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Women on Wheels: A Study of How Women Experience Cycling in Oslo and How It Is Dealt With in Planning

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Abstract

This thesis aims to broaden the understanding of women cyclists' experiences from Oslo, and to find out how these experiences are perceived and dealt with by the planning system. Based on theory on gendered mobilities, the thesis offers a qualitative study with interviews of female cyclists about their experiences of cycling in Oslo, interviews with bicycle planners about their perceptions of female cyclists' preferences and needs, and analysis of strategy and policy documents related to bicycle planning in Oslo municipality.

The experiences of the female cyclists were focused on the topics of cycling culture and incoherence in the bike lane network. The cyclists all had similar experiences of missing a common set of behavioural rules in the bike lanes, a perception shared by the bicycle planners. The cyclists were quite critical to the state of the bicycle infrastructure in Oslo, though several thought recent developments had greatly improved the cycling experience and that the cycling culture would improve with time and with more cyclists in the lanes.

The bicycle planners recognised most of the challenges described by the cyclists, and as such, there does not appear to exist any dissonance to speak of between the planners and the cyclists. The interviews with the planners and the analysis of bicycle strategy documents both showed that the bicycle planning in Oslo, despite documentation of imbalanced gender ratios among cyclists and research-based advice, has made few, if any, measures targeted specifically at female cyclists. Rather, the policy has been to make Oslo a city that 'everyone' can enjoy cycling in.

Coherent with the body of existing literature on gendered mobilities, the results of the thesis suggest that bicycle planning should put more emphasis on the preferences and experiences of underrepresented groups of cyclists.

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Any mistakes are my own.

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1 Introduction

Cycling causes virtually no environmental damage, promotes health through physical activity, takes up little space and is economical, both in direct user costs and public infrastructure costs (Pucher & Buehler, 2008). In short, cycling is environmentally, socially, and economically sustainable. According to Hägerstrand (1987), the bicycle era of the late 1800's was significant to women's liberation, as the bicycle became "[…] the most evenly distributed vehicle throughout age groups and social classes which has ever been invented. Even for 'young ladies'" (Hägerstrand, 1987, p. 24). But are female cyclists today experiencing the same freedom as their male counterparts? As Grudgings et al. (2018) point out, a low share of female cyclists represent an unrealised potential of health benefits on both the individual and societal level. Thus, is important to make cycling attractive to minority groups, such as women.

From 2015 to 2019, Oslo rose from below the top 20 to ranking as the seventh most cycle-friendly city in the world on the Copenhagenize Index (Copenhagenize, n.d.). This ranking score is a sum of the weighted average performance in three different categories of criteria. One of the parameters (*culture*) includes a city's bicycle gender split. Out of the three categories, streetscape, culture, and ambition, culture is the category in which Oslo has the lowest score. The municipality of Oslo aims to increase its biking shares by getting citizens who never cycle to begin to cycle, and by getting citizens who already cycle to cycle more often (Oslo kommune, 2014). To increase the appeal of cycling, bicycle-users' perceptions and needs should be acknowledged by decision-makers, and researchers call for more and better knowledge on different (types of) cyclists (Øksenholt et al., 2019).

In low-cycling contexts, the gender balance among cyclists is often quite uneven, with markedly more male than female cyclists. In high-cycling contexts, however, the ratio of male to female cyclists often approaches parity, and, in some cases, there are a larger number of female cyclists. Oslo can be described as something of a medium-cycling city, where the gender-cycling-gap seems to be quite small or even non-existent, at least in quantitative terms. In qualitative terms, however, there may well be some differences in several aspects between male and female cyclists, and it is still important to study women's experiences of cycling beyond what is found through standardised surveys:

> *"... [T]he concept of gender has proven productive for thinking through men and women's differential practices, experiences and representations of mobilities. [...] Research suggests not only that women have been less able and less likely to move with the same degree of ease as men, but that even when their physical motion appears to be exactly the same as men's, the meanings ascribed to it are never quite the same – indeed, they are often very different"* (Clarsen, 2014, p. 97).

Differences regarding where men and women cycle, how far they cycle, how many trips they make, what kinds of trips (from home to work, working out, taking children to school/day-care centre, other types of "care" trips, grocery shopping etc.). Although it may not be reflected in the sheer numbers of cyclists, women's experiences of cycling in Oslo being rather less comfortable and convenient than the one of men. Women's cycling is to a larger degree dependent on the right, or conducive environment, and women have been considered an "indicator species" for successful urban biking programs (Adams et al., 2017). This speaks for a bicycle strategy targeted especially towards women, and to achieve that, more and better knowledge about what female cyclists want and need from their city's bicycle infrastructure is needed.

The aim of this thesis is to broaden the understanding of women cyclists' experiences from Oslo and to find out how these experiences are perceived and dealt with by the planning system. By doing so, the thesis will hopefully contribute to a more gender-conscious bicycle planning, and to closing the 'gender data gap' (see, e.g., Temin & Roca, 2016). To reach this goal, I raise the following research questions:

- What are women cyclists' experiences of cycling in Oslo?
- How are women cyclists' interests, needs and preferences dealt with in planning for cycling in Oslo?

My findings about women's experiences largely cohere with previous studies, while analyses of the planning system show that bicycle planning in Oslo has little focus on the preferences of specific demographic groups of cyclists. The experiences of the female cyclists are focused on the topics of cycling culture and incoherence in the bike lane network, the cyclists having had similar experiences of missing a common set of behavioural rules in the bike lanes, a perception shared by the bicycle planners. There is little dissonance in the experiences and

perceptions of the cyclists and the bicycle planners. The interviews with the planners and the analysis of bicycle strategy documents both show that bicycle planning in Oslo, despite documentation of imbalanced gender ratios among cyclists and research-based advice, has made few, if any, measures targeted specifically at female cyclists. Rather, the policy has been to make Oslo a city that 'everyone' can enjoy cycling in. Coherent with the body of existing literature on gendered mobilities, the results of the thesis suggest that bicycle planning should put more emphasis on the preferences and experiences of underrepresented groups of cyclists.

A theoretical and analytical framework for the thesis is laid out in chapter 2. Approaching the research questions, I perform a qualitative study consisting of individual interviews of female cyclists and bicycle planners, and a brief document analysis of municipal plan and strategy documents related to bicycle planning in Oslo. The methodological approach is further embellished in chapter 3. The results of the interviews and document analysis are presented and analysed in chapter 4, before the findings are discussed in the light of relevant theory and literature in chapter 5.

2 Theoretical and analytical framework

"How people move (where, how fast, how often etc.) is demonstrably gendered and continues to reproduce gendered power hierarchies"
(Cresswell & Priya Uteng, 2008, p. 2).

2.1 Theory in planning

Within planning theory, a distinction is often made between theory about planning, theory for planning, and theory in planning. According to Næss (2021), theory about planning is often normative, and focuses on the tasks, procedural practices, and results of planning, while theory for planning regards the methods included in the craft of planning. Theory in planning is theory about the subject matters concerned by planning, i.e. the matters that are planned for, and relations and contexts regarding these (Næss, 2021). As this thesis aims to contribute to a more gender conscious cycle planning theory in planning is the most relevant form of theory in this context.

