that it's a **better thing for Gent** than as it was before" *(Mobility planner)*

The consultant 1 and the mobility planner highlight once more that the changes of circulation in the center were generally accepted. As the second quote from the mobility planner illustrates, "almost everybody or a lot of people agree" that the big principles of the CP improved the situation of the city.

> "the latest polls says that **45% of the residents** of Gent **are really in favor of the CP** and **30% is still against it**. And then the others, they don't really know, they see pros and cons. But it is quite clear, that **not a full majority, but larger share is in favor of the plan** and that is also why he got re-elected, because the CP was really his trade mark" (*Local citizen*)

The last statement claims that now about 45% of Gents residents are in favor of the CP while 30% still oppose to it. It is not a full majority, but still a large share of the population that favors the CP over the situation before. The local citizen also notes that the representative of the

green party got re-elected because of the implementation of the CP, because it was "really his trade mark" (*local citizen*). This is in line with the opinions from other informants as described above.

As this last subsection showed, the CP was still heavily discussed when it was introduced. People and some political parties predicted negative outcomes like increasing congestion on the ring road, which then did not occur. Many interviewees made the connection to the elections in 2018, to illustrate that a majority of people in Gent were in favor of the plan and that this became apparent in the voting behavior. Although, there are and were differences in how restrictive and drastic the measure had to be. However, even the political parties who strongly opposed towards the CP stepped back after its introduction.

The fact that many respondents described that a large share or a majority of the population was in favor of the CP, points towards a positive change of UMC for this indicator. Although, some people were skeptical before the implementation of the plan, the voting behavior and other information showed that opinions and preferences changed.

5.1.3 Structural (political) power

The first part in this subsection will mainly deal with the question if structural (political) power was enforced. Afterwards, the second part will answer if the CP can be considered as a profound change or not.

> "Let's say we had **since 12 years**, we had the **green aldermen the city councilor responsible for traffic and mobility** was from the green party, **he very much wanted it.** Of course, yes, the **other parties agreed in the majority** but of course, the **opposition was against**" *(Mobility planner)*

This introductory quote illustrates that the aldermen from the green party who is responsible for traffic and mobility really was in favor of the CP. The ruling parties who are in the majority agreed with this measure, but the opposition was against the introduction of the CP. The following quote describes their strong dissent.

> "There was opposition of course, there was **opposition especially from the NVA**, so the **conservative party** and it was even a **tough opposition**. They tried to **organize a referendum**, but they **failed** to have **formally enough signatures** to really let it happen" *(Academic expert 3)*

The academic expert 3 describes that especially one conservative opposition party was against the CP. This party tried to organize a municipal referendum, but they failed with this measure, because they could not collect enough signatures from the population. Other interviewees agreed with this and highlighted that in Belgian cities there is a need for 10% of the city's population to let such a referendum happen. In Gent the conservative opposition party gained around 8% of the needed voices, so as a result they could not enforce a referendum.

There was as described indeed tough opposition, that tried to stop the implementation of the plan. But as the next quote highlights the city officials pursued their plans anyway.

> "And yeah, **they have forced the CP through the government, so there was lots of opposition"** *(Academic expert 2)*

The academic expert 2 mentions once more that there was strong opposition, but as he frames it the ruling parties forced the decision to implement the plan through the local government. This description already indicates that structural political power was enforced by the municipal government. Although, the opposition was against the introduction and even tried to stop it officially with a local referendum, city officials implemented the plan.

> "they really decided, now we have to put a step forward again, and of course the way they organize the city center is **really much stricter what cars can do**. Yeah, **the plan will change completely** how you can **enter the center by car**" *(Consultant 1)*

Consultant 1 describes that the municipality decided to move another step forward. This statement indicates that especially for car drivers the plan would be a drastic change. It is much more restrictive for cars than before and will completely change the possibilities for car drivers in the area affected by the CP. Having said this, the next quote illustrates that also historically big changes were made.

> "I think it was **even stronger what they did 20 years ago**, although **the impact was less** but the **change in the mindset was higher**. Now they made the next step. So, saying that this was **a real change** in the way that they try to **think about mobility**, **yes and no**, it was a further step." *(Consultant 1)*

Consultant 1 refers to the changes that happened in Gent about 20 years ago (see subsection 5.1.1). In this illustration the spatial impacts at the time were less, but the change in peoples' mindset were higher. The CP is described as being in line with policies about mobility from beforehand. It is described as being a change, but in Consultant 1's opinion more as a next

step. He especially emphasized this, because 20 years ago people's preferences, opinions and travel behavior were much more different. As such, car-restrictive policies triggered stronger protests at the time than now.

As the next statement illustrates the opinions about the impact of the CP differ between the different informants.

> "but then the **biggest change came about 2 years ago**, that was **our CP,** that's **implemented on the 3rd of April** two years ago." *(Mobility planner)*

The mobility planner describes the CP, which was implemented on the 3rd of April 2017, as the biggest change that came about. In the following quote he details why this is the case in his opinion.

> "Yes, because it was **from one day,** and **the total traffic structure was changed almost overnight, we had to place hundreds of signs,** so it was just in a weekend. It was almost overnight it **was a very profound change, and very fast. Meanwhile the other changes where over the years**, always improving it a bit, more public transport, especially better bike infrastructure. Sometimes we turned in a one-way street or so, but then **this 3rd of April 2017 was really a big change! Disruptive almost."** *(Mobility planner)*

The mobility planner highlights the fact that "the total traffic structure was changed almost overnight". During a weekend the municipality placed hundreds of signs and made big changes in the traffic in a short amount of time. Furthermore, the respondent describes that the other changes in the past did not happen that quickly. PT or bike infrastructures were improved step by step, not suddenly. The changes that came along with the CP are described as "profound, (…) really big (or) disruptive almost" (Mobility planner). This was partly already mentioned in chapter 4, quoting the same interviewee.

> "it was surprising **from one day to the other**, because it was **a big plan, it was a big bang** you can say. From one day to the other **the atmosphere in the city changed completely**" *(Mobility expert)*

The last quote emphasized this big change. The mobility expert highlights that the CP changed the city's atmosphere from one day to the other. He frames the CP as a "big plan, it was a big bang" (Mobility expert) which emphasized the impact of the plan once more. Another respondent explains the differences in the residential neighborhoods and his personal experiences.

> "But the **amount of cars** passing by in the **residential neighborhoods really went down tremendously** and you can really see it in the air pollution observations for example. **For me personally it makes a huge difference**" (*Local citizen*)

The local citizen mentions that the number of cars passing through residential neighborhoods was reduced tremendously and that this also influenced the levels of air pollution positively. Furthermore, he highlights that it also makes a big personal difference for him. He backs up his opinion with the following explanation.

> "Because **nobody is parking there anymore during the day**, **only people** who **are living there** and have cars, **they park there.** It really made a **huge difference**! I think it is one of the **most impressive elements of the CP**" (*Local citizen*)

According to the local citizen also the external parking pressure went down in the residential neighborhoods affected by the CP. He illustrates, that only local people who live there also park there during the day. For him personally that is "one of the most impressive elements of the CP" (local citizen).

This last subsection shed light on two different issues. As described in the first part there was no consensus amongst all political parties. Especially one opposition partly strongly opposed the introduction and even tried to stop it with a referendum. However, as explained they did not succeed and the municipal government implemented the CP anyway. This shows that structural political power by the elected officials was enforced.

