BREAKING BARRIERS: Unveiling Best Practices for Promoting Urban Cycling

Karlijn Bruijs

Urban Studies: Master's (Two-Year) Thesis
30 credits
Spring: Semester 2023
Supervisor: Robert Hrelja
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Abstract

This study investigates the barriers faced by cities in their efforts to increase the number of urban cyclists and aims to identify best practices to fulfil cities' ambitions. The research explores the multi-dimensional nature of the obstacles and highlights the significance of understanding and addressing them effectively. By examining bike policies, sustainable mobility programs, existing literature, and conducting interviews with experts, this study provides insights into the common themes that prevent cities from achieving their goals. The findings contribute to the development of best practices that can support cities in their ambition to increase urban cycling.

This study is a multi-case study, where the study compares the city Malmö and The Hague. The Hague is a leading example for bicycle use, while Malmö strives to become a bicycle-friendly city. The methodology employed in this research includes several components: a literature review to explore barriers and enablers of urban cycling, a theoretical analysis, a comprehensive review of bike policies and sustainable mobility documents in both cities and interviews to delve deeper into recurring themes identified in the document analysis. The discussion section integrates the literature review, theory, and results, highlighting the best practices for promoting urban cycling.

In this study, the theory of path dependency is employed, which refers to a process where initial moves lead to further moves in the same direction, limiting future choices. It involves three phases: Preformation, Formation, and Lock-in. Additionally, the theoretical framework incorporates the three factors of path dependence identified by Low et al. (2005). These factors are relevant to the study because they relate to urban planning and active transport. The three factors are: technical, institutional, and discursive. Overall, understanding path dependency and its factors (technical, institutional, and discursive) enables more effective strategies in urban planning and active transportation to overcome barriers and promote sustainable cities.

Through an analysis of previous research, theory, and results it becomes evident that the establishment of a support base and the implementation of a combination of hard and soft measures play a crucial role in fulfilling cities' bike ambitions. The support base requires diverse stakeholders to understand and support bike policies. Effective communication help engage stakeholders and expand support. Overplanning with various options enhances policy resilience. Striking a balance between hard and soft measures is crucial for increasing urban cyclists. Hard measures like infrastructure development are initially important, but a balanced approach ensures an effective strategy.

By adopting these best practices, cities can successfully increase the number of urban cyclists. However, it is important to emphasize that achieving this ambition goes beyond formulating a policy; it requires the establishment of a support base and a balanced approach that incorporates both hard and soft measures. This study provides cities with insights into potential barriers and enablers, offering guidance for examining their specific urban contexts and working towards their cycling goals.

Keywords: Urban cycling, Barriers, Best Practices, Bike Policies, Sustainable Mobility, Case Study, Support Base, Hard Measures, Soft Measures, Urban Context.
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1 Introduction

On December 12th, 2015, world leaders at the UN Climate Change Conference (COP21) in Paris reached a breakthrough: the Paris Agreement. This agreement sets long-term goals to direct all nations. The agreement states that countries need to substantially reduce global greenhouse gas emissions to limit the global temperature increase in this century (United Nations, 2015). Due to this global concern over the environmental impact of cities, particularly the large contribution of carbon emissions of transportation, cities are seeking to attempt to mitigate the impact. One of the ways cities are attempting to reduce their CO2 emissions is by encouraging the use of active transport modes, such as walking, cycling, and public transportation. (Curtis, 2008; Parkin, 2012; Pucher and Buehler, 2012)

Cycling has emerged as an attractive option due to its multiple benefits, including space and resource efficiency, zero CO2 emissions, and reduced urban congestion (Pucher and Buehler, 2012; Woodcock et al., 2009). However, despite the many advantages, cities are facing significant challenges when it comes to the increase in the number of urban cyclists (McLeod et al., 2020). The barriers to increasing the number of cyclists is, according to McLeod et al. (2020), multi-dimensional. These multi-dimensional barriers are, according to the authors, institutional and structural barriers. The authors continue to stress the importance to identify these barriers. Nonetheless, when planning effectively, a significant growth in the number of urban cyclists (city cyclists) can be established. Leading cities have shown to be capable of increasing the number of urban cyclists through the continued coordination of measures (Buehler et al., 2017; Koglin, 2014; Pucher et al., 2011, p. 470).

This research aims to examine the barriers1 that cities encounter when seeking to increase the number of urban cyclists. These barriers will be identified by conducting a comprehensive analysis of bike policies, sustainable mobility programs, existing literature, and by interviewing bike policy experts. By delving deeper into these barriers and identifying common themes that prevent cities from achieving their goals, this research aims to facilitate cities in increasing the number of urban cyclists. The study's findings will contribute to the development of best practices2. The researcher aims to exceed previous research by gaining a more comprehensive understanding of the interrelation of barriers and developing best practices for cities to implement. These best practices are intended to support cities in their efforts to increase the number of urban cyclists. The research question for this study, therefore, goes as follows;

"What are the best practices that cities can adopt to increase the number of urban cyclists?"

The main research question is substantiated by the following sub-questions:

1. What are the main barriers that cities encounter in their efforts to increase the number of urban cyclists?
2. What strategies and measures do cities employ to overcome these barriers?

Multi-case study

To answer the research question and its sub-questions, this research will perform a multi-case study. According to Yin (2003), a case study is an empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence. Herby are similarities and or differences identified between the cases. Chapter four will provide a comprehensive explanation of the methodology chosen for this study.

1 Anything that restrains or obstructs progress, access, etc. (Oxford Dictionary, 2023).
2 Procedures that are accepted or prescribed as being correct or most effective (Oxford Dictionary, 2023).
This research will investigate The Hague and Malmö as part of this multi-case study. The Hague and Malmö have committed to developing a climate-neutral urban environment by 2030 as part of their sustainability programs (Malmö Stad, 2016, p. 16; Den Haag, 2019, p. 12). To achieve their objective, both cities prioritize promoting active transport modes that do not generate CO2 emissions. The Netherlands is known for being a bicycle country; making cycling a safe, convenient, and practical way to get around its cities (Pucher & Buehler, 2008). The Netherlands is therefore suitable as a so-called policy lending country. Policy lending is defined as “a place with a higher chance of policy transfer and learning than many other countries” (Pojani and Stead, 2014, p. 1573). The report by European transport ministers highlights the valuable lessons that other countries can learn from the Dutch approach to stimulate bicycle use. (ECMT, 2004, p. 67). In contrast, Malmö is striving to transform into a bicycle-friendly city (Malmö Stad, 2022).

The upcoming theory, which will be further elaborated in chapter three, concerns path dependency and will be applied in this multi-case study. Path dependency is a process that limits future choices, it progressively narrows the available options over time (North, 1991). Additionally, the theoretical framework incorporates the three factors of path dependence identified by Low, Gleeson, and Rush (2005). These factors are relevant to the study because they relate to urban planning and active transportation. The three factors are: technical, referring to the physical form of a city; institutional, which includes the rules and protocols of organizational life and transport policies; and discursive, which involves the assumptions and beliefs about the problems being addressed. Overall, understanding path dependency and its factors (technical, institutional, and discursive) enables more effective strategies in urban planning and active transport to overcome barriers and promote sustainable cities.

I introduce the following as a preliminary working hypothesis; The Netherlands has already progressed significantly in terms of path dependence on cycling. This has made it more feasible for cities such as The Hague and their residents to adopt and execute effective sustainable practices. In contrast, Malmö is currently at an earlier stage of path dependence on cycling. However, given Malmö further development on the path dependency on cars, this may exert significantly more influence and overshadows the potential benefits, and or choices, of cycling for the city.

1.1 Structure
The study begins with an introduction to the relevance of understanding barriers cities face to increase the number of urban cyclists and develop best practices for cities. The second chapter provides a literature review of previous research that was performed to understand the several barriers and enablers cities face within cycling planning. Chapter three introduces the theory of ‘path dependency’ and describes the role of this theory within policies and active transportation. The fourth chapter presents the research methodology and will elaborate on the process of data collection and analysis, limitations faced during the research, and ethical considerations throughout the process. The fifth chapter presents the two cases, The Hague and Malmö, with a focus on statistics and bike history. Chapter six provides the results of the research which consists of the document analysis and interviews, which will then be discussed in chapter seven together with chapters two and three and concluded in chapter eight of this paper.
2 Literature Review

This chapter will provide an overview of previous research conducted on the enablers and barriers influencing the increase of urban cyclists. The reoccurring enablers and or barriers that have arisen from the comprehensive literature review will be addressed in the following chapter. As there is no clear indication from research on which enablers and or barriers have a greater impact on the increase of urban cyclists, the factors are presented in chronological order. This means that the first factor introduces the reader to understand hard- and soft measures within cycling planning. The following factors dive deeper into the barriers and enablers that cities encounter in their efforts to fulfill the ambition of increasing the number of urban cyclists, allowing the reader to distinguish between hard- and soft measures. Nonetheless, each factor presented in the literature review is followed by a subsequent factor that either amplifies or critiques the preceding one. As this chapter concludes, crucial insights from this literature review for the current research will be underscored.

2.1 Hard- and Soft-Measures

Bicycle use depends partly on the already given circumstances such as geography, climate, spatial planning, and population characteristics, however, the influence of these factors is not decisive and varies from country to country (Oosterhuis, 2013). Oosterhuis (2013) continues to discuss that most attention in research and policy is focused on the design of transport infrastructure and people's motivation whether to choose the bike as a transport mode or not. He argues that this is obvious because, unlike given circumstances, infrastructure and transport behaviour offer points of leverage for targeted policy measures, such as building bicycle lanes and educational and promotional activities. Often cycling researchers explain the high frequency of cycling in the Netherlands, Denmark, and parts of Germany with bicycle facilities and, therefore, advocate similar policies in other countries.

However, a misconception is made here according to Oosterhuis (2013). He argues that there is no evidence that cycling increases substantially due to infrastructure policies (Oosterhuis, 2013). Based on the consideration that cycling policy is often one-sided whereas the focus is on 'hard' infrastructural facilities and that 'soft' measures such as education and marketing are also needed to improve the image of cycling (Oosterhuis, 2013). This does not imply that the availability of cycling facilities could not make a difference, but rather that its effects depend on other factors, such as population composition, people's attitudes and habits towards mobility, and their perception of cycling (Oosterhuis, 2013). Several studies have shown, additionally to what Oosterhuis (2013) is arguing for, that the construction of an infrastructural cycle road network combined with additional control measures such as communication campaigns, a good connection to public transport, and sufficient bicycle parking facilities, can increase bicycle traffic share (Marqués et al., 2015; Olde Kalter, 2007; Pucher, Dill & Handy, 2010; Van Goeverden, 2016). Hence, the presence of both hard- and soft measures can either be an enabler or a barrier. When cities successfully implement this combination, it acts as an enabler to increase the number of urban cyclists. However, if this combination is lacking, it can be perceived as a barrier.

2.2 Bike Culture

Pelzer (2012) argues in his research that bike culture is an important objective to explain bicycle use. The comparison research from Haustein et al. (2019) between Copenhagen and Stockholm also showed that the difference in cycling rates may be related to an overall cycling culture, which one could find in Copenhagen but not in Stockholm. Historically, Copenhagen and Stockholm have followed different paths concerning cycling policies, which today seem to be embedded into the citizens’ priorities on which traffic modes should receive priority and which modes they prioritize themselves.
History, as emphasized by Oosterhuis (2013), has played a significant role in the development of a bicycle culture. In the past, Dutch, and Danish cycling organizations primarily focused on recreational cycling, allowing citizens to appreciate the historical and scenic aspects of their countries. This endorsed the perception of the bicycle as a symbol of national pride and unity. As the bicycle became accessible to the working class after World War I, it further solidified its image as a democratic and national mode of transportation. Currently, both nations have established themselves as well-known cycling countries.

Having an established bike culture indicates that cycling is already normalized in a city, making it easier for individuals to choose cycling as their preferred mode of transportation. Therefore, it can be implied that cities without an existing bike culture might encounter not having a bike culture, as a barrier. Additionally, it is crucial to acknowledge that developing a bike culture is a lengthy and complex process that takes time to achieve.

2.3 Inaccessibility
Cycling has social benefits that can help counteract the impersonal nature of public spaces and the fragmentation of urban environments and thereby promoting the overall liveability of cities (Oosterhuis, 2018). Oosterhuis (2018) suggests that cycling could also increase the mobility and social opportunities of disadvantaged people, as it is affordable and accessible to almost anyone in reasonable condition.

However, some critics have argued that cycling is not accessible to everyone in cities, despite the availability of infrastructural facilities. This is also regarding access to safe cycling infrastructure, which still varies across neighbourhoods (Hong et al., 2020). Thus, posing a potential barrier to increasing the number of urban cyclists. Nevertheless, Hamidi et al. (2019) argue that the availability of cycling infrastructure is a necessary but not a sufficient condition for individuals to start using the bicycle, since there may be other requirements to be fulfilled. This further reinforces the argument that achieving a balance between hard- and soft measurements can act as an enabler.

However, critics argue that cycling policies often cater primarily to the needs of the white middle class and neglect the economic interests, cultural sensitivities, and specific needs of disadvantaged groups. For cycling policies to be considered equitable, they must increase mobility opportunities for all groups and support their social participation and fulfilment (Oosterhuis, 2018).

At last, the theory of Cresswell (2010); ‘politics of mobility’, refers to how mobility (the movement of people and things) is produced by and a product of social relations that involve the distribution of power. He continues that mobility is a resource that is unequally accessed, and therefore people with more mobility have more power. Although this study does not delve deeper into this theory, it broadens our perspectives on transportation by connecting cultural and social aspects to issues of movement and transportation.