2.2 Terminology

Sex and gender

Gender can be a sensitive issue in several ways. Doing research on gender requires both ethical consideration and clarification of how the term us understood and used in a certain context. As explained by Korsvik and Rustad (2018), it has since the 1960s and 1970s been common to separate the sociocultural gender from the biological sex. The gender term contains norms, values, and expectations regarding what it means to be a girl or a boy, a woman or a man, i.e., gender roles. Gender also refers to actions and attitudes regarded as manly and womanly. These are all socially and culturally defined constructs that can vary across cultures, although, as Korsvik and Rustad (2018) emphasise, some gendered differences are considered more inherent and natural.

In its *Handbook for Gender-Inclusive Urban Planning and Design*, the World Bank defines sex as "[t]he biological categories of male, female, and intersex to which humans belong, based on sex characteristics and chromosomes" (The World Bank, 2020, p. 16). Sex characteristics include, but are not limited to, reproductive organs, genes, and hormone levels.

Intersex is described as an umbrella term referring to "… people who have one or more of a range of variations in physical sex characteristics that fall outside of traditional conceptions of male or female bodies" (The World Bank, 2020, p. 16).

The division between sex and gender is not absolute, and as Lykke (2010) points out, the two terms are connected in inseparable ways. Although the division has been constructive so far as it makes it possible to discuss the terms separately, it has also entailed a problematic separation of "[…] sociocultural and bodily material dimensions" (Lykke, 2010, p. 13). Korsvik and Rustad (2018) add that there is dissent among scientists about whether, and to what degree, differences between the sexes are a result of biological, sociocultural, or mixed factors. Both sex and gender may affect a person's mobility, how they experience mobility, and what expectations society holds for how the person performs their mobility. E.g., regarding cycling, the distance and kind of route a person chooses to cycle may be affected by biological differences between the male and female physique. From the gender perspective, there may for example be different workplace expectations for men and women regarding personal appearance (Cárcamo et al., 2021; Gurung et al., 2018; Peluchette et al., 2006). Both sex and gender are relevant to women's experience of cycling in Oslo.

Intersectionality

> *[I]ntersectionality can … be considered as a theoretical and methodological tool to analyze how historically specific kinds of power differentials and/or constraining normativities, based on discursively, institutionally and/or structurally constructed socio-cultural categorizations such as gender, ethnicity, race, class, sexuality, age/generation, dis/ability, nationality, mother tongue and so on, interact, and in doing so produce different kinds of societal inequalities and unjust social relations.*
>
> (Lykke, 2010, p. 50)

The above paragraph is professor of gender studies, Nina Lykke's (2010) idea of a broad definition of the term intersectionality. This definition offers an incomplete list of constructed socio-cultural categorisations, or "markers of difference" as Korsvik and Rustad (2018, p. 10) speak of, and as such does not mention the biological categorisation of sex. Lykke (2010) goes on to point out how the categorisations are interwoven, and the importance of studying these links. I will make some references to intersectionality in this thesis, as it is of both relevance and importance to the matter of gendered mobilities. Restricted by the scope of the

thesis, however, a thorough analysis of the intersectional factors at work will not be carried out here.

Mobilities

As a concept, *mobilities* is complex and infused with meaning and contested understandings. I will here briefly discuss a few of the many ways of approaching the term, to clarify how it is used and understood in this thesis.

Urry (2004, p. 28) identifies five interdependent types of *mobilities*, that "[…] form and reform social life". These are as follows:

1. *Corporeal travel of people for work, leisure, family life, pleasure, migration, and escape.*
2. *Physical movement of objects delivered to producers, consumers, and retailers.*
3. *Imaginative travel elsewhere through images of places and peoples on television.*
4. *Virtual travel often in real time on the Internet, so transcending geographical and social distance.*
5. *Communicative travel through person-to-person messages via letters, telephone, fax, and mobile phone* (Urry, 2004, p. 28).

Cycling as a form of mobility can best be understood as the corporeal travel of people, and as this is the mode of transport in focus here, the other four mobility types will not be further discussed. Looking at mobility from a gender perspective, unmade travels are just as interesting as the ones that people do make. In the introducing chapter of the book *Gendered Mobilities*, Cresswell and Priya Uteng (2008) emphasise that by mobility, they not only refer to geographical movement, but also to "[…] the potential for undertaking movements […]" (Cresswell & Priya Uteng, 2008, p. 2). The authors argue that to understand the concept of mobility, apart from the physical movement that can be observed, one must also understand "[…] the meanings that such movements are encoded with, the experience of practicing these movements and the potential for undertaking these movements" (Cresswell & Priya Uteng, 2008, p. 2). Bodily mobility, as understood by Urry (2004), includes the ability to move as well as putting this ability into practice. As can be drawn from the understanding presented by Cresswell and Priya Uteng (2008), the mobility term also implicitly refers to the lack of ability to move, i.e., immobility. Thus, the choices people make about moving their body can

be more or less free. This complexity is well expressed in the following three-way understanding of the mobility concept, suggested by Jones (1987, p. 34):

1. *Individual action, in the form of observed movement, or travel;*
2. *Potential action, in terms of journeys which people would like to make, but are unable to, because of limitations in the transport system and/or their own commitments restricting them in time and space, or financial restraints; and*
3. *Freedom of action: which may never manifest in action, but gives the individual options from which to select and the knowledge that he/she could do something.*

Priya Uteng (2019) notes that out of the three concepts of mobilities in Jones' understanding of the term, 'individual action' is the one that has been studied the most in relation to gendered mobilities, leaving 'potential action' and 'freedom of action' understudied concepts in this regard. Individual action is perhaps the easiest concept to measure and do research on. To find out more about women's experiences of cycling in Oslo, it is necessary to look at their individual actions, but by interviewing cyclists about these experiences I might also be able to uncover some potential action, understood as desirable but unmade travels, or travels made in a different manner than initially preferred.

2.3 Gendered mobilities

As Cresswell and Priya Uteng (2008) highlight, mobilities and gender are complex concepts on their own, and no less complex when put together. To better understand women's experiences of cycling and how they might be implemented in planning for cycling, I will draw from some of the existing research and literature on gendered mobilities.

Most studies show that women's travel patterns differ from men's in terms of mode choice, trip purpose, nature of trip chains or mobility level, i.e., number of trips, time and distance (Havet et al., 2021). As Havet et al. (2021) point out, the differences in trip purposes affect patterns of daily mobility – for example, women travel alone less often than men, make more short-distance trips, and their travels are more often non-job-related. While men more often travel longer and uninterrupted distances, women's travels are more complex and often made up of several linked journeys with different purposes (child-care, shopping, health centre etc.), known as trip-chaining. Arguably, these differences imply that women's experiences, perceptions and needs related to everyday mobility also differs from those of men, and that

mobility planning should consider these aspects. Priya Uteng (2019) points to several studies indicating that women might be more responsible and more sustainable than men in their mobility habits, and hence suggests that transport planning, from a sustainability perspective, should to a larger extent be modelled on the travel practices of women. As an example, a New Zealand study showed that although men are more likely to cycle than women and therefore are more physically active in their travels, women seem to vary more in their choice of travel mode and, on the whole, generate lower greenhouse gas emissions from their travels than men (Shaw et al., 2020). To achieve the long term goals of the transport systems, such as increasing cycling and reducing greenhouse gas emissions, Shaw et al. (2020) suggest that the social processes shaping travel should be considered better in the creating of policies and infrastructure.