The second part of the subsection focused on the impact of the CP. As several respondents explained it can indeed be described as a profound change in the local mobility structure. The interviewees highlighted that the plan was implemented almost overnight and had a strong impact on the amount of traffic and parking. Furthermore, the city's atmosphere changed and also air pollution went down. Many respondents highlighted the sudden introduction of the plan as a central reason for its rapid effects. In a nutshell it can be asserted that a change of UMC in this indicator became apparent.

5.2 Built City

In this following section the dimension 'Built City' of the UMC concept with its underlying indicators 3 D's and Modal split will be analyzed. The 3 D's will be analyzed as a precondition

for the CP, as such which transport modes are in favor due to the density, diversity and the design of the urban fabric. Secondly, can changes here already be observed or not?

For the indicator modal split all different transport modes and their possible changes will be analyzed. The focus lies on if the shares changed towards environmentally friendly modes of transport and if a mode can be identified that contributes to local identities.

5.2.1 3 D's (Density, Diversity and Design)

As the next quote illustrates the city of Gent is a historic city, with its specific characteristics.

> "we had of course the **advantage of being a city, as a medieval city**. And you see the **street plan** is very, **very complicated** (…) all the **streets are narrow**, and you can't, it's just really **inconvenient to circulate with the car**. And it's more easy than to cut large avenues, and that made it maybe a little bit easier" (*Mobility planner*)

The interviewee notes, that the streets are narrow and the street plan is complicated. This is described as an advantage, because it is "just really inconvenient to circulate with the car" (Mobility planner). At the end of the quote the respondent already indicates, that this helped with the introduction of the CP because the urban structure never favored car use.

> "And for instance, in **French cities you have those large avenues**, you have room for tram, you have room for cars, room for parking, you have room for bicycle paths, you have room for everything. **We don't have such streets, especially not in the city center."** (*Mobility planner*)

The last quote illustrates a comparison between French cities with their wide avenues that provide space for a lot of different uses or transport modes. He emphasized that especially in the city center of Gent this large amount of space does not exist, so politicians and planners need to make choices for specific modes. The next quote also stresses this important issue.

> "Yes, the **urban tissue sets really limits here** and because it's, **there is no real pattern in it. It's very (…) diffuse our city center**, so it sets limits and if **favors the use of the bicycle and PT.** It's not a city with a great space, where its reasonable easy to circulate with the car. It was difficult, and it is difficult. **And that's an advantage"** (*Mobility planner*)

Once more the spatial limits of the urban issue are highlighted, also that that is no real pattern in it especially in the core of the city. This "favors the use of the bicycle and PT" as the mobility

planner indicates, instead of car-related mobility. This difficulty is once more mentioned as an advantage for the CP to be in place.

> "And I hear from a lot of people, (…) that they are surprised **that the city has changed a lot.** And that is interesting because, you cannot say that in Gent they have done a lot of things, but not the whole city, the management of the city is the same**, the shape of the streets is the same as before in most places**. Just the use of the public space has changed a lot and they divided it in another way" *(Mobility planner)*

The last quote depicts, that although many people highlight that the city has changed quite drastically due to the CP, the urban fabric did not change. The mobility planner highlights that "the shape of the streets is the same as before in most places", just the uses of public space were allocated differently. Academic expert 2 also mentions this as the next quote illustrates.

> "But **they haven't rearranged the streets themselves**, what they only did is that they put concrete things on the road so that a car could not move there. (...) But if Mathias de Clerk who is now **present mayor would say** no, **I want to get rid of the CP** he just has to **move the concrete obstacles** and the **cameras and then you have the city again as it was**." *(Academic expert 2)*

These changes that the municipality made so far are criticized as being impermanent. The shape of the streets did not change yet, and the academic expert 2 illustrates if the current mayor would "want to get rid of the CP (…) he just hast to move the concrete obstacles and the cameras and then you have the city again as it was". The interviewee criticizes this, because the rearrangements that have been made are not physically permanent. The locations where the CP has a direct impact are still designed in a non-permanent way. In order for more longer-lasting effects to be realized, the respondents called for a more permanent re-design. The academic expert 3 likewise agrees with this issue.

> "If the city succeeds, let's say **also rebuilt streets and re-design them** in a way to make this clear, because of course **large parts of the city streets** are still **from the period before the CP**. So, **more car-oriented**, more that it is needed now. So, this can enhance more and more this biking culture." *(Academic expert 3)*

He specifies that large parts of the streets are still designed from the period before the CP, so rather car-oriented. For the municipality to succeed and enhance this initiated change, they would need to "rebuilt streets and re-design them" (Academic expert 3) – also permanently.

> "we brought **some bollard and paint** (…) And all those things, we call it a cut, **they are provisionally** but, in the end, we want to be made it really a square, to make it look nicer than it is now. But that was just to implement the cut with some bollards and blocks, **but we will do more in the future to make it more appealing**." *(Mobility planner)*

As this last quote sums up, the bollard and paint implemented by the municipality to indicate the cuts are provisionally. It is planned to re-design those areas into new squares and just make this public space more appealing in the future. However, through this provisional character of the space it already becomes apparent no changes are in place that would have a permanent influence on the 3 D's.

This last subsection illustrates that the narrow streets in the urban tissue of Gent are rather suited for walking, cycling and PT instead of cars. Especially in the core of the city where the CP was implemented this is the case. So, the precondition of the urban form characteristics favored non-car-related modes of transport. However, it is important to mention that these characteristics did not change yet due to the CP. The design and shape of the streets is still the same as before the CP and was not yet adjusted.

In a nutshell, it can be stated that in this indicator of 3 D's no change of UMC can be identified yet. Further research needs to show if changes can be determined in the upcoming future.

5.2.2 Modal Split

Too introduce this subsection the modal split figures from the whole area of Gent will be shown and explained. The first chart is dated from 2015 and the second one from 2018, one year after the introduction of the CP in April 2017.
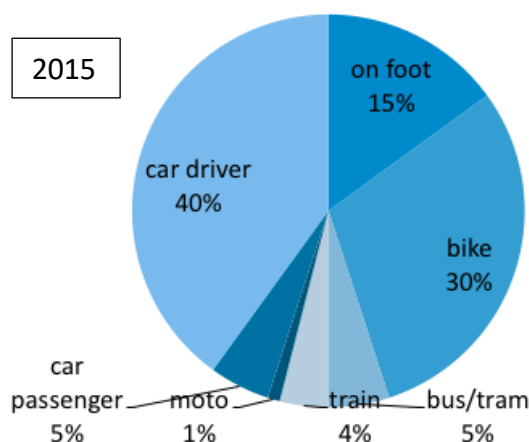

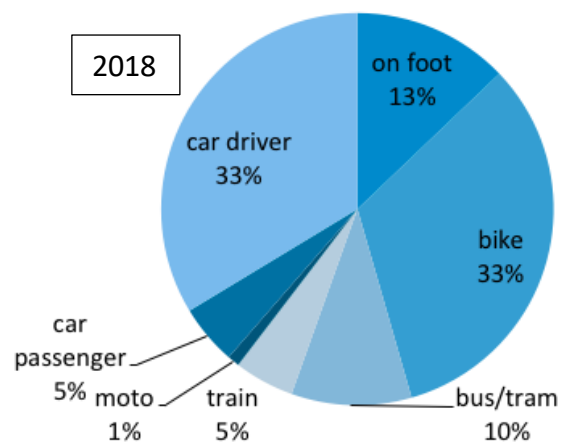*Figure 5: Modal Split 2015 (Stad.gent: (1) n.d.)*   *Figure 6: Modal Split 2018 (Stad.gent: (1) n.d.)*

Car related traffic (car drivers and car passengers) in 2015 took in total 45% of the modal split, Motorcycles only 1%. Due to the CP car drivers were reduced by 7% until 2018, so remained by 33% in total. Car passengers remained the same with 5%, also the share of motorcycles did not change with 1%. Walking decreased by 2% and remains with 13% of the total amount in 2018. This is surprising, because one could have expected an increase of this mode which did not occur. Cycling instead increased by 3% and reached 33% in total. So was already before the CP a strong means of transportation in the city. PT also gained, trains by 1% so reach 5% in total while bus and tram doubled from 5 to 10% of the total amount. As already mentioned this data refers to the entire area of Gent. As the CP only (directly) effects the area inside ring road R40 these numbers shown above need to be seen in perspective (stad.gent, n.d.).