2.4 Lack of Capacity
The lack of capacity could be perceived as a barrier for cities to increase the number of urban cyclists. The research performed by Alm and Koglin (2022), seeks to explore and analyse the capacity of Swedish municipalities to implement measures for increased cycling. The overarching conclusion of the research is that the capacity, or lack of capacity, differs from municipality to municipality. However, in the research, they use the local capacity dimensions (technical, financial, institutional, political, and social capacity) proposed by Loë et al. (2002). Capacity is the ability of organisations and governments to establish and achieve their own goals and agendas (Ivey et al., 2006, p. 946). However, this research will not dive deeper into these dimensions. Nevertheless, the research of Alm and Koglin (2022) discovered that the financial and political dimensions are the two most important dimensions dividing the municipalities. Both these dimensions, as Alm and Koglin (2022) state, have a large impact on the
municipalities’ capacity to achieve the common aim of increased cycling. They state that some municipalities need to obtain external funding to fulfil cycling plans and strategies. They stress that those are issues that influence the local capacity. In addition, and with a close connection to the financial dimension, there is the political capacity where a strong car norm still seems to be present (Alm and Koglin, 2022).

2.5 Car Culture
According to Van Der Meulen and Mukhtar-Landgren (2021), Sweden remains predominately car-orientated, which is a challenge to break. Thus, this factor could be perceived as a barrier for cities to increase their number of cyclists. However, Van Der Meulen and Mukhtar-Landgren (2021) stress that this only applies to urban areas and that the responsibility to achieve a mobility transition has been placed in the hands of local governments. The issue with this is that when cycling is considered a local government issue, there is less motivation to use national policies like laws and standards. This means that change relies mostly on local and regional governments or non-governmental organizations pushing for it. As a result, national resources for cycling can only be used for bike paths connected to national infrastructure like highways, which, as stated before, is not the only enabler to increasing cycling. Moreover, the government provides limited support for non-infrastructure initiatives to promote cycling, offering funding mainly for research and non-governmental organizations. (Van Der Meulen and Mukhtar-Landgren, 2021)

As discussed earlier, the research of Alm and Koglin (2022) argues that there is a continued presence of strong car culture in Sweden (Emanuel, 2012). One indication of this culture is the difficulty of improving cycling infrastructure at the expense of cars in urban areas. Measures such as reducing speed limits, creating one-way streets, and establishing car-free zones to facilitate cycling are ways of prioritizing sustainable transportation. Unfortunately, political obstacles often prevent the implementation of such measures. However, this issue is not limited to Sweden but is a common challenge faced by many countries in promoting cycling (Henderson & Gulsrud, 2019; Koglin, 2020; Freudendal Pedersen, 2015a, 2015b; Koglin and Mukhtar-Landgren, 2021).

2.6 Cycling as a Core Component
McLeod et al. (2020) argue that for cycling to become a major component of a more sustainable system of accessibility, it must be positioned as a core mode that provides convenient connections to destinations in a manner that can frequently substitute for private car travel (McLeod et al., 2017; Mees, 2010; Pucher and Buehler, 2017; Vigar, 2002). Thereby, by placing cycling as a core component in urban planning, it does not necessarily remove the dominance of cars. However, it does help shift the focus and attention towards cycling, enabling cities to pursue their ambition of increasing the number of urban cyclists.

Several authors have adopted the term ‘‘velomobility’’ as an over-arching name for the concept where cycling must be positioned as a core component (Koglin, 2014; Horton et al., 2016). What is meant by that is that cities should focus more on cycling by prioritizing cycling planning over planning for another transport mode.

Vélocimobility focuses on the cyclist’s form of mobility (Koglin, 2014). This change to focus more on cyclists is due to cyclists presenting a different type of mobility than motorists, for example in terms of space (both parking and while cycling), and in terms of environmental problems and safety (Koglin, 2014). Vélocimobility refers to a broader sense of mobility, the incorporated sensation of cycling, or the way cyclists or cycling is represented (Horton, 2006; Furness, 2007). Koglin (2014) argues that different planning initiatives, such as better infrastructure and prioritising politics for cycling, motivate people to take the bike as a transport mode or not. He introduces an example where
people who cycle in cities where planning for cyclists is not considered a point of matter, experience a higher risk of being involved in accidents. These cities often have an unsafe and insecure environment for cyclists. This leads to lower percentages of cycle trips since people feel that they cannot cycle due to bad conditions (Koglin, 2014).

2.7 Conclusion
The initial observation suggests that the discussed barriers and enablers are context-specific, indicating that while certain factors may be commonly observed across different cities and countries, their interconnections and significance in achieving their ambition are context-dependent. Moreover, while the literature may not consistently specify whether the findings apply at the city or country level, there remains a possibility that factors affecting on country level could have implications for the city level. Therefore, it is essential to consider these potential cross-level influences.

Furthermore, in establishing a connection between the findings of the literature review and theory, it becomes evident that many of the barriers and enablers demonstrate a path dependency. For example, critics argue that cycling policies often prioritize the needs of the white middle class, disregarding the economic interests, cultural sensitivities, and specific needs of disadvantaged groups. This implies that policies, unintentionally, targeting a particular ethnic group may indicate a path dependency that affects the effectiveness of policies in fulfilling their ambition. Additionally, the second factor, bike culture, suggests that a country’s history influences the development of bike culture, raising the question of whether a strong bike culture can lead to a bike-friendly country. Moreover, if historical factors have a significant impact on bike culture development, can those same historical conditions be recreated today to promote future bike culture growth in cities? This prompts the consideration that countries with an existing bike culture may already be bike path dependent. On the contrary, as mentioned in section 2.5, the prevalence of car culture raises the possibility that countries emphasizing car usage, as opposed to cycling, could find themselves in a car-dependent path, making it challenging to transition towards a bike-dependent path.

Lastly, the theory introduces the concept of technical, discursive, and institutional elements of path dependency, which can be used to classify the identified barriers and enablers.
3 Theoretical Framework

This chapter serves to introduce the theoretical framework that provides a basis for this multi-case study. The chosen theory for this study is ‘Path Dependency’, as it is commonly observed in urban planning and active transport, which aligns with the focus of this study on analysing the bike policies of the selected cases, Malmö, and The Hague. The chapter starts with a broad definition of the theory of path dependency. The subsequent paragraph delves into the theory’s relation with political systems, providing a more in-depth understanding of the theory and its relevance to this study. Additionally, the chapter presents the three fundamental elements of path dependency. Finally, the chapter establishes a connection between the study and the theory, and key takeaways are highlighted.

3.1 Path dependency

Kay (2005) states that a process is path dependent when it initially moves in one direction and therefore evokes further moves in that same direction. He means with that, that the sequence of events influences their outcome, and the progression of change leading up to a certain point limits the following path. North (1991, p. 98–9) states that path dependency is a process that constrains future choice sets. He continues that there are choices at every step along the way that provides alternatives. However, path dependence narrows, over time, the set of choices that are available. According to Georg Schreyögg and Jörg Sydow (2010, p. 5) the initial situation is completely different from the end situation. Therefore, the authors suggest a process that is divided into different stages by different regimes. There are three phases, see figure 3.1, in the process of path dependence (Sydow et al., 2009):

- **Phase I**, is the Preformation Phase. This phase can be characterized by a large range of actions. In this phase choices which are taken cannot be predicted by prior events or initial conditions (Mahoney, 2000, p. 511). However, this first phase, up to a certain degree, is influenced by the past.

- **Phase II** is the Formation Phase. The number of options in this phase narrows increasingly. It becomes progressively difficult to reverse the initial choice. Here one can see that a path is evolving. In this phase of path-building a new regime takes the lead: the dynamics of self-reinforcing processes, conceptualized by Arthur (1989) and Dickson and Arthur (1995) as increasing returns. Essentially constrained choices are still possible.

- **Phase III** is the Lock-in Phase. This phase can be characterized through even further constriction than in phase II. In this phase, it is expected to (but will not necessarily) become in a state of lock-in. The dominant pattern gets fixed and gains a quasi-deterministic character. Flexibility has been lost here. (Schreyögg & Sydow, 2010, p. 7)

Schreyögg and Sydow (2010, p. 3), stress the importance of history within path dependency. They state how past events influence and or restrain future actions or foregoing decisions for current and future decision-making. Thus, decisions are conceived as historically conditioned: ‘Bygones are rarely bygones’ (Teece et al., 1997, p. 522). In other words, current policy decisions can restrict options for future policymakers and thus limit current policy options. The authors stress that this is a major downside of path dependence and that it possibly negatively affects several institutions and organizations (Schreyögg & Sydow, 2010, p. 3). One could make the argument that upon reviewing section 2.2, which focuses on bike culture, the literature suggests that historical factors contribute to the formation of bike culture. Given the significant role history plays in path dependency, it can be inferred that the existence of a well-established bike culture may suggest that a city or country is bike dependent.

Kay (2005, p. 554) argues that path dependency can be problematic, especially in the field of economics, because decisions that are made based on historical circumstances are limited in their rationality, meaning that the decision-making process is restricted by past events or actions. These
limitations, for example, budget rules, can result in suboptimal outcomes, or outcomes that are less than ideal. In essence, Kay (2005, p. 554) is suggesting that solely relying on past events or actions to inform current decision-making processes can lead to less-than-ideal outcomes.

Figure 3.1: The constitution of a path
Source: (Sydow et al., 2009, p. 692)

3.2 Path Dependency and political systems
Schreyögg and Sydow (2010, p. 5), highlight the identification of self-reinforcing processes, which are expected to form in a specific path of action. These deeply rooted dynamics, which are typically driven by ‘externalities’ that arise from the actions of other agents or strongly routinized (‘learned’) individual behaviours, are likely to pass rapidly beyond the control of any individual actor; the regime takes the lead and potentially renders the process into a non-reversible state of local equilibrium or ‘lock-in’ (David, 1985, 1993; Schreyögg & Sydow, 2010). What the authors mean by this is that there are external, or already existing, drivers and or practices that are so deeply embedded in, for example, a system, that they go unnoticed. These drivers place the process of path dependency in phase II, or even further in phase III. However, when one is in the ‘locked-in’ phase, both Kay (2005) and Georg Schreyögg and Jörg Sydow (2010) state that there is a possibility to develop over time. This depends on two things: improvement or new alternatives. Schreyögg and Sydow (2010, p. 7) state that the motivation to improve everyday practices is more likely to get accepted or legit than if an institution or organization has the motivation to look for new alternatives.

Self-reinforcing processes are also able to come to strengths in political systems. Kay (2005, p. 557) describes a political system, due to its social character, as complex and ambiguous consisting of many interrelated elements. He continues that within a political system, there are several political subsystems (or elements), each with its set of actors, organizations, goals, and instruments (Baumgartner & Jones, 2002). Within these organizations, there are self-reinforced patterns that are based on emotional reactions, cognitive biases, political processes, and so forth (Huff & Huff, 2000). Schreyögg and Sydow (2010, p. 6) continue that it is the broader context (the sedimented institutions, the hidden assumptions of the organization, the organizational culture, the status, and role system, etc.) that inform decision-makers and provides, indirectly and inadvertently, the drivers of self-reinforcing loops.

This paragraph provides a general overview of how path dependency could play a role in political systems, but it does not yet explore its application in urban planning. The subsequent paragraph will provide a more in-depth exploration of this application.
3.3 Factors of Path Dependency in the Transport Sector

This paragraph delves deeper into the concept of path dependence and explains the three factors identified by Low et al. (2005) that contribute to it. These factors are of relevance for this study due to their application to urban planning and active transport (Hensley et al., 2014). The factors are:

- **Technical**: refers to the physical form of a city [fixed infrastructure] (Hensley et al., 2014; Hrelja and Rye, 2022).
- **Institutional**: this factor refers to the rules, protocols, and routines of organizational life (Low et al. 2005). Hensley et al. (2014) state that this element relates to governing institutions that are responsible for formulating the policies that shape a city’s form and structure, as well as transport policies including the provision of public transport. Although technical path dependency plays a significant role in shaping the physical layout of urban areas, it is the institutional path dependence that primarily impacts the process that results in such outcomes (Hensley et al., 2014).
- **Discursive**: this factor refers to the assumption and beliefs about the structure of problems to be solved (Low et al., 2005; Hrelja & Rye, 2022). It is used in an organisation to identify and explain problems or issues that a policy or plan is trying to address (Hensley et al., 2014). Hensley et al. (2014) add that this element could be seen as a sub-category of the element ‘institutional path dependence’ due to its occurrence within organisations and regimes.

By comprehensively examining and understanding these factors, researchers and planners can develop more effective strategies and interventions to address barriers and enhance enablers in urban planning and active transport, ultimately promoting more sustainable and accessible cities.

3.4 Conclusion

The barriers and enablers identified in the literature review can be categorized within the theoretical framework of path dependency factors. In the context described in the literature review, ‘hard- and soft measures’ serve as both technical and discursive elements. Hard measures primarily refer to infrastructure, whereas soft measures revolve around communication and promotion. ‘Bike culture’ and ‘car culture’ are discursive, as they are shaped by beliefs regarding preferred modes of transportation and societal acceptance. However, these beliefs have the potential to create an institutional path, leading to the development of rules and protocols within political systems. The barrier of ‘inaccessibility’ is institutional. The literature demonstrates that inaccessibility is deeply rooted in institutional practices. It is not solely limited to the built environment, but it also extends to the policies that shape it. This path dependence impacts the process that results in such outcomes. The enabler ‘cycling as a core component’ is likewise institutional. Nevertheless, the literature demonstrated that currently, cities lack a widespread adaptation of cycling as a daily practice, despite the literature suggesting that it should be embraced as the norm. Finally, the barrier ‘lack of capacity’ is institutional, due to its association with standardized operating procedures. The literature illustrates those municipal operations, specifically in Sweden, are currently lacking in various dimensions. This barrier could be closely linked to discursive, as the municipalities’ beliefs and assumptions may have contributed to this lack of capacity.
Methodology

The following chapter will introduce the overall research strategy developed for this study. This is followed by a selection of indicators and an elaboration on the data collection. Furthermore, the analytical approach will be explained, limitations will be explored, and finally, ethical considerations will be raised.