Beebeejaun (2017) asserts that gendered conceptions of urban rights influence what areas of the city people go to and what kind of transport they choose. Beebeejaun (2017, p. 324) also points out that "[i]nclusivity, access, and safety are dynamically produced through space and negotiated in tandem with other people". I.e., a person's experience of a public space depends on, but is not limited to, how the space is planned, and what the culture is like. The members of the dominating culture play an important role regarding inclusivity and access for others, but the planning system can also contribute to inclusive urban spaces by promoting the needs and preferences of minority groups (Beebeejaun, 2017). To do that, planners and decision-makers must attain knowledge of what these needs and preferences are. Beebeejaun is not talking specifically about mobility, but her arguments are transferable to bike lanes as an urban space with its own culture.

An unevenness of mobility does not necessarily take the form of not knowing how to ride a bicycle, or not being able to afford a car. Drawing from Adey et al. (2014), Sheller (2018) suggests it may as well materialise as "[…] uneven *qualities* of experience, uneven access to *infrastructure*, uneven *materialities*, uneven *subjects* of mobility, and uneven *events* or temporalities of stopping, going, passing, pausing, and waiting" (Sheller, 2018, p. 23, original emphasis). And, as Sheller (2018) goes on, the possible unevenness of mobilities is affected by social practices as well as the design of the built environment. This would imply that cultural norms that apply to other dimensions of society, e.g., gendered norms about what is suitable and expected behaviour for men and women, might also influence how people experience mobility.

As Beebeejaun (2017) notes, there exists a gap between planning discourse and action, which manifests in a situation where we do have a feminist planning scholarship, but limited integration of gendered perspectives within planning practice. As a way forward, Beebeejaun (2017) suggests developing frameworks that draw more directly upon women's everyday experiences and spatial tactics. Beebeejaun (2017, p. 329) also stresses that although women, as well as minorities and LGBTQ communities, are experiencing fear of violence and crime in urban spaces, and although these issues are not solvable by planners alone, "[p]lanners as mediators can play a critical role within the urban agenda emphasizing the spatial dimensions of rights".

Drivers of gendered differences in cycling as mobility

Setting out to "… identify the ways policy representations of cycling and cyclists may work to exacerbate the marginality of certain groups by excluding them from representation" (Osborne & Grant-Smith, 2017, p. 44), an Australian study indicates, among other factors, hilly terrains as something that potentially hinders people, especially women, from choosing the bicycle above other means of transport (Osborne & Grant-Smith, 2017, p. 51). Their study is carried out in Brisbane, Australia, and although it is reasonable to assume that several aspects of cycling in Brisbane differ from the ones of cycling in Oslo, the study offers some transferable insights. Oslo, which can be considered a medium-cycling city, is hillier than many high-cycling cities in neighbouring countries, like Copenhagen and Amsterdam. The share of both men and women commuting by bike is larger in Stavanger than in Oslo, which, as Næss (2022) points out, could be due to the cities' differences in topography and traffic density, and people's average distance between home and work.

The initial thesis of Carroll et al. (2020) was that female risk aversion and lower levels of bicycle confidence might partially explain the gap between the male majority of cyclists and the low share of female cyclists in Ireland. Analysis of the 2016 census data, however, suggest that risk aversion was less crucial for women than income and education level, journey distance, as well as living in high-density areas. The results show that the main drivers of the gender-cycling-gap seem to be differences in geographic and demographic effects, for example that female cyclists appear to be more sensitive to distance than males (Carroll et al., 2020, p. 100). A city planning that takes women's mobility patterns into

consideration, then, would be one that aims for cities with short distances. As a possible way toward equal cycle shares, Carroll et al. (2020, p. 101-102) offer some gender-based policy recommendations based on their findings:

- Promotion of electric bicycles
- Provision of secure communal bicycle facilities in all apartment blocks (to reduce the disadvantage/hassle of bringing a bicycle up the stairs to one's apartment)
- Provision of showers and changing facilities in workplaces

A recent study of the Oslo bike sharing system show that apart from the share of male users and the share of trips by men being higher than the shares for women, the gender-bias of the bike sharing system is expressed in particular in the spatial distribution of male and female bike sharers (Böcker et al., 2020). The domination of male bike sharers in the city centre (32 % female cyclists) contrasts with the almost equal shares on the outer fringes of the city. The authors suggest this might be explained by geographic and gendered differences in employment sectors: "[d]owntown Oslo features large shares of employment sectors […] which nationally feature much high shares of male employment. In contrast, the more gender-balanced bike sharing routes outside the city centre appear to coincide with areas that host more female-dominated employment sectors" (Böcker et al., 2020, p. 396).

A study from Oslo by de Jong, Fyhri and Priya Uteng (2018, cited in Priya Uteng, 2019) suggests that men and women have varying preferences for cycling routes. While more women seemed to prefer cycling through residential areas with low traffic volumes, a higher volume of men was documented on cycle paths along the main arterial network, with opportunities to cycle at higher speeds.

Countries where many people cycle tend to have a larger share of female and older cyclists and a more equal share of trips for both work and non-work rather than primarily for work (Garrard et al., 2008; Goel et al., 2021). However, Aldred et al. (2016) find that an increased share of cyclists does not necessarily lead to a more balanced male/female ratio. In the USA, Pucher et al. (2011, pp. 454-455) observed a growth in cycling followed by an increase in the gender imbalance, as the bike mode share for women stood quite still over an eight year time period, while it rose for men. Aldred et al. (2016) argue that the gender ratio among cyclists might lag a bit, but perhaps will follow in the long run, as "cultural norms may take time to change and hold back changes in gender equity". To address the issue, Aldred et al. (2016)

suggest “deliberately targeting infrastructure and policies towards under-represented groups”. The ratio of male to female cycling rates is greatest in areas that are less attractive for cycling, whereas in the most attractive areas the ratio approaches parity (Grudgings et al., 2018). On average, women require a more conducive environment for cycling than men. Adams et al. (2017, p. 319) refer to women as an “’indicator species’ for the success for urban biking programs”, suggesting that women’s, in general, greater safety concerns and greater responsibility for grocery shopping and childcare can explain why there usually is a majority of male cyclists in areas with little biking infrastructure. The implication from these patterns seems to be that policy does need to consider the needs and preferences of under-represented groups, such as women, more explicitly. As Aldred and her colleagues point out, “… if the key to getting women cycling is building specifically for women’s (on average, more stringent) preferences, then getting more men cycling to work will not necessarily encourage gender equity” (Aldred et al., 2016, p. 33).