As the following quote illustrates, depending on which area is analyzed the results show a bigger variety.

> "The results, modal shift yes **25% more cyclists in the city center**. Even **35% more between the outskirts and the city center**, raise in **public transport (5-10%)** and walking no." *(Mobility planner)*

Inside the city center cycling gained 25% and between the outskirts and the center even 35% more than before the CP. PT raised from 5 to 10% as explained above. But the mobility planner also mentions that walking did not really increase, though does not name a concrete reason for this. The fact that walking did not increase is actually surprising, one could have expected a positive influence on this transport mode due to the CP. Furthermore, the mobility planner notes that it is complicated for the municipality to influence PT and that cycling benefitted the most from changes of the CP.

> "because it's **mainly the bicycle has benefited**, and we need to have a bit more emphasis on walking and PT. But **PT is in Belgium or in Flanders difficult**, because in Germany most cities have their own PT company, it's not the case in Flanders. **All PT** by bus or by tram **is done by the region, the region of Flanders**. And **even the city transport** in Gent is done by the regional authority De Lijn" *(Mobility planner)*

The reason for this is, that PT is a regional authority in Belgium. It is "done by the region (…) of Flanders" (Mobility planner), even on a municipal level it is organized by a regional authority.

> "We **depend on the views of the Flemish government** and those are for the moment, they are **different from the views and the goals of the Gent government**. Because **the last years the cut on PT budgets**, (…) You can't influence it really very hard" *(Mobility planner)*

As the mobility planner furthermore highlights, the municipality is depending on the views of the regional government and their goals and views are and were different. As an example, he notes that during the last years the budgets for PT were lowered which in turn is hard for the municipality to influence. The local citizen agrees with this illustration and puts this conflict of interests in connection to the CP.

> "that is that **public transport is now a competence of the regional government**, it is the Flemish competence and that is the reason why **it is hardly incorporated in the CP**. And that is why **public transport is really, it is improving very slowly**." (*Local citizen*)

The local citizen asserts that this difference of competences is the reason why PT is "hardly incorporated in the CP" and therefore it is improving very slowly in his interpretation.

The next quotes as well illustrates, that it depends on the area which is being analyzed how big the results of the CP are in fact.

> "I think the fact that **we have 30% up to 40 / 50% less cars, depending on the area** where you are in the city center, yeah that **makes a huge difference**, in the way you walk through the city. Not only in the pedestrianized area, but in general" *(Consultant 1)*

Consultant 1 describes that car traffic was reduced up to 40 / 50% depending on which area is taken into account. This is highlighted as a "huge difference" (Consultant 1) in the way it effects walkability, but also livability in the central area. The following interviewee even notes that this makes a difference for the whole of Gent when it comes to car ownership.

> "I think in **Gent** we also see that it **is the only city in Belgium** at the moment **where the number of cars is diminishing**, and the trend was and is going up in every city, only in Gent it stopped." *(Mobility expert)*

In this illustration the influences of the CP are seen in a national comparison. According to the mobility expert, Gent is the only city in Belgium where the general numbers of cars is declining.

The last subsection showed, that indeed the modal split in Gent changed due to the CP. Car-related traffic decreased, cycling shares went up as well as PT, however walking decreased slightly. A positive change on local UMC for this indicator can be observed, especially in the

area directly affected by the CP. There cycling increased by 25% (Mobility planner) and car traffic was reduced up to 40 to 50% (Consultant 1) depending on the area in the city center. This shows as change towards environmentally friendly modes of transport, which for this research indicates a positive change of UMC. The reason why walking decreased slightly and did not gain from these changes could not be identified during this research, for the reasons behind this further research is needed.

5.3 Lifestyles & Milieus

In the following section the dimension of 'Lifestyles & Milieus' will be analyzed. As such, the indicator of underlying preferences towards transportation modes and the possible changes will be evaluated. The main focus lies on if these preferences changed towards environmentally friendly modes and as such, away from car-related mobility. Secondly, it will be determined if transportation modes exist in the case study that contribute to a local sense of identities (see subsections 2.2.2 and 3.4).

5.3.1 Preferences towards transportation modes

The introductory quote illustrates the background of milieus and the attached lifestyles in Gent. As a city that used to be an industrial city, the car-oriented class was still described as dominant since the 1960s. Although, the interviewee already indicates that this changed in the past.

> "Gent **used to be a very industrial city, proletarian city,** we have a lot of people working in industry and yeah from the 60's on **this type of public was very much car oriented**. Because car ownership was related with the emancipation of the working class, but this has changed" *(Academic expert 3)*

As the mobility expert describes, the city already had a "beginning of a cycling culture" (Mobility expert) in the 1990s. Gent now is described as a progressive, younger city with a lot of students that are very much used to cycling, walking and less to car use and car ownership. So apparently a change has taken place, already in the past – and as such not yet affected by the CP.

> "Typically for Gent is, that it is a city with a university, a lot of students (...) it's a progressive society, progressive culture in the city and that's a very important thing. Many of those **students they cycle, they walk, they don't use a car**, **they don't have a car,** so that makes a difference. There is a critical mass of people using bikes and using PT and so on and walking in the city (…) Maybe also important is that Gent is a city that **already in the 90's had the beginning of a cycling culture"** *(Mobility expert)*

The rise of that cycling culture started in the 1990s, but as the next quote depicts at the turn of the millennium it was still mostly related to students and not to other groups yet.

> "it really changed, and it was not yet there when I was a student. So, **20 years ago it was still not very pleasant in Gent**, if you cycled it was mainly because you were a student and you were part of the crowd. (…) But that was like the **main presence of cyclists in Gent, the students**, but **not really commuters or school children**, certainly not elderly" *(Local citizen)*

Groups like commuters, school children or elderly were not cycling yet and the experience of this form of mobility was furthermore described as "not very pleasant" (Local citizen). Cycling was only attached to the student lifestyle and for other groups like children or elderly it was described as too dangerous.

> "But when my children were young, **25 years ago you barely saw** children being transported in (…) those **transport bicycles.** Now you see it's very common now, so you see people adapt and change their behavior (…) And you see there are **bicycle cafés**, you have **repair shops**, it (the CP) changes the local mobility culture for sure. (…), it's **especially the bicycle** which is **benefiting** from all these changes." *(Mobility planner)*

The mobility planner confirms this point of view, also cargo bikes to transport children were not common yet 25 years ago in Gent. This bicycle culture developed since then, also with cafes, repairs shops attached to this. Furthermore, he highlights that "especially the bicycle is benefiting" (mobility planner), (meaning the cyclists) from these changes that came along with the CP. Additionally he adds, that nowadays cycling is not attached only to students anymore. As the next quote highlights, elderly, children and others are and were already cycling (also before the CP).