4.1 Overall Research Strategy

This study aims to identify the barriers that cities encounter in their efforts to enhance the number of cyclists and to recommend best practices that cities should incorporate into their planning. To achieve this aim, the study has conducted a literature review of previous research on the increase of urban cyclists to understand what barriers and enablers have already been identified. Then, the theory has been presented, which will be discussed together with the results in the chapter ‘discussion’ to explore the influence of this theory on these barriers. Simultaneously, the study will employ a multi-case study approach that involves a comparison of Malmö and The Hague. This will include a comprehensive review of the bike policies and sustainable mobility documents of both cities, as well as conducting interviews to gather more insights on the recurrent themes that have emerged from the document analysis (see chapter ‘Results’). In conclusion, the study will provide a discussion that integrates the literature review, the theory, and the results of the document analysis and interviews. This discussion will highlight the best practices for promoting urban cycling thus addressing the research question of this study. The findings of this research cannot be generalized to all cities. Nonetheless, the goal of this study’s conclusion is to provide cities with insights into potential barriers and enablers they may encounter and consider when examining their specific urban context.

The decision of performing a multi-case study for this study was based on the qualitative nature of this study and the ability to gain a deeper understanding of the issues by examining the similarities and differences between cases (Baxter & Jack, 2008; Stake, 1995). To gain this deeper understanding, this study chose the following cases: Malmö and The Hague. The Hague and Malmö have committed to developing a climate-neutral urban environment by 2030 as part of their sustainability programs (Malmö Stad, 2016, p. 16; Den Haag, 2019, p. 12), and both cities are the 3rd biggest city in their country (Statistiek, n.d.; Malmö Stad, n.d.). The study has chosen The Hague as a leading example due to the report by European transport ministers that showed that other countries can learn significantly from the Dutch way in which bicycle use is stimulated (ECMT, 2004, p. 67). On the other hand, Malmö has been chosen due to its ambition to seek transformation into a bicycle-friendly city (Malmö Stad, 2022). Chapter five dives deeper into the backgrounds of the chosen cases. According to Yin (1994), to enhance the reliability of this research, it is essential to incorporate the following components in the multi-case study:

- **Overview of the case study**- an overview of the case study includes the objectives of the project the case study issues and a presentation of previous research about the topic. Chapter two (literature review), chapter five (case description), and six (results) present an overview of this multi-case study.

- **Field procedures**- this includes reminders about procedures, credentials for access to data sources, location of those sources, etc. (Yin, 1994). The field procedures are defined in this chapter, methodology.

- **Case study question**- the case study question is the question that the investigator must keep in mind during the data collection (Tellis, 1997). In the introduction of this study, the research question and sub-question are presented.
4.2 Selection of Indicators and Analytical Framework

This research aims to identify best practices to increase the number of urban cyclists in their cities. To accomplish this the study has conducted a comprehensive literature review of previous research, it will perform a document analysis of the policies and programs of The Hague and Malmö (table 4.1) and will conduct interviews with experts of the respective cities (chapter six). The document analysis involved coding, using the software program NVivo, to identify common themes and topics which are identified by the chosen cities that have an impact on increasing the number of urban cyclists. These themes are then used as a guide for conducting interviews with relevant experts. The interviews have the goal to get a better understanding of the barriers and what best practices the respective cities implement to tackle the barriers.

The final themes identified, by the cities, as barriers to increasing the number of urban cyclists are, Enhancing Urban Mobility/ Accessibility, Disparities in Cycling Rates, Urban Densification / Urban Expansion, Connecting Urban Zones, Car Dominated, Cooperative City Planning, Bike Facilities, and Safety. These themes will be discussed in detail in chapter six of this study.

4.3 Data Collection

Yin (1994) suggests three principles of data collection for case studies; the use of multiple sources of data, to create a case study database, or to maintain a chain of evidence. This research will make use of multiple sources of data. The motivation and importance of using multiple sources of data is that they are complementary to each other, and thereby the reliability of the data and the process of gathering the data increases (Heale & Forbes, 2013).

Yin (1994) has identified six primary sources of evidence for case study research. The six sources identified are documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. This research will use the source's documentation and interviews. Yin (1994) states that the use of each of these might require different skills from the researcher and that not all the sources, stated above, are essential in every case study. However, the importance of multiple sources of data to the reliability of the study is well established (Stake, 1995; Yin, 1994).

When the data is collected the data will be analysed by the strategy suggested by Yin (1994) and Trochim (1989); pattern-matching. Trochim (1989) identified pattern-matching as one of the most desirable strategies to analyse. This involves comparing an empirically based pattern with a predicted one. If they match it enhances the internal reliability of the study. However, in this study pattern matching will be achieved by identifying barriers both cities face when increasing the number of urban cyclists and comparing them in both cities, where The Netherlands, as stated before, is the lead example. The patterns, or in this study, barriers have been identified and stated in chapter six and further explained in chapter seven. Importantly, is to gain more knowledge on how these cities encounter these barriers. The data collection will be done through a literature review of the policies and documents (see table 4.1) and by conducting interviews, to gain a better understanding of these patterns and assess how the cities encounter them.

4.3.1 Documents

One of the methods used for the data collection in this multi-case study is the use of official documents provided by the city of The Hague and the city of Malmö (see table 4.1). These documents include bike policies and sustainable mobility documents. It is important to emphasize that the documents utilized in this study are the latest publicly available records from the respective municipalities of the cities.
involved in this multi-case study. The use of these documents is to contribute to the researcher's understanding of the barriers these cities face when increasing the number of urban cyclists. Yin (1994) states that the most important use of documents is to corroborate and augment evidence from other sources. However, relying solely on documents can be problematic as their contents may not always be accurate. Therefore, in this case study, interviews are employed as an additional data collection method to enhance the understanding of policy development and how cities address their barriers. This methodology serves to uncover insights and explanations that were previously undisclosed or unexplored. Chapter 4.3.2 will provide a more detailed explanation of how interviews were utilized in this study.

To create unbiased patterns, which can be critically analysed by the researcher, the documents are coded using the program NVivo. This involves a comprehensive review of the documents and thereby themes within the program to reveal the objectives that the municipalities focus on. Once all the documents have been coded, they are thematically ordered and then analysed (see chapter six). From these results, interview guides (appendix I) are developed and then interviews are conducted to gather additional information to gain a greater insight into the barriers the cities face and how these cities undertake these barriers. In other words, the interviews will reveal the information that is not present in the documents.

At last, after the objectives have been analysed, they will be further discussed in the chapter ‘Discussion’, together with the interview, literature review, and theory.

<table>
<thead>
<tr>
<th>Document</th>
<th>Date</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schone energie in een groene stad. Nota Duurzaamheid [Translation: Clean energy in a green city. Sustainability memorandum] (Gemeente Den Haag, 2019a)</td>
<td>5th of March 2019</td>
<td>2,3, 32-39</td>
</tr>
<tr>
<td>Sustainable Urban Mobility Plan (Malmö Stad, 2016)</td>
<td>2016</td>
<td>0-66</td>
</tr>
<tr>
<td>Comprehensive Plan for Malmö: summary in English (Malmö Stad, 2018a)</td>
<td>May 2018</td>
<td>0-7, 13</td>
</tr>
</tbody>
</table>
4.3.2 Interviews

Using qualitative semi-structured interviews as an additional data collection method in the case study serves two main purposes: gaining a deeper understanding of policy development and how cities tackle barriers and gathering expert insights on previously unexplored or inadequately explained topics. This methodology aims to unveil new perspectives and explanations, enhancing overall comprehension of the subjects. Therefore, in this study, three individuals with expertise were interviewed: a traffic planner from the Malmö municipality, a policymaker from The Hague municipality, and the biking mayor of The Hague. The traffic planner from Malmö municipality, with his expertise in cycling planning, provided valuable insights for this study. Similarly, the policymaker, an official, who was involved in shaping the Hague’s bike strategy offered valuable perspectives on policy development and the barriers and enablers of cycling in The Hague. The selection of the biking mayor was based on his insights and perspective on cycling in the city, as well as his familiarity with the relevant policies. As a volunteer in his role as bike mayor, he offered a critical external viewpoint.

Due to the flexibility and unfolding nature of the semi-structured interviews, they allow for a natural conversation between the participants and the researcher. This will bring up new perspectives and angles through the personal storytelling of the participants (Punch 2005, p.169; Cresswell 2019, p. 240). Therefore, to facilitate this approach, two interview guides (appendix I) were developed: one for the traffic planner and the policymaker (due to their policy knowledge), and another one for the bike mayor of The Hague. The latter guide was specifically designed for the biking mayor, who has an outsider’s view and less familiarity with bike policies than the policymaker has. Therefore, it was not feasible to use the first interview guide for this interviewee.

To ensure that the researcher’s unanswered questions after the literature review, theory, and document analysis were addressed, the interviews were structured around several themes. These themes arise due to their reoccurrence and their significance within the research. The questions in the interview guide were designed to gain a better understanding of policy development and shed light on new perspectives and provide alternative explanations.

The interview guide designed for the biking mayor followed a semi-structured approach, allowing greater flexibility to enable a more natural flow of the conversation. This was necessary because the researcher was not precisely informed regarding the specific responsibilities of the biking mayor. Conducting this interview as the final one allowed the researcher to incorporate insights acquired from previous interviews, thereby providing a more comprehensive and critical perspective on the issues.

Stakeholders were contacted via email (appendix II) based on their relevant roles and functions in policy development. Due to geographical constraints and interviewee preferences, all interviews were conducted over Zoom using private meeting links. Prior to the interviews, participant consent was obtained, and after the interviews, a GDPR form (appendix III) was sent for signing and return to the researcher. The interviews, lasting approximately 30 to 40 minutes, were recorded, and supported by note-taking.

The data obtained from the interviews are evaluated using the same methodology as used for the evaluation of the collected data from the documents. The findings of the document analysis and interview analysis are presented in chapter six and discussed alongside the literature review of prior research and the theory in chapter seven.
4.4 Limitations
For this case study, official government documents were primarily written in their native languages (Dutch and Swedish), except for two documents (table 4.1). The researcher, having a background in Dutch, faced no difficulties in comprehending the content of Dutch documents. However, the documents from Malmö municipality were available in both English and Swedish. While one document was already translated into English by the municipality, it contained some grammatical errors. Nonetheless, these errors did not undermine the document's main message. Regarding the other two documents written in Swedish, the researcher utilized an online translation service called 'DeepL' to translate them into English. It is important to note that unofficial translation tools can introduce errors in translation, so the researcher verified the translations by consulting with a native Swedish speaker. Additionally, interviews played a crucial role in cross-validating the findings obtained from the analysed documents.

Moreover, the interview with the Malmö municipality was conducted in English, as it served as a common language between the interviewee and the researcher. Given that the participant and researcher were both non-native English speakers, information or perceptions may have been lost in translation. Nonetheless, efforts have been made by the researcher to get a full understanding of the interviewees.

The researcher, being originally from The Hague, possesses a pre-existing positive perception of the city's bike infrastructure, which may introduce a potential bias during this multi-case study. However, it is important to recognize that complete objectivity may be unattainable, and instead, we should focus on understanding our biases and effectively managing them. Therefore, efforts have been made to ensure that the researcher's personal bias does not overly influence the study. Coding programs like NVivo have been worked with to minimize the subjective interpretation of the researcher, allowing for a more objective analysis of the data. By acknowledging and working with our biases, one can try to gain a fairer and deeper understanding of the research subject. Additionally, the researcher has critically evaluated interpretations throughout the study and has utilized interviews to provide further support and validation for the interpretations made.

4.5 Delimitations
The scope of this study is delimited to the cases; The Hague and Malmö and the official documents that the cities provided online (see table 4.1). Furthermore, this study examines the theory of path dependency. All other theories that have been mentioned in this study will not be taken into the scope of this study. Delimiting the scope of these documents and this theory, allows the research to provide an in-depth understanding of the barriers and best practices to increase the number of cyclists, which those lessons learned can then be used in other cases.

4.6 Ethical consideration
Due to the use of interviews as a data source for this research, it was important to minimise any ethical issues. During the recruitment phase of the research, the participants were informed, via email, by the researcher on the reason for their participation in the research. In all cases, the interviewees were interviewed voluntarily. Before every interview, participants would be informed again on what the research is about, if they would agree to the researcher recording the interviews, about the GDPR form, and how the researcher would handle their given data. Participants are completely kept anonymous in the study, except for their function. This again has first been agreed on before the interview was held. If a situation arises that information would be sent to external parties, participants will be informed about this. This request will be handled via email since this is the platform of communication. (Bhandari, 2021)
The method ‘data pseudonymization’ has been used in this research. This is an alternative method, to anonymity, where one changes identifying information about participants with pseudonymous or fake identifiers. Full anonymity has not been made possible in this study since the function of the participants and the city they work for was thus important that those are stated in the study. However, the data can still be connected to the participants, but it is more complicated to do so. In this study, the function of the interviewee is stated, but they will never be stated by their name. The identifying information is known by the researchers. (Bhandari, 2021)
5 Case description

The chapter presents the selected cases of this multi-case study. The literature review and theory have emphasized the significant role of history in path dependency and the development of bicycle culture. Therefore, each case is introduced with a background on the bicycle history. Following the historical analysis, the chapter presents current statistics that are essential for comparative purposes in this case study. Finally, the chapter presents the cities' visions for their bicycle future, derived from their policies and programs. It is important to acknowledge that these visions reflect the perspectives of the respective cities, serving as guiding principles rather than definitive facts or guaranteed outcomes.

