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SCHOOL OF ECONOMICS AND MANAGEMENT

The transformation of Utrecht - a cyclist's paradise

A qualitative case study on how effective stakeholder management creates public value by promoting sustainable urban mobility and cycling

By

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ABSTRACT

Purpose of the study: This interdisciplinary study aims to explore the emerging and increasingly relevant field of best practices for stakeholder engagement, within a public management setting, by analysing sustainable urban mobility and cycling promotion in Utrecht, the Netherlands.

Theoretical perspective: The study develops a conceptual framework to explain the success of cycling promotion based on the theories of stakeholder theory, local capacity, collaborative governance, and co-creation.

Methodology: In order to fulfil the purpose of this thesis, a qualitative embedded single-case study of Utrecht is conducted with abductive reasoning. The empirical data is collected through 17 semi-structured interviews, as well as ethnographic observations made during a field trip to Utrecht. This is further complemented with secondary data.

Empirical foundation: The empirical findings are structured according to a narrative, extensively covering the aspects of the theoretical framework and providing a detailed description of the situation and how it came about, through examining the collected perceptions of a plethora of stakeholders, such as the municipality, NGOs, academia, involved businesses, and citizens.

Discussion: The discussion analyses the empirical findings in relation to the constructed framework and previous research. Consequently, a final conceptual framework is developed, with supporting key success factors and best practices.

Conclusion: The study concludes that effective stakeholder engagement, supported by local capacity, collaborative governance, and co-creation, is essential for the successful promotion of cycling in urban areas. The findings and identified key success factors offer guidance for other cities aiming to evaluate and enhance their local capacity for cycling initiatives, and thus promote sustainable urban mobility.

Keywords: Cycling, Utrecht, Stakeholder Engagement, Local Capacity, Collaborative Governance, Public Co-Creation

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1. Introduction

1.1 Background

The world is beginning to face the consequences of climate change, and will increasingly do so if sufficient action is not taken (United Nations, n.d). In order to stop the worrying increase in global temperature, emissions must be reduced (United Nations, n.d). Provided that cities account for 70% of greenhouse gas emissions, and one third of energy consumption, urban areas are fundamental in tackling climate change (The World Bank, 2023). Presently, around half of the population are located in cities, yet, the amount will increase to an unprecedented 70% by 2050, further emphasising the key role of cities and urban areas in solving climate change (The World Bank, 2023). Consequently, cities must increasingly embrace a coordinated approach and integrate green urban planning strategies, creating resilient and inclusive cities, thereby becoming part of the sustainable solution (The World Bank, 2023; UNEP, 2024). Transportation accounts for a major share of cities emissions (UNEP, 2024), thus requiring major attention in the effort of creating sustainable cities.

In order to reduce transport emissions, several countries, including the member states of the EU, are implementing the practices related to the concept of Sustainable Urban Mobility (European Commission, n.d.a; European Commission, n.d.b; May, 2015; Ton et al. 2019). Unlike traditional transport plans, Sustainable Urban Mobility plans are long-term oriented, and consider several issues of sustainability, including social equity, environmental quality and economic development (May, 2015). Integral to the concept, is that mobility is not to be limited, but rather improved by encouraging sustainable transportation (European Commission, n.d.a; Lam & Head, 2012; May, 2015; Ton et al. 2019).

As an active mode of transportation, cycling is regarded as one of the most sustainable transport modes (Alm & Koglin, 2022; Ton et al. 2019), explaining its centrality in sustainable urban mobility. Following decades of neglect from transportation planners, cycling is therefore now experiencing increased attention from numerous actors (Bruno, 2022; Fishman, 2016; Pucher & Buehler, 2017; Ton et al. 2019;), being promoted by governments all across the Western World and increasing in use (Buehler & Dill, 2016; Pucher & Buehler, 2017).

When it comes to cycling, the Netherlands and Copenhagen are frequently highlighted as champions and role models (Copenhagenize Index, n.d.a; Pucher & Buehler, 2008). Yet, the Netherlands is world-unique, in that it hosts strong levels of cycling nation-wide, not solely on local levels (Fishman, 2016). For decades, the Netherland's cycling rates have greatly outnumbered those of their neighbours, and their cycling infrastructure is seen as the best in the world (Fishman, 2016). However, even in the Netherlands, some cities and areas have attained larger rates of cycling than others (de Haas & Hamersma, 2020). Examining the largest four municipalities of the Netherlands, Utrecht is the most successful with the largest amount of cycling. Between the years of 2017-2019, close to a staggering 50% of inner-city trips were made by bicycle in Utrecht (de Haas & Hamersma, 2020).

There seems to be a number of aspects which affect the amount of cycling in a city, contributing to explaining the variance between cities and countries. Due to the characteristics of cycling, the natural environment, including the harshness of the weather and presence of hills and mountains, affects levels of cycling (Heinen et al. 2010; Ton et al. 2019; Wang et al. 2016), as does trip characteristics, including the length of trips (de Geus et al. 2008; Heinen et al. 2010; Ton et al. 2019). Additionally, cyclists must consider the available bicycle routes as safe, in order for cycling to really gain traction, as perceived safety remains one of the main deterrents from cycling, especially in urban contexts with multiple competing transportation solutions in dense areas (Buehler & Dill, 2016; Fisherman, 2016; Gössling, 2013; Morgan, 2019; Pucher & Buehler, 2017).

While some of these aspects may be difficult to change, the public management of, and its capacity to work with, cycling initiatives can be an integral part behind its success. This suggests that cycling rates are not only dependent on the infrastructure and the characteristics of the location, but further on how planners manage to strategize these issues. For the design and implementation of cycling initiatives to reflect the interests of the users and everyone living within urban environments, a collaborative multi-stakeholder approach to decision-making and problem-solving becomes increasingly important (Lindenau & Böhler-Baedeker, 2014; Mészáros, 2021).

In considering a multi-stakeholder approach and management of diverse interests, the art of stakeholder engagement has been observed to be essential in improving the cyclability of a city (Beck & Storopoli, 2021; Fernandez-Heredia & Fernandez-Sanchez, 2020; May, 2015).

However, little is known about the dynamics of stakeholder engagement and collaboration between a public administration and its network of stakeholders in a public setting. Thus, this thesis conducts a case study of the highly acclaimed cycling city of Utrecht (Fleck, 2022), in order to explore and increase the understanding for best practices of stakeholder engagement, collaborative governance, co-creation and the design and implementation of cycling initiatives.

1.2 Problematization

The consideration of how cycling is influenced by stakeholder engagement, collaborative governance models, and co-creation formats is situated within a broad and complex context of transitioning towards urban mobility solutions that are economically viable, sustainable, and foster social equity (Arsenio et al. 2021; Soma et al. 2018). Many theorists argue that an emphasis on public value, what is either valued or good for the public, should characterise a new approach to public administration in this pursuit, and further highlight the importance of adopting a stakeholder perspective in shaping strategic directions (Bryson et al. 2014). In increasingly diverse and complex societies, facing increasingly difficult problems, understanding the needs and desires of stakeholders and collaboration with other actors becomes essential to ensure that the design and implementation of cycling initiatives align with public value (Bryson, 2021).

However, navigating these diverse needs and desires from different stakeholders does not come without its challenges and tensions in urban mobility planning. The public domain has a plethora of different voices that need to be considered, and while concerns of citizens are often central to consider, social movements, businesses, NGO's, and academia further play a large role. A failure in balancing these competing interests may significantly impede the progress for the transition towards sustainable urban mobility, as misaligned policies can exacerbate conflicts among stakeholders and hinder the achievement of sustainable urban development goals (Liao & Liu, 2023). This requires managers to consider meaningful stakeholder engagement and enable effective ways of collaborating, highlighting its importance for sustainable urban mobility.

While many theorists call for the need for interdisciplinary and context specific research with stakeholder theory to advance the field, its application in a public setting has still received

limited attention (Harrison et al. 2015). Hence, there exists a threefold gap in understanding and it is still in need of development.

Firstly, while stakeholder theory has predominantly been researched from the perspective of profit-driven private firms in relation to other organisations, application into the public sector domain has gained some traction in recent years (Sarturi et al. 2023). In the same manner stakeholder management has been used to create value for private firms, this stream of research stems from the notion that its principles may be helpful for public managers to identify, analyse, and manage relationships with diverse stakeholders to foster collaboration, transparency, and sustained public value (Sarturi et al. 2023). This suggests that it may be applicable for public administration in solving shared problems together with different actors.

Secondly, a majority of previous research using stakeholder theory has focused on a single organisation or stakeholder (Kujala et al. 2022). However, this economic-based perspective is being replaced by a new perspective, that values the links between society, business, and stakeholders, in a modern global economy founded on relationships between different actors (Kujala et al. 2022). This increases the importance of understanding cooperative relationships and collaboration (Civera & Freeman, 2019), suggesting a holistic approach to grasp how several actors create value together in a networked governance model.

Lastly, the application of stakeholder theory in a public context also suggests a different perspective on the creation of value. By nature, the traditional application of stakeholder theory in a private context has led to a simplified and narrow focus on value creation in terms of economic returns for a single profit-driven organisation in relation to others, rather than emphasising mutual value creation for all stakeholders (Harrison & Wicks, 2015).

1.3 Purpose of the study

The theoretical purpose of this research is to understand the factors that influence cycling promotion, which is done by proposing a theoretical framework that addresses these factors, highlighting the centrality of stakeholder engagement. In doing this, the research also has a secondary theoretical purpose to contribute to the contextualisation of stakeholder theory, collaborative governance, co-creation, and local capacity. This further aims to address the aforementioned threefold gap by increasing the understanding of stakeholder theory within a

public context, by adopting a relational-perspective and broader scope for mutual value creation for all stakeholders.

The empirical ambition of this paper is to provide an in-depth case study of Utrecht, recognised for its commitment to promoting sustainable cycling, to serve as a blueprint for others in the pursuit of creating a cyclable city. The study seeks to establish a broad understanding of the conditions that foster cycling promotion, and sustainable urban mobility at large, as well as strategic guidance for management of diverse interests that can be tailored to other urban contexts. This is crucial in developing sustainable cities and consequently tackling climate change. Further, it seeks to address the complexities of stakeholder interactions, and deepen the understanding of collaborative governance and co-creation in a public setting.

Considering the contribution to sustainable urban mobility, through the analysis of cycling, in regards to stakeholder engagement, the research question is as follows: How is the success of cycling promotion affected by the work of cycling planners, considering stakeholder engagement, co-creation, collaborative governance and local capacity?

1.4 Contributions

This detailed case study not only aims to strengthen the understanding of stakeholder management and collaborative governance in public urban mobility settings, but also offer practical advice for policymakers and urban planners through a list of recommendations and best practices for cycling promotion. Specifically, by dissecting the interplay between stakeholder relationships and exploring the dynamics of co-creation processes, this research contributes to the strategic management literature by providing empirical evidence on effective governance practices that enhances sustainable urban mobility. This bridge between theory and practice is integral for cities around the world in navigating the challenges of stakeholder engagement, collaboration, and sustainable transportation in increasingly dense urban environments.

Apart from contributing to the development of stakeholder theory and an increased understanding of the empirical phenomena, the thesis will contribute to the development of local capacity. Although the development of local capacity is not directly part of the thesis'

problematization or theoretical gap, the authors argue that its application to a new empirical setting, in addition to its combination with aforementioned theories, will both provide a solid foundation for increased understanding of the situation, and further extend its applicability.

1.5 Outline for the thesis

Following the introduction, a comprehensive literature review will be presented, starting with an explanation and examination of previous research on the main topic of stakeholder theory. The literature review will further include a presentation of the concept of sustainable urban mobility, succeeded by a more detailed description of the previous research and best practices available on the empirical topic of cycling. The literature review will then be expanded by the addition of local capacity, a theory which aims to complement stakeholder theory in explaining and analysing the empirical phenomena. Lastly, the literature review will culminate in a proposed theoretical framework, summarising and connecting the different aspects of the literature review, further providing guidance for the following thesis.

The text will then proceed to present the methodology of the thesis, including all relevant considerations and descriptions. Subsequent to this, the thesis will present a summary of the empirical findings, structured according to the proposed theoretical framework. Following, a discussion will be presented, analysing the empirical findings in relation to the proposed theoretical framework. The section will be finished with an updated theoretical framework, attempting to provide a holistic and increased understanding of the phenomena. Lastly, the thesis will present the main findings and recommendations in the conclusion, further including the limitations of the thesis and proposed future research.

2. Literature review

2.1 Stakeholder theory

2.1.1 Stakeholder theory in a nutshell

The idea of stakeholders saw its conception in an internal memorandum from Stanford Research Institute in 1963, arguing for an extended scope of objectives to increase the responsiveness and consideration of other groups' interests for a firm (Freeman et al. 2010). This was a clear departure from the notion that firms ought to solely focus on their shareholders' desires, as the new concept of stakeholders was defined broadly as "those groups without whose support the organisation would cease to exist." (Freeman et al. 2010, p.31). Consequently, stakeholder theory proposed that employees, customers, lenders, suppliers and society at large should play a crucial role in a firm's corporate planning, alongside the interests of shareholders (Freeman et al. 2010).

In 1984, Freeman's book 'Strategic Management: A Stakeholder Approach' marked a paradigm shift for strategic management in proposing that long-term success and ethical business practices are achieved through understanding, managing, and satisfying the needs of any group that has a stake in or is affected by the actions of a corporation. This philosophy is especially profound, as it does not perceive economic and social value to be conflicting, but rather in harmony to create lasting value through the process of dynamically evaluating relationships with stakeholders (Freeman, 2012). Freeman's book is perceived to have cemented the foundation of stakeholder theory, vastly expanding the scope of strategic management beyond value creation for shareholders (Donaldson & Preston, 1995; Friedman & Miles, 2006; Mitchell et al. 1997). An underlying premise was that the traditional view of the firm precipitated an internally focused view, neglecting to account for the highly dynamic nature of values and interests in the surrounding environment (Freeman, 1984). Thus, stakeholder theory brings guidance and a sense of direction for firms in navigating this landscape successfully.

2.1.1.1 Definition of a stakeholder

With regards to the definition of what constitutes a stakeholder, academia still lacks a clear all-encompassing understanding as there exists hundreds of different views (Miles, 2011).

The most commonly accepted definition comes from Freeman himself, defining a stakeholder as “any group or individual who can affect or is affected by the achievement of the organisation’s objectives” (1984, p.46). The implications of this broad interpretation constitutes that anyone can be a stakeholder (Mitchell et al. 1997).

Naturally, the plethora of various definitions and the debate of how broadly the term stakeholder should be defined gives rise to certain challenges in discerning which groups are stakeholders and why (Phillips, 2003). This complexity further complicates the task of adequately addressing and aligning with the diverse interests of all stakeholders. To resolve this dilemma, Phillips (2003) applies the concepts of normative and derivative legitimacy to better determine who merits consideration and to what extent. A stakeholder with normative legitimacy is someone to whom the firm owes moral responsibility, whereas a stakeholder with derivative legitimacy is one who solely has potential to significantly influence the firm.

2.1.1.2 Stakeholder identification and prioritisation

In interacting and allocating resources to meet the needs of stakeholders, Mitchell et al. (1997) highlight the need for contextual prioritisation by identifying and categorising groups based on the attributes of power, legitimacy and urgency to determine stakeholder salience, viz. "the degree to which managers give priority to competing stakeholder claims”. Power is defined as the ability of one social actor to get another social actor to do something that they would not have done otherwise (Mitchell et al. 1997). Urgency is the degree to which stakeholder claims call for immediate attention, and legitimacy the perception that the actions of an entity are desirable or appropriate (Mitchell et al. 1997).

There is strong support for a positive relationship between the number of attributes and perceived salience, enabling higher managerial attention to those stakeholders showcasing more of each attribute (Agle et al. 1999; Parent & Deephouse, 2007). Savage et al. (1991) emphasise the need to navigate environmental complexities by strategically managing and integrating stakeholder interests to foster resilience and mitigate opposition, especially from non-supportive stakeholders.

2.1.2 Stakeholder theory and public value co-creation

Bryson (2007) outlines how strategic management has become a conventional feature of organisations beyond traditional business, being used in governments, nonprofit's and social enterprises. This may be a sign of the times, as serving a wide variety of needs, perceptions, and expectations has become a challenging task for traditional public administration in shifting to networked governance in increasingly diverse and complex societies, facing increasingly complex problems (Bryson, 2021).

2.1.2.1 The public value approach to governance

The creation of public value can be defined as producing what is valued by the public, or good for the public, and naturally starts with a process of collecting input from the public's diverse groups to determine what is to be pursued (Moore, 1995). The public value approach for public administration goes beyond the traditional focus on efficiency and effectiveness, by recognising government's role in upholding and promoting public values to include considerations of how public institutions engage with citizens and stakeholders, fostering a more inclusive and participatory form of governance (Bryson et al. 2014). By doing so, public administrators can gather essential insights into requirements for success, assess the strengths, weaknesses, opportunities, and threats facing their institutions, and enhance their capabilities for effective strategy formulation and implementation in public policy (Bryson, 2021).

2.1.2.2 Public co-creation

Torfing et al. (2019) describe how growing challenges within the public sector of balancing scarce public funds while meeting societal demands raises concerns if this task is too complex to be solved by the public sector alone. A recent public administration paradigm has started to flourish that sheds new light on how we consider public service delivery and policy development, namely the concept of public value co-creation. The theory of co-creation originally stems from marketing, where it was introduced as the active involvement of end-users in the process of creating value (Prahalad & Ramaswamy, 2000; Vargo & Lusch, 2004). In the field of strategic management within the public sector, public value co-creation is defined as "a process through which two or more public and private actors attempt to solve a shared problem, challenge, or task through a constructive exchange of different kinds of knowledge, resources, competences and ideas that enhance the production of public value" (Torfing et al. 2019, p.802).

Co-creation deems multi-actor collaboration a promising alternative to the shortcomings of recent market liberal ideologies advocating for competition between public and private firms in providing cost-effective and improved public services, while challenging the belief that public management alone is responsible for supplying public value (Torfing et al. 2019). The concept of co-creation can be broken down into co-design and co-implementation. The first refers to jointly defining problems and desired outcomes, designing solutions and planning for implementation, while the latter refers to collaborative processes of delivering public services (Voorberg et al. 2015).

2.1.3 Stakeholder engagement and collaborative governance

Many scholars argue for a new approach to stakeholder theory that recognises relationships as the links between society, business and stakeholders, and highlight that the importance of understanding collaborative processes is increasing as the economic-based perspective is being replaced (Civera & Freeman, 2019; Freeman et al. 2017). As stakeholder engagement is seen as a relational rather than transactional process in this case, co-creation and collaboration have been deemed highly promising fields for future research (Kujala et al. 2022).

2.1.3.1 Definition of stakeholder engagement and its success factors

In this thesis, the definition by of O'Riordan and Fairbrass (2014, p.123) is adopted to understand stakeholder engagement as “all those activities which are undertaken to create opportunities for dialogue between an organisation and one or more of its stakeholders with the aim of providing an informed basis for the organisation’s decisions.”. In the public sector, stakeholder engagement may not only challenge existing biases and assumptions leading to more inclusive solutions (Eaton et al. 2021), but also fosters trust and increases acceptance of policy outcomes as stakeholders feel that their perspective matters (Sloan, 2009). Some of the essential ingredients to meaningful stakeholder engagement are shared purpose and expectations (Sloan & Oliver, 2013), communication and knowledge-sharing (Eweje et al. 2021), commitment (Cullen et al. 2000), mutually beneficial and long-term relationships (Maak, 2007), and buy-in, the process of securing stakeholder support (Mitchell, 2022).

2.1.3.2 Collaborative governance

A concept that aligns with recent trends of recognising dynamically complex relationships and, like public co-creation, also emerged as a response to increasing "turbulence" faced by policy makers and managers (Gray, 1989), is collaborative governance (Ansell & Gash, 2008; Donahue, 2004; Donahue & Zeckhauser, 2006). It is defined as "a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making-process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets [...]." (Ansell & Gash, 2008, p.544). Ansell and Gash (2008) highlight that meaningful stakeholder engagement in decision-making can lead to more successful policy outcomes, especially with regards to environmental concerns (Newig et al, 2017). The most prominent factors for successful collaborative governance include incentives for stakeholders to participate, trust building, and the development of commitment and shared understanding (Ansell & Gash, 2008).