Reporting from the low-cycling context of Australia, Heesch et al. (2012) suggest that fewer women cycle than men because women felt more constraint to cycle by social and spatial pressures. Related to this, Law (1999) argues that

> *“Bodies are also the means of expressing our public self. Men and women are embodied in a social context which specifies norms of social presentation, such as clothing. So, for example, whether or not individuals choose cycling as a mode of transport to work depends in part on whether they are working within norms of presentation which allow them to feel comfortable arriving at work sweaty and dishevelled”* (Law, 1999, pp. 580-581).

Where cycling is a social normality in a city, the activity of cycling becomes less of an identity indicator, Aldred and Jungnickel (2014) argue. Similarly, Jensen (2013) argues that Copenhageners probably do not reflect much on or feel the need to identify their cycle identity, as cycling simply is “too normal” in Copenhagen – everybody cycles.

Gendered differences in cycling in Norway?

Based on data from the RESACTRA project in Oslo and Stavanger, a study of residential location, activity participation and travel behaviour, Næss (2022) has analysed men and women’s use of the bicycle as a means of transport. The analyses show that men travel to work by bike slightly more often than women, men’s average cycling speed is higher, and

their commutes are, on average, longer than women's (Næss, 2022). Regarding the frequency of bike rides to work, the differences between men and women are smaller in Stavanger than in Oslo, and regarding bike rides with other purposes, the differences are very small in both cities. The differences in commute distance are also bigger in Oslo than in Stavanger. These findings tally with research concluding that female cyclists tend to prefer cycling for shorter distances. The findings by Næss (2022) also cohere with those of Grudgings et al. (2018), who conclude that female cyclists, to a larger degree than male ones, are dependent on a conducive environment for cycling, and findings from high-cycling countries like the Netherlands, Germany and Denmark, which show that when the conditions are right, women cycle as frequently as men (Pucher & Buehler, 2008).[1]

Planning for different types of cyclists

Jensen (2013, p. 223) explores different aspects of cycling promoted in the cycling policy and strategy documents she has analysed, how different categories of cyclists (commuters, active urbanites, and middleclass families) are presented in these documents, and how different parts of Copenhagen's bicycle infrastructure are intended for different categories of cyclists. For example, a cycle superhighway for commuters, and the green cycle track system for a more sensuous travel experience. It seems that in Copenhagen, cycling is promoted both as a fast and flexible mode of transport, i.e., traits normally associated with driving a car, but also as a completely different form of mobility that brings you closer to nature and green areas.

2.4 The planned and the perceived

Fainstein (2016) believes that planning can be a means towards the end of just cities. Without getting into the debate of what a just city is or can be, I would argue that for planning to become such a tool, planners must be aware of existing unjustness so as not to reproduce the unjust mechanisms or unintentionally restrict the mobility of certain groups. Planners must also be given the proper tools, methods, and scope of action by politicians and other decision-makers to reinform their practice and act according to their awareness (Sheller, 2018).

[1] Women make 45% of all bike trips in Denmark, 49% in Germany, and 55% in the Netherlands (Pucher & Buehler, 2008, p. 502).

As Marquart, Schlink and Ueberham (2020) state, policy makers should acknowledge the perceptions and needs of bicycle-users in order to increase the appeal of cycling. To what degree do policymakers and planners actually do that? In a qualitative interview study from Leipzig in Germany, the two main topics explored among cyclists and a panel of decision-makers (planners and politicians) were (1) the reasons for cycling and (2) the perceived environment when cycling. The findings included both concurrent and diverging perceptions among the two samples of informants. E.g., both decision-makers and cyclists seemed to find bicycle facilitation along main roads important for cycling. The cyclists also focused on green spaces, fresh air and health benefits as motivations for their cycling, and would happily make detours to integrate these aspects – aspects that to a lesser degree were recognised by the planners and politicians (Marquart et al., 2020). Both groups brought up the importance of cycling being a fast mode of transport, while the decision-makers' focus on the bicycle-friendly topography and climate of Leipzig was not mirrored by the cyclists (Marquart et al., 2020). The study included only 13 cyclists and 6 experts, and, as such, cannot be used to generalise, but it still indicates a tendency that perceptions of cycling among those who cycle and those who plan for cycling (though they might be cyclists themselves), may not always overlap completely. As Marquart et al. point out themselves, "[their] findings are essential to stress the importance of participatory approaches in urban planning to promote a sustainable, healthy and environmentally friendly urban development appropriate to citizens' needs" (Marquart et al., 2020, p. 1).

In a Norwegian context, the relationship between "the planners" and "the perceivers" is relatively tight; with formal requirements for public hearings, public access, and the possibility to submit a complaint, public participation rights are in a strong position in Norwegian municipal planning. Although the threshold for getting into the bureaucratic paper mill is high for many citizens, as it can be both time consuming and resource demanding, municipal planning has in practice proved to be an open and inclusive process (Falleth & Hanssen, 2012). Norwegian politicians and government also have high legitimacy in the Norwegian people (OECD, 2016).

3 Methodological perspectives

In this chapter, I will explain the methodological choices I have made in order to answer the research questions of the thesis. The design I have chosen is not the only methodological way to explore these questions, but within the limitations of my own resources and the ones set by the thesis, I believe it to be the most suitable research design for this study.

The goal of the thesis is to broaden the understanding of women cyclists' experiences, and to shed some light on how these experiences are perceived and dealt with in planning for cycling. To achieve the aims and purposes of the thesis, I have carried out a qualitative study with individual, semi-structured interviews of women cyclists and bicycle planners, and a brief document analysis of municipal plan and strategy documents for bicycle planning in Oslo. This chapter presents the grounds for my scientific approach, selection of interviewees, collecting and processing of data material, and the quality of the research.

3.1 Qualitative transport and mobility research

Though more qualitative transport studies are emerging, traditional transport planning and research has focused mainly on quantitative, infrastructural data that have not been gender-disaggregated. To delimit "[…] our understanding of gendered aspects of urban mobility and our ability to design policies for gender equality," calls have been made for transport and mobility research to ask different questions in different ways (Gauvin et al., 2020; Priya Uteng, 2019). There is need for more and better knowledge on different types of cyclists (Øksenholt et al., 2019), for better knowledge on women's everyday experiences and spatial tactics (Beebeejaun, 2017), and for more gender-disaggregated studies on urban mobility (Gauvin et al., 2020). And, to develop frameworks that correspond better to everyday mobilities, there is "… a need to link the 'soft' or qualitative information to the 'hard' data information" (Priya Uteng, 2019, pp. 271-272). In no way does this thesis claim to provide the answer to these calls. But, within the limitations set by the scope of the project, it offers a small contribution to closing this research gap.