5.1 The Hague
One of the selected cities for the case study is The Hague. The Hague will be introduced and discussed within this paragraph.

5.1.1 Bike History
Cycling gained popularity in the Netherlands due to its convenience and the ability to travel long distances effortlessly (Fuchs & Simons, 1983, p. 58). The rise of cycling races further increased its appeal, but the inadequate road infrastructure necessitated the development of dedicated bike tracks (Fuchs & Simons, 1967, p. 122). Riding schools emerged to address the need for cycling education when bicycles entered the Dutch market in 1870 (Lesisz, 2004, p. 26).

Initially, cycling remained a luxury enjoyed by the elite due to high prices, but by the late 19th century, falling prices made it more accessible to the general population (Lesisz, 2004, p. 21-22). The bicycle became a popular means of transport, especially among shopkeepers and workers (Minck, 1968, p. 141). By 1916, bicycles accounted for 75% of traffic, while cars represented only 4% (Ministry of Transport, Public Works and Water Management, 1999, p. 15). The Netherlands led Western countries in terms of bicycle density in 1928 (Lesisz, 2004, p. 22).

However, the focus of traffic policy during that time was primarily on automobiles, despite the dominance of bicycles on the streets (Stichting fiets, 1967, p. 7). Complaints from cyclists prompted the need for measures to manage the increasing bicycle traffic, but the response from local authorities was often unfavourable to cyclists. In 1939, there were thirty-seven times more bicycles than cars in the Netherlands (Ministry of Transport, Public Works and Water Management, 1999, p. 18). Initially, the Dutch government showed little interest in providing specific facilities for cyclists, and it was private initiatives by cycling enthusiasts that paved the way for the construction of separate cycle paths (Lesisz, 2004, p.43-44).

Currently, The Hague, serves as the political and legal centre of the Netherlands, and is home to a vibrant cycling community that includes individuals from diverse backgrounds. Among cities in the Netherlands, The Hague stands out as a remarkable example of a successful cycling culture, with cycling being embraced for various purposes such as transportation, commuting, and leisurely rides. (Berkers et al., 2018)

5.1.2 Statistics of The Hague
The initial set of statistics presents general data on The Hague, followed by specific statistics on mobility (Table 5.1). The data reveals insights into the usage of bicycles and the number of privately owned cars among The Hague residents. The statistics indicate a decline in bicycle usage in recent years, but a simultaneous increase in average travel time by bike. Moreover, there has been a rise in car ownership. These findings suggest a potential decrease in the popularity of cycling, although the
specific factors contributing to this trend remain unclear. The data regarding the distribution of travel modes was unavailable or could not be located.

<table>
<thead>
<tr>
<th>General</th>
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<tbody>
<tr>
<td>Habitants</td>
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<tr>
<td>City rank (habitants)</td>
</tr>
<tr>
<td>Average age</td>
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<table>
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<tr>
<th>Mobility</th>
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</thead>
<tbody>
<tr>
<td>Average travel distance with the bike</td>
</tr>
<tr>
<td>Average travel time with the bike</td>
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</table>

*Table 5.1: The Hague statistics*

### 5.1.3 Bike Vision of The Hague

The Hague has the vision to become a more lively, attractive, and accessible city in 2040. Whereas their ambition is to increase the number of people that walk, cycle, or travel by public transportation (Gemeente Den Haag, 2019b). This entails the expansion of public transport, stimulating clean transport, balancing the supply and demand of parking, giving space to innovations and experiments, and regional cooperation. The essence of their mobility transition is that they claim to be committed to a system shift in three areas: 1. The space for infrastructure in the city should be better utilised by giving priority to space-efficient, smart, and safe mobility; 2. The various forms of transport should be organised more integrally so that, through digitalisation and "smart" solutions, the ease and comfort of travelling will be increased; 3. The choices made by users (behaviour) should be actively influenced so that more use is made of sustainable forms of mobility (Gemeente Den Haag, 2019a, p. 38).

With this mobility transition, the city aims to encourage more people to choose cycling as a comfortable and safe means of transport that is chosen naturally and focuses on making room for the growth of bicycle use together with the city’s partners. They have set the year 2040 as the target for their investments in cycling since they recognize that investments are most effective in achieving their goal if it is a long-term investment. To achieve this, the city claims to take a proactive approach to road safety and embracing spatial densification, while also renewing and innovating its infrastructure to ensure that the entire cycling chain is in order (Gemeente Den Haag DSO Mobiliteit, 2020, p. 12, 14, 33, 38). Furthermore, the city claims to prioritize its safety and convenience over car traffic (Gemeente Den Haag, 2019b, p. 37, 38).

Overall, the city’s goal is to create a comfortable and safe environment that encourages new groups of people to choose to cycle more often, while also making room for the growth of bicycle use. By investing in cycling infrastructure and taking a proactive approach to road safety, the city intends to pave the way for a more sustainable and healthier future (Gemeente Den Haag DSO Mobiliteit, 2020, p. 2, 12-24, 33-41).

### 5.2 Malmö

Malmö is the other city selected for this case study, and this chapter will provide an overview and analysis of The Hague.
5.2.1 Bike History

Malmö is one of Sweden’s most ambitious cities in terms of sustainable planning and development and one of the most ethnically diverse, as one could also see in table 5.2 (Anderson, 2014). Malmö used to be home to the world’s largest shipbuilding yard, and remains of this are still to see on this day. However, since the post-industrial decline of Malmö from the 1970s, Malmö has embarked on some ambitious urban and economic planning initiatives (Anderson, 2014). The city’s population rapidly decreased due to the fast de-industrialisation and lack of employment opportunities. It reached its lowest point in the mid-1980s, however, the intake of refugees from war countries (Iraq and the Balkan countries) reversed this trend from the early 1990s (Anderson, 2014).

In the mid-1930s half of Dutch people owned a bicycle, a density that was only surpassed by the Danish (Staal, 2003, p. 115). In both nations, the growth of motoring was slower than in other parts of the Western world, partly because there was no large automobile industry (unlike in their neighbouring countries, Germany, and Sweden) and car driving was heavily taxed (van der Vinne, 2007; Koglin, 2014). Emanuel's study (2012) indicated a significant increase in the number of cyclists in Stockholm prior to World War Two, which could have potentially impacted Malmö as well. The author argues that cyclists were taken into consideration by the police, municipal engineers, and the bicycle lobby, and therefore bicycle traffic was able to grow rapidly. However, after the war, a rapid decline began. The research argues that this could be due to the actors (traffic engineers and urban planners) involved in the planning who marginalized bicycle traffic during the modernization of the city by not including cycling in their future visions.

Nevertheless, when moving forward in time: In May 2009, the Swedish Parliament approved the Government’s proposal for new transport policy objectives. These objectives aim to establish a socio-economic and sustainable long-term transport system, with a functional objective to enhance the conditions for selecting public transportation, walking, and cycling. This emphasizes the growing prioritization of cycling, which was also outlined in the 2006 transport policy objectives that aim to increase the share of bicycle traffic in urban areas. (Trafikanalys, 2013; Dahlström, A. & Karlsson, J., 2013)

5.2.2 Statistics of Malmö

The initial set of statistics presents general data on Malmö, followed by specific statistics on mobility (table 5.2). In the general dataset, a notable highlight is the presence of 186 different nationalities residing in Malmö, indicating the city's rich ethnic diversity. Furthermore, the average age in both The Hague and Malmö is nearly identical. Regarding mobility, the data reveals that 73% of surveyed residents, in 2018, have access to a bicycle. Additionally, the modal share illustrates a significant proportion of car usage in Malmö. Nevertheless, the share of bicycle and public transportation usage closely rivals that of car usage, indicating a relatively balanced distribution among these modes of transportation.

<table>
<thead>
<tr>
<th>General</th>
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<tbody>
<tr>
<td>Habitants</td>
</tr>
<tr>
<td>City rank (habitants)</td>
</tr>
<tr>
<td>residents by migration background</td>
</tr>
<tr>
<td>Average age</td>
</tr>
<tr>
<td>Increase population</td>
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</tbody>
</table>

| Mobility                                                                 |

23
5.2.3 Bike Vision of Malmö

Malmö’s vision aims for a well-connected and sustainable city that is more accessible and attractive for more people and to increase the number of journeys in the city by walking, cycling, and public transport (Malmö Stad, 2012, p. 2-3,6-7). Hereby, the city aims to prioritize walking, cycling, and public transportation as the first choices for transport in the city (Malmö Stad, 2016, p. 6). To achieve this, Malmö aims to mainly grow inwards, within the outer ring, and become a denser, greener, and more integrated city with shorter distances. Malmö intends to create a city where it should be simple and safe for everyone to cycle and, therefore, believe that the city has great potential to become a place where “everyone” cycles (Malmö Stad, 2018a, p. 6; Malmö Stad, 2012, p. 2). Prioritizing between modes of transport, and cooperation with other municipalities, organizations, businesses, and civic society is crucial in their view to achieve this (Malmö Stad, 2018b). Innovative solutions, investment in the infrastructure, clear signage, and prioritizing of operation and maintenance are needed to increase cycling in Malmö, according to the city. The goal is to improve the quality of life for Malmö residents, visitors, and stakeholders (Malmö Stad, 2016, p. 7).

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<table>
<thead>
<tr>
<th>% of residents that have access to a bike</th>
<th>73% in 2018³ (stad, n.d. a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal share</td>
<td>34% by car, 26% by bike, 25% by public transport, 14% by foot. * (stad, n.d. a)</td>
</tr>
</tbody>
</table>

* Table 5.2: Malmö statistics

³ The data is from the 2018 travel survey. The survey is a joint effort by Region Skåne, the 33 municipalities of the Scania region, and Trafikverket. The survey is conducted every five years. 5800 people completed the survey. (stad, n.d. a)
6 Results

This chapter presents an exploration of the barriers identified by cities themselves regarding the increase in the number of urban cyclists. The chapter begins by examining these barriers within the theoretical framework. The chapter then proceeds to examine and discuss each barrier individually, highlighting the approaches implemented by each city to address these barriers. Furthermore, the chapter presents the findings from interviews, organizing the themes based on their recurrence and significance.

6.1 Barriers Cities Face

The review and coding process of bike programs have identified the barriers encountered by the cities to increase the number of urban cyclists. Therefore, this paragraph will explore in greater depth the barriers that the cities encounter along with explanations of the nature of these barriers (see table 6.1).

<table>
<thead>
<tr>
<th>Technical</th>
<th>Institutional</th>
<th>Discursive</th>
</tr>
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<tbody>
<tr>
<td>Safety</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disparities in cycling rates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhancing Urban Mobility/ Accessibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban densification/ urban expansion</td>
<td>Cooperative city planning</td>
<td></td>
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<tr>
<td>Connecting urban zones</td>
<td>Car Culture</td>
<td></td>
</tr>
<tr>
<td>Bike facilities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.1: the identified barriers categorized within the three factors of path dependency.

6.1.1 Explanation Barriers within Factors

An explanation is given per barrier on why it fits in one, two, or all the factors of path dependency. By categorizing the barriers one can understand and address the barriers. In this case, by understanding and addressing the following barriers cities might be able to increase their number of urban cyclists. In this chapter, the focus is on the direct influence of each barrier within the categorized factor, although it should be noted that arguments could be made for the barrier fitting into multiple factors.

- **Safety**: safety fits all three factors due to the physical form and infrastructure, rules, and policies set by the governing institutions, and safety is influenced by assumptions and beliefs about the problems to be addressed.

- **Disparities in cycling rates**: this barrier can be attributed to technical factors which involve insufficient cycling infrastructure, institutional factors involve resource allocation and policy decisions, and discursive factors include cultural norms surrounding cycling. These factors contribute to disparities in cycling rates across neighbourhoods.

- **Enhancing urban mobility/ Accessibility**: enhancing urban mobility and accessibility fits into all three categories due to the involvement of various infrastructure development, and governing institutions who are responsible for transportation planning, and policy implementation. The discursive factor plays a role in this barrier due to the beliefs, and cultural norms regarding transportation choices and accessibility.

- **Cooperative city planning**: this barrier fits within the institutional factor as it requires effective collaboration and coordination among diverse stakeholders, while the barrier also fits within the discursive factor as it involves promoting visions and the involvement of diverse perspectives.
• **Car culture**: car culture is shaped and reinforced by various institutional factors, such as policies, laws, etc. It is also influenced by discursive factors, which include beliefs, and views towards car usage.

• **Urban densification/urban expansion**: this is the process of increasing population and building density within an existing urban area by using space more efficiently. It relates directly to the physical form of the built environment.

• **Connecting urban zones**: this involves the development and design of transportation infrastructure to facilitate efficient movement and connectivity between different areas of a city. Thus, urban densification/urban expansion, relates directly to the physical form of the built environment.

• **Bike facilities**: bike facilities include the physical infrastructure aimed to support and promote cycling as a transportation mode.

### 6.2 Approach to the Barriers

To provide an answer to the research question: "What are the best practices that cities can adopt to increase the number of urban cyclists?" this chapter delves deeper into the barriers that cities face in their attempt to increase the number of urban cyclists. The chapter presents the cities' identified approaches for addressing these barriers, with the order of the barriers aligned with the corresponding path-dependent factors discussed earlier in the chapter.