> "if you look around will see **elderly people, woman, men, children, everybody is one a bike**. So, its strongly accepted, but not with an overnight change, that came through the years. But the overnight change could also capture on the feeling that the **bicycle was already a very good means of transport** for the city and it **just reinforced the position"** *(Mobility planner)*

In this illustration this change did come overnight but increased steadily during the years. The CP however reinforced the position and importance of the cyclists in Gent. This is also related to the fact that people's preferences do not change overnight. It's a process that takes more time, and gradual influence by city planners – as it has happened in Gent with according policy decisions in the 1990s as mentioned earlier.

A progressive, cycling-related reputation of Gent is also illustrated by consultant 2, who highlights that the city is known for this even on the provincial level of Flanders.

> "Gent is always seen as a more progressive city in Flanders, we have the idea that **people who live there are more eager to go by bike**" *(Consultant 2)*

Academic expert 1 agrees with this and highlights that the majority can be considered as rather progressive. In this description these perceptions and related lifestyles are described as a pre-condition for the CP to be in place, as he calls it a "self-fulfilling-prophecy" (Academic expert 1).

> "the people of Gent are, at least **the majority are rather progressive**, that's also the reason why they voted for these political parties (…) So, it's a kind of **self-fulfilling prophecy**, that they choose the leaders that would have a policy that would they like to have implemented. So, the fact that already **large numbers** of people **using public transport, less using cars and cycling** that re-enforces." *(Academic expert 1)*

The fact that these lifestyles who are attached to PT, cycling and less to using cars is considered central for the CP, because these people voted for those parties who wanted to see the plan in place. As such, these preferences towards transport modes are also highly connected to general societal preferences. But also differences and conflicts between different lifestyles become visible (see later section 5.5). While the cyclists benefitted substantially from the CP, car users were restricted.

> "You see a different attitude, between the old car users and the other mode users let's say. That's a change! **Who is most affected by this plan**? **Are the car users**, that's clear" (*Consultant 2*)

As the last quote already indicates, differences and also conflicts between car users and other mode users became apparent. This is especially evident between an urban culture and a sub-urban culture in Gent.

> "And that **there is a friction**, and that in this case let's say the more **urban styles that are related to biking** and **walking and also PT**, (…) that this is more an urban culture. And that the **sub-urbans are more car-oriented, there is a clear friction**. And here in Gent, yeah now the CP favorized the more urban style." *(Academic expert 3)*

The urban culture is described as more oriented towards environmentally friendly modes of transportation, while the sub-urbans are considered being more car-oriented. This is not surprising, also looking at other cities. However, the informant notes that the changes of the CP now favorized the urban culture.

> "So, you see a **friction between these subcultures**, that is also within the city. But the dominant culture, because also if you look at the age structure of the city and the presence of the university you see **they (biking-oriented urbans) are really dominant**." (Academic expert 3)

This friction between the different subcultures or lifestyles is emphasized once more by the academic expert 3. Although, the presence of biking-oriented urbans is described as being dominant in Gent also due to the presence of the university. This is likewise highlighted by the academic expert 2, who refers to it as a "population change in Gent" – from more car-oriented lifestyles in the past, towards a higher percentage of biking-oriented lifestyles nowadays.

> "you could say that those people are more leftist, and more **used to bikes instead of cars**. You **see a population change in Gent**. But if that is only due to the CP, I don't know, it's the chicken and egg question of course. But it's **probably reinforcing this**" (Academic expert 2)

Although once more it is emphasized that this is not only due to the CP, these changes also happened earlier. However, the CP is "probably reinforcing this" as the academic expert 2 notes.

The following quote sums up what the other respondents explained in relation to this.

> "the **CP was the adaptation** of the city on **what had already changed in the mind of the people**. So, they gave, finally, to the people who wanted to walk and cycle, **so it was a correction** you can say" *(Mobility expert)*

The CP in that sense was an adaptation of what had already changed in the society beforehand, it was the correction for other types of lifestyles that became more dominant in Gent.

Summarizing the last section, it can be asserted, that indeed lifestyles in Gent changed – from more car-oriented lifestyles in the past towards lifestyles of more environmentally friendly transport modes, especially cycling. Although, this change is not primarily due to the CP and its introduction. These changes already started to take place beforehand, but the CP was a reinforcing factor for this change. A change of UMC in the dimension of lifestyles can be determined, yet not mainly due to the CP. The CP was the "adaptation or correction" (Mobility expert) from the city reacting of what had changed in the society beforehand.

Cycling could furthermore be determined as the most central element of transport modes for these lifestyles. Although if it really contributes to a sense of local identities (Klinger, 2017) could not entirely be clarified. This is maybe due to the broad approach of this research to address all dimensions of UMC. As such, this could be researched in further studies.

5.4 Communication

In this section the media discourse about the CP will be described. The main emphasis lies on which connotation, if positive or negative, the CP had before its introduction and if that changed until the time of this research.

5.4.1 Discourses

> "There was strong opposition to the plan and it got national television and radio coverage and the opposition: **'Gent won't be reachable anymore'**. And it's a kind of self-fulfilling-prophecy, if you repeat it enough, people will think, 'You can't come anymore" *(Mobility planner)*

As this introductory quote illustrates the framing in the media before the CP was introduced was indeed really negative. The central framing was described as "Gent won't be reachable anymore" (Mobility planner). The next quotes describes, that the debate about the CP in Gent was also in the news for several weeks. Consultant 1 explained that also in Leuven there was a CP introduced, but the reports were mainly in the local media. While in Gent the debate took place on a larger scale. About the CP in Gent apparently lots of people tried to make a political point about it or went on opposition against the plan.

> **"It was the first CP that I heard so much in the news,** because in Leuven there was a CP as well, but I only heard about it because I work here. **But the one in Gent, it's been in the news a couple of weeks when it was introduced**. And there were a lot of people against it, or they try to make a political point about it." *(Consultant 1)*

Especially for people who come from outside the city and only come to the center irregularly the framing "Gent won't be reachable anymore" (Mobility planner) was described as a bad perception and prejudice. This is connected to the broad media coverage that happened, so as a result also people who do not live in Gent heard about it.

> "People who come to the city 3 or 4 times a year, (…) might think, oh it's very difficult. And that's a bad perception and we are working on it. But it's also, **we had a campaign: Gent is still reachable**" *(Mobility planner)*

The municipality started an image campaign to deal with this negative framing in the media and to promote that "Gent is still reachable" (Mobility planner), also by car. This negative framing in the beginning was also described by the representative of shopkeepers. This framing was especially criticized with the fact that such a discourse does not attract customers to local businesses.

> „So, if **something big like this happens**, with a lot of **negative publicity**, it's really **hard to attract your customers** (…) but the suburbs, there everybody said that they could not get to Gent anymore, by car. But a lot of people still come by car" *(Representative of shopkeepers)*

The representative of shopkeepers especially emphasized people or customers from the suburbs who come to the center to do shopping. In his illustration a lot of these customers still come by car and thought due to the CP they could not reach the center anymore. As the next quotes illustrates this issue, this was due to a lack of communication and a negative terminology that was used before the introduction of the CP.