2.1.3.3 The difference between co-creation and collaborative governance

While public value co-creation and collaborative governance may seem similar as both concepts emphasise the importance of multi-stakeholder collaboration, there is a difference in the pursued targets (Torfing et al. 2019). Public value co-creation seeks to connect innovation and collaboration to understand what drives transformative problem-solving between different stakeholders, while collaborative governance analyses collective decision-making in the design and implementation of public policy (Candel & Paulsson, 2023).

2.2 Sustainable Urban Mobility and its definition

As well known, motorised traffic contributes to major issues, such as climate change, carbon emissions, pollution, noise, road safety, resource inefficiency and poor health, to mention a few (Gössling, 2013; Lam & Head, 2012). To tackle these issues, the European Commission and other nations are embracing the concept of Sustainable Urban Mobility and Sustainable Urban Mobility Planning as aforementioned (European Commission, n.d.b; Lam & Head, 2012; Ton et al. 2019). Sustainable urban mobility improves the lives of people and meets their mobility needs by creating urban mobility plans that are efficient, sustainable, accessible, convenient, and safe, but with minimal negative impact and externalities (European Commission, n.d.b; Lam & Head, 2012).

At the heart of sustainable urban mobility lies a modal shift of promoting active modes of transportation, such as walking and cycling, followed by green public transport and shared vehicles, over personal motorised vehicles and other oil dependent transport (Lam & Head, 2012; Ton et al. 2019; Quee & Bijlsma, 2018). This is achieved through a combination of initiatives, including new strategies and policies, updated urban design and infrastructure, leadership, technology, economic incentives, collaborations, user motivation identification and much more (Lam & Head, 2012).

Yet, Kennedy et al. (2005) outline how the complexity of urban mobility systems, fragmented landscape of decision-making and plethora of different stakeholders involved poses challenges for a sustainable future. However, they argue for the establishment of four pillars in achieving sustainable urban mobility: effective governance of land use and transportation; fair, efficient, stable funding; strategic infrastructure investments; and attention to neighbourhood design. An integral part of this framework is an effective planning approach and wide public participation that legitimises policy decisions, strengthens relations with stakeholders and fosters sharing of knowledge (Kennedy et al. 2005) This aligns with the ideas of Banister (2008), who deems public engagement an integral element in promoting public acceptability to drive sustainable urban mobility.

2.3 Cycling as a means of transportation

2.3.1 The benefits of cycling

The reasons for the increased attention to cycling is understandable, considering it presents benefits for both individuals, companies and society alike (Gössling, 2013; Heinen et al. 2010; Quee & Bijlsma, 2018). On an individual basis, benefits include improving health, being a sustainable and cost effective mobility option, and sometimes also the fastest means of getting from point A to B (Heinen et al. 2010; Ton et al. 2019; Quee & Bijlsma, 2018).

From a business perspective, cycling also poses benefits as cyclists contribute to retail profitability, as they pass by stores and shop more than individuals travelling by motorised means (Quee & Bijlsma, 2018). On a societal level, cycling substituting cars reduces emissions, noise and costs due to improved public health and fewer accidents (Gössling, 2013; Heinen et al, 2010; Ton et al. 2019; Quee & Bijlsma, 2018). Moreover, it requires little

space, allowing more space for greenery (Pucher & Buehler, 2017) and creating aesthetic and attractive environments (Quee & Bijlsma, 2018). Consequently, cycling aligns perfectly with several sustainability targets such as the 16 Sustainable Development Goals (United Nations, 2024) and the binding EU Green Deal aiming to make the EU climate neutral by 2050 (European Commission, n.d.c). This has contributed to the increase in investments and efforts to promote cycling, pushed by researchers, planners, cyclists, advocates and city governments alike (Fishman, 2016; Gössling, 2013; Pucher & Buehler, 2017).

2.3.2 Best practices in increasing cycling

As mentioned, cities all across the Western World are actively engaging in increasing the use of bicycles (Buehler & Dill, 2016). Arguably, they have done so rather successfully, as increased levels of cycling can be observed across these nations (Buehler & Dill, 2016; Pucher & Buehler, 2017). For example, several cities which have not had strong cycling cultures, such as Paris, London and Vienna have all increased their cycling levels by about 300% (Pucher & Buehler, 2017). Still, in recent data, their cycling levels all constituted less or 7% of all transport, compared to 35% in Amsterdam (European Cyclists' Federation, n.d.)

It is clear then, that certain cities and countries have been more successful than others, indicating different levels of efficiency amongst initiatives. This section presents research on what initiatives increase cycling and which factors to consider in cycling planning. Naturally, most research focuses on the users, and how to make them more inclined to use the bicycle as their means of transportation (Buehler & Dill, 2016; de Geus et al. 2008; Ton et al. 2019). But a study by Harms et al. (2016) takes a wider view and looks beyond simply the users, highlighting key success factors from the Netherlands.

2.3.2.1 Improving and expanding the infrastructure

The most highlighted aspect which increases cycling is adequate infrastructure. Effective bicycle infrastructure increases the crucial aspect of safety, accounting for the relatively low accident rates in the Netherlands, despite their great numbers of cycling (Fishman, 2016). If designed correctly the infrastructure also addresses other important features affecting the cyclability of a city, such as convenience, connectivity, and even proximity to a degree (Alm & Koglin, 2022; Buehler & Dill, 2016; Harms et al. 2016; Ton et al. 2019). There is much research on how to design infrastructure to increase cycling. Building separated bicycle paths

is one example of an infrastructure feature which not only seems to increase cycling and promote a cycling culture, but also increased safety (Buehler & Dill, 2016; Buehler & Pucher, 2011, Gössling, 2013; Heinen et al. 2010). Although it seems like improving the quality and expanding the cycling infrastructure increases cycling (Buehler & Dill, 2016; Buehler & Pucher, 2011; Harms et al. 2016; Heinen et al. 2010), a study conducted in Belgium, found that in locations with existing sufficient bike infrastructure, cycling levels may depended more on individual characteristics rather than the expansion and variability of bike lanes (de Geus et al. 2008).

2.3.2.2 Creating a cycling culture

A cycling culture is further important in increasing cycling, and in turn seems to promote increased investments in cycling initiatives. The strong cycling culture in the Netherlands for example, has naturally allowed their bicycle infrastructure to develop over the decades, without receiving national attention until recently (Fishman, 2016). In contrast, many countries lack the culture, demand, and infrastructure for cycling. In certain locations cycling is even disregarded as a means of transportation, rather seen as a mode for exercise (Murray, 2023; Quee & Bijlsma, 2018). Connected to culture, research by de Geus et al. (2008) show that attitudes matter and that people who experience modelling as well as greater social support and social benefits from cycling consequently cycle more.

2.3.2.3 Reducing the attractiveness of car use

A success factor in increasing cycling, that relies on the simultaneous improvement of cycling infrastructure, is making car use less attractive (Harms et al. 2016). This can be done by for example increasing parking tariffs and restricting car traffic in city centres, or in other ways making it more costly or less convenient to use a car (Harms et al. 2016). Through initiatives like this, users are nudged towards cycling and away from motorised vehicles.

2.3.2.4 Education and communication

To further promote cycling, the perception of cycling and the cycling culture must be improved. As mentioned, this can be done partly by expanding and improving the bicycle infrastructure. But a cycling culture and attitude can also be promoted through education and communication, where education specifically can also improve road safety (Alm & Koglin, 2022; Gössling, 2013; Harms et al. 2016). Education is mentioned to be of especially high

importance for children, but less relevant in locations such as the Netherlands where cycling is already common and knowledge is high (Harms et al. 2016). Promotional activities and marketing directed at promoting cycling may also have effect, but such initiatives have not been very prevalent, and its impact has not been clearly evaluated (Harms et al. 2016). Important to consider when engaging in promotional activities and behavioural change, is to prior to implementation truly understand the factors and motivations of the people, in order to accurately and effectively adapt the initiatives accordingly, and allowing the users to understand and see the benefits of their change (Lam & Head, 2012).

2.3.2.5 Aesthetic and attractive environments

Another aspect in promoting cycling is that of aesthetics. As aforementioned, expanding the bicycle infrastructure and decreasing the use of motorised traffic opens up more space and allows for more greenery, creating more aesthetic environments. Interestingly, this increase of greenery and aesthetics may in turn further increase cycling, motivating spending time outside (Harms et al. 2016; Heinen et al. 2010; Wang et al. 2016). Aspects stated to improve the attractiveness of an environment further include bicycle garages, street furniture, bins, playgrounds and more (Wang et al. 2016).

2.3.2.6 Collaboration and citizen involvement

Lastly, key to successful implementation is collaboration between actors. This includes collaboration and engagement of inhabitants, NGOs, investors, leadership, politicians and other powerful actors (Harms et al. 2016). The involvement of citizens has shown to be of exceptional importance in several instances, sometimes being the driving force of initiatives and policies (Alm & Koglin, 2022; Buehler & Pucher, 2011; Harms et al. 2016). Advocacy groups have also shown to be of especially high importance (Buehler & Pucher, 2011). However, the same actors may not have the same importance of role in all contexts and cases. Further, Irvin and Stansbury (2004), found that citizen participation can be unnecessary and induce additional costs, and in certain cases even cause worse decisions. What seems to be of constantly high importance is that all policies and initiatives retain the full support of higher levels of government (Buehler & Pucher, 2011).

2.3.2.7 Design of policies and initiatives

When designing policies, they should have a long term perspective, but still include flexibility and adaptability to be improved continuously (Buehler & Pucher, 2011; Harms et al. 2016). Further, policies may benefit from including both incentives to cycling and disincentives to motorised means (Buehler & Pucher, 2011), in line with the identified success factors from the Netherlands (Harms et al. 2016). In order to gain wide support, it may be beneficial to start with popular policies, and then gradually continue and implement more controversial initiatives (Buehler & Pucher, 2011).

2.3.3 Conditions for creating and implementing cycling initiatives

Although there is research conducted on efficient infrastructure design, it seems initiatives are still created on an ad hoc basis, without a clear understanding of cycling culture or strategic focus (Gössling, 2013). Because, although there are several mentioned key success factors that have shown to promote cycling in several settings, there is still no perfect guide that cities and countries can simply follow in order to become efficient cyclable cities (Harms et al. 2016). This is likely due to different locations having different features and context limiting the possibilities of copying previous successful initiatives. Further, cycling planners are commonly sensing a loss of control, as contexts are increasingly complex as more actors are involved in the process (Alm & Koglin, 2022). Some cycling planners also claim to lack knowledge on what is good in terms of operations and maintenance of cycling infrastructure (Alm & Koglin, 2022). In short, cycling planners in different cities and parts of the world have different levels of funding, support, factors to consider, and more, affecting their ability to achieve their goals.

2.3.3.1 Local capacity to achieve change

A way of understanding and explaining the situation, opportunities and obstacles cycling planners face, and thus also their ability to reach their goals, is through the concept of local capacity, first coined by Gargan (1981). The concept was further developed by Loë et al. (2002), summarising the concept into five elements of local capacity, being political, institutional, financial, technical and social. The concept of local capacity and its five elements was applied to the area of cycling through the research of Alm and Koglin (2022), which investigated the local capacity of different municipalities in Sweden aiming to increase cycling. They found that the five elements vary in importance depending on the context and

organisation, but are all interconnected. Moreover, all are stated to be necessary to increase cycling (Alm & Koglin, 2022).

Political capacity

Alm and Koglin (2022) highlight political leadership and their will as especially important in political capacity. They state that it is crucial to provide a vision, and also be able to identify and respond to changes. Further, the political capacity involves the political leadership's capacity to create agreements, partnerships and collaborations, with both horizontal and vertical actors, to help them reach their objectives (Alm & Koglin, 2022).

Institutional capacity

The institutional capacity regards both the environment which the cycling planners operate in, including laws, regulations, procedures and such, but also the institutional arrangements created by the cycling planners, in the authors case the Swedish municipalities (Alm & Koglin, 2022). According to Alm and Koglin (2022) these internal arrangements for instance include planning traditions, strategies and policies.

Financial capacity

Regarding financial capacity the authors define it broadly as the funding and resources municipalities, or any cycling planner, have available to invest in the cycling initiatives (Alm & Koglin, 2022). Alm and Koglin (2022) also highlight that the amount of funding, and the source, affects the work and capacity.

Technical capacity

According to Alm and Koglin (2022), the technical elements of the municipalities include their capacity to build and improve infrastructure. This includes having access to personnel with the necessary knowledge and ability to interpret information, provided both internally and from external consultants, in planning initiatives.

Social capacity

Social capacity regards how well the municipalities and cycling planners, specifically in Alm and Koglin's case, can communicate with the people and community. This can be done through education and other initiatives. Importantly, Alm and Koglin (2022) highlight that the communication should go both ways, and that the municipality and cycling planners consult the public and engage them in planning and decision making.

The findings of Alm and Koglin (2022) conclude that there are large differences amongst cycling planners in municipalities in Sweden, despite them all being in the same country and being members of the same network. This implies that the difference in capability across countries and cities is major as well. Further, Alm and Koglin (2022) found that the two most important capacities were those of finance and politics.

It is apparent that the aspects of local capacity are often similar and closely interconnected with the key success factors listed in 2.3.2 that increase cycling, and the types of capacities also overlap (Alm & Koglin, 2022). However, instead of simply being key success factors, the aspects of the local capacity have a larger focus on the cycling planner, and their ability to implement such key success factors.

2.4 Integrating stakeholder theory and cycling

Stakeholder management has received limited attention in sustainable urban mobility literature, especially for cycling (Beck & Storopoli, 2021). However, an article by Harrison et al. (2015) recently highlighted the need for interdisciplinary and context specific research of best practices in the management of stakeholders to advance the field of stakeholder theory.

Hörisch and Schaltegger (2019) describe how the network of both organisations and stakeholders are embedded within the natural environment and its ecosystems. As we depend on its resources, all interactions are within its boundaries and most ascribe an intrinsic value to the natural environment, the co-creation of value for stakeholders always depends on the state of nature (Hörisch & Schaltegger, 2019). This implies that sustainability has a shared value for all stakeholders, and that the concepts of stakeholder theory and sustainability management are highly intertwined (Hörisch et al. 2014). To sensitise stakeholder appreciation of the natural environment's value, Starik (1995) advocates for the consideration of environmental aesthetics, an “ascription of beauty to or sensory appreciation of the natural environment” to foster emotional ties to nature. There is further previous research on stakeholder theory in urban contexts that highlights the importance of stakeholder engagement, collaboration and management of environmental issues to promote sustainable governance (Beck & Storopoli, 2021).

The literature on the specific topic of sustainable urban mobility and cycling may be embryonic, but there are still some interesting findings. Lindenau and Böhler-Baedeker (2014) and Beck and Storopoli (2021) both find that stakeholder engagement is a precondition for success in sustainable urban mobility projects. Further, a case study from Bangkok by Ratanaburi et al. (2021) shows that stakeholder engagement encourages improvements to bicycle infrastructure, especially in terms of safety and comfort of bicycle lanes. A comparative case study by Fernandez-Heredia & Fernandez-Sanchez (2020) focuses on citizen participation for cycling mobility systems in two Spanish cities, and finds that a higher level of stakeholder engagement leads to a more cyclable city. Further, it also highlights the importance of including a wide set of stakeholders and recognising the role of social movements in improving sustainable mobility plans (Fernandez-Heredia & Fernandez-Sanchez, 2020).

2.5 Concluding remarks and preliminary framework

Based on the literature review, the authors find support for a conceptual framework that combines the concepts of stakeholder theory, collaborative governance, co-creation, structured through the concept of local capacity as a foundation for successful cycling initiatives. The concept of local capacity is centred in the preliminary framework as it is not only deemed necessary for implementing cycling initiatives, but further due to its compatibility with the theories given its included factors of collaboration and communication.

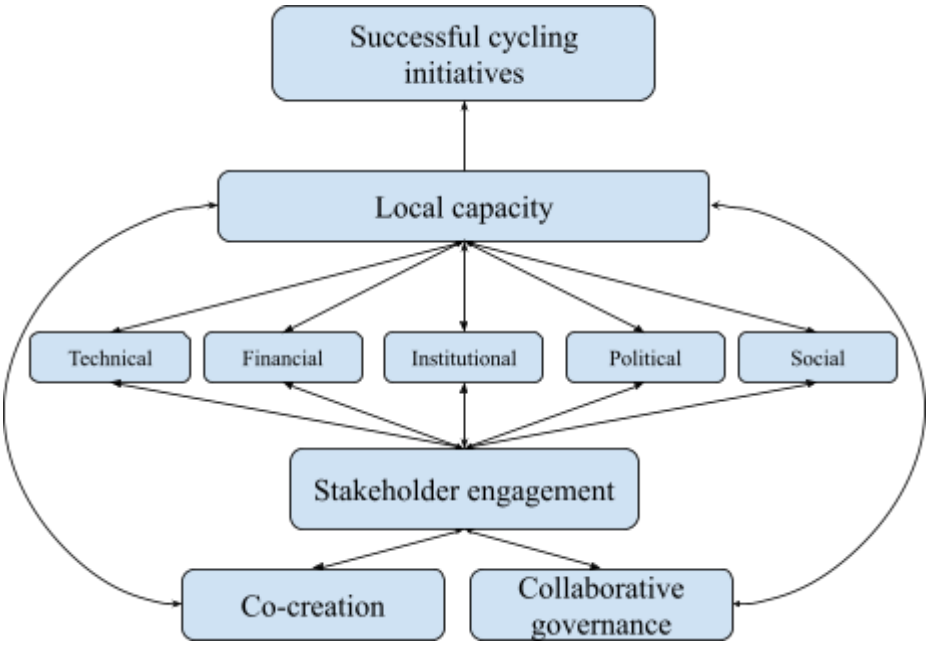

Figure 1: Preliminary Conceptual Framework (developed by the authors)

It is apparent that local capacity is necessary to succeed in promoting cycling. Local capacity requires effective stakeholder engagement, as stakeholder relationships and management of diverse interests are crucial to enhance capabilities in all aspects of local capacity. Good stakeholder engagement and relations, in turn require working with co-creation and collaborative governance. The preliminary framework aims to showcase these connections through a visualisation (figure 1). Notably, the visualisation showcases the connection of concepts as an iterative process aimed at enhancing the cycling initiatives. Any improvement to stakeholder engagement, collaborative governance, and co-creation, should enhance the local capacity, which in turn again could improve any aspect through increased capacity. All this then contributes to the success of cycling initiatives.

3. Methodology

3.1 Research philosophy

3.1.1 Ontological position and social constructivism

According to Bell et al. (2022), ontology concerns the underlying assumptions about what it means for a social phenomena to exist. There are two main positions in this philosophy, viz., objectivism and subjectivism (Saunders et al. 2009). The former perceives a social phenomena as existing in reality independent of social actors, while the latter sees it as created from the perceptions and consequent actions of social actors (Saunders et al. 2009). To exemplify, objectivism would approach cycling promotion as a phenomena whose success and challenges could be measured and understood independently of individual perceptions, whereas subjectivism focuses on these perceptions themselves as the reality to be studied.

Given the aim to understand how different stakeholders perceive the challenges and drivers behind cycling promotion, and interact to create successful cycling initiatives within the social context of Utrecht, the ontological underpinning of this paper follows a subjectivist, social constructionism view. The research also seeks to study the complex nature and dynamics of how the motives, actions, and intentions of social actors influence the management of diverse interests and desires. This further recognises that the situation of cycling in Utrecht is in a constant state of revision, as the continual process of social interactions and collaboration shape the direction of what is realised (Saunders et al. 2009).

As subjectivism posits that knowledge and truth are relative and largely dependent on individual perspectives, this can lead to difficulties in generalising findings from the study to a broader context (Holden & Lynch, 2004). Although subjective experiences are overarching in this paper, there are elements of objectivism that substantiate the perspectives of interviewees. This can be seen by including measurable trends, impacts, and outcomes for cycling initiatives based on secondary data, which bridge the gap between subjective interpretations and objective realities (Holden & Lynch, 2004). This enhances applicability by making conclusions more relevant for policy-making, stakeholder engagement, and strategic planning in sustainable urban mobility.

3.1.2 Epistemological position and interpretivism

Epistemology concerns the nature, sources, structure, and limits of knowledge, as well as understanding the justification of beliefs (Steup & Neta, 2024). There are various notions regarding the inference of knowledge in research, and this paper will assume an interpretivist perspective, rather than positivistic (Saunders et al. 2009). Positivism stems from natural sciences with aims of studying an observable and objective social reality to generate law-like generalisations for consistent replication (Bell et al. 2022). However, interpretivism contends that valuable insights into complex and unique social phenomenons may be lost if they are reduced to a set of predictable laws (Bell et al. 2022), and instead focuses on the subjective meaning of social actors.