#### 6.2.1 Safety

**The Hague**

According to The Hague, one of the barriers they encounter in increasing the number of urban cyclists is related to safety. The city argues that the number of accidents involving cyclists is increasing [translated by author] (Gemeente Den Haag, 2019b, p. 36). However, The Hague believes that when people feel safe cycling (both subjective and objective), they will choose the bike quicker than another transport mode (Gemeente Den Haag, 2019b, p. 36).

Therefore, the city implements a risk-driven approach by proactively addressing key safety risks (Gemeente Den Haag DSO Mobiliteit, 2020, p. 34). The city plans to introduce targeted policies to encourage bicycle use in areas with low cycling rates and improve traffic safety for new cyclists (ibid.). Special attention will be given to the safety of specific groups, such as young and elderly individuals (Gemeente Den Haag, 2019b, p. 38). To achieve this, the municipality will heavily invest in the development of safe and comfortable cycling infrastructure, including the improvement of cycling routes and addressing missing links in the cycling network. Emphasizing the importance of both infrastructure design and compliance with traffic rules, The Hague intends to encourage moped riders to use alternative routes and launch a campaign to promote safe cycling behaviour. They will also focus on expanding cycling education in schools (Gemeente Den Haag, 2019b, p. 41; Gemeente Den Haag DSO Mobiliteit, 2020, p. 2-5). At last, the city aims to reduce conflicts between cyclists and pedestrians by implementing fitted solutions that enhance the position of pedestrians and separate bicycle and pedestrian traffic flows in areas where they intersect (Gemeente Den Haag, 2019b, p. 25).

**Malmö**

Like The Hague, Malmö also recognizes safety as a barrier to increasing the number of urban cyclists. The city specifically highlights, among others, the separation of pedestrians and cyclists as a significant concern, considering it an important issue from both a safety and traffic security perspective [translated by author] (Malmö Stad, 2012, p. 8, 17, 19, 37). Malmö municipality emphasizes the importance of creating a safe environment that prioritizes both traffic safety and the perception of safety. Their goal
is to ensure that people of all ages, genders, and abilities can move safely throughout the city. For children, the city specifically emphasizes the need for safe routes to school and leisure activities, preferably with adult supervision. Main roads pose the highest risk for traffic accidents, with vehicle speed being a significant contributing factor. The city faces challenges related to single accidents, such as pedestrians stumbling on slippery roads in winter or when cyclists fall over. However, Malmö believes that when more pedestrians and cyclists are claiming space in traffic, it improves overall traffic safety. (Malmö Stad, 2016, p. 25) To enhance cycling safety, Malmö is implementing a comprehensive communication plan and working on developing a vibrant streetscape with diverse businesses and activities on the ground floor. At last, the city plans to ensure that cyclists are not hindered by hazards like potholes, snow, or broken infrastructure. (ibid.)

6.2.2 Disparities in Cycling Rates

The Hague

The Hague states that one of their barriers in fulfilling their ambition is the disparity in cycling rates. Currently, the city says that in some parts of the city resident cycle less than in other parts of the city [translated by author] (Gemeente Den Haag, 2019b, p. 40-43).

The city aims to encourage more people to choose cycling as their mode of transportation, especially in neighbourhoods where cycling is not common or practical. Therefore, the city aims to pay special attention to these neighbourhoods. Analyses will take place to get a better understanding of the issues in the districts where cycling is lower. This is of importance since the city believes that the reason for not choosing to cycle varies from neighbourhood to neighbourhood. (Gemeente Den Haag, 2019b, p. 20-27; Gemeente Den Haag DSO Mobiliteit, 2020, p. 38) After the analysis, targeted policies will be introduced to further stimulate bicycle use in neighbourhoods where cycling is rare and to improve road safety for cyclists (Gemeente Den Haag, 2019b, p. 38). The Hague is more focused on also increasing bike use in those neighbourhoods because research has shown that neighbourhoods with low bicycle use have great potential for promoting the bicycle as a means of transport. The greatest effect is achieved in those districts if 'hard' infrastructural measures are combined with 'soft' participation measures. For instance, pilot projects like the Den Haag Fiets! service points will serve as central hubs for information, bicycle-related services, and community-building activities. (Gemeente Den Haag DSO Mobiliteit, 2020, p. 4, 43) The city also implements programs such as Biking2Skool=Cool for secondary education, particularly targeting young newcomers, as The Hague does acknowledge that people attach much more value to a message from friends than from the government. (Gemeente Den Haag, 2019b, p. 38-40)

Malmö

Malmö also acknowledges that the conditions and accessibility of various transportation modes differ across different sub-areas. This factor can be viewed as a barrier to increasing the number of urban cyclists. Therefore, Malmö has divided the city into fifteen sub-areas, so-called SUMP areas. The reason behind this is to make the future goals for transport modes concrete and to show potential behaviour. The division is based on how buildings and infrastructure are differentiated today. Each sub-area has its distinct conditions and access to various transport modes. Therefore, the transport objectives for each sub-area are adjusted accordingly to the needs. By combining the objectives of all the sub-areas, Malmö aims to achieve its overarching goal for transportation modes. (Malmö Stad, 2016, p. 31,32)
6.2.3 Enhancing Urban Mobility/Accessibility

The Hague
The Hague aims to organize mobility in the city in such a way that the quality of life, attractiveness, and accessibility of the city are increased.” [translated by author] (Gemeente Den Haag, 2019b, p. 4). This suggests that the city is currently facing a barrier to improving urban mobility and accessibility.

Therefore, the city focuses on employees who specifically target and actively encourage their employees to cycle more. When more employees cycle to work, the healthier employees the employer will have, states The Hague (Gemeente Den Haag, 2019b, p. 42). Another focus to enhance urban mobility in The Hague is by creating a ‘bike culture’. Currently, there is not a "cycling culture" in several neighbourhoods in The Hague. In these neighbourhoods the bicycle is unknown and sometimes it has the image of an unsafe or a poverty means of transport. Hence, the city is contemplating how to promote a sense of "cycling community" within these neighbourhoods. (Gemeente Den Haag, 2019b, p. 41). However, the city stresses that communication is indispensable. Communication is not only needed to promote the city as a cycling city but also to entice people to take their bikes more often, to provide information on parking your bike, to draw travellers' attention to the possibilities of shared bicycles, and to provide information on bicycle safety (Gemeente Den Haag DSO Mobiliteit, 2020, p. 25-32). Additionally, an important tactic within the communication strategy is the use of bicycle ambassadors: people from the Hague who care about cycling and are eager to spread the word. With the help of these ambassadors, it is possible to reach residents in all neighbourhoods, with a special focus on neighbourhoods where cycling is currently relatively low (Gemeente Den Haag DSO Mobiliteit, 2020, p. 38-39). At last, the city also stresses the importance to include extra attention to people with disabilities who also want to use the different means of transport (Gemeente Den Haag, 2019a, p. 38).

Malmö
Like The Hague, Malmö argues that a more attractive Malmö, with more inhabitants, companies, employment opportunities, visitors, and tourists, implies an increase in transport. Additionally, the city states that currently, traffic also produces visible and invisible barriers, giving persons of different gender, physical and mental capabilities, incomes, and ages different chances to access their city (Malmö Stad, 2016, p. 12). This could suggest that the city is currently facing a barrier to improving urban mobility and accessibility.

To achieve a city where "everyone" cycles, measures for changed travel behaviour as well as physical actions for increased capacity are required (Malmö Stad, 2016, p. 48). This means that Malmö needs to create a city and a transport system, targeting walking, cycling, and public transport, so that more people, regardless of age, gender, and socio-economic background, have access to (Malmö Stad, 2016, p. 22). Creating shorter distances between destinations in the city fosters a more connected and vibrant urban experience for all (Malmö Stad, 2016, p. 12; Malmö Stad, 2018b).

Unfortunately, the number of bicycle trips to Malmö is currently relatively low, but the implementation of planned measures targeting increased bicycle commuting has the potential to double it, as stated by Malmö (Malmö Stad, 2016, p. 37). The City of Malmö will, therefore, use marketing and communication to influence residents' travel habits. Furthermore, improved dialogue processes will contribute to more groups' influence on the design of traffic systems and traffic environments (Malmö Stad, 2018b). To enable an increase in bicycle commuting, collaboration with regional actors, neighbouring municipalities, and employers need to be further developed (Malmö Stad, 2016, p. 7, 38-39). At last, the most important infrastructure measure that Malmö stresses to make the city accessible to cyclists is to build cycle lanes along the main street network in the central areas (Malmö Stad, 2012, p. 3).
6.2.4 Cooperative City Planning

The Hague

The city of The Hague does not identify cooperative city planning as a barrier to increasing the number of cyclists. Nevertheless, the city does emphasize its collaboration with various stakeholders and highlights the multiple approaches it employs. The Hague states that the existence of good cycling facilities is not a spontaneous occurrence. It requires often precise choices in the design of public space, proper consultation with stakeholders in the area, and sufficient financial resources to bring them about (Gemeente Den Haag, 2019b, p. 11). Cooperation with the region, the various urban services, market players, developers, transport operators, and fellow governments are necessary. The cycling strategy was, therefore, created with the involvement of diverse stakeholders from the city and the region (ibid.). In the coming years, the municipality will therefore focus strongly on communication and promotion, together with partners such as the Fietsersbond (Cyclists' Union). Other cycling partners in the city are also important for making The Hague a true cycling city. For instance, bicycle shops, community centres that give cycling lessons, service points in The Hague, organisers of cycling events, and the mayor of The Hague. (Gemeente Den Haag DSO Mobiliteit, 2020, p. 37-41) Additionally, as part of mobility management, in cooperation with several stakeholders, the city is also seeking opportunities that should be explored to entice more regional commuters to (switch to) cycling. (Gemeente Den Haag, 2019b, p. 42)

Furthermore, to reduce the number of accidents among the elderly, the municipality is working, among others, with the Cyclists' Union and Safe Traffic Netherlands, on cycling skills for the elderly on electric bicycles. The Hague, together with the State and the Region, is committed to a proactive, risk-based approach to cycling safety. It will therefore invest, together with partners, in the coming years in attractive and safe cycling infrastructure and in good bicycle parking facilities. The city is also launching a bidding competition to challenge developers to make these locations as bike friendly as possible. At last, the city also invests in cycling education and cycling skills, with specific cycling lessons in neighbourhoods where children do not learn to cycle from home and for young international people (ex-pats, refugees, etc.). In doing so, the municipality keeps in close contact with police on traffic enforcement. (Gemeente Den Haag, 2019b, p. 38; Gemeente Den Haag DSO Mobiliteit, 2020, p. 35)

Malmö

The city of Malmö argues that it is important to cooperate with other municipalities, organisations, businesses, and civic society, especially considering that many of the city’s challenges must be faced with joint measures stretching over municipalities and competencies. (Malmö Stad, 2016, p. 60). While the city does not explicitly label it as a barrier, it does acknowledge the significance of cooperative city planning in addressing other obstacles.

Collaboration with companies and organisations is carried out to get companies and organisations to take greater responsibility for the traffic generated by their activities and to replace car journeys with, for example, bicycle travel within the city. During the plan’s validity period, information and communication play important roles, e.g., through workshops, presentations at conferences, and other extrovert activities. (Malmö Stad, 2016, p. 60)

Furthermore, developing shorter, more accessible, and attractive commuting routes between neighbouring municipalities, such as Malmö and Lund, will require further collaboration with regional actors, neighbouring municipalities, and employers to increase bicycle commuting. Finally, regional cooperation with actors such as the County Administrative Board, the Swedish Traffic Administration, and other organizations, as well as commuters themselves, will be necessary to achieve the goals written in their programs. (Malmö Stad, 2016, p. 38)
6.2.5 Car Dominated

Currently, Malmö states that the city has an imbalanced modal split, where car traffic is the dominating mode of transport, limiting citizens’ empowerment and their possibility to move in everyday life. (Malmö Stad, 2016, p. 20). Thus, indicating that the domination of cars affects the increase in the number of urban cyclists. Malmö stresses the importance of decreasing the modal share of car traffic. This also includes the number of cars outside of schools that should be decreased. Additionally, awareness and knowledge of public health and traffic should increase among children, parents, and staff. Today, the city faces an imbalanced modal split, where car traffic is the dominating mode of transport. Therefore, the city states that increased shares of cycling and public transport should be at the expense of car traffic. (Malmö Stad, 2016, p. 11, 25)

The Hague on the other hand does not state that car domination is a barrier and response to cities having a car culture by quoting the Danish architect Jan Gehl: ‘‘If you plan cities for cars and traffic, you get cars and traffic. If you plan for places and people, you get places and people’’ (as cited in Gemeente Den Haag, 2019b, p. 11). Therefore, an essential choice the city is taking, is to prioritise sustainable modes of transport. This means that the city focuses on a layout designed primarily for cyclists and pedestrians. (Gemeente Den Haag, 2019a, p. 32; Gemeente Den Haag, 2019b, p. 7)

6.2.6 Urban Densification/ Urban Expansion

The Hague

The Hague states that the size of the city is not increasing, which will be accompanied by considerable spatial densification [translated by author] (Gemeente Den Haag, 2019b, p. 15). This could indicate that urban densification could be seen as a barrier. Therefore, the Hague argues that to keep the densifying city liveable, accessible, and healthy, it wants to further encourage bicycle use in the coming years (Gemeente Den Haag DSO Mobiliteit, 2020, p. 2.4-5, 8). The Hague expects more people by train, bus, and bicycle but also by car. More residents mean more mobility. The way residents and tourists move around the city is changing. New transport services, new means of transport, better information, and different preferences are changing mobility (Gemeente Den Haag, 2019a, p. 32). More often The Hague residents are taking their bikes. Not without reason, because in a growing city like The Hague, cycling is an attractive choice to get from A to B (Gemeente Den Haag DSO Mobiliteit, 2020, p. 2-3, 7-8, 12-24). Therefore, urban density and function mixing are determining factors for bicycle use. This means that for The Hague on busy routes, the flow, capacity, and priority of cyclists at traffic lights are an increasingly important concern (Gemeente Den Haag, 2019b, p. 11).