How do women experience cycling in Oslo? And how do those experiences relate to the professional point of view – what are bicycle planners' ideas of female cyclists' experiences? The questions of *how* cycling is experienced and *how* it is dealt with in planning, point to a qualitative research design as the natural choice for this study (Brinkmann & Tanggaard,

2012b). And, as pointed out by Marquart et al. (2020), one trait of qualitative research is its openness to unknown aspects, which might be difficult to uncover in quantitative studies. To explore women's experiences of cycling in Oslo and how these are dealt with in planning, then, I have chosen a qualitative research design, leaning on both quantitative and qualitative earlier studies, and, as suggested by Law (1999), drawing on literature from several disciplines.

3.2 Semi-structured interviews

Interviews based around open questions seemed like the most suitable approach to obtain information about personal experience related to a specific topic. Before the interviews, I had prepared a set of themes and questions in two interview guides, one for the female cyclists and for the bicycle planners. This is in line with what Johannessen et al. (2021) describes as a *semi-structured interview*. Being relatively new to the interview situation, an interview guide was handy both as a point of departure, a checklist to ensure coverage of the themes I wanted the interviewees to talk about, and as something to fall back on should the interview at some point stagnate. As Johannessen et al. (2021) point out, more structured interviews might have made it easier to compare the material from the different interviews. A tighter structure might also have made it harder for the interviewees to bring up issues important to them, but which I had not thought about. By asking open questions and letting the interviewees speak rather freely, supplementing with follow-up questions, I kept that possibility open. This proved to be a fruitful strategy, and one unexpected issue addressed by an interviewee was how uneven road surfaces in combination with gynaecological issues made cycling in Oslo quite challenging. As it turned out, this was a matter to which both I and the planners were oblivious.

Sample of interviewees

For the interviews, I had two samples: one consisting of female cyclists, and one of bicycle planners. The first sample selection was made from the population of female cyclists above the age of 18 and living in Oslo. Realising that recruiting cyclists from the street would be rather challenging and time-consuming, and that recruiting from a cyclist's organisation might bring about conflicts of interest, I chose to post an entry asking for participants in a Norwegian Facebook group for women. The group, which is called *Den selskapelige* ("the

sociable"), had about 10,000 members[2] and is a well-established apolitical forum that aims to be "… an informal space to think aloud about what being a woman today implies" (Den Selskapelige, n.d., my translation). Although members of *Den selskapelige* are not biased by virtue of being members, the group does perhaps contain a selection of women who, overall, are more engaged in promoting feminism and equality than women cyclists are in general. Some of the group members might be biased, therefore, in the way that they to a larger degree are aware of, or actively looking for, differences and inequalities between men and women in their everyday life. I would argue that even if this is the case, their experiences of cycling in Oslo are still both valid and valuable.

When choosing interviewees from the women who responded to my post, I sought to get some distribution of age. Arguably, it would also have benefitted the study to include a more varied sample in terms of socioeconomic status, ethnicity, and life situation, to cover more of the intersectional factors at work. Unfortunately, the ones with children that I contacted for an interview never replied, and none with ethnic minority background, the latter of which is a known minority among cyclists (see, e.g., Granbo, 2021). Another relevant perspective would have been the one of women who do *not* cycle, i.e., potential women cyclists. I was briefly in touch with a woman who had responded to my call for interviewees and said she had made a choice not to cycle in Oslo, because she deemed it too dangerous. I reckoned that her experience would be interesting and valuable to the study, but she did not want to take part. Lastly, though the research question is about female cyclists, it would surely have been interesting to compare their experiences with male cyclists.

To get in contact with municipal planners working with bicycle planning in Oslo in a strategical manner, I used my network combined with the snowball method, and found two young planners willing to participate. It would have been favourable with some planners who had worked longer on the bicycle project, and perhaps had more knowledge about how things have evolved. Unfortunately, none of the planners who fit that description responded to my attempts at making contact.

[2] The group has ca. 15,000 members as of May 2022. At the time I posted my entry asking for female cyclists to interview, the member count was closer to 10,000.

Regarding the number of interviews in a study, Kvale and Brinkmann (2009, p. 129, my translation) assert that the right number is "… as many as you need to find what you need to know". Beyond that, they point out that in a regular interview-based study, there are often between 5-25 interviews, around 15 being the more common number. Research experiences of recent years, however, highlight the advantages of conducting fewer interviews, so as not to drown oneself in the amount of data collected, and have more time for preparations and analysing of the material (Brinkmann & Tanggaard, 2012a; Kvale & Brinkmann, 2009). As a master's thesis, this study had some set limitations concerning the time and resources at hand. A total of 7 interviews were carried out, which, although being a low number, arguably is enough to give some indications of tendencies, implications for practice, and suggestions for further research.

Overview of interviews

Cyclists			
Name	**Age**	**Length of interview**	**Time/date**
Tove	54	25 minutes	08.10.2020 10:00
Anja	33	30 minutes	13.10.2020 16:00
June	26	30 minutes	14.10.2020 16:30
Selma	36	42 minutes	17.10.2020 11:00
Cathrine	30	25 minutes	20.10.2020 16:30
Bicycle planners			
Name	**Field of work**	**Length of interview**	**Time/date**
Henrik	Public participation, investigation/ fact finding, and strategy	37 minutes	24.11.2020 09:00
Lise	Statistics, cyclist counts, strategy in the beginning of projects	29 minutes	30.11.2020 09:00

Table 1. Overview of interviews.

Interviews with female cyclists

The interviews all began with small talk, information about the research project, and the interviewees signing their consent on the information letter, which they had received digitally beforehand. As suggested by Brinkmann and Tanggaard (2012a), the first questions I asked were open and easy, to warm up before I went into more detailed questions, and rounded off the interviews asking if there was something they would like to add or other questions they thought I should have asked.

As I did not have access to any well-suited interview space, the interviews were all conducted in different locations that were chosen based on their convenience for the interviewees. The first interview was conducted in the work office of the interviewee ("Tove"). This was probably the most ideal interview situation in terms of the comfort of both the interviewee and myself as an interviewer, no noise or disturbances, and also in covid-19 pandemic terms, as the office was quite spacious and allowed for the government recommended distance between us. One other interview was conducted in a group study room at the University of Oslo, which was convenient as the interviewee had previously studied there and the room had comfortable seating and space. Two of the interviews were carried out in rather crowded cafés, and one on a picnic table in a public park, as the café we had planned to meet in was full. The ones in the cafés were both disturbed by other café guests, which I think affected the atmosphere of the interviews a little in a negative way, and the quality of the recordings suffered from the noise.

Unplanned, all the women apart from one had cycled to the interview, which meant that they had been thinking about cycling right before the interview started. This proved to be fruitful for the interview, as they had fresh memories and experiences.

Interviews with bicycle planners

Because of the pandemic restrictions in Oslo at the time, the interviews with the bicycle planners had to be conducted virtually, via video chat on Teams. Despite the planners being talkative and engaged with the topic, and indeed highly familiar with the online meeting format, my experience was that this way of interviewing makes small talk less natural, and to a lesser degree allows for interesting digressions. It is also harder to read body language through a screen.