As the phenomenon of cycling in Utrecht can be assumed to be a result of a particular set of circumstances and individuals coming together at a specific time, the complexity and uniqueness requires an understanding from these social actors point of view (Saunders et al,. 2009). In this paper, adopting an interpretivist stance means not only capturing how stakeholders involved in cycling initiatives interpret reality and derive meaning from it, but also framing these interpretations within the social science discipline (Bell et al. 2022).
The epistemological position of interpretivism aligns closely with and naturally follows a social constructionist ontology (Bell et al, 2022). Consequently, the implications of these positions are reflected in the choice of a qualitative research design with ethnographic observations and in-depth interviews, adept at capturing nuanced perspectives and interactions of different stakeholders involved in the promotion of cycling (Saunders et al. 2009). This is beneficial, as it captures how different stakeholders perceive and interpret the cycling infrastructure and initiatives by focusing on understanding social interactions and behaviour. It further sets a foundation for interpretation of the multitude of answers and observed behaviours dependent on the subject's unique background (Bell et al. 2022; Saunders et al. 2009). The open-ended questions have no inherent value in right or wrong answers, but rather provide a framework for the descripto-explanatory process (Merriam, 2009) that can uncover underlying tensions, collaborative efforts, and stakeholder engagement strategies that shape the cycling environment.

3.2 Research approach and design

According to Douven (2021), there are three approaches to reasoning about theory development and knowledge inference - deductive, inductive, and abductive. Considering the novelty of research on cycling promotion within the field of management and limits of prior knowledge concerning the intricacies as to why this is happening, Saunders et al. (2009) argue for elements of an inductive approach. Still, no amount of empirical data necessarily enables theory building in itself (Bell et al. 2022), and there are preconceived theories regarding stakeholders and local capacity that may provide a foundation for understanding the phenomena deductively. However, deduction has a tendency to construct a rigid methodology that limits the exploration of alternative explanations of the phenomena (Saunders et al. 2009). Reflecting the purpose of this paper, a suitable dialogical approach that both engages with the social world as an empirical source for theoretical ideas, and previous findings from literature, is hence an abductive process (Bell et al. 2022).

While both deductive and inductive reasoning is used for logical inferences and theory development, an abductive approach is proposed as a third way of overcoming the previous limitations (Bell et al. 2022). It enables generation of inferences by synthesising empirical observations and established theories to propose new explanations, particularly when existing models do not fully account for observed phenomena (Douven, 2021). This implies continuous testing, extension, and refinement of the preliminary framework, by maintaining a degree of openness to anomalous findings and emerging insights (Bell et al, 2022).

Further, this paper's abductive approach and design aligns with the concept of “pragmatic empirical theorising” by Shepherd and Suddaby (2017) in the development of mid-range theory. The basis of inquiry into the state of cycling promotion in Utrecht is derived from literature, and seeks understanding by iteratively engaging with literature and empirical evidence following a narrative structure, deemed integral for the success of theory building, that guides the inquiry (Shepherd & Suddaby, 2017).

As this paper seeks to gain an in-depth understanding of different stakeholder perspectives of cycling promotion in Utrecht, a qualitative research method is determined to be appropriate (Creswell & Creswell, 2023). Since the specific context in which cycling has flourished is interesting, a smaller sample of respondents is deemed more appropriate to gain deeper

insights and establish different views of the phenomena (Saunders et al. 2009). While this has been criticised to reduce the level of generalisability, the need for a larger sample diminishes given the profound aspect richness obtained in semi-structured interviews and ethnographic observations within a detailed single-case setting (Bell et al. 2022). Hence, the authors argue a multiple-method qualitative study is the most appropriate way of capturing the complexity and multiple dimensions of the phenomena to gain a comprehensive understanding.

3.3 Case study selection

For this paper, both a single and multiple case-study design were considered to gain a rich understanding of the context for cycling promotion. The former pertains to research focused on a specific phenomena, while the latter is used to establish if findings in the first case transcend others as well (Yin, 2009). While a multiple case study design may offer more compelling and robust results (Herriot & Firestone, 1983), it cannot satisfy the same rationales as a single-case, and should solely be chosen under a logic that strives for replication (Yin, 2009, p 60). The single case of Utrecht is chosen based on a combination of such rationales, viz., a revelatory aspiration underpinned by the paper's abductive approach, the longitudinal aspect concerning the phenomena transition over time, and the puzzling nature of factors behind the unique case of one of the world's most cyclable cities (Yin, 2009, p.47-50). In addition, Gustafsson (2017) argues that focusing on a single-case study provides greater opportunity for thorough analysis and the exploration of new theoretical connections by allowing more observation time per case. With this in mind, a single-case design is deemed most appropriate for the purpose of this paper.

The paper will predominantly assume an embedded rather than holistic design, as it focuses on multiple units of analysis within a single context to provide a comprehensive exploration of how these elements interact within the city's broader approach to cycling (Yin, 2009). These units confer to different stakeholders and local capacities involved in the promotion of cycling, with particular focus on the dimensions of stakeholder engagement, collaborative governance, and co-creation. There are elements of a holistic approach, partly due to the holistic nature of the underlying stakeholder and local capacity theories, and partly as the paper aims to broadly capture the phenomenon of cycling promotion within the city (Yin, 2009). However, embeddedness fosters a deeper understanding of the mechanisms and interactions that contribute to the overall success of Utrecht's cycling policies, crucial for

drawing actionable insights that are grounded in the specificities of the case rather than generalisations that might be derived from a broader, less detailed examination (Yin, 2009).

The selection of Utrecht was based on the close alignment and relevance to increase the understanding of cycling promotion and management of diverse interests. First, the location is widely considered, and formally recognised, to be representative of successful sustainable urban mobility initiatives and management for cycling over a sustained time period (Fleck, 2022). This presents opportunities to examine how such a successful phenomena came to fruition, and further identify present best practices, in line with the purpose of the thesis. Second, there appears to be both wide stakeholder support for, and effective realisation of, cycling related initiatives. This allows the research to analyse the intricacies of stakeholder relationships and collaboration with its role in shaping cycling promotion.

3.4 Sample description

In line with the research design of a case study, the participants of this thesis were mainly chosen through purposive sampling, meaning that they are not sampled randomly, but rather strategically due to their specific knowledge and perspectives deemed to be relevant in explaining the studied situation (Bell at al. 2022). As this thesis emphasises stakeholder engagement and aims to attain a full picture of the situation of Utrecht, the sample includes a number of different stakeholders active in the unit of analysis. Following research on the most relevant local stakeholders, individuals and organisations from seven stakeholder groups were identified and contacted, being the national government of the Netherlands, the province of Utrecht, the municipality of Utrecht, companies engaged in the creation of Dutch infrastructure, local NGOs connected to cycling, local academia engaged in cycling and sustainable urban mobility, and finally regular citizens. The individual experts were chosen based on their expertise within the area, relation to the initiatives in Utrecht, organisational connections and years of experience.

Notably, the regular citizens are an exception from the purposive sampling method, as they were approached on site and not determined beforehand. Although the sampling of citizens therefore included great aspects of random sampling, they were not chosen fully at random, as they were all inhabitants of Utrecht and present at chosen sites. Moreover, due to ethical and language barriers, only individuals within a specific age range were interviewed.

Apart from the citizens, all included organisations and individuals were contacted online. The organisations were requested for interviews via their websites and/or email addresses, and the individuals were contacted via email addresses and LinkedIn. The final respondents are consequently those contacted who were available and willing to contribute to the thesis.

In total, 17 participants were included in the data collection, summarised in the table below.

Respondent	**Description**	**Date of interview**	**Medium**
Bergkamp	Lund University	9th of April 2024	Live Interview
Selbach	University of Utrecht	15th of April 2024	Live interview
Schippers	University of Utrecht	15th of April 2024	Digital video call
Jansen	Dutch Cycling Embassy	16th of April	Digital video call
van Dijk	Resident of Utrecht	16th of April	Live interview
van Langen	Resident of Utrecht	16th of April	Live interview
Gravenberch	Resident of Utrecht	16th of April	Live interview
Cruijff	Resident of Utrecht	16th of April	Live interview
van der Made	Resident of Utrecht	16th of April	Live interview
Peters	Resident of Utrecht	16th of April	Live interview
Kraan	Resident of Utrecht	16th of April	Live interview
Bloemhof	Resident of Utrecht	16th of April	Live interview
van Dijk	Resident of Utrecht	16th of April	Live interview
van Hulst	Resident of Utrecht	16th of April	Live interview

Sneijder	Municipality of Utrecht	22nd of April	Digital video call
Poelman	Municipality of Utrecht	24th of April	Digital video call
Hovenkamp	OKRA	21st of May	Digital video call

There is no definite number on what sample size is sufficient, rather, it depends on the qualitative design, and when saturation is reached (Bell at al. 2022; Creswell & Creswell, 2023). Given the case study design, and that most participants are picked purposely, the need for great amounts of interviews is reduced (Bell at al. 2022; Creswell & Creswell, 2023). The number of participants from different stakeholder groups was therefore determined based on the included participants ability to sufficiently cover the perspective of the stakeholder group, based on their position, knowledge and involvement in specified initiatives, in combination with secondary data.

3.5 Data collection

The data collection of this thesis regards collection of primary as well as secondary data. In line with the abductive approach, the research process began with great emphasis on secondary data collection (Bell et al. 2022). This allowed for the creation of a clear understanding of the field and previous research prior to empirical data collection, which was deemed to be of especially great importance as the empirical data was collected on site during a four day field trip. The combination of both empirical and secondary data collection allowed for the inclusion of several data collection types, including ethnographic observations, qualitative interviews, as well as qualitative documents and digital materials (Creswell & Creswell, 2023).

3.5.1 Secondary data collection

Secondary data was collected for two purposes, the first being the creation of the literature review and theoretical framework, the second being to attain additional information useful in the empirical framework. The collection of secondary data will follow the hermeneutic approach, which regards the creation of interpretive understanding through an iterative

process (Boell & Cecez-Kecmanovic, 2010; Finfgeld & Johnson, 2013). The process begins by identifying relevant articles, which then inspires and sets the direction for further research, each new article influencing and contributing to the understanding of the relevant literature (Boell & Cecez-Kecmanovic, 2010; Finfgeld, & Johnson, 2013). The initial key articles will be identified through database searches including key-word searches on LubSearch and Google Scholar. The initial key-words were based on the prior knowledge the researchers had of the topic, and the planned research question. Thus, initial key-words included concepts of cycling and connected key success factors, sustainable urban mobility, and Dutch cycling in particular.

When the initial articles were identified, and a general knowledge of the topic was created, more research was identified through snowballing. This was mainly done through backward snowballing, where relevant articles were identified through the reference lists, yet instances of forward snowballing did also occur (Jalali & Wohlin, 2012). Considering the iterative process of hermeneutics, each additional study contributed to the interpretive understanding of the topic (Boell & Cecez-Kecmanovic, 2010). When a sufficient understanding of the topic was created, further database searches on identified leads and relevant key-words were conducted, simultaneous to the snowball collection.

The secondary research also contributes by determining sensitizing concepts, as coined by Blumer (1954). Bell et al. (2022) explain that most qualitative researchers do not focus on sensitizing concepts, yet, these are stated to be of great importance in qualitative research. Unlike definite concepts, sensitizing concepts allow for interpretation and exploration, while still providing guidance on how to approach an empirical issue (Blumer, 1954). “Whereas definitive concepts provide prescriptions of what to see, sensitizing concepts merely suggest directions along which to look.” (Blumer, 1954, p.7).

Given its flexibility, researchers generally begin with a broad sense of a concept, which is later tested, redefined and improved as more findings are unravelled and a greater understanding is created (Bell et al. 2022; Blumer, 1954). Thus, sensitising concepts are frequently used by social researchers as a starting point in qualitative research, providing guidelines for further research (Bowen, 2006).

Unlike the secondary data used in the literature review and theoretical framework, the secondary data connected to the empirical research will be collected simultaneously as the primary data. The reason for the inclusion of secondary data in the empirics is manyfold. Considering the wish to attain as many perspectives as possible to optimally understand the situation and answer the research question, this approach allowed for the inclusion of more stakeholders and perspectives compared to an approach only including empirical data and interviews. It further allowed data which was not mentioned during interviews to be obtained afterwards through secondary data collection. This is especially relevant for topics which none of the respondents may be experts in.

The method for collecting the secondary data used for the empirical section is a further step in the hermeneutical process. Thus the process of data collection is similar to that conducted at earlier stages of the process, the difference being that an even larger understanding of the area is created and the key-words used for additional database searches will be based on leads brought up during the empirical data collection.

3.5.2 Primary data collection

Although the empirical data collection includes secondary data, main emphasis is placed on the collection of primary data. As apparent in the sample description, the primary data is based upon 17 interviews, conducted with a number of different stakeholders present in Utrecht. In line with the thesis' qualitative and explorative nature, the interviews were semi-structured (Bell et al. 2022). This structure was chosen to obtain data relevant for the topic and necessary for cross-case comparability, while still allowing for great flexibility and addition of spontaneous questions (Bell et al. 2022). Consequently, the interviews were based on an interview guide, beginning with non-leading, open-ended questions, aiming to gain insights into the viewpoints of the participants (Bell et al. 2022). As the interviews progress, the interview may be developed through the inclusion of follow-up questions, specifying questions, indirect questions and interpreting questions (Bell et al. 2022).

Notably, the interview guides differed between participants. This as they were tailored to the expertise and professional backgrounds of the participants, thus maximising the learnings from each interview. For instance, the questions provided to the participants from the municipality differed from those provided to the NGO participant, or academia. The questions

provided to the citizens interviewed on the street were especially unique, altered to the context and where questions would be asked. Find all questions in Appendix one to five.

All expert interviews except for the initial one with respondent Bergkamp were transcribed, generally having a duration of around one hour. The recordings were further supported by notes made by the authors during the meetings, highlighting important quotes and topics, improving memory and benefitting empirical writing. Considering the street interviews, five out of ten interviews were recorded. The remaining five were not recorded due to circumstance, context, language barriers or due to participant wish. In these cases, notes were taken and the researchers jointly summarised their key takeaways and perceptions in a recording directly after the finished interview, so as to not forget any important information. The duration of the street interviews ranged from five to 20 minutes.

When possible, interviews were conducted during live meetings. This to capture additional observations connected to interviews, and also to showcase reciprocity through our effort to get there, and present a gift. Moreover, in the case of street interviews, being present at the sites is a necessity. The meetings which were instead conducted online, were held over video call, allowing for maximum personal interaction and observation making. Observations are useful as the researchers may note unusual aspects, both in the setting of an interview or when observing a situation or site (Creswell & Creswell, 2023). During interviews especially, it may clarify words or perceptions, and be a means to explore difficult or sensitive topics (Creswell & Creswell, 2023). Observations during the data collection included the authors taking two forms, being observer-as-participants and complete observers, differing in levels of participation (Bell et al. 2022; Creswell & Creswell, 2023). The first refers to the observations the authors make during interviews, and the second to those observations made without social contact, as during a site visit (Bell et al. 2022).

3.6 Data analysis

A common feature of qualitative research relates to the vast amount of unstructured data that needs to be structured for it to be meaningfully analysed (Bell et al. 2022). Given the qualitative design and case study's explanatory nature, this research adopts the analysis technique of "pattern-matching" by Yin (2009), which involves comparing an empirically based pattern with a predicted one. This implies that theoretical propositions are devised prior

to empirical data collection, in order to develop a preliminary framework based on existing literature, whereby its adequacy to explain findings is tested (Saunders et al. 2009). This identifies overarching themes within semi-structured interviews, and strengthens the internal validity if patterns coincide (Yin, 2009). Besides this deductive element, the paper follows the notion of an interactive process, where both collection and analysis of data runs in parallel to maintain flexibility and recognise emerging themes, patterns, and relationships (Saunders et al. 2009, p. 488-489). The practical implications that arise from this method of analysis are the following:

Upon completion of an observation or interview, the authors reserved time for discussion and initial analysis of the insights gained. These essential findings were summarised through hand-written notes to both condense and categorise the meaning of findings, and to shape the direction to be further explored in forthcoming sessions and establish their validity (Saunders et al. 2009). This further allowed the research to account for the fragmentation of data, pertaining to accounts of meaningful experiences in the transition towards a cyclable city, and ensure that the narrative structure was organised both temporally and in relation to the respondents context (Saunders et al. 2009). This entails that analysis occurs within the empirical presentation through the synthesis of data and creation of a transparent overview concerning the developments of cycling over time.

The interactive process implied continuous consideration of emerging findings, and the authors iteratively revisited past transcriptions, manual notes, and summaries both during and after the data gathering process. Given that questions posed in the interviews were founded on the preliminary framework, and the use of a pattern matching logic, coding follows naturally from the framework and recognition of similarities and patterns in responses (Saunders et al. 2009; Yin, 2009). This strengthened the internal validity of the process and allowed the research to distinguish the relevance and importance by conferring to answers by different respondents (Yin, 2009).

3.7 Quality measures

Trustworthiness is crucial for the quality of research, and is gaining increasing importance in the age of misinformation and fake news (Research solutions, 2023). In assessing the quality of research, reliability and validity are commonly used measures (Bell et al. 2022; Creswell &

Creswell, 2023). However, Bell et al. (2022) argue that these may not be optimal measures for qualitative research. This, as the criteria are arguably promoting a realist and positivist perspective, not necessarily suited for social qualitative research (Bell et al. 2022). The authors therefore suggest the use of alternative criteria, being credibility, transferability, dependability and confirmability, together assessing the trustworthiness of a study (Bell et al. 2022). These criteria were part of the new method presented by Lincoln and Guba in 1985, proposing a paradigm shift from rationalistic to naturalistic inquiry, better suited for social and interpretivist research (Lincoln & Guba, 1985). As this is in line with the philosophy of this thesis', these criteria will be considered during the span of this research.

3.7.1 Credibility

The criteria of credibility regards whether findings are congruent with reality and the actual situation (Bell et al. 2022; Stahl & King, 2020). Although highly subjective, this requires researchers to follow good practices (Bell et al. 2022; Stahl & King, 2020). One such practice is triangulation, using and comparing information from a number of different sources, in order to identify patterns and build coherent evidence for findings (Bell et al. 2022; Creswell & Creswell, 2023; Stahl & King, 2020). In this thesis, this was done through collecting and analysing data and perspectives from a number of different respondents and stakeholders, as well as from additional secondary data.

Another good practice is conducting respondent validation (Bell et al. 2022), also referred to as member checking (Bell et al. 2022; Creswell & Creswell, 2023; Stahl & King, 2020). This regards sharing for instance interpretations, descriptions and themes to informants, in order to gain their thought and thus verify and validate the interpretations and concepts (Bell et al. 2022; Creswell & Creswell, 2023; Stahl & King, 2020). This was done continuously during interviews, constantly updating themes and interpretations, verifying them with new respondents.

When regarding analysis and reporting of data, Creswell and Creswell (2023) also suggest considering certain measures to increase accuracy of the depiction. For instance, researchers must avoid bias and taking sides, and further avoid limiting disclosure to positive results. This has been considered in the thesis during the entire process. Notably, credibility is further benefitted by experience in the field and of methodology, and from prolonged engagement

with the issue and the site (Stahl & King, 2020). Compared to the other measures, this has been more difficult to achieve during the scope of the thesis. Yet, it has been considered to the extent possible.

3.7.2 Transferability

The transferability of research considers the extent to which the descriptions and findings are applicable to other contexts (Bell et al. 2022; Stahl & King, 2020). However, qualitative research generally regards contextual factors and situations (Bell et al. 2022), and does not aim for replicability (Stahl & King, 2020). Yet, although contexts may differ, learnings from one study may be applicable to others situations, and utilised by individuals other than the researchers (Stahl & King, 2020). In order to facilitate transferability, researchers must provide a so-called "thick description" of the circumstances for the study (Bell et al. 2022; Stahl & King, 2020). This includes reporting the site, context, participants, methods, time-frames and other relevant data, in order for individuals seeking to transfer findings to be able to analyse what differs from their situation and to what degree it can be transferable (Stahl & King, 2020). In this thesis, the aim is therefore to in as great detail as possible account for the situation and context, throughout the text. This is especially highlighted in the background, method and empirical findings.