Malmö

Malmö argues that a barrier it is facing, is the continued growth of the city (Malmö Stad, 2016, p. 11) Malmö is estimated to grow with approximately 100.000 inhabitants and 50.000 workplaces within the outer ring road until 2030. The city is serving as a meeting point for residents, entrepreneurs, professionals, cultural practitioners, tourists, and visitors from all over the world. Every day, 62.000 people commute to Malmö, and 31.000 people commute from Malmö (Malmö Stad, 2016, p. 15). This means that more people live, work, and spend time in the city, which in turn implies more movement and transport of humans, freight, and waste. There is greater pressure on existing streets and roads. Therefore, efficient land use is necessary and traffic areas must be designed and used so that they can transport people and goods in a space- and resource-efficient manner (Malmö Stad, 2016, p. 27; Malmö Stad, 2018b). The 6-15 age group is expected to experience the biggest growth by 2020. Malmö emphasizes the importance of considering the perspectives of children and youths in all urban planning decisions. Not only is Malmö's population expanding, but the Skåne and Öresund regions are also
witnessing a population increase. This increase in population leads to heightened traffic and commuting to and from Malmö, resulting in a growing demand for transportation in the region. (ibid.)

Malmö emphasizes the need for densification of existing built-up areas to facilitate growth. This approach entails more people residing within the current urban structure, with destinations conveniently reachable by cycling. The city asserts that a dense, green, and integrated urban environment, featuring shorter distances between destinations, fosters environmental, economic, and social sustainability. However, creating a denser city will place higher demands on existing cycling infrastructure, requiring careful consideration during route planning. Malmö believes that a city with reduced distances enhances accessibility for both residents and visitors. To summarize, Malmö stresses that densification makes it possible to create a more sustainable transport system, and a more sustainable transport system is made possible by a denser city. (Malmö Stad, 2016, p. 46; Malmö Stad, 2012, p. 7)

6.2.7 Connecting Urban Zones

The Hague

The Hague is focusing, among others, on developing fast, comfortable, and attractive cycling routes so that cycling can also become competitive on longer distances for now and in the future (Gemeente Den Haag, 2019a, p. 35; Gemeente Den Haag, 2019b, p. 11). This concerns both movements of Hague residents and people from outside the city. Creating such a coherent transport network will contribute to the region’s economic strength since The Hague functions as a labour, housing, and amenity market (Gemeente Den Haag, 2019b, p. 18). This suggests that it may not be viewed as a barrier, but it rather enhances The Hague's competitiveness.

To enhance connectivity with other areas, one approach is to establish a bike and train combination. This combination has proven to be a successful formula, serving as a cohesive system for longer journeys between major cities in the Netherlands. Alongside the bike-public transportation combination, the city also finds the car-bicycle combination to be intriguing. (Gemeente Den Haag, 2019b, p. 7, 11, 13-14, 32-34; Gemeente Den Haag DSO Mobiliteit, 2020, p. 7, 31). Finally, The Hague is also focusing on ‘sterfietsroutes’. ‘Sterfietsroutes’ have the function of both recreational and utilitarian cycling. These routes connect the region's major residential areas with economic centres, as well as with major green and recreational areas. On these routes, bicycles have priority over cars (ibid.).

Malmö

Malmö states that to create a city that is perceived as having short distances, barriers between different urban zones need to be bridged (Malmö Stad, 2016, p. 13). A gathered objective regarding modal shares for inhabitants’ and commuters’ trips is required, to develop Malmö and its traffic system in the right direction. Hereby different urban zones need to be bridged. This interconnects the city, both socially and physically, and creates new mobility patterns that open encounters between people from different parts of the city (ibid.). However, the city states in its program that an increase in commuting and regional expansion is not a goal in itself; the challenge is to make commuting more sustainable, in an environmental, economic, and social sense (ibid.).

Therefore, to reach the goals regarding sustainable commuting, commute trips carried out with public transport and by bicycle should increase. Malmö will stimulate opportunities for residents to combine cycling with travel on public transport, both locally and regionally (Malmö Stad, 2018b). This is also because the population in Malmö, Skåne, and the Öresund region is growing, which increases traffic and commuting to and from Malmö (Malmö Stad, 2016, p. 26). Finally, to reach an interconnected urban zone cooperation with other municipalities, organisations, businesses, and civic society, is important. Especially considering that many of the city’s challenges must be faced with joint measures stretching over municipalities and competencies (ibid.).
**6.2.8 Bike Facilities**

*The Hague*

The Hague states that the presence of good and accessible bicycle parking facilities encourages people to cycle. The city's focus is on promoting cycling for shopping, as well as encouraging students and staff to choose biking more frequently. To achieve this, the city aims to provide safe, comfortable, and attractive bicycle parking facilities located conveniently near building entrances. The Hague prioritizes the presence of bicycle parking spaces over car parking spaces, indicating substantial investments in bicycle parking infrastructure. *(Gemeente Den Haag, 2019b, p. 29; Gemeente Den Haag DSO Mobiliteit, 2020, p. 25-32)*

Insufficient bicycle parking is a major source of frustration for cyclists. Therefore, The Hague emphasizes the importance of expanding the size and scale of bicycle facilities in appropriate locations to accommodate the growing number of cyclists and prevent public space nuisances. As the variety of bicycle models, including E-bikes, crate bikes, and cargo bikes, continues to increase, there is a rising need for diverse parking options. Therefore, The Hague considers future growth in bicycle usage when developing new parking facilities to ensure their long-term effectiveness. The city is actively working on "densification" projects and aims to integrate indoor parking solutions, drawing inspiration from cities like Copenhagen and Malmö where indoor bicycle parking is already common. By monitoring the demand, The Hague identifies areas with the greatest need for bicycle parking facilities. For instance, approximately 30% of train passengers rely on bicycles for their first/last-mile travel to train, tram, and RandstadRail stations, emphasizing the importance of optimizing bicycle accessibility to public transportation hubs. At last, the city is also experimenting with different parking solutions. *(ibid.)*

*Malmö*

Like The Hague, Malmö considers bike facilities as a barrier. To promote sustainable travel in Malmö, the city stresses the need for good bicycle parking facilities, service, and stops for public transport, especially in the city centre *(Malmö Stad, 2016, p. 38)*. Herby, the city encourages companies and workplaces to develop green travel plans that inspire and enable their employees to travel more sustainably. Green travel plans for workplaces can contain actions, among others, like good parking facilities for bicycles, changing rooms, and bicycle service, as well as subsidised public transport, that will reduce the need to own a car *(ibid.)*. Attractive cycle parking solutions should be prioritized early in the design process, and temporary bicycle parking is needed for events that attract many visitors *(Malmö Stad, 2018b)*. Parking solutions in the city need to be reviewed and improved. The city highlights the importance of easily accessible and safe bike parking to make the cycling journey a positive experience. *(Malmö Stad, 2012, p. 11, 30-31)*

**6.3 Interview**

This paragraph will present the findings of several interviews that were conducted with experts in the field, including a traffic planner of Malmö, a policymaker of The Hague, and the bike mayor of The Hague. Interesting insights have been shared by the interviewees and will be outlined in this chapter and further discussed in the next chapter (chapter seven).

**6.3.1 Bike Policy**

This section of the chapter presents the interviewees’ viewpoint on the development of bike policies, which has not been previously discussed.
**The Hague**

The Hague has a strategic document that serves as the primary framework for their plans over the next 20 years. Following the development of this document, the municipality will create an implementation plan that outlines specific projects and initiatives to be pursued over the next five years. Given that a sustainability program has already been established, the municipality aims to merge this program with the bike program to generate a broader support base. Furthermore, the projects, which are above a certain budget, in the programs must be accredited by the ‘Gemeente Raad’ [Translation: municipal council]. With this accreditation, the program is in the hands of the municipal council, which therefore is automatically publicly available. He argues that this is important to develop the support base that is needed. When policies are made public, they are often met with support from the residents, the policymaker states. Moreover, the policymaker emphasized the importance of ensuring that a policy aligns with the needs of the entire city.

"With this accreditation, the program is in the hands of the municipal council, which therefore it is automatically publicly available. This is of importance to develop that support base that is needed. When policies are made public, they are often met with support from the residents. It is also important to ensure that a policy aligns with the needs of the entire city." [translated by the author]  

- **Policymaker The Hague**

The policymaker of The Hague states that when developing the program, he intentionally includes more projects in the implementation program than the available budget can accommodate. This is done with the knowledge that over time projects become unfeasible or do not fit anymore in terms of planning. By ‘overplanning’ the policymaker makes sure that the allocated budgets are effectively utilized. 

Controversy, the biking mayor of The Hague is critical of the policy and highlights that despite significant investments of funds and resources by the city, there remain many aspects that are not logical and or dangerous.

**Malmö**

According to the traffic planner of Malmö, the program (Cykelprogram för Malmö stad 2012-2019) has already expired. However, the objectives have been pushed to another project. With the help of the government the next program has been created which is called ‘‘Storstadspaket’’ [Translation: Big City package]. It is a project that ‘represents a powerful investment in sustainable urban development in a growing Malmö’ (För et al., 2018). Since the bike department did not have the budget and capacity to build all the objectives in the bike program, they have decided to move from the [old] bike program to the big city package deal and work with that. Therefore, this project [Storstadspaket] also includes cycling initiatives that increase the benefits of public transport measures (För et al., 2018).

"Currently, the department is developing a new cycling program. However, unlike the previous programs, this program is intended solely for internal use [within the bike department] and will not be subject to political approval."

- **Traffic planner Malmö Stad**

The primary purpose of this program is to enable the department to gain a more comprehensive understanding of the short- and long-term objectives that the department is working towards, as well as to track progress and identify pending tasks.
6.3.2 Support Base

During the discussion on bike policy, the policymaker emphasizes the significance of having a support base. This aspect is particularly intriguing as it has not been emphasized in the literature review, theory, or document analysis. Therefore, further information is sought regarding the concept of a support base.

The Hague

According to the policymaker of The Hague, when developing the strategy, it is common for all the stakeholders involved to agree with each other and work towards the same goals. Despite the ambitious goal (5% growth in bicycle use in 2040), all stakeholders involved in the process recognize the importance of implementing change in a city that is rapidly expanding. Currently, the mode of transportation in The Hague is no longer sustainable. Therefore, the policymaker argues that it is ‘easy’ to develop plans that are bike orientated. The government is also working on establishing a ‘cycling community’ with the residents of The Hague who have an interest in cycling, for example, bike ambassadors. The government regularly asks them to events and involves them in new policymaking. The bike mayor emphasizes the significance of such involvement, stating that if residents are not engaged in the municipalities planning process, the municipality will go ahead with the plans alone. However, without the residents’ input and support, the plans may not be received well.

“All political parties are embracing the strategy. There is very strong support from all parties. [...] a support base is so important to organise a budget, for example, but also to be able to get things done in somewhat more complicated places to get things done.’’
- Policymaker The Hague

Additionally, the policymaker emphasizes the hierarchical order of priorities when formulating policies. According to the policymaker's viewpoint, pedestrians hold the highest priority, followed by cycling, public transport, basic-like services, and finally, the private car. The policymaker repeatedly argues that all stakeholders embrace this principle. However, practical challenges arise when the department aims to develop new bicycle facilities on specific streets. Such situations often require making choices that can be sensitive to both politicians and residents residing on that street. This complexity is particularly evident when it involves the removal of parking spaces or trees. Hence, the policymaker argues that it is important to present the overarching vision of the strategy to the stakeholders. By doing so, the focus shifts from a narrow perspective solely concerned with local interests to recognizing the significance of the entire cycle route. This approach enables the creation of a support base that will rally behind the decisions made.

The policymaker further emphasizes the crucial nature of the support base, explaining that it is essential not only for budget allocation but also for overcoming complex challenges in specific locations. Ultimately, the policymaker asserts that the most critical factor for achieving success is the presence of individuals who are genuinely motivated and determined to make things happen.

Malmö

The traffic planner did not mention specifically that the city is working on the establishment of a support base, during the interview. However, the traffic planner did mention that the department is currently engaged in developing a new platform called ‘cykel stad Malmö’ [translation: Bike city Malmö]. This platform aims to provide a space where the municipality can engage in conversations with cyclists and promote a sense of inclusivity within the traffic environment. Furthermore, the traffic planner highlighted that there is a current prioritization of investments in cycling over investments in cars, which could suggest a growing support base for cycling.
6.3.3 Stakeholders

The document analysis has demonstrated the significant influence of stakeholders in planning processes. Furthermore, the policies and programs implemented by both cities suggest their intention to engage with a diverse range of stakeholders. Consequently, it was intriguing to inquire about the methods employed by the cities to effectively collaborate with such a large group of stakeholders.

**The Hague**

Developing a policy involves a lot of internal and external stakeholders (the cyclists' union, emergency services, a foundation that deals with accessibility, etc.), states the policymaker of The Hague. Multiple sessions are conducted to formulate the strategy. Furthermore, he emphasizes the significance of establishing a clear framework for the resident at an early stage, as their involvement is crucial. At last, The Hague is actively working to establish a ‘cycling community’ consisting of individuals who have a passion for cycling. This community, as the policymaker states, serves as ambassadors for the city, and they are regularly invited to attend events and participate in the development of new policies [such as the bike mayor].