> "Communication prior to the CP was not good. (…) But in communication they always struggled to keep up with the **negative perception and part of it is the terminology** they used. Because they wanted to make it really clear what their intention was, they are talking about the streets where you could not pass anymore, **they called it a knip, a cut.** They would never use that word anymore, because what does it mean, you get the perception you are cutting something off (…) **it sounds really negative**" *(Representative of shopkeepers)*

In this illustration it becomes clear that the municipality wanted to make it clear what their intention was, but that the negative perception was closely related to the terminology they used. For instance, the word "knip" which means cut in Dutch. This word was described as having a really negative connotation. As several interviewees described, the bad general

perception of the CP was highly connected to such words like "knip" because in the people's perception this word is connected to something really negative.

> "the fact that you have this 'knip', also meant that some people in the beginning they were really angry, because they said: I cannot go from this area to that area (…) **Cut has a kind of negative connotation**, you are cutting off something, so that's not good. So, they were thinking (the municipality), maybe we should **not use the word knip**, but maybe we should **use a word like 'filter'**. (…) that could maybe have an impact on **having an even higher acceptability**" *(Academic expert 1)*

As the last quote illustrates, the municipality tried to deal with this issue and instead of using a negative related term like "knip" using a word like 'filter' to increase the acceptability. As such, changing the terminology and working on a positive image campaign the discourse was changing slowly. Although, it is not yet decided if this campaign will go on in the future. Because, by repeating this issue and campaigning for the fact that 'Gent is still reachable' the problem remains that some people set this in a different context. This is summed up in the next quote.

> "we did a campaign, but maybe we will stop. Because, just by campaigning, **if you campaign for you can reach Gent without a problem,** people might say: '**Why do they do the campaigns**, it must be **very difficult to reach** Gent'" *(Mobility planner)*

As this quote highlights, only by campaigning for the accessibility of the city this discourse about the problem that it is "very difficult to reach" (Mobility planner) gets repeated. As such, and because the media discourse also changed in the meanwhile, the city officials are not sure yet if the will continue this campaign in the upcoming future.

> "the **discourse changed** and there is now also the part from the discourse, that the **quality of life is better** now and that it is **safer for cyclists**, and that the **air quality is better**" *(Academic expert 3)*

The last quote depicts that the discourse changed in the meantime, from before the introduction of the CP until the time of the research. Positive effects of the CP, such as improved air quality, higher quality of life and increased safety for cyclists entered the discourse. Also, the next quote highlights this change of the discourse and the general perception.

> "so that was one of the major issues, communication and perception. I think it **already changed in 2 years** (…) You see the feeling on the plan, so how do you think about the CP as it is now, well **28% is very negative** and **27% is positive or very positive**" *(Representative of shopkeepers)*

The representative of shopkeepers describes that in his opinion communication and perception were the major issues and that this changed during the last two years. Also, in a survey within members of the UNIZO association of shopkeepers now 28% still think negative about the CP, while 27% have already a positive attitude. These quotes illustrate that a change of the discourse can be determined. Although, the discourse and public opinion is of course not entirely positive, but indeed a change in the public debate which includes the positive effects of the CP can be identified.

As described in the last subsection the media discourse about the CP was rather negative before it was introduced. Major issues were the terminology with words like "knip" or cut which had a highly negative connotation in the public. Furthermore, the discourse was characterized by the framing that 'Gent won't be reachable anymore' due to the car-restrictive measures of the CP. Until the time when the research was carried out, this already changed and also positive aspects like improved safety, air quality and others entered the public discourse. This points towards a positive change of the dimension 'Communication' in the UMC concept for this research. Although, due to the scope of this research there would be the need to investigate this more closely – eventually with a detailed discourse analysis.

5.5 Urban / Suburban divide

During this research, a divide between the urban- and suburban areas in Gent could be determined. This affects different indicators and also the general level of acceptability of the CP. Because several interviewees agreed on this difference, it will be presented here supported by some general quotes. Due to the fact that this relies on information from different indicators, it is presented after the separated information from all dimensions in subsections 5.1 to 5.4. As such, a brief interrelation between the indicators – discourse and lifestyles – and also general acceptability will be provided here.

> "if you look at the **discourse**, that there is **a difference of people living in the city center area itself and the more suburban** one. That there is a different way of looking at how you can get around in the city, and that is for sure, that there are **different styles in the city and in the suburban area.** And that **there is a friction**, and that in this case let's say the more urban styles that are related to biking and walking" *(Academic expert 3)*

The academic expert 3 names the difference in the discourse between people living in the center and people living more in the suburban neighborhoods. People perceive it differently how they can get around in the city. This is connected to different mobility styles in the center and the suburban area. The academic expert 3 highlights this friction and states that the more urban styles are related to biking and walking. The local citizen agrees with this as the next statement shows.

> "there is a **broad basis of support in the city, less outside the city** and the neighboring municipalities of course, because **car-restrictive measures are more affecting** those **who live** a bit **further away** from the center." *(Local citizen)*

He mentions that the car-restrictive measures affect those living in the suburban areas more. In this regard, the local citizen highlights, that "there is a broad basis of support in the city, less outside the city" (Local citizen). In the next quote he illustrates the reason for this in his opinion.

> "**support is much higher** when **you live closer to the center** and yeah, the reason is obvious. If you live close to the center you **have much more options to change your behavior**, you can just leave out the car from the center, you **also benefit much more from the advantages** of the plan" *(Local citizen)*

Firstly, he asserts that in the center you have more options to change your personal mobility behavior. Secondly, he describes that people living inside the center are benefitting much more from the advantages of the CP. They have to make sacrifices but also benefit from the positive changes as consultant 2 highlights.

> "mainly **people** who live in **the car-free zone they really had to make a sacrifice**, okay they still can drive to their homes, but they **have to ask a permission**. (…) But then in practice they realize that it's, **it makes their neighborhood also a nicer place to live**, because there are a lot less cars in their streets" *(Consultant 2)*

Consultant 2 notes that people in the car-free zone really had to make a sacrifice. They are allowed to drive to their homes but need to ask for a permission from the municipality. This also applies for visitors and all others like people from the suburbs. But the people in the center see the advantages, as consultant 2 puts it "it makes their neighborhood also a nicer place to live" due to the reduced number of cars. While people from the suburbs also face the 'sacrifice' of reduced car-related mobility, they do not benefit from the advantages in the same way.

> "Well most **people** are **coming from outside, they don't see that advantages**, they don't care that much about the space and the air, which is not good." *(Representative of shopkeepers)*

The representative of shopkeepers highlights the same issue. People coming from outside the center, "don't care that much about the space and the air" (Representative of shopkeepers) – meaning the improved situation in the center. This briefly mentioned friction is summed up in the next statement from the mobility expert.

> "Those people will move to other places, we know that **residential self-selection**. That means that **people who are focused on the car** and on car mobility are **more likely to go, to live in a small village** where car dependency is normal and high and **that people** who are **more focused on cycling and walking** and so on, they are **more likely to go in the city center** in a city like Gent. That's something you see, so a **kind of segregation,** not only but also between rich and poor I think" *(Mobility expert)*

He describes that a possible residential self-selection might appear. Meaning that people who are more attached to car-related mobility might move to smaller villages or suburban areas "where car dependency is normal and high" (Mobility expert). And at the same time that people who are more related to urban mobility styles like walking and cycling are more likely to stay in the center of the city. The mobility expert frames this as a (possible) "kind of segregation, not only but also between the rich and poor".