3.7.3 Dependability

The criteria is similar to the conventional criteria of reliability, and regards researchers acting and storing information in a way which would allow peers to audit the work and ensure that correct procedures have been followed (Bell et al. 2022). This includes the work being subject to member checking, also known as peer debriefings and reviews, confirming or questioning findings and depictions (Creswell & Creswell, 2023; Stahl & King, 2020). Additionally, bracketing is a method which increases reliability, requiring the researchers to clearly separate observations and interpretations (Stahl & King, 2020). By doing so, facts will more clearly be parted from interpretations. Moreover, bracketing requires researchers to be aware and mindful of their biases and values, affecting their interpretations (Stahl & King, 2020). This is further connected to the concept of reflexive auditing, which further increases dependability (Stahl & King, 2020). Reflexive auditing includes the researchers describing the decisions they have made during the work, and their processes. In this thesis, dependability has been considered by allowing peers and our supervisor to review our work.

Further, the aim has been to clearly depict our process through our method and work at large, allowing for transparency.

3.7.4 Confirmability

The criteria of confirmability regards the researchers efforts to act in good faith in attempting to attain objectivity and come as close to reality as feasible (Bell et al. 2022; Stahl & King, 2020). To demonstrate this effort, researchers should show that they have not allowed their personal values and biases to influence their work (Bell et al. 2022; Stahl & King, 2020). This requires researchers to put the respondents and their depictions in focus rather than constructing a context and situation in the findings (Stahl & King, 2020). It is further essential that the researchers do not attempt to influence the respondents and push their narratives or biases (Stahl & King, 2020). As such, the interviews in this thesis began with open ended questions, allowing the respondents to bring up what they believe and truly explain their perspectives.

3.8 Ethical considerations

Diener and Crandall (1978) have been influential in the area of research ethics, highlighting ethical risks. Diener and Crandall highlight harm to participants, lack of informed consent, invasion of privacy and deception as major risks, and propose safeguards to avoid them (Bell et al. 2022; Kremer, 1979). Creswell and Creswell (2023) explain how different safeguards and measures are necessary during different parts of the research process in order to retain ethical consideration.

The first issue of harm entails anything which may negatively impact participants, including physical, self-esteem, mental health, reputation, prospects and career (Bell et al. 2022). The authors considered this through for instance obtaining necessary permissions, avoiding harmful questions, not using leading questions and using clear language, which was especially important for this thesis given that the respondents were interviewed in a language different from their mother tongue. Moreover, the respondents names are anonymised through pseudonyms in the thesis, in order to protect their anonymity, in accordance with the assumption of anonymity and good research practices (Bell et al. 2022.)

The second issue regarding informed consent presses that participants must have a sufficient understanding of the study, prior to accepting participation (Bell et al. 2022). This not only regards the topics and purpose of the interview and study, but also the researchers, situation, the estimated time, and if it will be conducted live or digitally (Bell et al. 2022). All these aspects were considered and shared with respondents, both through informative participant invitations as well as during the live interviews.

The third issue of invasion of privacy, requires the researchers to respect the participants. This not only relates to the aforementioned measures linked to informed consent, but further demands that researchers not exploit the respondents (Bell et al. 2022; Creswell & Creswell, 2023). Researchers can attempt to minimise this risk by choosing research topics which will benefit the participants, considering reciprocity and treating participants as more than a means to an end (Bell et al. 2022; Creswell & Creswell, 2023). This was considered, and the authors further attempted to make the interview a pleasant experience, and showcase respect, gratefulness and reciprocity.

The final issue, regarding prevention of deception, demands researchers sufficiently explain their true motifs and correct topic and purpose of the study (Bell et al. 2022; Creswell & Cresswell, 2023). To ensure this, participants were clearly informed about the researchers, their linkages to projects and university and the topic and purpose of the study.

4. Empirical research

4.1 The decline and rediscovery of the bicycle

When observing the current modern successes of sustainable urban mobility initiatives in Utrecht, it is easy to imagine that cycling has been a part of the design for centuries. As shall be highlighted, this is however not the case. The creation of the world's most cyclable city has been the result of a plethora of contextual circumstances over a 50 year transition, and many argue that others can make the same journey in less time should they follow suit. This empirical chapter will follow a chronological structure with a narrative form by outlining this unique history and finishing with best practices for stakeholder engagement and cycling.

In unravelling the story of how Utrecht became one of the world's most cyclable cities, respondent Jansen paints the picture of a unique set of circumstances and importance of cultural stubbornness. Although the Second World War had left the Netherlands with a great need of efforts to rebuild public infrastructure and transportation networks, the pace of recovery was strikingly swift. European cities were growing rapidly, and as cars were perceived to be the mobility solution of the future by both the public and politicians, the 1950's marked the beginning of extensive plans to reconstruct and expand the automotive road network to account for increased car ownership and usage. These city-altering infrastructure projects claimed space from cyclists and completely redefined the design of the urban environment (Bruno et al. 2021),

Mass motorization in the Netherlands did not happen gradually over time to the same extent as other European countries until a dramatic rise occurred in the 1960's, partly due to a sudden increase in the purchasing power of citizens as the Dutch government abandoned the postwar policy of controlling salaries (Oldenziel et al. 2016). This rise in car ownership and uncoordinated process of urbanisation naturally created pressure on public space within cities as cars, pedestrians and cyclists had to co-exist in ways they had not done before. The changes brought major externalities, including increased congestion, air pollution, noise and especially traffic safety issues, where the annual number of people, specifically children, being killed or injured by cars almost doubled between 1950s to 1970s (Bruno et al. 2021). Ultimately, cycling rates in Utrecht declined from roughly 65% in 1960 to 30% in 1975 (Bruno et al. 2021).

This is where the story of Utrecht could have followed the same path as many other cities did in Europe, but ended up on a different trajectory.

"We had this kind of turning point, an inflection point where most of the world went down the car direction, and the Netherlands went off in its own direction." Respondent Jansen

As the negative externalities of the car's transformation of cities became more apparent, both Jansen and Poelman highlight the important role of social movements and politicians during the 1970s in reversing the decline of cycling as a form of sustainable transportation. Protesting groups of activists argued in favour of walking and cycling over driving to foster self-governance, livability of neighbourhoods and sustainable economic growth (Bruno et al. 2021). Later on in 1975, the Dutch Cyclists' Union was established consisting of 18 different pro-bicycle groups (Bruno et al. 2021). At the same time, a nationwide cultural movement advocating for more democratisation in public policy "led to institutional changes in procedures for decision making, giving citizens and societal groups more participatory power" (Geels, 2007, p.138). The political parties not only embraced the sentiments of the public, but also recognized the fragile nature of a car-centric model during the 1973 oil embargo crisis as Jansen explains. Politicians responded by calling for a more diversified and balanced mobility system through a mix of walking, cycling, public transport, and the car being the last resort for people's mobility needs.

This marked the beginning of a half-century transition with continual improvements divided into two distinct phases: an early chapter characterised by an experiential trial-and-error approach, and a latter breakthrough period defined by the adoption of established best practises and comprehensive efforts to bolster cycling initiatives, as explained by Jansen. It was clear that something had to be done to improve the livability and traffic safety in cities, but there was a lack of manuals and handbooks.

"Dutch cities like Utrecht were left on their own to just figure it out. They were putting stuff on the ground and putting policies in place to see what works and what doesn't work." Respondent Jansen

Jansen, Schippers and Poelman all emphasise the importance and necessity of lessons learned leading up to the 1990s, and offer nuance to the widely held assumption that the Netherlands has always been synonymous with effective cycling infrastructure.

"Half of all the cycling infrastructure in the Netherlands has been built since that mid-1990s period. So it's actually happened very quickly and very recently. A lot of people have already forgotten that and don't realise as they think it was always this way." Respondent Jansen

This is interesting, as it illuminates how much of the progress in the promotion of cycling and achievements we associate with modern cycling design in the Netherlands came to fruition from endeavours during the second phase. So what were these unique events that define the breakthrough period of the 1990s?

The national Ministry of Traffic and Water Management launched the Bicycle Master Plan (BMT) as part of a broader decentralisation process, that would effectively shift the responsibility for bicycle planning to provincial and city governments (Ministry of Transport, Public Works and Water Management, 1999). This change provided municipalities with greater autonomy to reconfigure local neighbourhood streets and fostered the proliferation of car-restricting innovations (Bruno et al. 2021). The plan itself, which received around 15 million euros in funding, was made by a wide set of stakeholders, including the Dutch Cyclist Union, and had four main objectives: encourage cycling instead of driving; improve connections between cycling and public transport; enhance safety for cyclists; and to create bicycle parking facilities to reduce bicycle thefts (Ministry of Transport, Public Works and Water Management, 1999).

In addition to the BMT-framework, Jansen further underscores the significance of the Sustainable Safety vision in 1992, and the CROW-manual 1993, that have become some of the world's most influential bicycle traffic planning guides since their inception (de Groot, 2007). Following the implementation of these plans, cycling-related fatalities in the Netherlands declined to nearly a third of their peak in the 1970s before the turn of the millennium (Bruno et al. 2021).

This was only the beginning of the second phase, which has wielded significant influence in shaping the modern direction for cycling innovations and its promotion in the Netherlands.

The sustained focus on cycling as a part of sustainable urban mobility stems not only from the belief that it is an environmentally conscious and inclusive mode of transport, but also from the recognition of economic advantages in comparison to cars.

4.2 The contemporary efforts to increase cycling in Utrecht

Since the 2000s, the municipality of Utrecht has continued their effort into making the city as cyclable as possible, as described by respondent Sneijder and Poelman, involved with mobility issues at the Municipality of Utrecht. This has been done through a number of initiatives, aimed at both improving the conditions for cycling, as well as reducing the attractiveness of cars. These were created through collaborations with the different stakeholders, including the public, engineers, federal government and the railway operator in the Netherlands. This section will list a few of those initiatives, as mentioned and highlighted by the respondents.

4.2.1 Extending the cycling lanes

Extending the cycling network is often listed as key in increasing cycling in a city (Buehler & Dill, 2016; Buehler & Pucher, 2011; Harms et al. 2016; Heinen et al. 2010), and has been an important step in increasing cycling in Utrecht, as mentioned by both respondents working with mobility at Utrecht municipality. All inhabitants interviewed were in favour of the expansion of the cycling infrastructure network, and supported investments into such initiatives. Several stated that it would make them cycle more. However, respondent Jansen argued that it is not always the network expansion that increases safety, but also the number of cyclists.

“You're often crossing 6 lanes of traffic and it works, I think, because you're surrounded by other cyclists, so there's a safety in numbers.” Respondent Jansen

According to the Municipality of Utrecht (2019), 125,000 cyclists are active in Utrecht city centre daily. Further, Utrechts hosts the Netherland’s busiest cycling route, the Vredenburg route, where up to 47,000 cyclists pass on a daily basis (Municipality of Utrecht, 2019). When at the site of the Vredenburg route, it was easy to note the safety in numbers aspect. Often, cyclists come in groups, and pedestrians and cars alike are forced to show respect. We further observed that when not used to it, the vast number of cyclists and their speed can be

intimidating for a pedestrian attempting to cross a street. Possibly, it may also be stressful for the elderly or people with disabilities, as you may have to cross the street fairly quickly to avoid getting in the way of the cyclists.

4.2.2 Introducing bicycle streets

However, Utrecht's work with cycling lanes is not limited to infrastructure extension. One of Utrechts more innovative projects include the creation of their bicycle streets, locally known as fietsstraten. They have been introduced since the 2000's and are known to be safe, comfortable and fast (Municipality of Utrecht, 2019; Quee & Bijlsma, 2018). The bicycle streets in Utrecht are easy to recognize due to their red asphalt. In contrast to traditional separated bike lanes, cyclists and cars share the space on the bicycle streets. Importantly, cyclists have priority and the cars are seen as guests, having a speed limit of 30 km/h (Municipality of Utrecht, 2019). They also offer cost advantages in terms of maintenance and construction compared to separated bike and car lanes, as explained by respondent Jansen and Sneijder. There are no legal regulations of the bicycle streets, each municipality must take local circumstances into account and design the bicycle streets (Municipality of Utrecht, 2019).

Bicycle streets seem to have been successful in increasing cycling. Around 4000 cars and 17,000 cyclists pass the bicycle street Burgemeester Reigerstraat every day, which is a great increase compared to before (Bicycle Dutch, 2023). Interestingly, the same street failed in its attempt to become successful when it was first transformed into a bicycle street in 1996 (Bicycle Dutch, 2023). Then, the failure was attributed to a number of reasons (Bicycle Dutch, 2023). Firstly, there was a lack of knowledge amongst the population, as the bicycle street was a new concept. The norms were also different compared to now, and drivers of buses and cars were impatient and rather unwilling to wait behind the cyclists. Secondly, the car parking spaces were not removed, which consequently reduced both the efficiency and safety for cyclists and pedestrians. Lastly, there was insufficient stakeholder involvement in the design process, which contributed to the poor design and created conflicts further on (Bicycle Dutch, 2023). Today, the situation is different, contributing to its success. Apart from there being a greater knowledge and acceptability of bicycle streets, the street has been updated and improved (Bicycle Dutch, 2023). Modifications include removing certain car parking spaces, while adding bicycle parking. There is still space for loading and unloading

vehicles, but when not utilised it is for the pedestrians to use. Moreover, the area has been updated with better positioning and design of the bicycle parking and waste containers, allowing for more greenery and a more beautiful design of a connected square (Bicycle Dutch, 2023).

Interestingly, the design of the bicycle streets, mixing modes of transport, are in stark contrast to what is commonly recommended for improving cycling in literature, namely the separated bicycle lanes (Buehler & Dill, 2016; Bueler & Pucher, 2011, Gössling, 2013; Heinen et al. 2010). Perhaps even more interestingly, this is also in contrast to the key concept of Copenhagen, which is also known worldwide for their cycling and often seen as an inspiration, as mentioned by respondent Jansen. Separated cycling lines are even part of the criteria of the Copenhagenize index, ranking cities in terms of their bike-friendliness (Copenhagenize Index, n.d.b.). Notably, Utrecht and the Netherlands still find value in separated bicycle lanes, in instances where the speed limit of cars may not be reduced to 30 kilometres per hour, as explained by Jansen, stating a mentality to mix when possible and separate when necessary.

The municipality promotes the bicycle streets as efficient, safe and cost efficient. Both respondents from the municipality of Utrecht, as well as respondent Jansen, highlight that their construction and maintenance costs are low in comparison to car-centred urban solutions. As cycling roads require less space when car parking spaces are redesigned and reduced, there's more room for greenery, and for pedestrians and cyclists to move freely. Jansen states that the consideration of long-term economic advantages of cycling has justified funding these initiatives, and coins this school of thought as "bikeanomics".

Most inhabitants were in favour of the bicycle streets, agreeing on the benefits. However, four citizen respondents highlighted that they were not very fond of the distinctive red asphalt, especially in culturally unique environments. They did not want traditional brick roads to be transformed to bicycle roads if that meant the red asphalt would cover the historic brick, even if they understood that the asphalt improved accessibility and inclusion for cyclists, pedestrians, skateboards etc. However, when this concern was mentioned during an interview with a respondent from the municipality of Utrecht, we were informed that was not a risk, as there were rules and principles protecting the historic streets of the city. In general, the public was otherwise supportive of the streets, and thought that they worked well, and were

considered safe, having the cars giving priority to the cyclists and usually following the speed limits. Regarding other mentioned opinions of the bicycle streets, two girls mentioned the benefits of them being space efficient, allowing for a previously one-way street to then have space for cyclists to go both ways.

4.2.3 Building new facilities

Over the past year, the municipality of Utrecht has built and opened several facilities and constructions which improve conditions for cyclists. A notable example is the Stationsplein bicycle garage, largest in the world of its kind with space for 12,500 bicycles (Municipality of Utrecht, 2019). As mentioned by respondent Selbach, it was built to tackle issues of overcrowding on the streets. Further, it provides several benefits for the users, mentioned both by the employee at the garage, as well as inhabitants. The fact that it solves many issues of the users, and provides value to them, is likely a key contributor to its success. For example, it was mentioned that although the garage was subject to some thefts, it was still a safer option than parking it on the street. Further, the garage contributed to increasing convenience of cyclists, as it keeps the bikes dry, is located directly under the train station, and has access to facilities for bicycle repair. All three users of the garage highlighted that this convenience was their reason for usage. However, it seems more parking space is needed in Utrecht, as the new garage, although being the largest in the world, is said to be experiencing overcrowding. A young woman highlighted the issues of convenience connected to the situation:

"Often it's very overcrowded [...] You have to go [...] really far up in the back to park it upstairs." Respondent Kraan

The effects of this inconvenience were clear. The young woman continued:

" [There is] a shopping mall near the station [...] you're not supposed to park your bicycle right before the [...] entrance, and I do do that. If I am only going to be there for 15 minutes, I am not gonna put my bike all the way down." Respondent Kraan

This quote highlighted the need for convenience but also the need for additional parking facilities. The need for more parking facilities was also pointed out by for example respondents Selbach and Jansen, explaining how the abundance of bicycles in public areas

create issues. They were said to create a mess around public places, not only ruining the aesthetics of the place, but more importantly restricting access for pedestrians. These issues were expected to increase in gravity as cycling further increases. Yet, Jansen explained that such issues were preferable over the issues and externalities connected to driving, thus calling them “champagne problems”.

4.2.4 Promoting multi-modal travel

The decision to position the Stationsplein bicycle garage directly under the central station was highly strategic. Both respondents from the municipality of Utrecht, as well as respondent Jansen highlighted that they are working to increase multi-modal travel in the Netherlands, where cycling constitutes first and/or last mile transport. This means that the cycling planners at the municipality are not seeing the national railway company as a competitor, but rather a collaborator. This is especially relevant in Utrecht, which is the largest railway hub of the Netherlands (Municipality of Utrecht, 2019). The collaboration is apparent in the planning and financing of certain investments, such as parking facilities near central stations, where the national railway company and federal government can contribute to projects. Further, to increase multi-modal travel, respondent Schippers, Selbach and Jansen highlighted that the Dutch government has invested in public transportation bikes, known as OV-fiets or OV-bikes in English. These bikes are easily available and can be rented using the individual’s regular public transportation card (Nederlandse Spoorwegen, n.d.).

The Dutch concept of multi-modal travel and creation of synergies between the cycling network and other types of mobility solutions, with bicycles available at site, is according to respondent Jansen one of the great success factors of the Dutch cycling planning. Jansen calls this the backbone of the mobility system in the Netherlands, where half of all journeys by train start with a bike ride. The target is to improve the connectivity between the two modes of transport by planning the network, building adjacent parking facilities and innovating solutions that make the experience seamless. Here, Jansen emphasises another difference by comparing the design approach to Denmark, where many people bring their bicycles on the trains. The respondent noted that this takes up valuable space from other passengers, and hence reduces scalability, and argued that the Dutch way, with government bicycles available at all stations, is preferable and scalable to a larger extent.

4.2.5 Designing with people in mind

All interviewed cyclists stated that they cycle simply because it is the most attractive and convenient option. An important factor to make cycling attractive and succeed with initiatives is therefore to design with people in mind, mentioned by several respondents, such as Poelman, Schippers, Jansen and Sneijder. This means that it is important to understand the needs and demands of the users, and to take the full customer journey into consideration, as highlighted by respondent Schippers. As the cyclists seem to prioritise speed and convenience, Utrecht's initiatives of expanding the cycling network and building relevant facilities seems to be on point. However, when considering the end user and the customer journey, one realises that there are more ways to make cycling attractive.

4.2.6 Creating attractive environments

An aspect which is deemed to be important for users is that of attractiveness, mentioned by respondents Schippers, Sneijder, Poelman and Jansen. It is thus highly important in city planning, according to the respondents from the municipality of Utrecht.

"It's not only based on how to build cycling infrastructure to go from A to B, but it's really about creating a nice environment." Respondent Sneijder

Attractive and aesthetic environments were by both respondents Sneijder and Poelman said to motivate cycling and time spent outside, not only increasing cycling but also improving health in a number of ways. And when walking around Utrecht, it was easy for us to observe the effects of the focus on aesthetics and attractiveness. The newly built Stationsplein garage is modern, fresh and clean. Further, it is well lit and feels safe. The employee confirmed that it was in fact safe, as it had only experienced less than a handful of harassments or similar crimes since its launch, which was five years ago.