‘When developing the strategy, it is common for all the stakeholders involved to agree with each other and working towards the same goals. Despite our ambitious goal (5% growth in bicycle use in 2040), all stakeholders involved in the process recognize the importance of implementing change in a city that is rapidly expanding.’”

- Policymaker The Hague

**Malmö**

According to the traffic planner of Malmö, the bike program which was implemented from 2012-2019 was an initiative led by the colleagues of the bike department. The program’s development entailed the involvement of traffic planners and maintenance personnel. As the municipality holds extensive amounts of property in Malmö, therefore the municipality decides on what is allowed. Consequently, the department’s role is to inform the stakeholders of its plans. Nonetheless, the department is currently working on a platform whose objective is to establish an environment where cyclists are part of the traffic system.

Nevertheless, how The Hague emphasizes the importance of communication, states the traffic planner of the bike department of Malmö municipality the following:

‘‘In Malmö, we own a lot of ground, so it is ours to do what we want to. Therefore, we just have to inform them that we will do this or that.’’

- Traffic planner Malmö Stad

6.3.4 Politics

Politics, as emphasized in the literature and theory, is regarded as a significant stakeholder with a substantial influence on urban planning. Hence, it was intriguing to gain insight into their role within these specific cases.

**The Hague**

The policymaker of The Hague confirms that the bike strategy is embraced by all political parties and receives strong support across the board. However, the policymaker also acknowledges that, as mentioned earlier, when it comes to specific projects on the streets, conflicts are bound to arise. Additionally, the biking mayor of The Hague observes that The Hague has a predominantly right-wing
political landscape, in contrast to Amsterdam and Utrecht, which lean more towards the left. Consequently, engaging with politicians in The Hague can be challenging. To gain support for various bike projects, the biking mayor suggests the need to strategically "trigger" politicians and convince them of the significance of such initiatives.

Malmö
The traffic planner argues that for some years large amounts of money have been invested in bicycle programs and bicycle paths from a political point of view and would say that they [the politicians] prioritize budgets for cycling over money for cars.

‘’[...] for some years now a lot of money has been put into bicycle programs and bicycle paths from a political point of view. Money wise I would say that they prioritize also over the car.’’
- Traffic planner Malmö

6.3.5 Hard- and Soft-Measures
The Hague
The policymaker of The Hague highlights the importance of prioritizing the construction of bike infrastructure (hard measurements) as an initial step. However, they have also recognized the significance of cultural aspects, necessitating the inclusion of soft measurements over time. Incorporating these soft measurements into policies can be challenging, according to the policymaker.

The bike mayor believes that the primary focus should be on implementing hard measurements to slow down traffic and improve safety. Once that is accomplished, diverse soft measurements can be added to enhance cycling and the resident’s cycling skills. Furthermore, the biking mayor is also of the opinion that to further incentivize the use of bikes over cars, it is necessary to again slow down traffic or make parking in certain areas more expensive. The policymaker agrees with this by stating that The Hague used to be a much more car-orientated city, although in recent decades the municipality has enforced great efforts to develop a city where all major routes are now also bike paths.

‘’The greatest effect is achieved in those districts if ’hard’ infrastructural measures are combined with ’soft’ participation measures.’’ [...] ‘’It is important anyway to infrastructure those ’hard’ measures, which have to be on order. If you look at bicycle use, infrastructure is very important. We do see more and more now that those cultural aspects, that ’softer’ side, are very important. They are very difficult to write policies on, but we see that they are important.’’
- Policymaker of The Hague

As mentioned earlier, the policymaker emphasizes the need for policies to provide to the entire population of residents. Nevertheless, The Hague acknowledges that certain neighbourhoods have lower cycling rates, largely influenced by the cultural perceptions associated with cycling.

‘’When making policies, that is where it really has to fit in with, not just staying in the ’white bubble’ we often find ourselves in, but with the entire population, the very diverse target groups [translated by author].’’
- Policymaker of The Hague

Malmö
The traffic planner of Malmö stresses that if the process of taking a bike is simplified for cyclists, they will be more inclined to take it. Malmö aims to accomplish this by developing additional bike paths,
especially in the areas where cycling is less common. They are currently working on a ‘super cykel stråk’ [Translation: superbike road] and other projects to develop additional bike paths to make it accessible and more convenient for the residents in those areas to use a bike. In the past, the municipality used to run campaigns and implement mobility management strategies to increase the number of cyclists. However, due to the large budget that the department possesses, the department, currently, focuses on the construction of bike paths and strives to build as much as possible. When questioned about whether to prioritize hard or soft measurements? The traffic planner answered that ‘’both are doing their thing [infrastructure and mobility management] I am not able to say that one is better than the other.’’

‘’Lately, we have put a post on that a focus much more on building bicycle paths, etc. because we do have a budget. A lot of our budget is focused on bicycle lanes.’’

- Traffic planner Malmö

6.3.6 Unforeseen Changes

According to the traffic planner in Malmö, changes or cancellations in projects are typically caused by budget constraints or the project not working out as planned. Budget changes can be caused by alternations in the plans for the bike programs, which span over several years. Additionally, projects may change due to new political staff with differing priorities. In such cases, the department must prioritize the new issues over existing projects. Finally, the traffic planner notes that cancelled projects will be moved to the next program. The policymaker from The Hague agrees with this, by stating that ‘’quite a few things then move on to the next programme. You haven't foreseen everything. [translated by author]’’. Therefore, the policymaker carefully strategizes policies to ensure the allocated budgets are effectively utilized, thereby preventing any unused funds.

‘’[...] adding more programme in such an implementation programme than we have budget for.’’

- Policymaker of The Hague

6.4 Conclusion

All the barriers that have been identified during the document analysis, interviews, and literature review show, when categorized within the theoretical framework, that all factors of path dependency influence the ambition for cities to increase their number of urban cyclists. Therefore, it shows that the physical aspect of cities, the rules, protocols, and routines that regulate the functioning of organizations within a city, and lastly that assumptions and beliefs impact the increase of urban cyclists. This conclusion can be drawn since all the barriers that have been identified play a role in the increase of urban cyclists, as observed in the cases examined.

While it is crucial to identify the barriers faced by cities in their pursuit of fulfilling their ambitions, equally important is understanding how cities address and overcome these obstacles. The results show several enablers to tackle the barriers. These enablers will be presented and discussed in the chapter discussion.
7 Discussion

This chapter discusses the previously presented results concerning the research question. Hence, the results will be placed within the theory of ‘path dependency’, and the literature review, both presented earlier in this study. This discussion aims to answer the research question ‘what are the best practices for addressing barriers that cities face in their efforts to increase the number of urban cyclists?’

7.1 Introduction

As stated in the conclusion of the last chapter, enablers have been identified throughout this study. The literature review already provides clear identification of enablers, whereas the results chapter may lack explicit identification of these enablers. However, upon revisiting them, patterns emerge regarding how cities approach the barriers they have identified.

To provide a comprehensive overview of the identified patterns across the literature review, theory, and results chapters, the research has created a figure (refer to figure 7.1). This figure illustrates the patterns and their impact on other enablers. Moving forward, these patterns will be referred to as enablers, as they have demonstrated the potential to facilitate the increase of urban cyclists when implemented correctly. The main enablers identified in this research are the "Support Base" and "Hard- and Soft Measurements." The "Support Base" enabler has revealed its complexity in reaching its full potential. The research refers to certain sub-enablers that are integral to the "Support Base" for it to achieve its maximum effectiveness. When these sub-enablers are properly aligned, the "Support Base" can be considered a best practice for promoting urban cycling.

As a result, this chapter is structured around the two main enablers, ‘Support Base’ and ‘Hard- and Soft Measurements’, which are further divided into sub-enablers. To present a well-rounded discussion, this chapter incorporates quotes and citations from the literature review, theory, and results.

![Figure 7.1: best practices to increase the number of urban cyclists.](image-url)
7.2 Support Base
Previous research has not adequately recognized the significance of a support base in achieving cycling-related objectives. The chapter ‘Literature Review’ highlights various barriers and enablers that cities encounter in promoting cycling, but there is no establishment of connections between these barriers. This research goes beyond previous work by examining how these barriers are interconnected and revealing the crucial role of a support base in boosting urban cycling. The importance of creating a support base has been stressed by the policymaker of The Hague. According to the policymaker this is important for the implementation and achievement of a successful policy in The Hague regarding the promotion of cycling as a sustainable mode of transportation. However, the development of a support base is not a straightforward process. Therefore, this chapter examines the barriers that hinder the development of a support base, as well as the enablers for creating one.

The process of establishing a support base involves discourse, which is then followed by institutional actions. By building a support base, one aims to influence others’ perspectives and potentially change rules and protocols. In this case, the goal is to convince individuals to embrace cycling, resulting in regulations and protocols that encourage more cyclists.

7.2.1 Stakeholders
First, it is shown that stakeholders play a significant role in the planning and implementation of the policies. Both cities have repeatedly mentioned the diverse stakeholders that the cities will work with within the planning also in the implementation of the policies. The Hague states in their policies that cooperation with the region, the various urban services, market players, developers, transport operators, and fellow governments are necessary for making The Hague a true cycling city. The cycling strategy was, therefore, created with the involvement of diverse stakeholders from the city and the region (Gemeente Den Haag, 2019b).

However, according to Schreyögg and Sydow (2010, p. 6), can gaining politicians’ support be challenging due to various factors, including rooted institutions, the underlying assumptions of the organization, organizational culture, the status, and role system. The theory further highlights that these deeply ingrained individual behaviours can quickly spiral beyond any individual actor’s control. The result is a regime taking charge and potentially leading the process to a non-reversible state of “lock-in” (David, 1985, 1993; Schreyögg & Sydow, 2010). This means that even if there are new ideas, such as plans to promote cycling, they may not be feasible due to the powerful influence of existing ideas, particularly those put forth by politicians. The difficulty is compounded by the path dependency, making it even more of a challenge to differ from the established path.

To provide a more specific example of this influence, Alm and Koglin’s (2022) study has revealed that the political capacity in Sweden significantly influences the development of diverse transport modes, given the persistent dominance of car culture. This could imply that Sweden remains reliant on cars, and therefore is car dependent. As mentioned earlier, car culture can be discursive and may lead to institutional objectives. Consequently, when diverse stakeholders are predominantly focused on cars, it can lead to a lack of acceptance or support for cycling plan objectives. This is crucial in terms of building a support base for the development of cycling initiatives. The Hague responds to this by quoting Jan Gehl, as stated earlier (see page 30). However, despite the strong presence of the bike in the Hague, the bike mayor remains critical, by pointing out that despite the significant time and resources that are invested in cycling, there is still room for improvement. This underscores the importance of developing a strong support base, as emphasized by the policymaker.

Furthermore, the theory stresses the importance of history within path dependency. Past events influence and or restrain future actions or foregoing decisions for current and future decision-making (Schreyögg & Sydow, 2010, p. 3). Given the history of The Hague and Malmö, the Hague has a rich
history of cycling, and where one could even state that it has become the norm. On the other hand, Malmö does not have this history but does state on its website that they are currently trying to become a bike city (Malmö Stad, 2022). Considering that the theory states that history plays a large role in path dependency, could indicate that with the history of The Hague, the city is already bike dependent, whereas Malmö still needs to get into that path. However, the theory furthermore states that it is not easy to get out of this path, but that it is not impossible.

In conclusion, stakeholders play a significant role in the planning and implementation of policies, and both The Hague and Malmö have recognized the importance of involving diverse stakeholders in promoting cycling. However, gaining politicians’ support can be challenging due to various factors, including history, organizational culture, etcetera, which could lead to a non-reversible state of ‘lock-in’. This seemed to happen in both cities. However, the rich history of cycling in The Hague may have caused the city to be bike dependent, while Malmö is still trying to become a bike city, and with its car culture, it could be car-dependent. Nevertheless, the theory emphasizes that it is not impossible to break out of this path dependency and develop alternative policies. Therefore, the importance of developing a strong support base for cycling with the involvement and support of stakeholders cannot be overemphasized.

7.2.2 Communication

The results repeatedly highlight the importance of communication in engaging stakeholders to build this support base. Communication is discursive as it involves the exchange of ideas, opinions, and information through dialogue and thereby expressing different perspectives, and getting to a shared understanding.

Both Malmö and The Hague have recognized the importance of effective communication in their policies to gain support from stakeholders for their cycling promotion plans (Gemeente Den Haag DSO Mobiliteit, 2020, p. 4; Malmö Stad, 2018b). The Hague specifically acknowledges the large impact of messages from friends compared to the government and, therefore, has assigned ambassadors to reach out to residents across all neighbourhoods, with a particular emphasis on areas where cycling rates are currently lower (Gemeente Den Haag DSO Mobiliteit, 2020, p. 43).

However, the traffic planner in Malmö contradicts the city's policy that highlights the significance of communication in increasing the city's cycling numbers. According to the planner, the bike department is only required to provide information to stakeholders, diverging from The Hague's perspective on the importance of engaging with stakeholders. This contradiction could potentially result in an insufficient support base, jeopardizing the ambition to increase urban cycling. Hence, it can be concluded that effective communication with stakeholders involved in the planning and execution of cycling policies is crucial to fulfil cities its bike ambitions.

7.2.3 Policies

Policies fall under the institutional factor, including the rules and protocols of organizations. They play a crucial role within institutions and have a great impact on urban areas as it shapes a city's physical form, structure, and transportation infrastructure.

The Hague's policymaker emphasizes that making policies accessible to the public is crucial for effective communication with stakeholders and building the necessary support base. It is also noted that policies should be inclusive and consider the needs of disadvantaged groups, ensuring fair mobility opportunities and supporting social participation.