This statement, that wealthy people attached to more urban mobility styles versus rather poor people attached to car-related mobility (and their residential selection), can be discussed controversially. Further research would need to show if this is the case. However, this friction in the local society is academically an interesting issue. One could assume that it was not in the intention of the municipality to increase a friction or divide between different societal milieus. This indicates a non-intended effect of the CP which is a controversial point. Increasing segregation in the local society would need further study and potential countermeasures.

As this last section showed, a friction is apparent between people living in the center and the suburban areas in Gent. This applies for different mobility styles and attached preferences, the connotation of the discourse and the general level of acceptability of the CP. If this indeed leads towards a residential self-selection or even a segregation, needs to be researched in

further studies. As such, if this segregation is indeed the case potential countermeasures could be discussed.

5.6 Summary of the results chapter

In this last section, the empirical results outlined in this chapter will be summarized. The different indicators will no longer be described separated anymore, due to their interrelatedness (Klinger & Lanzendorf, 2015). As such, findings from the empirical research of this thesis will be connected briefly as follows.

5.6.1 Historical decision and societal preferences

As the subsection 5.1.1 'Historical planning decisions' showed, Gent has already made several steps in the past to reduce the dependency on the car. This process began slowly with the first streets being pedestrianized in the early 1980s. The idea to introduce a CP in 1987 had to be reversed after some days, due to strong opposition and protest from shopkeepers and the rest of the population. Since the 1990s, environmentally-friendly modes were promoted, especially cycling which bundled in the cycling plan of 1995. In 1997, a first CP could be implemented which affected (only) the very core of the city center.

This process seems to be highly connected to 'Societal preferences' (subsection 5.1.2) which apparently changed during the last decades. The CP of 2017 was still heavily debated before its introduction. But as one interviewee described it, after the failed implementation of the CP in 1987, it was a "political suicide to discuss traffic circulation in Gent for 20 years" (Academic expert 3). Although the plan of 2017 still faced some opposition before it was put in place, societal preferences had changed beforehand. This is also connected to changing 'Lifestyles and Milieus' (section 5.3) as a 'population change' (Academic expert 3) took place in Gent, which will be highlighted later. However, many interviewees made the connection to the elections in 2018 where the party who opposed to the CP lost seats and the party who mainly stood for its introduction gained votes. This, and the fact the CP could be introduced and still a majority of the population is in favor of the plan, indicates the shift of societal preferences before the introduction in 2017 as well as afterwards.

5.6.2 Structural (political) power, modal split and 3 D's

Subsection 5.1.3 illustrated the indicator of 'Structural (political) power'. It became apparent that no consensus amongst all political parties was present. The opposition tried to stop the implementation of the CP with a referendum but did not succeed. That the plan was implemented anyway shows that structural political power by the local government was enforced. Several interviewees highlighted that the plan can indeed be described as a 'profound change'. This is due to the large spatial impact, strong changes in modal split, improved air quality, influences on parking and the overall changed atmosphere in the city, as the mobility expert described it.

The changes in 'Modal split' were presented in subsection 5.2.2. Reduced car traffic, a higher cycling shared and improved shares in PT could be observed in the whole city of Gent. Especially in the area directly affected by the CP strong changes became apparent. There cycling increased up to 25% and car-related traffic could be reduced up to 40 to 50%. However, walking did not really improve due to the plan, which is surprising.

In subsection 5.2.1 the 3 D's (Density, Diversity and Design) were in the focus of the analysis. It could be determined that especially the historic center of Gent with its narrow streets and the complicated street pattern was never really suitable for car traffic. However, the respondents illustrated that the 3 D's did not really change yet due to CP. Furthermore, the qualitative approach of this research was not really fitting to analyze these criteria.

5.6.3 Preferences towards transport modes & discourses

Section 5.3 focused on the dimension 'Lifestyles & Milieus' with the underlying indicator of preferences towards transport modes. It could be asserted that these preferences changed from more car-oriented towards more environmentally-friendly modes. However, these changes were already (partly) apparent before the introduction of the CP in 2017. This was due to a 'population change' (Academic expert 3) that took place in the city during the last decades. But also planning decisions which favored environmentally-friendly modes like the cycling plan from 1995 and the CP from 1997 certainly have been influential. Even if changes in this dimension were described by the respondents, these are not primarily due to the CP of 2017 – although this intervention might reinforce this.

Lastly, the dimension 'Communication' was analyzed in section 5.4. It could be determined that the media discourse was rather negative before the introduction in 2017. The discourse was characterized by a negative terminology with words like 'knip' meaning cut in Dutch and a framing that 'Gent won't be reachable anymore'. This already changed until the time of this research and positive issues like improved air quality and improved traffic safety entered the debate.

6. Conclusion

In this chapter, the research questions will firstly be answered. This is followed by recommendations for further research, which were briefly mentioned during the results chapter. The usefulness of the theoretical framework of UMC will be evaluated and finally, the limitations of this study be summarized.

6.1 Answering the research question

- <u>To what extent can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?</u>

As this research showed, specific spatial interventions resulting from policy changes can indeed change a city's mobility culture. However, this also relies on other external factors that need to be in place.

During the research for this thesis, it could be identified that some other factors that were already apparent beforehand made this 'policy change' possible. In this case study, other policy decisions have also been made in the past, trying to reduce the car dependency and promote more environmentally-friendly modes of transport. As such, societal preferences also changed over time that made the introduction of a car-restrictive measure as the CP possible. While the CP had a direct effect for example on modal split shares, societal preferences seem to take longer to only be influenced by one policy decision. Furthermore, permanent changes in the 3 D's could not yet be identified. Although, the urban tissue in the case study never favored car-related mobility – it was still a strong means of transport (see subsection 5.2.2). The design of the streets could be changed to make changes clearly visible and especially permanent. The municipality aims at this and as such, a change in this indicator of UMC could appear in the upcoming future.

Finally, also a divide between the urban and the suburban areas could be identified (see section 5.5). This applies to several indicators and as such also illustrates an unintended effect of the CP. While it is highly accepted in the inner city and had major influences on modal split in this area, the acceptability and general influences seem to decrease in areas further away

from the core of the city. As such it is an interesting outcome of this research – consisting of different indicators of the UMC theory.

In the following the sub questions, supporting the findings of the main research question, will be answered.

1. <u>How did historical planning decisions shape the preconditions of the mobility culture?</u>

Historical planning decisions since the late 1980s tried to reduce car dependency – and promote cycling, walking and PT use. The municipality tried to take a first big step with the CP of 1987, which then had to be reversed. Afterwards, cycling infrastructure was constantly developed and improved – which bundled in the cycling plan of 1995. These decisions already made the bicycle an important means of transport in the (core of the) city. The next step was the introduction of the CP in 1997 which restricted car-traffic in the heart of the city. This was the first measure really trying to restrict the hegemony of the car in Gent. It can be stated that these decisions prepared the city and its population for the introduction of the CP in 2017.

2. <u>Did modal split change and if yes, towards more environmentally-friendly modes of transportation?</u>

As subsection 5.2.2 explained, modal split did indeed change due to the implementation of the CP of 2017. Car-related traffic was reduced, with drastic effects depending on the area of the city. In the center directly affected by the traffic restrictions, the decrease in car-traffic was about 40 to 50%, as one interviewee highlighted. Furthermore, especially cycling modal share in particular gained a lot due to the CP. Increasing modal shares are visible in the whole area of Gent, but again, especially in the central area cycling increased by up to 25%. Public transport use also increased, although less than cycling. Surprisingly, walking decreased slightly. An explanation for this result still needs to be ascertained. However, overall it can be stated that modal split did indeed change towards more environmentally-friendly modes of transport due to the implementation of the CP in 2017.