Still, the perhaps clearest example of aesthetics being prioritised is the case of Catharijnesingel. Between 2017 to 2020, it was restored to a beautiful canal after having served as a 10 lane highway since the 1970's (OKRA, 2024; Public space, 2022). The restoration followed years of public dismay and opposition, highlighted in the 2002 referendum in favour of restoration (Public space, 2022). The architects behind the restoration, OKRA, write that the design aims to create a connected city, creating inviting

social spaces for its inhabitants through green spaces and biodiversity (OKRA, 2024). Many inhabitants brought up the Catharijnesingel as an example of a great improvement, and those who were asked about it were very happy about the change.

Nevertheless, it is important to acknowledge that every improvement carries challenges, and urban developments are no exception. According to respondents Schippers, Selbach, and Poelman, these changes have contributed to gentrification and segregation based on income, as the increase in beauty and livability of the city has driven up prices of properties in Utrecht. This increase in the cost of living inside the city may exclude certain groups of lesser socioeconomic background. Although the reduction of cars may enhance the city's appeal, Schippers further highlights that it limits the accessibility for both people and companies that are dependent on it to commute or perform their jobs effectively. These parties may have to take a more indirect route to reach their destination and incur higher expenses for parking, presenting some inconvenience.

4.2.7 Reducing the attractiveness of car use

According to respondent Sneijder, Jansen and Selbach the initiatives aimed at making cycling more convenient and attractive were also combined with measures aimed at reducing the attractiveness of car use. According to data, cars are currently the biggest competitor to cycling in the Netherlands, and many trips which are made by car could be made by bicycle (de Haas & Hamersma, 2020). Despite the efforts to make car driving less attractive, 47% of all trips in the Netherlands were made by car in 2019 (de Haas & Hamersma, 2020), and several respondents mention that the Netherlands has very good infrastructure for cars at large. Long trips are accepted to be undertaken by car, but the government acknowledges that a large share of the trips made by car are short enough to be cycled (de Haas & Hamersma, 2020). Some level of car riding is also accepted for short distances, in relation to the aforementioned matters of accessibility and inclusion, as mentioned by Poelman.

This has been done through a number of measures. According to the respondents from the municipality of Utrecht, prices have increased for parking and parking spaces are limited. Further, Jansen and Sneijder highlight traffic calming efforts aimed at making the car a more indirect mobility solution. This implies implementing a scheme of filters and hierarchy of streets to force through traffic out of the residential and commercial areas to arterial roads on

the outskirts of the city, and thereby reducing and restricting car access within the centre. Yet, in connection to the discussion of inclusion and accessibility, cars can still access all areas, according to respondent Poelman, although not always through the most direct route.

Another traffic calming initiative is engineering for slower speeds in the design of streets, and especially intersections, where the vast majority of collisions occur between cyclists and cars.

"The capacity of a road is not dependent on how many lanes there are, it's all dependent on the intersections. You can optimise this flow by anticipating and designing for desired behaviour." Respondet Jansen

The interviewed inhabitants were positive about the investments into cycling, but also the means of reducing the attractiveness of cars. Many people are cyclists themselves, and it seemed people were informed of the benefits of increasing cycling, both on an individual and societal scale, thus agreeing with the measures.

"If an alien anthropologist were to look at the way we build our cities today, they would think that cars are the dominant species. Cities should not be made for cars, but for the people living within them, and that's why I love cycling so much!" Respondent Bloemhof

The understanding of the benefits is also connected to a discussion of fairness which was brought up by respondent Selbach. Selbach explained that it was important that inhabitants viewed the measures as fair, and put it into a context of a larger goal, in order for the measure to gain acceptance. Ettama continued to argue that people can allow some local unfairness, if it contributes to larger fairness. For instance, people can accept that car drivers pay more for parking, if it provides benefits for society at large. However, Selbach argued that local unfairness must not be too grave, or else the measure is no longer viewed as fair. This is connected to Poelman's discussion of every inhabitant's right to reach their home, which regarded the issue of fairness.

Apart from the measures aiming to reduce the attractiveness of cars seemingly receiving wide acceptance through being relatively fair, it may further have gained support from the fact that increased cycling provides benefits for car drivers. Respondent Jansen highlights that the availability of different mobility solutions reduces the strain on car infrastructure, for example

minimising traffic congestion. So while those who drive are facing more expensive parking and restricted access, they spend less time in cues and enjoy infrastructure which is burdened less. Moreover, other actors which face obstacles are also rewarded in other ways. For instance, the prices of housing and businesses are rising as the city improves, as mentioned by respondent Schippers. And business owners, who may experience hurdles as car access is restricted in the city centre, experience increased sales as inhabitants stroll and cycle past their stores, as mentioned by a bypassing respondent.

4.2.8 Educating the population

A measure highlighted by for example respondents Schippers, Selbach, Jansen and Poelman, is investing in education. Schippers and Selbach explain that great emphasis is placed upon learning how to handle cyclists and drive safely before one attains a drivers licence. However, educating the population on cycling and cycling safety begins at a much earlier stage in the citizens lives. Respondent Poelman from the municipality of Utrecht mentioned their collaboration with schools, teaching children to cycle from an early age. This especially targets children with non-western migration backgrounds, as this group has a lower share of bicycle use compared to individuals with Dutch and western-migration backgrounds (de Haas & Hamersma, 2020).

"When you don't have so much money, it's a big step to buy a bike if you don't know how to cycle. […] So we also do a lot of education on cycling […], physically, but also how you behave yourself in traffic." Respondent Poelman

Ensuring all children know how to bike is a measure which not only increases cycling, but further increases inclusion and accessibility. Respondent Jansen further highlighted the importance of teaching children to cycle in areas and countries with little bicycle use, explaining that building infrastructure and focusing on the hardware is not enough.

To conclude this section, these previously outlined initiatives align with the Dutch Cycling Embassy's perspective on the best ways of tackling the challenges of improving the cyclability of a city.

4.3 What enables Utrecht's cycling initiatives

Clearly, Utrecht has been successful in their choice, design and implementation of cycling oriented initiatives. Yet, one question remains, namely how they managed to achieve and push and achieve this change. Thus, this section will concern the work and conditions of the municipality. In line with the theoretical framework, this will be examined through studying their local capacity as well as the dynamics of co-creation, collaboration, and stakeholder engagement.

4.3.1 Local capacity

4.3.1.1 Political

Political will is by several respondents mentioned as a key factor in expanding cycling infrastructure. Respondent Poelman even highlights it as the most crucial aspect affecting the capacity of a municipality to increase cycling.

"[The municipal council, the alderman], and the mayor are very important on these issues because they can make a decision that this certain need is more important than other needs when you're planning." Respondent Poelman

The decision makers thus have the ability to push initiatives although they may not always have full support from all stakeholders, allowing for greater action and implementation. According to respondent Sneijder the politicians of Utrecht have been very cycling friendly for decades. Currently, Sneijder explains that the leadership has great will and ambition, pursuing further investments into cycling. Both the regional leadership and the national government are thus highly motivated to increase cycling, and create the necessary visions.

Respondent Poelman explained how such strong political unity into the matter can be attained, and how it affects the ability to reach change.

"Only one person from a cycling union maybe cannot make a difference. But when also the mayor or the other delegates from public political parties or maybe even a shop owner […] get together, when they invest a lot of time in hearing and explaining and you know, reaching out to the people in the city, then you can create […] a sense of urgency within the entire

population […] That is the way I think to in the end reach the decision makers." Respondent Poelman

Although respondent Sneijder highlighted the strong unity and ambition of the municipality of Utrecht to increase cycling, Sneijder explained that fear amongst planners may decrease the level of ambition, and affect the design and content of new initiatives.

"Not everyone is so ambitious. It has to do with [that] people don't want to make mistakes. Some of my colleagues are quite well involved with the environment. They get response[s] by social media by or by direct mails, things like that, and also complaints when it's something." Respondent Sneijder

The fear thus regards being responsible for failed initiatives or initiatives which receive backlash. This may reduce individual's will to push new and innovative ideas. Respondent Jansen explains that planners may perceive support to be more negative than is the case, as only the most motivated individuals reach out to express their opinions. Thus causing a few unsatisfied people to block initiatives which in reality have wide support. Yet, this seems to be rare, and Sneijder, Poelman and Selbach explain that initiatives often enjoy wide support, likely due to the inclusion of stakeholders in the design process and the initiatives being supported by best practices.

Lack of ambition may also come from the leadership, rather from the planners. With regards to the political challenge, many publicly elected politicians may experience a degree of risk in driving initiatives aimed at changing the public space, which can impede the willingness to act in order to remain in favour. However, respondent Jansen explains that governments which invest in cycling and push through the controversy gain the support of society. Still, there is an inertia to implement initiatives, as governments fear being labelled as eco-fascist or extremist. In Utrecht this is however not the case, as clearly portrayed above. Instead, the initiatives are not seens as political and enjoy wide support both across political parties and the public.

Apart from political will, political capacity includes the leadership's ability to create partnerships and collaborate. Here, the municipality of Utrecht seems to excel. It collaborates in many different ways, ranging from financing to education. Examples include partnerships

with the national government and railway to create new investments, and collaborations with schools to promote cycling. Further, the municipality engages in discourse and collaboration with local businesses and the public.

4.3.1.2 Institutional

The institutional aspect may be the most astonishing in terms of the capacity of the municipality of Utrecht, as it contains several characteristics distinctive for the Netherlands and Utrecht. As previously explained, the development and history of the cycling culture and infrastructure of the Netherlands and Utrecht is based upon a number of specific situations and decisions, unique to the Netherlands. Looking at the outer environment affecting the initiatives of the municipality, it is clear from our observations and interviews that the Netherlands houses a strong cycling norm and culture. Respondent Poelman mentioned that a contributor to the success and growth of cycling in the Netherlands may be due to their flat landscapes. Presently, children cycle to practise together, people cycle to work, or to go shopping. Respondent Schippers highlighted how cycling is a social activity, and how people enjoy biking next to each other and chatting. And while this culture and cycling norm clearly did not simply appear out of the blue, its current existence is definitely benefiting present initiatives. All interviewed respondents expressed support for increased investments into cycling infrastructure, and cycling at large.

An additional aspect of the outer environment affecting the cycling initiatives is external policies. As mentioned in section 4.1, the Dutch government has launched several plans and policies aimed at increasing cycling, aimed at a wide array of initiatives, ranging from the aforementioned Bicycle Master Plan (Ministry of Transport, Public Works and Water Management, 1999), to OV-bikes and company bicycles. The strategy planning of Utrecht was explained by the respondents from the municipality to be intertwined with the mobility planning of the Netherlands at large. Efforts are made to connect the infrastructure of Utrecht and other cities, eventually creating a national dense network of cycling infrastructure, as mentioned by respondent Poelman. The mentioned company bikes was highlighted by several respondents, and seems to be greatly appreciated. Such bicycles are attained through one's workspace, and are made affordable through tax benefits, leases or interest-free loans (Netherlands Tax Administration, Belastingdienst, n.d.).

Relevant policies and considerations are not only reviewed by the municipality in strategy planning. It is further considered by the architectural firm in charge of designing a project, as the municipality provides a brief to the architectural firm, which includes a list of demands and policies which are to be considered.

"It's a combination of basically trying to understand the different policies that the municipality of Utrecht has as a starting point and then how we interpret those different policies for each design project and for each design case." Respondent Hovenkamp

The relevant policies and demands provided by the municipality thus set the boundaries of the project. Yet, respondent Hovenkamp explained how briefs provided to the architecture firm are divergent in terms of demands, policies and the freedom it allows the firm in terms of interpretation and planning. Respondent Hovenkamp explained that more detailed briefs and guidelines are appreciated in designing complex projects.

Regarding the policies and regulations, Poelman highlights that strategies are often designed in accordance with them, as this brings benefits. For instance, the respondents state that cycling infrastructure is regularly expanded next to existing infrastructure, as this has less impact on the environment. Consequently, it does not require a large impact assessment, and is easier to get approved. Cycling infrastructure is therefore stated to be relatively easy to extend, in comparison to other infrastructure which usually has a larger impact on the environment.

According to respondent Poelman, the municipality has access to national handbooks and guidelines on cycling and cycling infrastructure to assist them in their work and vision. Yet, the respondent highlighted that the municipality is free to divert from the guidelines when necessary.

"You try to work with a good strategy as much as possible. But well, some surroundings need a certain approach. So for instance, in the old city centre we had a handbook that said if we make new cycling infrastructure, it had to be red as default. But the neighbourhood was not so pleased with that [..], so at that point you have to interact or communicate with the neighbourhood and come to the best solution." Respondent Poelman

In the case of the red asphalt, we were informed by respondent Sneijder that it was not only disregarded in certain cases due to public dismay, but also due to policies in place to protect the historic inner centre of the city. Policies and situations like this were explained to be the reason as to why much work is still designed ad hoc, despite the access to best practices and handbooks. Moreover, respondent Sneijder mentioned that the municipality of Utrecht aspires to increase the ambition of the already progressive guidelines of the Netherlands. Thus, a higher ambition level may further be a reason as to why strategies of Utrecht may not strictly follow the national guidelines.

"A guidebook is only as good as the people that use it, so they also have to reflect on, reflect on what is happening in the area.[...] I think it's good to have a good plan as much as possible. But [...]it's not a blueprint for making the infrastructure. You can also use it to neglect some rules in the handbook, considering all the aspects that are living in the area."
Respondent Poelman

The role of the budget in strategy planning was mentioned to be of high importance. Respondent Sneijder stated that the budget is the key driver of initiatives, as the budget sets the boundaries of plan creation and promotes prioritisation.

The planning tradition of the municipality was explained to promote long-term thinking. They build long lasting relationships with stakeholders and have faith in each other, according to respondent Poelman. Further, the strategies always aim to keep the wellbeing of the inhabitants at the core. This means not necessarily adapting the strategic plans to new innovations or trends, simply for the sake of it. Rather, their goals of human wellbeing and health comes first, and new innovations should cater to this mission, as can be seen by Poelman's statement regarding questions of what future mobility will look like:

"Our colleagues from technical universities, they start about autonomous driving, maybe drones, etcetera. We said no, in 2100 the big improvement is that we return to the human scale. And we realise that technical improvement is not a go in itself. [...] The end is all about human behaviour and human happiness, health, healthiness etcetera." Respondent Poelman

Yet, if aligned to the vision, the municipality is very open for innovation and implementing new technology.

"We have a lot of pilots in the province going on to experiment, [with] things that normally do not belong together. But we try to connect those fields and then we can experiment and show things to the world and also learn from our own failures."Respondent Poelman

This quote further highlights their aforementioned willingness to act ad hoc and think beyond the guidelines, in an effort to improve. Further, it showcases a culture with courage and willingness to experiment and lead the way.

4.3.1.3 Financial

The municipality accesses funding from a number of various actors. The respondents from the municipality explain that they fund certain projects themselves, especially routes in the city-centre. Respondent Sneijder explained that the budget depends on the political rule of the municipality, and as the city council has been positive towards cycling, the municipality has access to funding. However, Poelman highlighted that the amount of funding is never enough, and that large projects exceed the municipality's single budget. In cases where the municipality requires additional investments, they collaborate with other actors in order to fund a project jointly. For local initiatives they may collaborate with other sections and interests of the municipality, in order to share the expenses, as mentioned by both representatives from the municipality.

"We want to cooperate our goals from cycling with the goals from water or green or other fields so that they can also contribute, and in the end you have an entire redesign of the public space, so only a small part is for the beneficial and also for the cost of cycling. [...] Combining work together [...] is a big way to help to spend your money more effectively." Respondent Poelman

Examples included remodelling streets to the benefit of cycling while also updating the underground garbage containers or water disposal systems, as mentioned by Poelman. When sharing expenses and designing initiatives jointly involved stakeholders will have different requirements which are to be considered, as mentioned by respondent Hovenkamp. This not only targets the initial design of the project, but further the maintenance of the initiatives and which stakeholder(s) will be responsible.

For initiatives in big area development, the municipality can collaborate and attain funding from the province of Utrecht, and also the national government, as mentioned by respondent Poelman and Sneijder. Such investments require the municipality to design initiatives which benefit several actors. A clear case of this is the new Stationsplein parking garage, which not only attained investments from Utrecht and the federal government, but also the Dutch Railway company, according to respondent Sneijder.

4.3.1.4 Technical

Considering the technical capacity of the municipality of Utrecht, it seems as if their capacity is high. They have access to great knowledge and expertise in-house, with around 20-30 employees involved in cycling planning, and over 100 people involved with mobility issues, as mentioned by respondent Sneijder. Further, additional know-how and perspectives is attained through collaboration and consultation with several actors, including engineers, advisors, the public, schools, local businesses, additional provinces, the government, and more. As explained by Jansen, the Netherlands has worked with cycling initiatives for decades, and currently has world class knowledge on how to design initiatives and do it effectively. Further, respondent Sneijder explained that Utrecht has a high ambition even with local measures. This is highlighted by data showcasing them as the municipality out of the four largest Dutch municipalities where people cycle the most (de Haas & Hamersma, 2020).

4.3.1.5 Social

Clear in the empirics was the importance of the social aspects of communication and nurturing a network of social relations. Both respondents from the municipality highlighted the importance of strong relationships, in order to collaborate and access stakeholder knowledge and capacity in projects, and to ensure support for initiatives. Respondent Poelman explained how fostering long-term relationships was especially crucial. Further, the municipality communicated with the public and other stakeholders regarding new initiatives and projects, highlighting benefits and functions. Additional information of the social capacity will be showcased in the following sections 4.3.2, 4.3.3 and 4.3.4, which in greater detail examines the social intricacies of social relations and communication through stakeholder engagement, co-creation and collaboration.

4.3.2 Stakeholder engagement in the promotion of cycling

Stakeholder engagement and participation is seen as a necessity for project success, and this notion is reflected in the municipality's use of strategic engagement plans as described by Sneijder and Poelman. This involves conducting stakeholder analysis to leverage insights and perspectives within the network of different actors to better reach an outcome that resonates with a broader spectrum of needs and desires. The identification of stakeholders to involve is made by an assessment of their unique knowledge and expertise, as well as an understanding of how they can contribute to or be affected by the project. This then determines the communication approach and level of involvement in the process, viz., if a stakeholder should simply be informed, consulted or engage in co-creation.

Jansen, Sneijder, Poelman, Schippers, and Hovenkamp describe what appears to point towards a highly reflective, holistic, and targeted approach to engagement with stakeholders. This is most prominently captured by Jansen's portrayal of how the Dutch embrace the concept of universal design. Every initiative strives to seamlessly serve the needs of both the young and elderly, individuals with physical impairments, varying gender identities, cultural nuances, and the entire spectrum of societal demographics. Consequently, stakeholder engagement must reflect this idea for design to truly be universal.

"All the different people that are impacted by the design of this infrastructure can provide their perspectives, viewpoints and feedback on the design to make sure that it works for everybody living in that community, and not just a self selecting group that happens to show up." Respondent Jansen

This means that the municipality carefully selects stakeholders with inclusivity and wide representation in mind. As for prioritising diverse interests, Poelman explains that long-term relationships with stakeholders, such as the Dutch Cycling Union, that have been developed over decades of collaboration have significant weight and influence in shaping cycling policy. The experienced salience of relationships to stakeholders is further to some degree influenced by the dynamics of power, legitimacy and urgency according to Poelman, although more of each attribute for a stakeholder does not seem to simply enable more managerial attention.

"It's actually targeted at these specific groups rather than just sitting back and waiting for people to come to you to express their opinion, because [...] that's asking for trouble. In terms of design, it means you're only catering to those with the most resources, political power, and mobility to attend these sessions." Respondent Jansen

These findings are particularly interesting, as it brings nuance to the complexities of perceived salience in stakeholder identification and how diverse interests are prioritised in a public governance setting. Schippers argues that this targeted approach strives to meaningfully include marginalised parties, and Poelman continues that the vast network of stakeholder relationships, which the municipality has nurtured over time, allows for a broad consideration of aspects that mitigates bias in both design and implementation. Nevertheless, an increased understanding of collective needs and desires as a foundation for decision-making demands a transparent way of using it as well. Utrecht has faced several instances where contributions from different stakeholders were not managed in an optimal way.