In contrast, Malmö takes a different approach by choosing not to make their bike program publicly available or seek political approval. The latest available bike program is 'Cykelprogram för Malmö Stad 2012–2019' [Translation: Cycling programme for Malmö City 2012-2019]. The traffic planner of Malmö continues to state that the new cycling program is still under development and will
not be made public or seek political approval. This could potentially result in a missed opportunity to build a support base. Thus, this indicates that the availability of a bike policy is crucial to develop a sufficient support base to fulfil the city's ambition.

7.2.4 Resilient Policies
As previously mentioned, the publication of bike policies may have a beneficial impact on the creation of a support base that is necessary to achieve the city’s goal. However, Kay (2005, p. 554) argues that path dependency could be problematic due to decisions that are made based on historical circumstances. This means that the decision-making process is restricted by past events or actions. These limitations, for example, budget rules, can result in suboptimal outcomes, or outcomes that are less than ideal. In other words, current policy decisions can restrict options for future policymakers and thus limit current policy options.

The policymaker of The Hague intentionally develops the bike programs by including more projects than the budget can accommodate (overplanning). Overplanning refers to the practice of exceeding the available financial resources by proposing a larger number of initiatives or projects than what can feasibly be funded. This approach, often utilized due to the possibility of projects and or initiatives being eliminated, ensures that the budget is fully utilized.

To avoid path dependency, The Hague diversifies its options by including a wide range of available choices in the present, ensuring a future with a variety of possible options. This approach allows for flexibility within policies, even if they initially follow a certain path. Malmö, however, only indicates that projects that are not utilized in one program will be carried forward to the next program. Consequently, Malmö runs the risk of becoming overly reliant on the path the city has established in the past and therefore is not able to fulfil its ambition to increase the number of urban cyclists. Thus, one effective method to avoid being path dependent in policymaking, as stated by the policymaker of The Hague, is through overplanning.

7.3 Hard- and Soft Measurements
Besides developing a support base to fulfil the ambition to increase the number of urban cyclists, is the mix of hard- and soft measures also important. Previous research has shown that the construction of an infrastructural cycle road network combined with additional control measures such as communication campaigns, a good connection to public transport, and sufficient bicycle parking facilities, can increase bicycle traffic share (Marqués et al., 2015; Olde Kalter, 2007; Pucher, Dill & Handy, 2010; Van Goeoverden, 2016). Additionally, McLeod et al. (2020) and Koglin (2014) argue that cycling must be established as a fundamental mode of transportation that offers easy access to destinations and can frequently serve as a substitute for private car travel. This, in turn, motivates individuals to choose cycling as their mode of transport.

The Hague shows in their policies as well as during the interview, that ‘hard’ measurements, such as infrastructure, are a priority and then there must be a mix of hard- and soft measurements. The policy of Malmö also states that there must be a mix of hard- and soft measurements: “In order to influence travel behaviour, a combination of different measures is required – both measures towards behavioural change and physical actions.” (Malmö Stad, 2016, p. 34). However, during the interview, the traffic planner did state that currently the focus is on hard measurements due to the large budget the department owns.

In conclusion, it is recommended for cities to strive for a mix of hard and soft measures to promote cycling. Initially, cities should prioritize the implementation of hard measures and subsequently find a balance between the two approaches. Considering that The Hague is already prioritizing the development of this combined approach, while Malmö is still in the process of expanding its bike path network, it suggests that The Hague has made more progress towards embracing bike dependency.
This case study aimed to identify barriers faced by cities in their efforts to increase the number of urban cyclists and to uncover best practices for achieving this goal. The study first presented an overview of existing barriers, followed by an introduction to the theory of "path dependency" and its relevance to cycling policies and planning. The study also explored three key factors—technical, institutional, and discursive—that can act either as an enabler or a barrier. To examine the role of barriers in promoting urban cycling, an extensive review of bike policies and sustainable mobility programs in Malmö and The Hague was conducted, supplemented by interviews with experts. Finally, the findings from document analysis and interviews were discussed, resulting in the identification of best practices for cities seeking to increase the number of urban cyclists.

This study has revealed that the three factors of path dependency not only act as significant barriers but can also be enablers in increasing the number of urban cyclists. However, the findings additionally reveal that addressing these barriers can be achieved by establishing a support base and implementing a combination of both hard and soft measures. This approach effectively addresses the technical, institutional, and discursive challenges encountered in promoting cycling.

However, the establishment of a support base involves several criteria that need to be met. One crucial aspect is ensuring that diverse stakeholders, who have a direct or indirect influence on bike planning, understand and support the bike policies. Effective communication with these stakeholders is essential to engage them and expand the support base. One approach to engage stakeholders is to promote cycling policies by publicizing them and to develop inclusive policies that benefit the entire city. Another significant finding that contributes to the development of resilient policies is the importance of overplanning. By including a broad range of options in the planning process, policies can avoid excessive dependence on a specific path and remain adaptable to changing circumstances. Additionally, achieving the ambition of increasing the number of urban cyclists requires a mix of hard and soft measures. While hard measures, such as infrastructure development, should be prioritized initially, it is crucial to find a balance between hard and soft measures as the promotion of cycling progresses. This balanced approach ensures a comprehensive and effective strategy for promoting cycling in cities.

In summary, it is crucial to emphasize that the ambition to increase the number of urban cyclists goes beyond the mere formulation of a policy. A policy could be seen as a tool to fulfil cities ambitions. It necessitates the establishment of a support base and a balanced approach incorporating both hard and soft measures. Developing a support base involves key aspects such as engaging diverse stakeholders and implementing effective communication strategies, including the publication of policies. By adopting these best practices, cities can successfully achieve their objective of increasing the number of urban cyclists.
References


Appendix

Appendix I: Interview Guide

**Interview guide**

*Traffic planner Malmö*

**Introduction**

1. What is your function?
2. What is your role in the preparation, writing and implementation of the bicycle programs?
3. How long have you been involved in the planning?

**Bike program**

4. How does one start with a bike program?
   a. Is there a group? Or is there a specific date that everyone comes together?
5. How do you take care of an up-to-date bicycle program?
   a. What is needed to keep that continuation?
   b. How do you keep up to level or even increase it?
6. How do you create a program that is SMART formulated?
   a. This is so that the goals are measurable, and deadlines are met.
7. How do you deal with unforeseen chances? As in you expected one situation to happen but in reality, it is, maybe, the opposite.

**Stakeholders**

8. How do you work with such a large number of stakeholders?
9. How do you deal with the different views and needs?
   a. How do you ensure that the goals are achieved?
   b. I do not see anything from Malmö so where did it go wrong?
10. How do you communicate with them?
    a. Is there a meeting occasionally, etc.

**Disparities in cycling rates**

11. How do you deal with the different cycling rates within Malmö?

**Car-orientated**

12. The program state that Malmö (Sweden) is still largely car orientated. How as a cycling department do you change that view?
   a. Do you get support from political players?
   b. Do you receive less financial support?

**Interview guide**

*Policymaker The Hague*

**Introduction**

1. What is your function?
2. What is your role in the preparation, writing and implementation of the bicycle programs?
3. How long have you been involved in the planning?
Bike program

4. How does one start with a bike program?
   a. Is there a group? Or is there a specific date that everyone comes together?

5. How do you take care of an up-to-date bicycle program?
   a. What is needed to keep that continuation?
   b. How do you keep up to level or even increase it?

6. How do you create a program that is SMART formulated?
   a. This is so that the goals are measurable, and deadlines are met.

7. How do you deal with unforeseen chances? As in you expected one situation to happen but in reality, it is, maybe, the opposite.

Stakeholders

8. How do you work with such a large number of stakeholders?

9. How do you deal with the different views and needs?
   a. how do you ensure that the goals are achieved?
   b. I do not see anything from Malmö so where did it go wrong?

10. How do you communicate with them?
    a. Is there a meeting occasionally, etc.

Disparities in cycling rates

11. How do you deal with the different cycling rates within The Hague?

Car-orientated

12. Malmö (Sweden) is still largely car orientated. How do you change that view?
    a. How do you get support from political players?
    b. How do you receive less financial support?

Interview guide

Bike Mayor The Hague

1. Can you tell us what a cycling mayor entails and what you all do?
   a. How long have you been a bicycle mayor?
   b. What are the effects of being a bicycle mayor?
   c. Do you contribute to creating support?
      i. How important is this support base?

2. Are you also involved in making/shaping the cycling policy?
   a. How are you involved?
   b. Do you see this as very important for you to be involved?

3. The study aims to identify the barriers cities face in increasing the number of urban cyclists in their cities. In your opinion, what are the biggest barriers faced by The Hague?
   a. How is this dealt with? Or how should this be dealt with?

4. What would you advise cities that are making a transition to cycling?
   a. How should they set up ambassador leadership?

5. Could it be said because the Netherlands is known as a cycling country that this makes it easier to implement cycling plans?
Appendix II: Email Interviewees

Email for an interview policymaker The Hague:

Beste meneer/mevrouw,

Ik ben Karlijn Bruijs, ik studeer de master urban studies aan de Malmö university in Zweden. Deze email schrijf ik naar u omdat ik op dit moment bezig ben met mijn scriptie. Dit onderzoek heeft als doel de barrières te onderzoeken waarmee steden geconfronteerd worden wanneer zij het aantal fietsers proberen te vergroten en welke ‘best practices’ steden gebruiken/implementeren om deze barrières tegen te gaan. Nederland staat bekend om zijn fietscultuur en daarom wordt Nederland gezien als ‘leading example’ in dit onderzoek. Het onderzoek is een multi-casestudy waarin ik het fietsprogramma van de gemeente Malmö en het fietsprogramma van Den Haag (Ruim baan voor de fiets, fietsstrategie 2040 & uitvoeringsprogramma 2020-2025) met elkaar vergelijk.

Op dit moment ben ik zo ver in het onderzoek dat het tijd is om interviews af te nemen. Ik zou daarom graag met een aantal professionals in gesprek willen gaan die te maken hebben met de documenten die hierboven staan beschreven. Het interview zal 20-40 minuten duren en zal via zoom worden gehouden (ik ben namelijk op dit moment woonachtig in Malmö). Kent u iemand die met deze twee documenten te maken heeft en tijd/zin heeft om met mij in gesprek wil gaan? Dan zou ik dat heel graag horen.

Als u meer informatie nodig heeft, hoor ik het graag.

Met vriendelijke groet,
Karlijn

Email for an interview traffic planner Malmö:

Dear [name],

We have had contact before, and I would like to interview you for my research-thesis. This research aims to investigate the barriers cities face when trying to increase the number of cyclists and which best practices cities use/implement to counter these barriers. The research is a multi-case study in which I compare the bicycle program of the municipality of Malmö (Sustainable Urban Mobility Plan & Cyckelprogram för Malmö Stad 2012-2019) and the bicycle program of municipality of The Hague.

I am at a moment of the research that it is time to conduct interviews. I would appreciate it if you could take the time to talk with me and discuss the documents noted above. The interview would approximately be around 20-40 minutes and could be held in a place of your choice. Please let me know if you would be interested and when you would be available around the first of April.

If you know someone who would also be interested to talk to me, could you please forward this email to him/her?

If you need more information, please let me know.

Kind regards,
Karlijn
Email for an interview bike mayor The Hague:

Beste meneer [name],

Ik ben Karlijn Bruijs, ik studeer de master urban studies aan de Malmö university in Zweden. Deze email schrijf ik naar u omdat ik op dit moment bezig ben met mijn scriptie. Dit onderzoek heeft als doel de barrières te onderzoeken waarmee steden geconfronteerd worden wanneer zij het aantal fietsers proberen te vergroten en welke ‘best practices’ steden gebruiken/ implementeren om deze barrières tegen te gaan. Nederland staat bekend om zijn fietscultuur en daarom wordt Nederland gezien als ‘leading example’ in dit onderzoek. Het onderzoek is een multi-casestudy waarin ik het fietsprogramma van de gemeente Malmö en het fietsprogramma van Den Haag (Ruim baan voor de fiets, fietsstrategie 2040 & uitvoeringsprogramma 2020-2025) met elkaar vergelijk.

Op dit moment ben ik zo ver in het onderzoek dat het tijd is om interviews af te nemen. Ik zou daarom graag met een aantal professionals in gesprek willen gaan die te maken hebben met de documenten en/of te maken hebben met fietsen in Den Haag. Ik bedacht me dat u als fietsburgemeester van Den Haag de aangewezen persoon hiervoor was. Het interview zal 20-40 minuten duren en zal via zoom (of een ander platform naar u keus) worden gehouden (ik ben namelijk op dit moment woonachtig in Malmö). Is het mogelijk om met u in gesprek te gaan over dit onderwerp?

Als u meer informatie nodig heeft, hoor ik het graag.

Met vriendelijke groet,
Karlijn

Appendix III: GDPR Form
Samtyckesblankett / Consent form

Vår behandling av dina personuppgifter bygger på att dina personuppgifter behandlas med ditt samtycke. Du kan när som helst ta tillbaka samtycket och uppgifterna får då inte bevaras eller behandlas vidare utan annan laglig grund.


Processing of personal data

This processing of your personal data is based on your consent. You may withdraw the consent at any time, and the data may not be retained or processed without any other legal grounds.

By collecting data on Malmö University will use the given data and process it in the research-thesis. The data will be processed during the 2nd semester, which is from the 16th of January until the 1st of June. After this time the information will be archived and send to the participants who have participated in the research. You can find out what has been registered about you or have feedback on the processing or information collected by contacting Karlijn Bruïjs at karlijn.bruïjs@gmail.com or the university 's Data Protection Officer at dataskyddsombud@mau.se. Complaints that can not be resolved with Malmö University may be submitted to the responsible regulatory authority.

Underskrift / Signature