Data processing and analysis procedure

The time period of the data collection was from 8th October to 30th November 2020. I recorded all the interviews using a smartphone application developed by the University of Oslo, called *Nettskjema Diktafon* ('web form dictaphone'). This app allowed me to record and store the interview recordings in a safe and secure manner. I then transcribed the interviews using *F5transkript*. Drawing on the methodology developed by Næss (2018) and his colleagues, I worked out two interpretation schemes, one for the cyclist interviews, and one for the bicycle planners. In these schemes, I listed several sub-questions and topics relating to the research questions, and then read through each interview transcript looking for information that could answer these sub-questions. I used a simple colour coding to mark up the parts of each transcript that I deemed relevant to the different questions. By doing so, I could better compare information from the interviews. I also looked at each interview in a holistic view and tried to find the main message the interviewee wanted to communicate. The methodology that Næss and his colleagues used is rather comprehensive and included cross-interpreting and analysing by several researchers. For this thesis, I am unable to carry out anything of similar thoroughness or depth, but it stilled proved to be a fruitful method for analysis. The interviews were conducted in Norwegian, and all citations have been translated to English by me.

3.3 Document analysis

To get a better understanding of whether and how bicycle planning in Oslo deals with the gender aspect, I carried out a document analysis in addition to the interviews with the planners. Where the interviews were more concerned with the planners' perceptions of what cycling in Oslo is like for women, doing an analysis of bicycle-related municipal plans and strategies could offer some insights in how the municipality works with the topic, and how the issue is framed and communicated towards the public. The document analysis is also a way of triangulating the information from the planner interviews, giving me two different angles to approach the question of how female cyclists' preferences and needs are dealt with in planning. With an explanatory design, the document analysis was conducted in the preliminary phase of the work on the thesis, and I could then seek to elaborate the findings from the analysis in the interviews with the bicycle planners (Johannessen et al., 2021). This was beneficial as it served to give me an overview of the municipality's bicycle planning and helped me prepare themes to bring up in the interviews.

Asdal and Reinertsen (2020) highlight the importance of delimiting the body of text to analyse, to ensure some degree of order and overview of the data material. Fixing a limit like that can also be a disadvantage, as it might reduce the validity of the findings and conclusion of the analysis. Extending the body of text to include, e.g., internal municipal documents, or documents offering national and regional guidelines for bicycle planning, might have enlightened the topic further. With the resources at hand, however, I found it reasonable to focus on the plans and strategies available at the website of Oslo municipality. It is reasonable to assume that higher-level guidelines are incorporated in the municipal strategies. These documents are also as available to me as they are for anyone seeking knowledge about the municipality's cycle strategy, and it is therefore interesting on another level to look at how this information is presented to the public. The analysis is hence limited in scope and depth, but nonetheless gives an idea of how the issue of gendered cycling perceptions and preferences is handled at the municipal level.

List of analysed documents

Document title	**Norwegian title**
Oslo bicycle strategy 2015-2025	Oslo sykkelstrategi 2015-2025
Oslo bicycle strategy 2015-2025, short version	Oslo sykkelstrategi 2015-2025, kortversjon
Evaluation of Oslo's previous bicycle strategy 2005-2015	Evaluering av Oslos sykkelstrategi 2005-2015
Report on the bicycle status for Oslo, 2018	Sykkelredegjørelse for Oslo 2018
Plan for the network of cycle paths in Oslo 2016, passed in City Parliament in 2018	Plan for sykkelveinettet i Oslo 2016

Table 2. List of analysed documents.

Text analysis can be both qualitative and quantitative, as both the interpretation of words and phrases, and the frequency and variations of them, can be necessary to include (Lindgren, 2011). Analysing the documents, I had worked out some questions that I was "asking" the

documents, and some words and phrases I was looking for, but was also prepared for the documents to communicate things that I had not thought of beforehand. I searched for references to keyword such as ‘women’, ‘men’ and ‘gender’, looking at how and in what contexts these words were mentioned. I skimmed through the texts to get a more holistic gaze at the documents and looked at photos and illustrations for how different cyclists were portrayed. It is very possible that I have missed some information by using this method, but as Asdal and Reinertsen (2020) points out, it is important to set some limits for the document analysis to keep the work from becoming insuperable.

3.4 The quality of the research

Within the social sciences, the trustworthiness, strength, and transferability of knowledge are often seen in connection to the terms reliability, validity, and generalisability (Kvale & Brinkmann, 2009). In this section, I briefly discuss how these matters relate to qualitative research and how they have been handled in this study.

Reliability and validity

Qualitative reliability indicates the consistency and trustworthiness of the research, e.g., whether a different researcher doing the same study at a different time would get the same results (Kvale & Brinkmann, 2009). Yin (2003, cited in Creswell, 2009) emphasises thorough documenting of the research procedure as a way to enable measuring of a study’s reliability. In addition to the statements in this chapter, information letter and interview guides are offered in the appendices. A methodological operation that might have weakened the reliability of the thesis, is my translation of the citations, in which the interviewees’ intended meanings may have been altered. By going back to the empirical material and reassessing my interpretations of the interviewees’ statements, I have tried to avoid any loss or altering of meaning.

In social sciences, validity refers to the suitability of the chosen method to examine what it purports to examine. In qualitative research, it implies checking the accuracy of the findings by “employing certain measures” (Creswell, 2009, p. 190). Because the qualitative field of research includes so many and various methods, these “certain measures” are many and various as well, and, as Miller (2008) explains, judging the validity of a qualitative study is therefore often based on individual and contextual criteria, rather than broadly applicable

standards. For this thesis, both triangulation and clarification of researcher bias add to the validity of the study. A clarification of the bias I bring to the study is provided below.

Clarification of researcher bias

Postholm (2010) stresses the need for the researcher to make her own theoretical position and outlooks on the research topic clear. Being open and honest about the things that may colour a researcher's interpretation of her findings, like gender, culture, or socioeconomic background, makes the research more trustworthy (Creswell, 2009). Creswell (2009, p. 192) even highlights this way of reflectivity as "… a core characteristic of qualitative research". In that regard, I believe it is relevant to state here that I consider myself a feminist, and that I am a frequent (female) cyclist. It is therefore very much in my self-interest to map out the topics of this thesis, and to find answers to the issues brought up both by myself and by the interviewees. My starting point as a female cyclist also implies that should this thesis lead to, or have the slightest impact on, any form of improved conditions for female cyclists in Oslo, that would essentially be beneficial to myself. Having been aware of these biases all along, I do not believe that they have influenced my work on the thesis in any less desirable way. Rather, it has inspired me to follow through with the project and, by doing so, contribute to closing the 'gender data gap' (see, e.g., Temin & Roca, 2016).

Information and the Norwegian centre for research data (NSD)

Before signing their consent to take part in the study, the interviewees were given a detailed information letter which stated the purpose of the study, how it would be carried out, and the interviewees' rights as participants. The female cyclists and the planners were given slightly different letters, with the consent form for the interviewees to sign attached. For information letter and consent form in Norwegian, see appendices. The processing and storing of data was carried out in accordance with NSD's recommendation on data handling and guidelines for ethical research.