"In Utrecht, we have a lot of experience where this went really wrong. We had a referendum for certain decisions and people in the end thought - what most people are voting for is the alternative we are going to choose." Respondent Poelman

Without clarity and mutual understanding, there is a risk of misinterpretation that can lead to a lack of trust, frustration, and ultimately disengagement or opposition. These experiences have been invaluable for the municipality in shaping their engagement approach, highlighting the importance of delineating the scope of discussions and the role of stakeholders in the process through effective communication.

"If you opt for participation, and maybe even consulting the neighbourhoods or co-creation, you have to be very clear about the things that you decide together and the things that are decided in the end by the municipality or someone else." Respondent Poelman

In designing the stakeholder engagement process, both Schippers and Hovenkamp emphasise that both the presentation of the project and the agreed criterias for success have to be easily understandable and accessible by all parties for engagement to be meaningful and inclusive. This can be done by tailoring language to each stakeholder, or even visualising plans in

models and images, as is often the case for OKRA in their engagement. Another important aspect is to have reachable gatekeepers in the process. This implies that a salient actor within cycling initiatives, such as a public official, has to be mindful of adapting to the level of comprehension of others to ensure mutual understanding, which may require empowerment through training for a transparent and meaningful process.

With regards to more key success factors for stakeholder engagement, all respondents highlight the importance of long-term relationships and the process of establishing a shared purpose or vision as a foundation for dialogue.

4.3.3 A collaborative approach for public governance

In outlining the current state of governance shaping the design and implementation of modern cycling policies in Utrecht, Poelman explains that the Municipality of Utrecht collaborates with numerous actors to bring ideas to fruition. Both Poelman and Sneijder explain that this concept of directly engaging with stakeholders partly stems from the idea that decisions should reflect public perception, and partly from necessity to not only gather essential perspectives and expertise governing bodies may lack, but also to amass support for the decisions taken.

Although the municipal council, the Mayor and the Alderman ultimately share legislative power as previously shown, both Poelman, Sneijder and Selbach note a high degree of participation in the design of cycling policy. Jansen argues that this decision-making is largely influenced by a collaborative approach deeply rooted in culture.

"[Collaboration is] built into Dutch culture from centuries ago. They really excel with the Polder model, which originates from the time they were reclaiming farmland from the sea and had to drain the fields. Despite having divergent interests, they had to work together to keep their feet dry." Respondent Jansen

Without dissecting the origins of this collaborative approach, this statement shines a light on what may be a unique planning culture affecting the way mobility decisions are being made by the municipality. The Polder model is commonly characterised as a consensus-oriented consultation method that favours an active and constructive dialogue between parties with

divergent interests (Schreuder, 2001). This approach to governance aligns with how both Poelman and Sneijder describe their way of making decisions, and even Hovenkamp from OKRA, both within the walls of the organisation, and engagements with stakeholders on the outside.

Striving for consensus in the face of conflicting interests can, however, be time-consuming, highly frustrating, and lead to deadlocks in discussions, as highlighted by Sneijder, Poelman, Selbach, and Hovenkamp. This is a usual occurrence between different professional groups such as engineers, urban planners, architects, and political leaders, and resistance is sometimes encountered from inhabitants due to a "not in my backyard" mentality. A challenging task in collaborative governance is said to be distinguishing between factual and emotional arguments, although Poelman means that it is not the role of the municipality to determine the value of an argument. In this situation, great efforts are made to understand their opinions, and work to make the actors satisfied, one way or another.

"Even if 100 people are pro and one is con, you have to find something to give to that person [...] you have to make that person happy as well, or maybe not happy about the project, but happy on another scale. So we go very far, I think, in trying to please everyone." Respondent Poelman

This demonstrates that while a win-win situation may not always be attainable at face value, the mere consideration of needs and desires, and search for things that can redefine success, may offer just as good results. Sneijder, Poelman and Selbach also acknowledge that a line finally has to be drawn by a political decision to ensure progress in collaboration, and sometimes to decide on the extent of stakeholder participation in decision-making.

"Sometimes you have to collaborate at a certain level constantly, but sometimes it's also good to say, OK, now we are focusing on this goal, this objective, these parties we really need, and the other parties, we'll see you in another project or at another time." Respondent Poelman

As the decision has been made, Sneijder, Poelman and Selbach recognise that the agreement usually has extensive support from the parties involved. The great availability of best practices with guidebooks and manuals further alleviate many difficult discussions.

4.3.4 Co-creation with multiple stakeholders

The collaborative approach does not only encompass decision-making, but extends far into solving problems together with stakeholders to foster innovative cycling initiatives. Poelman explains that co-creation is commonly used for larger area developments and projects that warrant specific expertise, competences and perspectives to enhance the value of services delivered. Further, these ventures typically place high demands on integrating the project with other new or existing infrastructure plans into larger networks or holistic urban plans.
To exemplify, Poelman explains that Utrecht is starting construction in 2024 of a green, car-free neighbourhood with a broad mix of homes for 12,000 residents between the Merwede Canal and Park Transwijk (Municipality of Utrecht, n.d.). In the co-design phase, the municipality has collaborated with 9 other area developers, including financial institutions, real estate developers, and architectural firms such as OKRA, to design solutions and plans for the implementation phase starting in 2024. Additionally, an independent quality team representing different professional groups and members of the public has been a part of the process (Municipality of Utrecht, n.d.).

"These parties came together beforehand and agreed that the only way to develop the entire area [of Merwede] is through co-creation. This approach is very ambitious, particularly regarding low parking norms, which demand meticulous planning from logistics and public spaces to local coffee shops and the networks for cycling and walking." Respondent Poelman

The co-creation process strives to create highly detailed design and requirement documents that facilitate the implementation phase. Sneijder, Selbach, and Hovenkamp explain that this process makes it easier for the involved parties to communicate with contractors and resolve challenges that may arise, but the problem-solving continues until full delivery of the project.

Naturally, the public co-creation process is driven by a need to balance diverse interests to ensure that outcomes reflect the collective needs and desires of all involved parties. However, Poelman emphasises that there are times when it is necessary for the cycling department to overstep their boundaries in order to break new ground. This can be done by adopting an 'act now, apologise later' approach, to ensure that interests of cycling come out on top of the agenda.

"The cycling department sometimes oversteps their boundaries so they can show something to the outside world. And then everyone thinks, oh, that was not so bad after all. We could have talked way more years about this, but sometimes you just have to make something and then afterwards, well, make it even better or correct some things that did not work out as you planned originally." Respondent Poelman

This does not entail acting without consideration of other interests, but rather being ready to advocate for what may be a contentious stance and champion the importance of cycling to make it a larger part of the project.

5. Discussion

5.1 Best practices for cycling promotion

In general, the cycling initiatives conducted by the municipality of Utrecht, including extending the cycling network, building new facilities and reducing the attractiveness of cars, aligns with previous research (Buehler & Dill, 2016; Buehler & Pucher, 2011; Harms et al. 2016; Heinen et al. 2010; Ton et al. 2019; Wang et al. 2016), making cycling more attractive, convenient, and safe.

However, their most innovative and promoted initiative, the bicycle street, is in stark contrast to previous research (Buehler & Dill, 2016; Buehler & Pucher, 2011, Gössling, 2013; Heinen et al. 2010). In fact, they oppose the main concept of the previous research, being that separating cyclists and cars is optimal infrastructure design, contributing to increasing cycling and safety of cyclists (Buehler & Dill, 2016; Buehler & Pucher, 2011, Gössling, 2013; Heinen et al. 2010). The authors argue that the boldness of the idea and clash with traditional perceptions of safe infrastructure is the reason as to why other governments and cities have been reluctant to implement the concept of mixing. Yet, the empirical data in this thesis highlight shared bicycle streets as safer, more affordable and better suitable for cyclists.

Notably, the same hesitation was present in the Netherlands up until recently, connected to the previous failed redesign of the original bicycle street on Burgemeester Reigerstraat in 1996. This highlights that a certain set of requirements may be necessary for successful implementation. Mixing when possible, and separating when necessary, is naturally enabled by the design to nudge for a certain behaviour, but especially through the culture, education, planning, leadership and learned co-existence between cycling. One may even argue for the necessity of "maturity" within the system to be able to mix cycling with other forms of transport, as made evident by lack of it on the Burgemeester Reigerstraat in 1996.

In line with the discussion of the discourse surrounding the bicycle streets, it seems as though the Netherlands' strategy of promoting multi-modal travel is not only unique, but also under researched, as it was not noticed in previous research. Yet, the concept seems to be a true best practice of Utrecht.

Yet, the authors argue that the context and maturity necessary for succeeding with the concept of bicycle streets and multi-modal travel, is presently rarely found outside the Netherlands. This may be as the other nations did not experience the same revolt against cars as the Netherlands during the second 20th century, instead maintaining a car-centred logic in urban environments. As the Dutch concepts are relatively new, innovative and arguably even controversial in relation to previous research and car-centric logics, and moreover not necessarily applicable to other locations as of yet due to lack of systemic maturity, the authors suggest that research has been lacking and lagging in the area, regarding both concepts. The principles of Copenhagen, which although supporting cyclists still seems to retain a car-centred logic, are perhaps then seen as less controversial and more in line with previous research, and more easily adapted to new locations sharing the same logic. This may contribute to why research focuses on the Danish approach, and why most countries seem to follow their connected concepts of separating traffic.

A further key success factor is designing initiatives with the end user in mind, considering the customer journey, as mentioned by respondent Schippers. This aligns with Lam and Head (2012), which state the importance of identifying and understanding the motivations and perspectives of the users, prior to initiative design and implementation. Yet, this could be emphasised to a greater extent in cycling research, and further developed.

Connected to the topic of considering the user experience is the investments into aesthetic environments. The empirical data emphasised this aspect greatly and explains how it improves the attractiveness of the city and motivates people to spend time outside, in line with previous research (Harms et al. 2016; Heinen et al. 2010; Wang et al. 2016). The aspect of attractiveness and aesthetics was mentioned by five out of seven experts, and several inhabitants, highlighting the importance and meaning of such investments. This is in line with the notion by Starik (1995) in considering environmental aesthetics, as it has been purposefully integrated into infrastructure, in part as stakeholders already appreciate the natural environment, and in part for stakeholder to forge even stronger bonds to nature. Considering the strong support of connected initiatives, the authors argue that additional research should be conducted on the matter, in more detail identifying best practices and implications on mobility, across transportation means.

5.2 Local capacity for cycling promotion

5.2.1 Political

Regarding the different aspects contributing to the local capacity of a municipality and other cycling initiative planners alike, the political aspect was often mentioned to be of greatest importance, in line with the findings of Alm and Koglin (2022). While that is arguable, it remains clear that it is instrumental in promoting cycling. As the municipality and politicians are the major stakeholders in the design and implementation of cycling initiatives, and they navigate public sentiments and feelings about their policies to secure re-election, it is integral to ensure their courage and support, in line with the findings of Buehler and Pucher (2011) and Harms et al. (2016).

A notable key success factor connected to political capacity is the art of making cycling investments and initiatives non-political, and not connected to any political party or camp on the spectrum. When analysing the chain of events leading up to the Dutch inflection point in the 1990s, it is clear how the lack of safety and explosion of fatalities and pollution aligned political parties across the political spectrum. As such it seems that finding or creating a common purpose, and communicating this to the public if they were not already the origin of the idea, is an efficient way to gain wide support and depoliticize the topic. When the matter is not deemed as political or extremist, more individuals, politicians and citizens alike, will likely promote it, creating great opportunities for leaders with strong will to implement initiatives.

As mentioned, there was wide support and strong political will to increase cycling in the Netherlands in the 1990s, igniting the transformation. Yet, even in cases where there is no organic political will to promote cycling, the data showcases that major efforts and demands from the public, including creating a sense of urgency for cycling through stakeholder engagement, may cause the politicians to consider and adapt to the sentiments of the public, thus igniting the transformation. Conversely, the authors argue that this further applies for a public manager seeking to create a sense of urgency for the importance of cycling in the instance of low public support. As the interactions and mutual exchange reveal promising opportunities to sensitise and influence stakeholders, stakeholder engagement can be deemed a promising tool to enable more support.

The authors suggest that the origin of the will and ignition of promoting cycling have effects on the way cycling initiatives and policies are designed, implemented and marketed. In cases where the transformation is initially pushed by politicians, the authors argue that planners should consider the advice provided Buehler and Pucher (2011), suggesting that policies and transformations are to be presented gradually, with major changes and controversial initiatives first implemented when the public has created an understanding and acceptance, of the mission. Such initiatives may further require greater investments into education and marketing. However, in instances where the promotion is rather ignited by the public and then accepted by the politicians, the authors suggest that such caution is not necessary. Then, initiatives and policies may be presented and implemented in a more direct and swift manner.

Notably, the empirical research highlights the importance of political will at both national and municipal level. The aspect of political capacity highlights the centrality of strong leaders igniting the transformation and promotion of cycling, providing a vision and leading the way. It seems as if political will on a national level is necessary to get the full transition ignited, and to push municipalities to follow. The authors suggest that this is especially relevant in countries where there is a lack of wide support and a cycling culture, to ensure both positive and reluctant municipalities alike engage in the mission. Yet, local political will is argued to be necessary to truly succeed with initiatives, as many initiatives are decided and funded on a local basis. Further, the authors argue that ambitious local leaders may motivate the local public and create support for initiatives. This requires creating collaborations with a plethora of local actors, including NGOs, businesses and schools.

The empirical data presents fearlessness and grit as important factors in both the creation and retention of political will, and for the implementation of initiatives. As explained by respondent Jansen, politicians attempting to promote cycling in locations where there is no existing cycling culture or strong support may face opposition. Even in Utrecht, where there is generally large support, respondent Sneijder explained that ambitiousness may be reduced from politicians and cycling planners alike when there is a fear or perception of resistance. Although resistance is commonly overestimated, as mentioned by respondent Jansen, it remains clear that cycling planners and politicians will face resistance, thus highlighting the need for fearlessness and grit, allowing initiatives to be promoted regardless of support.

5.2.2 Institutional

The aforementioned discussion of the importance of national and local political will is further emphasised when one considers the large responsibility and freedom placed on municipalities in the Netherlands, following the Bicycle Master Plan decentralisation during the 1990s. As the decentralisation restricts the reach of national laws, regulations and guidelines, it further increases the importance of local political will as well as guidelines, procedures and initiatives. Although decentralisation may reduce the impact of national visions if not aligned with the ideas of the municipalities, the authors argue that this decentralisation has many benefits.

Firstly, it allows guidelines and initiatives to be adapted to the local context and policies through ad-hoc decisions and strategy, allowing initiatives to consider the natural environment but also local policies, such as the policy protecting the historic centre of Utrecht thus limiting the extension of red asphalt bicycle streets. The decentralisation and freedom to divert from the guidelines further allows the municipality to go beyond the initiatives and ideas provided by the national government and try new initiatives and concepts. This is evidently the case in Utrecht, as mentioned by respondent Sneijder. The authors argue that this is likely a contributor to the great success of Utrecht, positioning it at the top of the four largest Dutch municipalities (de Haas & Hamersma, 2020). New initiatives deemed successful may then later serve as inspiration and learning for other less successful municipalities, thus improving the national standard and cycling level as well. The authors suggest the freedom provided to municipalities not only contributes to increased innovation through allowing more ideas being tested, but also as it creates a willingness to “win”. This as the authors suggest that a variance in results may create a positive competition, where municipalities innovate and improve with the goal of becoming the national champion or star in terms of cycling. Such competition would then further contribute to national success, unravelling even greater amounts of innovation and key success factors which may later be implemented on a national scale.

An additional institutional aspect which seems to be of great importance, are norms and the culture connected to cycling. In nearly all interviews, the Dutch cycling culture was mentioned. Great emphasis seems to be placed on this phenomena by the Dutch, providing it as a cause for the impressive levels of cycling. Yet, the empirical material manifests that this

culture was not always present, nor did appear by itself. This is interesting, as it implies that a cycling culture as prominent as that of the Netherlands, is attainable through efforts. As such, all countries, municipalities and cities looking to increase their cycling, could create a culture as strong as the Netherlands', and considering the available best practices, likely relatively swiftly.

The matter of how this culture was created is complex, and likely includes numerous measures and decisions. The empirical data has unravelled a few. Even today, not all children in the Netherlands are brought up part of the cycling culture or taught how to cycle by their network. Therefore, the nation, as aforementioned, invests greatly into education, teaching and promoting cycling, aimed at for instance children and individuals learning to drive. This seems to be key in retaining the culture and ensuring its continuity. However, this is in contrast to certain findings of Harms et al. (2016), who claim that although such measures may have a positive impact on children, they have limited impact on adults, and further, that such measures are not very relevant in a nation such as the Netherlands which already houses a strong cycling culture with strong knowledge on the topic.

Further connected to education aiming to increase inclusion and promote cycling, is the governmental efforts into making bicycles accessible and affordable, further strengthening the cycling culture and extending it to individuals previously excluded from it. Moreover, the fact that road design promotes cycling and certain behaviour, further promotes the cycling culture. In sum, it seems a number of measures are needed in creating a cycling culture, aiming for inclusivity and accessibility, and targeting all members of the population. Importantly, it is then simply not enough to create such a culture, it has to be upheld and retained through consistent measures.

5.2.3 Financial

Proceeding to the aspect of financial capacity, the empirical data unravelled several points not highlighted by previous research. In general, it seems as if previous research has focused on practical key success factors and infrastructure design, rather than the source of funding for such initiatives and its implications. In reference to the literature review, the research of Alm and Koglin (2022) was unique in discussing these points, explaining how the amount and source of funding affects the initiatives. The empirical data shows that the funding and source

affects prioritisation of initiatives, setting the monetary boundaries and the design of initiatives. For several projects, a number of actors have been involved in the funding and implementation of an initiative, such as aforementioned collaborations with water, greenery, waste disposal or the railway company, ensuring each actor's interests are included in the final project. As a new redesign of a public space includes the perspectives and needs of stakeholders, it seems as if end results are improved when more actors are involved in the funding and design of a project, exemplified in the data by how a remodelling of a street was combined with directly installing new waste disposal, instead of doing it at a higher cost separately at a different time.

Nevertheless, the authors acknowledge that there may be difficulties to the inclusion of several stakeholders in the funding of a project, in line with the general idea of Irvin and Stansbury (2004), regarding how participation induces additional cost and time. This may partially be due to the need to collaborate and compromise, as different stakeholders may have divergent requirements and perspectives, as mentioned by respondent Hovenkamp.

5.2.4 Technical

The matter of sharing expenses between departments and organisations highlights a certain culture of the cycling planners in Utrecht, where there is an openness for collaboration and inclusion. Interestingly, discussions of the technical and internal capacity of cycling planners seems to be rare in previous research, and as the financial capacity, it was solely mentioned by Alm and Koglin (2022). This is notable, as the fact that the strategy culture affects all their decisions and actions, implies it would be of great importance for all their work, across all capacities.

In general, the internal capacity of the municipality of Utrecht is high. The involved employees are educated within the topic and have access to great know-how through experience and best practices. The empirical data showcases that strategies are largely based on best practices, and that planning benefits initiatives. This is useful knowledge for countries with less experience aiming to increase cycling, as it demonstrates the efficiency of such practices. Yet, the data further exposed the importance of occasionally disregarding such strategies and performing ad-hoc solutions, adapting to local and environmental requirements and policies. The previous research extensively lists best practices (Buehler & Dill, 2016;

Bueler & Pucher, 2011; Gössling, 2013; Heinen et al. 2010), yet abstain from highlighting the need for planners to think critically, ensuring elements of ad-hoc strategy are identified and implemented when necessary, thus improving the implementation of best practices.

Although having a strong internal technical capacity, the findings emphasise the importance of a willingness to collaborate to access external expertise, often local, to improve the municipality's planning and work. This showcases that even the municipalities which are deemed to be champions in their area, require external input and expertise to succeed, aligning with the notion of a paradigm shift regarding the approach to public administration in solving shared problems jointly, rather than separately (Bryson et al. 2014; Torfing et al. 2019). Such a willingness may be fostered out of necessity to bridge the gaps between internal and external local capacity, and through a created sense of urgency, either internally or externally promoted, as aforementioned.

The strategy of collaboration has allowed them to develop one of their most successful concepts, the aforementioned multimodal travel. In other countries and locations, cycling planners may see railway and public transportation as competitors, rather than partners. Yet, the collaborative and ambitious spirit of the cycling planners in Utrecht has allowed them to think beyond regular patterns, seeing the journey from a more holistic perspective, thereby finding new partnerships and means of increasing cycling.