3. Can specific mobility-styles be identified that influence the mobility culture?

Differences in mobility-styles could indeed be identified during this research project. Especially in the inner-city, area 'biking-oriented-urbans' were described as being relatively dominant. Further away from the center, more car-oriented life- or mobility-styles became more important. However, it was asserted by several interviewees that these urban mobility-styles, related to especially cycling but also public transport and a bit less to walking, were now favorized due to the CP. During the last 10 to 20 years, cycling in particular has boomed in Gent and as such can be considered the most central mobility-style. Whether it really contributes to local identities however could not be clearly identified.

4. How can the mobility-related discourse about the intervention be characterized?

Subsection 5.4.1 illustrated the mobility-related discourse about the introduction of the CP. It could be identified that before it was introduced, the CP faced a rather negative discourse. Framing like 'traffic cuts' or that 'Gent won't be reachable anymore' are examples of the negative terminology that was used. However, by the time of the research, this had already changed, and other more positive effects entered the public debate. Improved air quality, less air and noise pollution and better traffic safety were part of this more positive discourse. The respondents also described that the CP in Gent faced national television and radio coverage, which is indicative for the scope of effects and controversial debate around the plan.

5. In which way did societal preferences lead towards changes of UMC and can these be considered as 'profound changes' in the local planning structure?

Societal preferences had changed historically in Gent during the last decades. This was of major importance for local mobility culture and the implementation of the CP of 2017. While a traffic circulation plan in 1987 had to be reversed due to strong societal protest, today a majority of the population in Gent is in favor of the current CP. As such, the societal preferences that had changed beforehand basically made the implementation possible. The interviewees illustrated that the population chose their political leaders, also with a focus on the CP being implemented. Furthermore, once the plan was in place, the political parties were not punished for its introduction in the elections one year afterwards.

The changes that accompanied the CP of 2017 can be described as 'profound changes', as highlighted in subsection 5.1.3. The respondents explained that this is due to the sudden introduction of the plan and effects on various levels. In total, the area affected by restrictions was increased by 150% (stad.gent, n.d.) and includes now not only the very core, but also six surrounding residential neighborhoods. The interviewees highlighted the drastic effects of the plan on the amount of traffic and parking, but furthermore also positive influences on the whole atmosphere in the city.

6.2 Recommendations for further research

In the following section 6.2 the recommendations for further research which resulted from this research project will be described. This is limited in this section onto the different parts or indicators of the UMC concept. The general usefulness of the theory follows in the section 6.3.

Firstly, it can be stated that the approach of this research was only more or less fitting the analysis of the 3 D's. The respondents shed light on the narrow urban tissue in the center of Gent and that this favors more the environmentally-friendly modes of transport. However, a change in the 3 D's could not yet be determined due to the impacts of the CP. Whether this might change in the upcoming future needs be researched. This is due to the issue that some respondents described the current street design as non-permanent (where the CP had a direct influence). This could possibly be changed into a permanent design, which might result in other effects – increasing acceptability of the CP for example.

While analyzing the indicator modal split, it became apparent that walking did not (yet) benefit from the changes of the CP. The shares of this transportation mode even decreased somewhat. The reason for this could not be determined during this research project. The fact that walking did not increase due to these changes is surprising, as one could have expected that walking would indeed increase. Further research is needed to specifically analyze why walking did not (yet) benefit and furthermore, how this could eventually be changed in the future.

During the analysis of the dimension 'Lifestyles and Milieus', cycling could be determined as the transport mode that most likely shows the highest connectivity to (urban) milieus in Gent. However, it could not be entirely clarified if cycling is also connected to a local sense of identities, as Klinger (2017) put it. If this is the case, it would be an interesting subject of further studies. As several interviewees highlighted, cycling gained the most until now from the CP. How this will affect the cycling shares, also outside the city center and the surrounding neighborhoods, would also be a subject for further research projects.

Changes in the dimension 'Communication' could also be determined during this research. However, to draw a really detailed picture of the mobility-related discourses and the changes one could study this with a specific discourse analysis. It would be interesting to see, how and why the connotation changed from a rather negative framing such as 'Gent won't be reachable anymore' towards a more positive framing. Furthermore, it could be researched if the communication campaign of the municipality had an influence on this or not.

Lastly, as explained in section 5.5 an urban/ suburban divide in Gent could be identified. This applies for several indicators. Further research would need to show how distinct these differences are. Furthermore, the respondents highlighted that the CP now favored the more urban forms of transport such as cycling and walking. One interviewee specifically pointed out the residential self-selection that takes place. If this segregation is reinforced by the CP and its effects needs to be clarified by further research. Finally, if this friction between wealthy and rather poor milieus is strengthened by the CP, this would be another interesting subject for further study. Possibly also if countermeasures are needed to address this issue.

6.3 Usefulness of the theory 'UMC' for empirical research

This section will briefly reflect on the usefulness of the theory 'Urban mobility cultures' for empirical research.

As stated in section 1.3, this theory is relatively recent, firstly introduced by Deffner et al. in the year 2006. As such, this is an argument to test the theory further on in practice. During this research, it became apparent that, if the goal is to investigate all four different dimensions of UMC, a mixed method approach would be best. This is due to the different indicators and

their great variety between being subjective and objective. In a mixed method approach, also the objective indicators (as 3 D's or modal split) could also be investigated more deeply. This was only done relatively superficially, due to the strong qualitative character of this research. The qualitative character of this research was better suited to investigate the more subjective indicators. However, even there, 'preferences towards transport modes' and the according changes for example turned out being a difficult indicator to really be 'measured'.

Furthermore, more longitudinal studies would be best to investigate aspects of UMC in more detail. Subjective indicators as 'societal preferences' or 'preferences towards transport modes' are not changing overnight. There would be a need to research this over a longer period of time, possibly years or even decades. However, such a long research project could not be carried out for this thesis – due to the time limit and general scope.

Additionally, it can be stated that UMC is in best use when analyzing different but distinct mobility cultures in a comparative sense. This was also highlighted by Deffner et al. (2006), but again, due to the scope of this research the author decided against this. One could for example research different cities of different countries and how their mobility culture changes over time. However, this would require more time and resources as the author had available for this thesis. Also, to really identify distinct relations between transport modes and a sense of local identities seems complicated. This might be apparent for some specific cities, where the population is highly related to a specific tram line with a nice view for example. But it is most likely not to be found in every city where mobility culture exists. If it is promising or not to include the question of identities into the UMC concept should be elaborated during further conceptual development.

However, in summary it can be stated that 'Urban Mobility Cultures' is not an easy but interesting and promising theory to be used. It brings some challenges, but also gives the researcher the opportunity to shed light on issues that mostly are not in the focus when it comes to mobility research.

6.4 Limitations of the study

This final section will briefly reflect on this research project, including its strengths and weaknesses. As such, it would have been advisable to choose one particular dimension of UMC instead of all four. Analyzing all four dimensions aims at drawing a holistic picture of the details of the local mobility culture. Although, taking all four – quite different – dimensions into account might lead to brief information everywhere, with having problems of having a clear focus. For the analysis of UMC in Gent the dimension 'Politics and planning' would have been a good focus, with interesting details to focus on. However, this research found information in all dimensions, for example the indicator 3 D's would have needed a different research approach. For these hard-objective data, a qualitative approach is not perfectly suitable.