4 Material and findings

Who owns the bike lane? – Tove (56)

This chapter is divided into two parts cohering to my research questions. In the first part, I present the empirical data I have gathered about female cyclists' experiences of cycling in Oslo, and in the second part, data showing how those experiences are perceived and dealt with within the planning system. As described in the methodology chapter, the data is extracted from interviews with female cyclists and with planners, as well as from municipal strategy documents related to cycle planning.

4.1 What are women cyclists' experiences of cycling in Oslo?

To attain a better understanding of women's experiences of cycling in Oslo, interviews with five female cyclists were carried out. The interviewees are anonymous, and (as shown in Table 1) they are here given the names Tove, June, Anja, Cathrine, and Selma. Based on existing literature and previous studies of the mobilities of women, and perhaps also on my own experiences as a female cyclist in Oslo, I had some notions about what the interviewees might say, and several of these notions seemed to tally with the stories and experiences the interviewees expressed. For instance, the well-documented higher risk-aversion among women seemed to ring true for some of the women, but not all. Some of the interviewees brought up unexpected themes, like how the paint used for signs on the tarmac in the bike lanes could worsen the cycle experience by making the surface more rugged. Cycling culture and bicycle infrastructure were the major recurring themes in the interviews, and the two next sections will focus on these themes, while the last section of chapter 4.1 brings up other aspects of cycling in Oslo that the interviewees talked about.

The purpose of a bike ride, along with what motivates one to cycle, might influence how someone experiences cycling in the city and what they expect, both from the activity itself and from other road users. The cyclists I interviewed had all been cycling regularly for a sustained period of time before the interviews took place, and they were initially fond of cycling as a mode of transport. When asked to describe what cycling means to them in one word, they used words like freedom, pragmatic, and well-being. While Cathrine cycled

mainly to exercise and to be social, the four others used their bikes mostly for transport purposes. Anja and Tove would sometimes go for recreational bike rides, Selma and June would seldom or never do that.

Cycling culture

All the cyclists had slightly negative perceptions of the cycling culture in Oslo, but with somewhat differing focus and thoughts about how it affected their personal cycling experience. For Tove (54), the cycling culture, or lack thereof, has contributed to her rather anxious relationship to cycling in Oslo. Tove described the culture as horrible and on the premises of young and fast-cycling people. She recounted her experiences of people not being considerate of other cyclists in the bike lanes, and how she often has felt herself frowned upon because she cycles at a slower pace than perhaps most commuter cyclists.

And the pushing, by those who want to move forward fast… it is a lot on their premises, and it is very often young men. I see that. I'm sure it's fit young women as well, but it is mainly young men that I see push their way past me. – Tove

Tove explained that although she loved to see young fathers biking with their children, they were among those she had experienced as least considerate of other cyclists, being highly confident and expecting others to give way. She thought the male self-confidence in bike lanes bore resemblance to that of car traffic, which "has often 'belonged' to men", she said, and that the same cultural arrangement has now been transferred to bicycle traffic. Tove often finds herself cycling along Kirkeveien, but she finds it quite stressful, particularly during rush hour. Although there is more designated road area for cyclists along this road now than earlier, the top-speed-culture is so uncomfortable for Tove, who prefers a moderate cycling speed, that she would rather spend some extra time on her commute and make a detour through a calm residential area. Kirkeveien would otherwise be the fastest and most logical cycle route between her home and work.

> *So, during rush hour, I don't cycle in Kirkeveien. I'm so scared… and, I've had several experiences of being almost run over or… being pressed out in the car lane where there's car traffic and buses and this and that.* – Tove

Tove is concerned about the direction in which the cycling culture is developing, and her main worry is other cyclists. Although Tove is an experienced cyclist, she has the perception that the high speed and the air of competition in the bike lanes, which in her view is propelled mainly by male cyclists, create challenging and potentially dangerous situations. She raised the topic of ownership regarding the bike lane in a way that is quite telling of Tove's personal experience of cycling in Oslo, but also of the need to address the cultural issues in the bike lanes to obtain a more inclusive cycling culture:

> *I think in some ways [the construction of bike lanes] made it worse, because when you're in the bike lane, the traffic there is fully on the terms of the speediest cyclists. And I am a middle-aged woman cycling with my basket, it terrifies me. So… who owns the bicycle lane?* – Tove

Regarding the attitude and behaviour towards cyclists that are somehow not part of what can be perceived as the speedy mainstream in the bike lane, Cathrine (30) has experiences that can relate to Tove's. Because of her functional impairment, Cathrine uses a handcycle that takes up a bit more space than an ordinary bicycle. This becomes an issue when narrow bike lanes make it challenging for other cyclists to overtake Cathrine on her handcycle, as they are forced to use the car lane to get past her:

> *I feel that the cycling culture in Oslo is challenging. There are a lot of high-speed cyclists that get mad at me when I cycle, because they cannot get past me, because I use the whole bike lane … so they will have to get out into the car lane. […] And I think there is little respect between cyclists, and little respect between cyclists and drivers. […] A bit of attitude campaigning among the cyclists wouldn't do any harm. If you're not cycling as fast as these super exercisers who cycle to work every day, it's like… you get a lot of stares, and people are almost annoyed if you occupy, in quotation marks, the bike lane.* – Cathrine

Anja (33) expressed ambivalence towards the cycling culture in Oslo. Although she described it as poor, she did not appear to be very concerned about it; she easily notices bad traffic behaviour and can get hung up in it, but she still assumes that most cyclists in Oslo are well behaved. The things she did mention as problematic behaviour by cyclists were related less to

bike lane etiquette, and more to traffic regulations, e.g., lack of bike lights when it is dark out, not stopping at red lights, and not complying with yielding rules. Anja believes in group effects, i.e., that more people cycling will gradually bring on improvements to the cycling culture by people learning from each other, but also that more cyclists will lead to more bicycle accommodation and facilitation, and thus, the consolidation of cyclists' place in the urban landscape.

> *Just the fact that people use… that you see cargo bikes in the cityscape now, with young children on them, I think that's very positive. It shows that cycling is for everyone, and you have to be considerate sometimes, there's no point in stressing.* – Anja

> *I don't know if it's because I recently did the theory test for my driver's license, and I have the rules fresh in my mind, or if I'm just a more careful person, or maybe women are more… more bent to follow the rules, I don't know.* – Anja

In contrast to this mention of women being, perhaps, more law-abiding, Anja exemplified the kind of reckless bike riding she would observe in Oslo with "men over the age of 40 who have their helmet on but haven't clicked the strap beneath their chin! What's the deal with that?". Though men being more prone to bending the rules does not necessarily affect women's experience of cycling, Anja's comments relate to studies showing that female cyclists have higher risk-aversion than their male counterparts. Similarly, Cathrine, who often goes cycling with friends who also use handcycles, was clear that her female friends using handcycles were more concerned with safety than her male friends. Cathrine herself was concerned about other people's safety as much as her own, considering that her handcycle has an electric helping engine that makes her bike come up to relatively high speeds.