5.2.5 Social

The social capacity, regarding the communication with different actors, was found in the empirical data to be integral in all capacities, as internal and external correspondence is included in the collaboration and work of all aspects. As with the financial and technical aspects, communication in particular was not included to a great extent in previous literature, which do not focus as much on the planners as on the plans. It is however emphasised by Alm and Koglin (2022), and implied by Harms et al. (2016), who claim cooperation and coordination with stakeholders is beneficial. Promoting communication, and thus collaboration and inclusion of stakeholders is however not undisputed, as Irvin and Stansbury (2004) found that citizen participation may be detrimental. The authors suggest being mindful of the degree of these interactions to reap the benefits without diminishing returns. Nevertheless, the municipality of Utrecht strives to improve their communication, through

managing expectations, stakeholder interactions and relations. The authors suppose that this has been a key success factor in creating their many successful collaborations, and in accessing external expertise, as mentioned in 5.2.4. Thus, the authors deem it relevant for future research to further examine communication in relation to cycling planning.

5.3 The art of stakeholder engagement in a public setting

What has become evident when examining stakeholder engagement in a public, rather than private, setting is that it has slightly different implications for the way planners balance competing stakeholder interests and desires. In hindsight, the conventional salience model proposed by Mitchell et al. (1997) can unravel how public officials prioritised claims made by the public and strong social movements during the times leading up to the tipping point in the mid-1990s. The collective interest of safety and environmental change was certainly perceived as a superior legitimate claim, and both the critical nature of the issues and considerable joint resistance reflects the influence of power and urgency dynamics on the corresponding policy changes favouring cycling. The coup de grâce of the car-centric logic in Utrecht ultimately came from this strong collective negative experience, managerial recognition of these counter-claims as salient, and as previously discussed, making cycling a non-political issue to foster promotion.

5.3.1 A nuanced outlook on stakeholder salience in a public context

A similar consideration of the dynamics of power, urgency and legitimacy can also be seen in modern times following the account of Poelman, however, numerous empirical findings seem to point toward a more nuanced way of prioritising stakeholders in a public setting. The municipality strives to meaningfully include marginalised parties, considers fairness, strives for broad representation with inclusion in mind, and most notably, explicitly acknowledges the danger of primarily engaging with those of superior resources and political power. This suggests that public managers not only determine the salience of stakeholders and prioritisation of diverse interests based on the abundance of attributes, but also from the scarcity of attributes. Specifically, it appears as if the legitimacy of a claim may outweigh a stakeholders power to influence plans through resistance, and the municipalities urgency in responding to these claims.

To exemplify, Jansen, Sneijder, Schippers and Poelman all emphasise the need to strategically gain insights from a stakeholder that can be influenced by a cycling initiative, but might not necessarily have the ability to voice their interest or traditionally be included in consideration. While some stakeholders do not wield significant power or urgency, and either cannot or will not organise to increase their salience, they may still be seen as a salient actor deserving of managerial attention and priority in claims, given the legitimacy of their perspective or knowledge. This can be a way of mitigating what is commonly referred to as epistemic injustice, the silencing and exclusion of one's knowledge or standing in communicative practices. Phillips (2003) may offer a way of perceiving it, as this way of considering stakeholders aligns with normative legitimacy, viz., someone to whom the firm owes moral responsibility, rather than derivative, viz., someone with potential to significantly influence the organisation. Naturally, this follows an analysis as to why prioritisation may be different in the public domain, and an attempt to contextualise when this occurs.

5.3.2 Alternative explanations for different dynamics behind salience

The public domain operates under a different ideology of inclusion, social equity, and seeks to create what is valued or good for the public in line with the idea of Moore (1995). This devotion to universal design and holistic stakeholder engagement contrasts a traditional, introspective focus on mere efficiency and effectiveness, and some support is found for a new approach to public administration advocated by many theorists (Bryson et al. 2014). Although resource-intensive, the focus is not to the same extent on limiting conflicting interests to maintain autonomy, but rather on encouraging it for design to reflect as many interests as possible. Following Savage et al. (1991), stakeholder management has an inherent element of defensiveness, aspiring to mitigate effects of non-supportive, salient stakeholders voicing opinion against plans. Yet, engagement in a public setting truly does shift the connotation, extending the scope of consideration, as the public setting may negate the defensive attitude due to its misalignment with public value creation. These findings complement the salience model by Mitchell et al. (1997), and reveal that legitimacy can be a more critical attribute in a public setting considering the moral obligation to create public value. This brings nuance to previous findings on drivers for managerial attention (Agle et al. 1999; Parent & Deephouse, 2007).

5.3.3 Legitimacy can be a more critical attribute in certain contexts

Naturally, this difference in identification and prioritisation may vary according to context. There appears to be a relationship to the support and "intensity" of public perception regarding initiatives. In times with low support, when public perception tends to become more intense, power and urgency is increasingly important as a guide for managerial attention. This is evident by the prioritisation of powerful, urgent, and legitimate claims by social movements leading up to the second phase in the Dutch transition. Conversely, in times with high support for the direction of policy, and relative calmness, priority based on power and urgency is less critical, allowing for a greater focus on the legitimacy of claims. This can be seen by the municipality's modern approach to stakeholder engagement. A larger focus on stakeholders with normative legitimacy, and consideration of those with low power and urgency, may be a luxury public managers can afford when times are good and the intensity of public perception is not as high. Considering the limited scope of this research, there is a great need for further research to unravel how prioritisation may function in a public setting, and contextualise it further.

5.3.4 Additional ways of identifying and prioritising stakeholders

While on the topic of identification and prioritisation, the importance of past relationships is also stated to have significant weight, although this is likely due to dynamics of power, urgency and legitimacy that have forged relationships over time. This implies that the value lies in the quality of past interactions and cooperation, which sets a foundation for future stakeholder engagement. All expert respondents further agree with Maak (2007) on the importance of long-term relationships for successful stakeholder engagement.

5.3.5 Importance of perceived fairness in engagement and outcomes

Another compelling finding, closely related to legitimacy, that seems rather overlooked in previous theory pertains to the consideration of fairness. We propose two perspectives, centred around inputs and outputs. The first considers the fairness of who and how one should be included in an engagement process, while the second pertains to fairness in gains and losses for public initiatives, such as the balance between attractiveness of cycling and cars.

The first implies that planners can potentially address historical imbalances and create a more inclusive decision-making process that reflects a wider range of interests and perspectives, which is crucial for developing policies that are broadly accepted and effective. The second means carefully considering and balancing the outcomes of this process, to ensure that the benefits of an initiative are equitably distributed and that any negative impacts are mitigated, or, at least, fairly compensated. This appears to not be about mere moral or ethical considerations, but also about enhancing the legitimacy of the process and outcomes. In this case, addressing fairness in both the inclusion process and the distribution of gains and losses can be essential for good stakeholder engagement in a public setting. As stakeholders see that their concerns and well-being are being considered, this may lead to more inclusive and supported outcomes in line with previous findings from Eaton et al. (2021) and Sloan (2009).

To what extent stakeholders are effective in sensing that involvement or distribution of resources is equitable, and choose to act upon them, is difficult to discern. The authors argue that stakeholders may distinguish whether engagement is perceived as a formality, or truly sincere depending on communication and outcomes. Moreover, the authors suggest that the stakeholders perception and likeliness to voice their opinion on a matter depends on the severity of an initiative, including its scope, visibility and expected outcome. Finally, on a more detailed and local level, the degree to which an initiative affects the property of a community, although not being large in scope, size, visibility or investments, may contribute to voices of opposition and connected actions through the aforementioned “not in my backyard” mentality.

Yet, such opposition may be overcome through communication in which context the initiatives are to be considered. The view by respondent Selbach makes the authors argue that how managers communicate and set the context for fairness of an initiative, whether it is fair on a local, regional, national, or global level, may influence how stakeholders perceive fairness and understand the rationale behind decisions. For instance, local unfairness may be perceived as fair, and accepted, if it contributes to the greater good of the city, nation or even the world. As absolute fairness may be impossible to reach, perceived fairness is what public managers should strive for. This implies that it may be advantageous to have a utilitarian mindset, or at least communicate it as such.

5.3.6 Further best practises of stakeholder engagement

This gives rise to a discussion about the best practices for stakeholder engagement in a public context. Following fairness, it is important to have a win-win situation, similar to a mutually beneficial relationship as advocated by Maak (2007), although it is not always attainable and hence solely advantageous to strive for. Further, all expert respondents emphasise the need for wide support for engagement, aligning with the notion of buy-in from Mitchell (2022) and commitment from Cullen et al. (2000). Similarly, a shared purpose or vision as a foundation for dialogue is also integral in line with research by Eweje et al. (2021). This may further be argued to facilitate the polder models' consensus-based consultation process, as actors can unite around a common cause while having diverging ideas of how to achieve it. Respondents Schippers and Hovenkamp also advocate for the importance of accessible gatekeepers and tailored, visual, and transparent communication to cater to the understanding of all stakeholders, a more nuanced view of the ideas by Eweje et al. (2021).

A critical factor for stakeholder engagement and its design, made evident by the account of Poelman, is management of expectations. Clarifying the boundary of engagement and the potential to influence decision-making clearly mitigates unwarranted conflicts, while it may also reveal opportunities to exceed expectations if insights indeed lead to a better outcome. This further shows the value of learning, by integrating insights derived from a trial-and-error approach to constantly strive for better engagement strategies.

5.3.7 Stakeholder engagement, strategizing or ad-hoc integration?

Finally, the findings call for further analysis of the relationship between stakeholder engagement and strategy. It is evident that previous research, including this paper's empirical findings, advocate for the use of top-down strategies to bring guidance for planners with best practices for cycling initiatives. A holistic and common approach for multiple stakeholders, and strong political leadership, ensures a unified direction for developments and prevents the loss of valuable insights. To exemplify, if there would be no top-down strategic Bicycle Master Plan, advocating for the consideration of cycling in broad fields of policies, then the process of creating synergies between the cycling and train networks would become a challenging task. The same argument applies for strategic design manuals and engagement plans. However, by nature, stakeholder engagement expects flexibility and a willingness to adapt with insights that may arise from the process. This shifting interplay between strategy

and ad-hoc integration of insights is argued by the authors to be an important factor to be mindful of for successful design and implementation of cycling initiatives, and has not yet been explored in previous research.

5.3 Collaborative governance

The municipality's way of governing for cycling initiatives aligns closely with the notion of collaborative governance (Ansell & Gash, 2008; Donahue, 2004; Donahue & Zeckhauser, 2006), and the planning culture from the polder model is strikingly similar to the very definition of collaborative governance proposed by Ansell and Gash (2008). This is clear given that deliberate engagement with non-state stakeholders is an integral part of the design, implementation and management of initiatives, as well as influenced by a democratic and consensus-oriented decision-making style. The reason for this collective decision-making approach is grounded in a need to gain resources and perspectives, and to anchor decisions with wide support.

Since the environmental benefits of cycling within the city can be reasonably inferred to be in large part a result of the realisation of decisions made collectively by the municipality and involved stakeholders, this paper finds support for the relationship between collaborative governance and improved environmental policy outcomes by Newig et al. (2017). Respondents further experience that this approach leads to more successful policy outcomes in line with findings by Ansell and Gash (2008), and also anchors decisions with wide support. There is substantiate evidence regarding the effects of cycling initiatives for the urban environment within Utrecht that add support for this experience. Still, considering the connected costs and disadvantages of participation presented by Irvin and Stansbury (2004), the authors suggest that further research needs to examine the potential point where an increase in collaboration in decision-making may lead to less beneficial and costly social, environmental, and economic policy outcomes.

As for the challenges of collaboration and management of diverse interests to reach this consensus, it appears as if a dedication to consider both factual and emotional arguments equally is important. Naturally, factual arguments may be more valuable in shaping the direction of policies, but emotional concerns are at least seen as equally legitimate. Further, it is reasonable to assume that one has to be comfortable with conflict and have considerable

patience to adopt the polder model effectively, given the inherent element of divergent interests and time-consuming nature of fusing these views. Stubbornness is also deemed integral to achieve progress and ensure that cycling progresses in policy. Overcoming this challenge means striving to identify alternative ways or outcomes that can bring content, although simply showcasing a willingness to consider and understand concerns may bring the same sense of satisfaction from stakeholders as seen by this research. This can be a way of upholding incentives to participate in the process, in line with findings by Ansell and Gash (2008) in order for collaborative governance to be meaningful to all actors.

Additional factors for successful collaborative governance are strong political leadership in favour of cycling to ensure progress, and to define boundaries of collaboration. Hovenkamp offers a unique perspective related to how collaboration can be upheld, by stressing the importance of having an active public administration that takes on a role as mediator between the different stakeholders.

A commitment to reach consensus and work together towards a shared purpose is also, similar to engagement, found to be of great importance, aligning with findings by Ansell and Gash (2008). With regards to collaboration, social movements are clearly highly influential in improving sustainable urban mobility in line with research by Bruno et al. (2021), as well as Fernandez-Heredia and Fernandez-Sanchez (2020).

5.4 Public co-creation

The research on public co-creation, especially factors for its success, may be incipient, although this paper shows some findings that may bring the field further. The accounts, especially from municipal representatives, acknowledge a strong need for a constructive exchange with multiple social actors in order to solve shared problems, in accordance with the description by Torfing et al (2019). This stems from the challenge to create what is necessary or good for the public by the municipality alone, and finds support for an experience of improved design and implementation of public policies for cycling. Engaging in multi-actor collaboration appears to be a way of improving the public services by extending the local capacity through the connection to new resources and knowledge from other stakeholders in the urban environment.

The co-creation format for design and implementation is however not suitable for all contexts, and it seems as if its operationalization relates to the degree of complexity and scale of public initiatives, and the need for integration with other initiatives. This is made evident by the example of the Merwede project, requiring detailed planning that holistically accounts for many aspects in the urban environment. There are difficulties in discerning optimal contexts for its use, as the prescribed extent of co-creation efforts, including the range of actors to include and frameworks for collaboration within different phases, is not clearly defined in previous literature.

A dependence on complexity, scale and integration is however reasonable as it aligns with the description by Torfing et al. (2019), explaining why co-creation can be a response to public management challenges in the first place. If problems are simple and the municipality can balance its scarce resources to innovate and solve the problem in-house, then the value of multi-actor collaboration diminishes. In this case, co-creation for a simple initiative can reasonably be assumed to potentially impede the process of designing and implementing initiatives effectively. Further, it may reduce the cost-effectiveness in solving problems, as more interests have to be managed and redundant resources are introduced.

The empirical findings suggest that the joint definition of problems, desired outcomes, and design of solutions in a co-design phase does facilitate co-implementation, as it produces detailed directions for actions, communication, and conflict management for all parties in complex projects. Yet, the co-creation process can vary depending on the level of external input the municipality allows in the process. For instance, the design of stakeholder engagement, including managing expectations, sets the boundaries for how much influence citizens and other stakeholders may have on the decision and process. Even stakeholders involved in the process have specified levels of contribution, as exemplified by the brief presented to the architectural firm by the municipality, stating the level of freedom and influence the company is allowed to exhibit and present.

The predefined level of contribution decided by the municipality should consider the benefits of co-creation and stakeholder involvement, as well as the connected risks and costs. Thus, the municipality may ensure that they truly exploit the innovativeness and different perspectives the stakeholders may contribute with, while still ensuring projects are for instance feasible and in line with policies.

To ensure that cycling specifically is promoted in large co-creation projects and integrated in the guidance for implementation, the ‘act now, apologise later’ approach was deemed necessary in some cases. This shows that an ad-hoc approach, where initiatives have to be championed despite doubts and continually fine-tuned after co-implementation in case of issues, may be a necessity for cycling promotion to receive more space in the urban environment.

5.5 Adaptation of the theoretical framework

The in-depth analysis of the relation between empirical findings from interviews, observations, and secondary data, and previous findings in academic literature, gives rise to an adaptation of the preliminary framework (figure 2). The authors are confident that this rendition provides an enhanced understanding of successful cycling promotion in Utrecht, and fully captures the dynamics between local capacity, co-creation, collaborative governance, and stakeholder engagement.

The final framework is not significantly different from the preliminary, as the components remain the same and jointly contribute to the creation of successful cycling initiatives in an iterative process. However, as visually presented, the final framework has two main differences compared to the initial framework.

Firstly, the authors visualise a separation of the local capacity of planners, and that of stakeholders, to highlight the internal and external capacity of various actors. Through viewing external actors as hosts of their own local capacity, this separation enables a refined and more detailed focus on the unique features and capacity of relevant stakeholders, more clearly unravelling promising opportunities and challenges for knowledge-sharing and collaborations between actors. This shift in mindset allows for a more holistic perspective, better mapping the capacity of the stakeholders and their potential influence on cycling initiatives.

Secondly, the framework highlights the centrality of the social aspect of communication as a common denominator between the different theories, and also as integral in all aspects of the local capacity. Notably, the social aspect is now further visualised as a larger entity,

interconnected with all other aspects, as the social interactions and communication are deemed to be inherent in all human endeavours. Instances of collaboration, or at the very least social interactions, are argued to be present in all capacities, ranging from internal activities to external collaborations. This is why the social aspect is no longer viewed as a separate aspect of the local capacity, but rather as an integrated aspect available and necessary for all aspects in local capacity, and further connected to the bridge communicating with external actors.

The social aspect is as in the first framework broad and aligns closely with stakeholder engagement, collaborative governance and co-creation, allowing for a clear intersection. Yet, its broad scope allows for the addition and inclusion of additional theories, extending beyond theories used in this research.

Examining the theoretical framework, it may be used as a guide and methodology for planners, allowing them to analyse their own internal capacity, and that of their network and stakeholders, benefitting an analysis of needs which may be accessed through external collaborations. This is done through an initial analysis of one's internal capacity, examining the included aspects. Then, one analyses which stakeholders are present and which capacity they hold, further identifying gaps, potential areas of knowledge-sharing and collaboration, through use of the bridge of social communication, including stakeholder engagement, co-creation and collaborative governance. Once this information is obtained, decisions can be made on how the necessary external capacity is to be accessed. Following, the planner may then once again use the social bridge, in order to attain said capacity. To clarify, the authors propose that stakeholder engagement, collaborative governance, and co-creation, can be seen as the critical mechanism that bridges the gap and allows for improvements to local capacity of planners.

Our analysis finds strong support for the importance of stakeholder engagement for the success of sustainable urban mobility projects (Beck & Storopoli, 2021; Lindenau & Böhler-Baedeker, 2014), and for improvements to bicycle infrastructure and the cyclability of Utrecht (Fernandez-Heredia & Fernandez-Sanchez, 2020; Ratanaburi et al. 2021). This is reflected in the final framework by its central position within the social aspect.

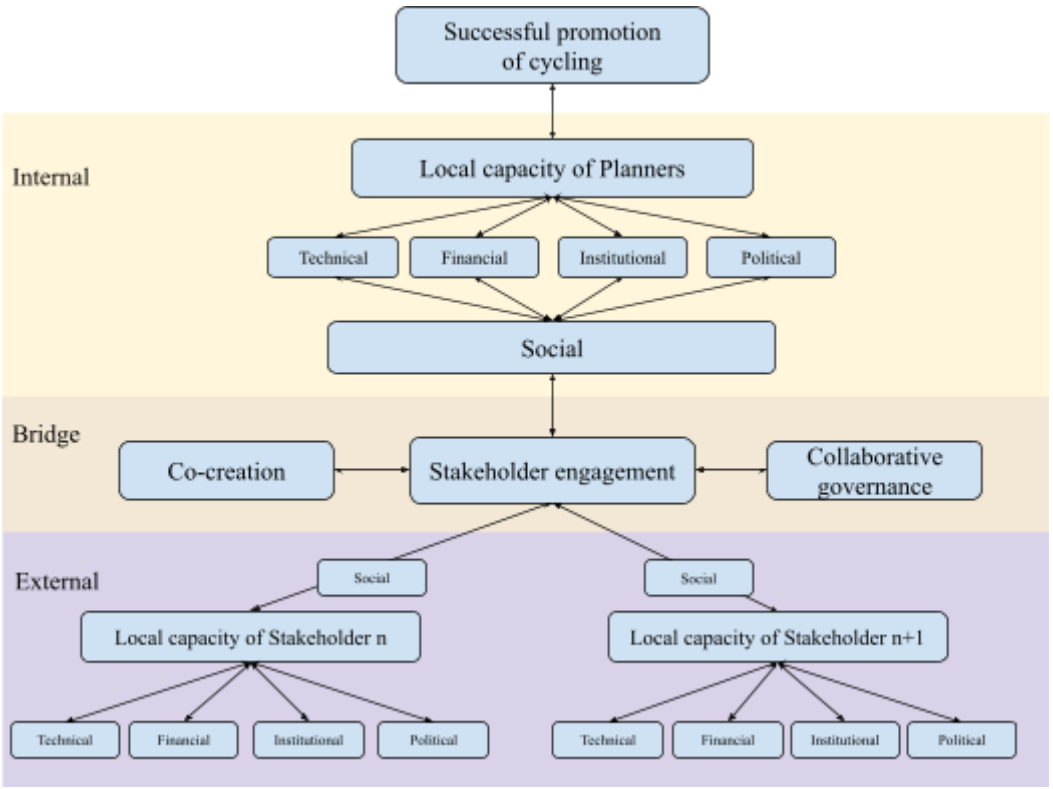

Figure 2. Final theoretical framework (Conceptually based on theories of local capacity, stakeholders, co-creation, collaborative governance)

6. Conclusion

6.1 Theoretical implications

This research has shown that stakeholder theory can be used in a public setting, with different perspectives focusing on a network of actors, and on value creation that seeks to create what is good or valued by the public, to analyse the phenomena of cycling within sustainable urban mobility. Thus, the research has contributed to reducing the aforementioned threefold gap regarding stakeholder theory.