In general, doing qualitative research always comes with the risk of not finding suitable interviewees. Overall this was managed quite well, the research included different voices of academics, planners, citizens and a representative of shopkeepers. However, a slight academic-bias could be criticized in this research, because quite some respondents work in academia. Their opinions are highly valued and can be considered overseeing the situation with some professional academic distance. However, they can't be described as being representative for the rest of the population. It would have been a gain interviewing another voice of opposition, maybe from an opposition party. This was tried during the acquisition of respondents, but it was complicated to reach to political parties. The same applies to the party who stood mainly for the introduction of the CP, also a clear representative of this party could not be interviewed.

Furthermore, the author of this thesis would especially advice other students to choose just one or maybe two dimensions of UMC and investigate those instead of all four. Aiming at all four dimensions means a rather broad approach that entails quite some challenges. One could for example either choose two rather subjective dimensions and a qualitative approach or a rather objective one, but then as mentioned, at least a mixed method would be advisable. Also, aiming at maybe only one dimension like 'Politics and planning' for example, would give the researcher the opportunity to investigate the issues in a broader light.

Overall, this research project still found interesting results and could show changes of the local mobility culture on various levels. The CP was a promising policy intervention to be analyzed and due to its controversial character suitable for academic research. However, there is always room for improvement – in academic research likewise as in policy decisions.

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Appendix A – Clarification of the interviews

First Interview:

(08.07.2019 – Skype)

Interviewee: Prof. Frank Witlox, (Ghent University, Faculty of Sciences, Department of Geography)

Description: Prof. Witlox is a senior full professor at the university of Gent in the department of Geography. He is an expert in the fields of mobility and transportation, but also other issues related to urban planning. The interview happened on skype, due to Prof. Witlox tight schedule. In total the interview lasted 35 minutes and was recorded without any background noise.

Second Interview:

(10.07.2017, Leuven, Belgium)

Interviewees: Dirk Engels & Hanne de Naegel (Transport & Mobility Leuven (TML))

Description: Transport and Mobility Leuven worked as a research institute for the municipality of Gent to evaluate the Circulation plan. Dirk Engels and Hanne de Naegel are two of the three researchers that worked on this evaluation report and as such have deep insight into the Circulation plan and its effects. The interview took place in a meeting room of TML and lasted for 1 hour and 3 minutes.

Third Interview:

(24.07.2019 – Skype)

Interviewee: Kris Peeters

Description: Kris Peeters is a Belgian mobility and transportation expert and worked amongst others for the municipality of Antwerp in the past. He gives independent and critical advices about mobility and related issues to companies, governments and others. The interview took place on Skype and lasted for 56 minutes. As such it could be recorded without any background noise.

Fourth Interview:

(30.07.2019, Gent, Belgium)

Interviewee: Peter Vansevenant, (Municipality of Gent, Mobility Department)

Description: Peter Vansevenant works for the Mobility Department of the City of Gent and was involved in the development and the implementation of the Circulationplan. He is the head of the strategic policy cell and represented the municipality for this research. The interview took place in a meeting room of the mobility department. In total it lasted 44 minutes and could be recoded without background noise. Mr. Vansevenant also allowed the access to two different internal PowerPoint presentations that could be used for this thesis.

Fifth Interview:

(31.07.2019, Gent, Belgium)

Interviewee: Prof. Luuk Boelens (Ghent University, Faculty of Engineering and Architecture, Department of Civil Engineering)

Description: Prof. Luuk Boelens works for the university of Gent in the department of civil engineering. He is an expert in spatial planning, urban sociology but also social geography. The interview took place in a quite environment in his office and lasted 39 minutes in total.

Sixth interview:

(02.09.2019, Gent, Belgium)

Interviewee: Prof. Dirk Lauwers (Ghent University, Faculty of Engineering and Architecture, Department of Civil Engineering)

Description: Prof. Dirk Lauwers was a full professor in the Department of Civil Engineering at the University of Ghent and is now a professor emeritus. He is an expert in mobility planning and traffic engineering design with academic and practical experience for over 35 years. As being part of numerous regional and national boards and associations, he can be considered an overall Belgian expert. The interview took place in a quite meeting room of the university and lasted 38 minutes in total.

Seventh Interview:

(03.09.2019, Gent, Belgium)

Interviewee: Dr. Kobe Boussauw (Free University Brussels, NGO Gents Milieufront)

Description: Dr. Kobe Boussauw works as an assistant professor in the fields of spatial planning and mobility at the Free University of Brussels. His specialties lie in transport and spatial

policies amongst other issues. He took part in the interview not only as an academic, but also as a member of the local NGO 'Gents Milieufront' and a local citizen who was affected by the Circulationplan. The interview took place in local Café in Gent, with some background noise and lasted 1 hour and 2 minutes in total.

Eighth Interview:

(03.09.2019, Gent, Belgium)

Interviewee: Thomas Kindt (UNIZO Oost-Flaanderen, Advocacy representative)

Description: Thomas Kindt works as a lobbyist for UNIZO Oost-Flaanderen which represents about 110.000 retailers and shop owners in the province of East-Flanders and about 30.000 in the city of Gent. He represented those shop owners for this research, as they were one of the main voices of opposition against the introduction of the Circulationplan. The interview took place in a small Café in Gent, with some background noise. In total it lasted 58 minutes.

Appendix B – Questionnaire

Major Research Question:

To what extent can major policy decisions and resulting spatial interventions lead to changes in a city's mobility culture?

Sub-Questions:
1. How did historical planning decisions shape the preconditions of the mobility culture?
2. Did modal split change and, if yes, did it change towards more environmentally-friendly modes of transportation?
3. Can specific mobility-styles be identified that influence the mobility culture?
3. How can the mobility-related discourse about the 'Circulatieplan' be characterized?
5. In which way did societal preferences lead towards changes of UMC and can these be considered as 'profound changes' in the local planning structure?

Introductory Part: (own narrative of the interviewee)

"As a starting point: Could you please tell me about the development of mobility and related policies in Gent since maybe the year 2000?"
- Factors of interest:
  o Focus on policy changes and the reason behind them
  o Changes in travel behavior
  o Local mobility before and after the Circulatieplan

    o Planning of new neighborhoods

<p style="text-align:center;"><u>Main Part:</u></p>

1. Sub-question (The built City)

- Which (historical) political / planning decisions influenced the (past) local transport / mobility system the most (since 2000)?
- How did the modal split change due to the CP?

2. Sub-question (Lifestyles & Milieus)

- Are there dominant mobility-styles that can be identified?
    - o Which are these?
    - o Why do you think they are dominant?

- Did they change due to the CP?

3. Sub-question (Communication)

- How was the dominant reputation of the transport / mobility system characterized?
    - o Dominant discourse (possible several discourses at the same time)

- Did the dominant mobility-related discourse (about the 'Circulatieplan') influence the (political) decision making?
    - o If, yes: In which way?
    - o If no: Why do you think it did not influence the decision-making?

4. Sub-question: (Politics and Planning)

- Was there a consensus (amongst politicians / planners) to introduce the 'Circulatieplan'?
    - o If yes, how was this achieved?
    - o If no, how could it be implemented then?

- Was the decision to implement this measure based on societal preferences of the local population?

- Would you describe the 'Circulatieplan' as a "profound change" in the local (political) planning agenda?
    - o If yes, due to which factors (only Modal split change, or more changes)?
    - o If no, why not?

- How would you describe the effect of the 'Circulatieplan' on local mobility culture in general?