The in-depth analysis not only advances the field of stakeholder theory through its interdisciplinary approach, but further substantiates how the included theories operate individually when applied in the context of Utrecht. The empirical findings also reveal that stakeholder theory, co-creation and collaborative governance can be especially promising to use in combination with local capacity.

Yet, the greatest theoretical contribution lies in the creation of a conceptual framework that can be used to understand both the preconditions and dynamics behind successful management in promoting cycling. This is done through the synthesis and influence of stakeholder theory, collaborative governance, co-creation, and local capacity. The authors argue that this framework not only offers a promising way of explaining cycling promotion, but any public administration venture for the creation of public value.

With regards to stakeholder theory, the authors argue for a need to contextualise the use of the conventional salience model by Mitchell et al. (1997) as a guide for managerial attention further, and contend that it operates differently within a public context that may seek to encourage conflicting interests, rather than limit them, by a larger extent than private companies. The attribute of legitimacy can be of greater importance in a public setting, and is closely related to the factor of fairness in stakeholder engagement. Perceived fairness is further proposed to be examined through two perspectives of inputs and outputs.

The research also advances the fields of co-creation and collaborative governance by highlighting its dynamics within a public context for the promotion of cycling. For

co-creation specifically, the authors offer a view of how a project may qualify for a co-creation format depending on its complexity, scale and need for integration.

Moreover, the research suggests a development of division of local capacity as proposed by de Loë et al. (2002) and used by Alm and Koglin (2022), removing the social aspect from the list of types of capacities, and rather highlighting it as an integral part of all efforts to increase local capacity. An internal and external dimension is further clarified.

6.2 Practical implications

The research further highlights the importance and dependence of high local capacity for designing and implementing successful initiatives to promote cycling and sustainable urban mobility. As the local capacity of Utrecht was deemed high, it allowed for the implementation of several initiatives that have contributed to making it one of the world's most cyclable cities. As the empirical findings regarding local capacity showcase a context of triumphant local capacity, it may serve as a tool for other planners, allowing for comparison of contextual factors and capacity. Other planners may then detect deviances to their context, allowing for analysis of how these gaps may be bridged, either by improving the internal capacity, or through external collaborations. Apart from serving as guidance, the research on local capacity has highlighted several key success factors, including aspects and practical recommendations to consider.

Firstly, the authors highlight the importance of decentralisation in cycling planning, as it allows for local adaptation and creates additional opportunities for learning, driven both by a general will to improve, and positive competition.

Secondly, the authors underscore the great importance of political will, both national and local, in initiating and continuously improving the cycling culture and infrastructure. This may require leaders to showcase fearlessness and grit.

Moreover, the authors explain how initiative planning, implementation and marketing should be adapted to whether the cycling transformation was ignited jointly by the public and the political leaders, or separately by the leaders or the public.

Lastly, the authors stress the benefits of designing and implementing initiatives in joint efforts, including several stakeholders. Not only does this allow for expense sharing, but it further seems to improve end-results and reduce instances of additional adjustments of public spaces.

Apart from considering the local capacity and the preconditions of cycling initiatives, this thesis identifies several initiatives which may be deemed as best practices for promoting cycling. Most align with previous research, while the factors of implementing bicycle streets and emphasising multimodal travel constitute relatively new and bold initiatives. The identified best practices for cycling are as follows:

- Developing and extending cycling networks
- Mixing traffic when possible through extending the concept of bicycle streets, and separating when necessary
- Building new facilities increasing convenience for cyclists
- Enabling scalability and optimised travel routes through multimodal synergies
- Designing initiatives with people in mind, having an end-user and customer journey perspective
- Creating attractive environments motivating cycling
- Reducing attractiveness of cars
- Educating the population on cycling

The research of this thesis further emphasises the importance of effective stakeholder engagement in order to increase the local capacity and foster the promotion of cycling within an urban environment. The identified best practices for stakeholder engagement are as follows:

- Promoting inclusivity, with critical legitimacy considerations
- Striving for mutually beneficial decisions
- Nurturing long-term relationships
- Considering perceived fairness in terms of input and outputs
- Securing buy-in and create a sense of urgency through engagement
- Creating a shared purpose and vision

- Managing of stakeholder expectations through clear boundaries
- Transforming learnings dynamically from mistakes into strategic guides

Although the best practices seem to contribute to the goal of increasing cycling, it must further be noted that they may contribute to champagne problems, such as gentrification, which have to be further considered.

6.3 Limitations of the study and future research

In considering the applicability of the final presented framework, the authors follow the previously discussed principles of validity. The authors are confident that the framework has explanatory power for the issue of cycling initiatives and further matters of public value creation. This is partly due to the depth of components from the integration of a wide set of theoretical concepts, and partly due to its augmentation with empirical observations and findings.

Further, its applicability depends on its flexibility, which allows varying inputs and outputs. The input can be adapted according to relevant stakeholders, and the output to the topic of observation. As inputs regard all factors affecting the local capacity of planners and external stakeholders, ranging from the political situation, to the relevant network and technology, it may be continuously updated to new contexts and situations and retain a relevant and holistic perspective.

The adaptability further concerns the output, which is decided by the researcher and may regard all matters of public value, ranging from sustainable urban mobility initiatives to water management. The framework further allows for the inclusion and integration of a number of theoretical concepts, such as participatory governance or additional branches of strategic management concerning stakeholders. The authors thus argue that the theoretical framework provides value to a number of areas, regarding social and general strategic management alike.

Reflecting on the framework's applicability in coming years and different contexts, the authors uphold that it will continue to be relevant, considering its flexibility in terms of inputs and outputs. However, the quality and ambitioness of identified best practices given the

framework will naturally be affected by local circumstances related to climate, topography, demography, as well as access to resources, as these aspects are of less controllable nature.

Furthermore, the bridge with components within the framework's social aspect, such as stakeholder engagement, co-creation, and especially collaborative governance, may not be of the same importance in a totalitarian, public administrative environment that lacks a collaborative approach. Moreover, the authors press the importance of the relevant planner using the framework enjoying some level of decisive power, as this is deemed necessary to manage initiatives and engagements, and further successfully reach and engage the relevant stakeholders. Consequently, it may be useful for cities, municipalities, regions and countries alike. Yet, the framework may yield less value when used by planners with a considerable number of stakeholders, as it will be increasingly difficult to conduct sufficient analysis of stakeholder capacity and dynamics of collaboration.

Regarding limitations of the study, it was conducted during a limited amount of time, in the context of a master's thesis. This further affected the amount of interviews conducted and literature reviewed. If the research were to be conducted again, additional respondents and stakeholder groups would be included in order to gain a better understanding of the field and opposing perspectives.

Regarding future research, the study could be conducted in new locations and contexts, but also in Utrecht as contexts are ever evolving, in order to analyse deviances and similarities in best practices and local capacity, and test the validity of the framework. The authors thus reflect critically on the timing of this study and realise that the consolidated findings of best practices for cycling specifically may change over time as learnings from new projects are integrated from the urban environment.

In line with this, the addition of comparative studies on the topic could improve the learnings and better showcase which contextual factors and capabilities have the greatest effect on outcomes and required initiatives. Furthermore, the topic could gain from a mixed-method approach including quantitative research, aiming to include a larger number of viewpoints and data, strengthening arguments and findings. Lastly, the authors underscore the general need for more research on the cycling planners, as previous research on cycling rather has focused on the plans, missing crucial aspects affecting the initiatives.

Moreover, additional research with larger resources and scope, and a focus beyond the public manager or the formal public sector, could adopt a definition of collaborative governance by Emerson et al. (2012) that enables distinctions among different applications, classes, and scales in public administration. Given the open nature of the social aspect within local capacity, future research could examine adjacent theories, such as participatory governance, within the framework. Future research could further analyse the importance of making sustainable urban mobility policies, such as for cycling, non-political from a GAL-TAN perspective to add nuance and provide additional learnings.

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Appendix

Appendix 1. Operationalisation and emergence of questions

This operationalisation provides an excerpt with examples of questions used, and establishes its relation to previous literature.

Topics	Questions	Connection to literature
Local capacity	1. How do you as a public municipality experience your ability to drive cycling initiatives? 2. Do you think that you have the knowledge and skill amongst your team to plan and implement cycling initiatives? 3. Do you think that you have access to sufficient funding and resources for your projects and initiatives? How does this affect your work? 4. How do you think that the laws and regulations, and the environment you operate in at large affects your ability to implement cycling initiatives? 5. How do you experience the political environment, and will, to increase cycling and sustainable urban mobility? 6. How well do you think that you understand the needs and wishes of different stakeholders and the public?	Alm & Koglin, 2022; Gargan, 1981; de Loë et al. 2002
Stakeholder engagement	1. What factors are important for good engagement with stakeholders?	Lindenau & Böhler-Baedeker, 2014;

	2. What actors are the main stakeholders for the municipality to consider in cycling initiatives, and why? 3. How do you engage with stakeholders, and why?	Beck & Storopoli, 2021; Ratanaburi et al. 2021; Fernandez-Heredia & Fernandez-Sanchez, 2020; Bryson, 2021; Eaton et al. 2021, Eweje et al. 2021
Collaborative governance	4. What is important to improve or maintain good relationships with actors you collaborate with? 5. Does there have to be incentives for actors to engage and participate to collaborate on cycling initiatives?	Ansell & Gash, 2008; Donahue, 2004; Donahue & Zeckhauser, 2006; Gray, 1989; Newig et al. 2017
Co-creation	1. How do you collaborate with other actors when deciding upon and planning cycling initiatives and innovations, such as Dafne Schippers bridge, The bicycle street innovation, Stationsplein Parking, or Merwede? 2. How are different actors like the public, companies, NGOs or similar, a part of the design of cycling initiatives? And the implementation? Why?	Torfing et al., 2019; Voorberg et al. 2015
Best practises for cycling	1. Utrecht is by many considered to be the world's most cyclable city, what do you think are the reasons behind this? 2. What do you think about the current development and the plans for Utrecht	Alm & Koglin, 2022; Buehler & Dill, 2016; Buehler & Pucher, 2011; Fishman, 2016; de Geus et al. 2008; Gössling, 2013; Harms et al. 2016; Heinen et al. 2010; Lam

	in terms of city and mobility planning? a. Do you think it aligns with best practices and what you would recommend?	& Head, 2012; Ton et al. 2019; Wang et al. 2016

Appendix 2. Interview guide for the municipality

Time of interview:

Date:

Interviewer(s):

Interviewee:

Position of interviewee:

Introductory statement: We thank you very much for your time and cooperation in this research. We would like to ask you for your prior consent to record and transcribe this interview. We would also like to remind you that your name will be anonymised, that you have the right to not answer a question, and can withdraw from the interview at any time.

Questions:

1. How would you briefly explain the history and development of cycling investments in Utrecht?
    a. What do you think are the key success factors making Utrecht one of the world's most cyclable cities?
2. How do you as a public municipality experience your ability to drive these initiatives?
    a. Technical

i. How do you assess your ability to build and improve mobility infrastructure?
ii. Do you think that you have the knowledge and skill amongst your team to plan and implement such initiatives?
    1. Do you collaborate with external actors to fill your knowledge gaps? How?

b. Financial
    i. Do you think that you have access to sufficient funding and resources for your projects and initiatives?
    ii. What is the source of your funding? How does this affect your work?

c. Institutional
    i. How do you think that the laws and regulations, and the environment you operate in at large affects your ability to implement cycling initiatives?
    ii. How do you think that your internal planning and strategy traditions affect your work?

d. Political
    i. How do you experience the political environment, and will, to increase cycling and sustainable urban mobility?
    ii. How do you generally collaborate with other actors when deciding upon and planning cycling initiatives and innovations, such as Dafne Schippers bridge, The bicycle street innovation, Stationsplein Parking, or Merwede?
        1. Are others involved in defining problems and desired outcomes?
    iii. What are the driving factors for this?

e. Social
    i. How well do you think that you understand the needs and wishes of different stakeholders and the public?
        1. What actors are the main stakeholders for the municipality to consider in cycling initiatives, and why?
        2. How do you engage with stakeholders, and why?
    ii. How are different actors like the public, companies, NGOs or similar, a part of the design of cycling initiatives? And the implementation?

iii. How do you work to achieve support for your initiatives?
iv. Why has the final say in decision making?

3. What capabilities are the most important for you as a municipality to drive cycling initiatives? What affects your ability the most?
4. What actor or actors do you think has to push for cycling to increase in other municipalities to see the same transition?
5. How does the municipality prioritise what stakeholders are most important to consider when doing cycling initiatives?
6. What is important to improve or maintain good relationships with actors you collaborate with?
7. Does there have to be incentives for actors to engage and participate to collaborate with you on cycling initiatives?
8. What factors are important for good stakeholder engagement, and for collaboration?

Closing statement: Thank you for your cooperation and participation in this interview. It has helped us greatly and we truly appreciate your contribution. The results will be used carefully and only for this research.

Appendix 2. Interview guide for academia

Time of interview:

Date:

Interviewer(s):

Interviewee:

Position of interviewee:

Introductory statement: We thank you very much for your time and cooperation in this research. We would like to ask you for your prior consent to record and transcribe this

interview. We would also like to remind you that your name will be anonymised, that you have the right to not answer a question, and can withdraw from the interview at any time.

Questions:

1. Utrecht is by many considered to be the world's most cyclable city, what do you think are the reasons behind this?
2. What do you think has contributed to this achievement? How did they do it?
    a. What are, in your opinion, the key success factors of Utrecht?
    b. What do you think about the municipality's capacity to drive change? What is needed?
    c. What do they have and what do they lack?
3. Why do you think that the government and the city of Utrecht are investing into cycling?
4. What do you think about the current development and the plans for Utrecht in terms of city and mobility planning?
    a. And the strong focus on cycling?
    b. Do you think it aligns with best practices and what you would recommend?
5. Who do you think are the main stakeholders in Utrecht's sustainable urban mobility projects?
    a. Are some stakeholders more important than others and why?
6. How do you think that they have been involved and/ or considered?
    a. How do they collaborate together?
7. Considering there are multiple actors involved with many different interests, what do you think are the most important factors for successful stakeholder engagement?

Closing statement: Thank you for your cooperation and participation in this interview. The results will be used carefully and only for this research.

Appendix 3. Interview guide for Dutch Cycling Embassy

Time of interview:

Date:

Interviewer(s):

Interviewee:

Position of interviewee:

Introductory statement: We thank you very much for your time and cooperation in this research. We would like to ask you for your prior consent to record and transcribe this interview. We would also like to remind you that your name will be anonymised, that you have the right to not answer a question, and can withdraw from the interview at any time.

Questions:

1. We have previously heard you describe how the transition came from strong political policies in response to social movements against car dominance in the 70's … Can you please elaborate further on the involvement and interests of different stakeholders in the transition?
    a. Who pushed this change? And why?
    b. Why has this not happened in other countries?
2. You have previously outlined how the 50 year transformation can be divided into two parts: A first 25 year period with a trial and error approach and the last period from the mid 90's and onwards when successes were made part of national legislation with manuals for road safety and street design passed down to each municipality.
    a. How would you characterise the approaches - when is it good to have an ad-hoc approach and when is it good to strategise from the top-down?
3. In countries where social movements have not been present to push initiatives, how is it different when transformations are instead pushed by the politicians?
    a. What is needed to get people onboard and create a cycling culture?
4. What do you think about the municipality's capacity to drive change? What is needed?
    a. What do they have and what do they lack in Utrecht, also in comparison to other countries and cities?
5. What are, in your opinion, the key success factors of Utrecht?
6. How do you experience the support for cycling in Utrecht?

    a. How has the municipality achieved this?
    b. What would be necessary to gain the same support in other countries?
7. Who do you think are the main stakeholders in Utrecht's sustainable urban mobility projects?
    a. What are their main objectives and interests?
    b. Are some stakeholders more important than others and why?
8. Are there any other stakeholders involved in the design of cycling solutions or is public service delivery solely the municipality´s responsibility? And for implementation?
    a. How do these actors collaborate together to problem-solve and bring innovations such as the bicycle street to light?
9. Considering there are multiple actors involved with many different interests, what do you think are the most important factors for successful stakeholder engagement?
10. For cycling in Scandinavia, most look to Copenhagen as a big-brother. Could you highlight the differences between the Dutch and Danish cycling schools?

Closing statement: Thank you for your cooperation and participation in this interview. The results will be used carefully and only for this research.

Appendix 4. Interview guide for OKRA Landscape Architects

Time of interview:

Date:

Interviewer(s):

Interviewee:

Position of interviewee:

Introductory statement: We thank you very much for your time and cooperation in this research. We would like to ask you for your prior consent to record and transcribe this

interview. We would also like to remind you that your name will be anonymised, that you have the right to not answer a question, and can withdraw from the interview at any time.

Questions:

1. How do you generally collaborate with the municipality when designing and implementing cycling initiatives and innovations?
    a. How do you contribute to the municipality's ability to work with cycling?
2. How do you experience your collaboration with the municipality?
    a. Is there anything which works well or less well?
3. What do you consider while designing the initiatives?
    a. How well do you think that you understand the needs and wishes of the public?
4. What does the process of designing and implementing SUM initiatives look like?
    a. Who is involved in this process and how?
5. How do you work to achieve support for your initiatives?
6. Collaboration and co-creation
    a. For the Merwede project, the municipality has collaborated with at least 9 different area developers. Can you tell us about your involvement in this project and the role of OKRA?
    b. What do you think are the most important factors for this collaboration to succeed with co-creation?
    c. When do you think it is more suitable to work with a co-creation format, and when is it less suitable?

Closing statement: Thank you for your cooperation and participation in this interview. The results will be used carefully and only for this research.

Appendix 5. Interview guide for public citizens

Time of interview:

Date:

Interviewer(s):

Interviewee:

Introductory statement: We thank you very much for your time and cooperation in this research. We would like to ask you for your prior consent to record and transcribe this interview. We would also like to remind you that your name will be anonymised, that you have the right to not answer a question, and can withdraw from the interview at any time.

1. What do you think are the most important things for a sustainable and nice city?
2. Do you think Utrecht is a sustainable city and why?
3. What do you think about the development of Utrecht?
    a. Do you support it or not?
    b. What do you like, what do you not like?
4. What do you think the rest of the population thinks?
5. Do you support further investments into the cycling infrastructure?
6. What do you think is most important for transportation and mobility in the city?
7. What do you think about the strong focus on cycling in Utrecht?
    a. Potential downsides?
8. Do you think that current plans for the future city development aligns with your wishes and needs?
    a. Would you do anything differently?
9. Do you think that the politicians have involved the public and inhabitants in the planning of the vision for Utrecht?

Tailored to Stationsplein

10. What do you think about the Stationsplein cycling garage?
11. Do you use it? Why, why not?
12. Do you think it affects how much people cycle?
13. What do you think is most important to get more people to cycle?

Tailored to bicycle streets

14. What do you think about the fietsstraat?
    a. Do you think it is safe?
15. Do you think they should be expanded?

16. What do you think about mixing traffic?

Closing statement: Thank you for your cooperation and participation in this interview. The results will be used carefully and only for this research.