Like Anja, June (26) had the impression that most Oslo cyclists are well-mannered and considerate towards other road-users. The minority who behaves less according to traffic regulations is the most troublesome thing about cycling in Oslo for June. Her experience is that there are no real consequences for cyclists or pedestrians who break the rules, and the culture of bad traffic manners sustained by cyclists, pedestrians and people on e-scooters forces drivers to act as if most non-drivers are likely to break traffic regulations, hence contributing to more confusing and, ultimately, potentially dangerous traffic situations. June

highlighted situations where it is unclear if somebody is behaving according to the rules for cars, bikes, or pedestrians as particularly bothersome. June did not seem to have any conviction that inconsiderate cyclists were of a certain gender. Rather, she believed that the cycling culture would improve as an effect of more people starting to cycle, insinuating that the bad culture to a large extent is caused by inexperience. For instance, compared to other bike paths, June experiences the traffic culture as better along the bicycle highways, e.g., the Tour de Finance[3], where there are more regular cyclists and where it is easier to follow and copy the behaviour of other cyclists. June, like Anja, expressed firm belief in a so-called group effect that will help improve cycling manners over time.

Selma (36) described cycling in Oslo today as a 'fight or flight' situation, where the culture is completely off. One of her main concerns was her experience of the Norwegian cycling culture as rather young, evident in situations where "neither cyclists nor other road users seem to be very used to how to behave around cyclists in traffic". Looking forward, Selma voiced views similar to the ones of June and Anja regarding improvements prospects for the bicycle culture:

> *I think [it's good that] the number of cyclists is increasing, because that means there will be more focus on cyclists, both because cars will realise that there's a… new type of road user you have to consider. And the cyclists themselves will get more used to it. There are more dangerous situations because there are more cyclists, and you have to start considering the other people in the cycle lane – you're not on your own.* – Selma

This optimistic view is quite the opposite of Tove's worries that more cyclists and the addition of new types of road users, e.g., e-scooters, will make traffic more chaotic than it already is.

June's cycling experiences did not seem to be particularly influenced by her being a woman. However, when June recommended cycling to her female friends, they would reply that the prevalent air of competition in the cycling culture made them feel unsafe, especially during rush hour. Some of them had also experienced uncomfortable and undesirable situations while

[3] *Tour de Finance* is a nickname for the cycle path between Oslo city centre and Lysaker.

cycling, like receiving misogynistic comments from strangers. In June's understanding, her friends were having these negative cycling experiences because they were women:

> *And several have also told me that they've experienced being shouted at, being asked to move over, and foul language. And some of it has been… misogynistic exclamations. And they feel unsafe because they are women. […] I get angry more than afraid. If I think someone is acting ridiculously, I'll let them know.* – June

June reasoned that when her female friends received comments on their cycling or on how they behave in traffic, a layer of misogyny is added to this commentary and doubling the experience of discomfort. She insinuated but did not explicitly express that the ones making these comments were men. This is not necessarily saying that male cyclists in general are less considerate than female ones, but that the misogynistic experiences women may have elsewhere in society can also be had when they are cycling. Considering the emotional and mental discomfort such experiences from cycling could amount to for a person, Oslo's bike lanes could be perceived as a relatively unfriendly space for some women – an understandable motive for choosing alternative modes of transportation. It seems that June herself is not bothered by the things that her female friends see as disadvantages of cycling, at least not to the extent that it hinders her from cycling. It is unclear what makes June and her friends experience these things differently. Is June less bothered by this type of comment in general? Or perhaps it has to do with her being a more experienced cyclist and, thus, her having a relatively stronger integrity in the bike lane.

Infrastructure and bicycle facilitation

Next to cycling culture, infrastructure was the major issue that concerned the cyclists. Bicycle infrastructure is arguably easier for planning to work on than attitudes and behaviour. An incoherent network of bike lanes, tram tracks, road bumps, and the lack of safe parking facilities were recurring issues in the interviews. Selma, who had cycled for many years while living in Denmark without ever considering the road surface, cited the bad state of the tarmac as one of the main reasons she did not enjoy cycling in Oslo:

> *My stance is that… when you're cycling in Oslo, apart from some places where there are new bicycle lanes with that nice red tarmac, there's a lot of rugged and uneven*

> *road surface. And there's a lot of road verges and manhole covers. And when they paint things, like those symbols that tells you you're in a bike lane, whether it's a bike or whatever, they use a paint that's quite 'thick', and when you're cycling across it you get that thump-thump-thump, and it's the same with the manhole covers. So, it's- I have a sensitive pubic region, which makes that very uncomfortable for me. […] These painted signs on the tarmac and the manhole covers force you to either cycle like a snake to avoid them, or cycle really slowly, to avoid the worst bumps. And the whole point of finally having a long and amazingly accommodated bike lane, it kind of goes out the window with all those obstacles in the road.* – Selma

Though June mentioned gynaecological issues related to bicycle seats and cycling shorts, Selma was the only cyclist who raised the road surface as an issue. From her years living in the high-cycling city of Copenhagen, she had a solid basis for comparison. Though there might be interesting connections between women's gynaecological problems and the surface they cycle on, such connections would likely be found for men as well. As such, the topic is less relevant to the research questions of this thesis, though arguably, Selma's experience calls for bicycle facilitation to focus on improved and smoother bike lane tarmac to benefit all cyclists.

Using a handcycle that is broader than an ordinary bicycle and which places the cyclist relatively closer to the ground, Cathrine cycles only in designated bike lanes and cycle paths. This results in her finding it more challenging to cycle the narrower a bike lane is, and she faces a big problem if the bike lane abruptly ends. If the accessibility is bad, Cathrine sometimes must get off her handcycle and sit on the ground to move it before getting back on again, as her ability to stand depends on her day-to-day condition. Hence, two factors that play a major role towards Catherine's feeling of safety when cycling, are the width of the bike lane and whether there is a physical partition towards car traffic. The narrowness of the bike lanes was also highlighted by Tove, as something that contributes to dangerous situations while cycling.

Cathrine's least favourite part of the city to cycle in is the city centre, where there is less designated road area for cyclists, and more mixing with other road users. Cathrine estimated that, with her handcycle, she experiences fivefold the challenges a regular cyclist meets in

traffic, and it was her comprehension that she worried about safety in traffic a lot more than her male friends.

> *We've talked about it, especially among those of us who use a handcycle, because you're sitting so close to the ground, you should be aware of it. But then my [male] friends will be like 'oh well, I'll take my chances'. And very few of my female friends have a handcycle that they use in traffic,*[4] *because they don't feel safe. There are so many safety aspects that you can't control.* – Cathrine

Anja finds cycling very convenient, and although she cycles 'everywhere' and has been doing so for years, there are issues she still worries about when cycling around Oslo. Her concerns were mainly related to physical infrastructure, particularly tram tracks and how to avoid them, as she had experienced some unpleasant encounters with tram tracks before. Anja also brought up the general state of the bicycle facilitation in the city centre, and the incoherence of the bicycle network, as sources of concern. However, she had noticed many infrastructural improvements, and expressed how recent developments in bicycle facilitation had delighted her. Anja especially appreciated infrastructural changes that made her as a cyclist feel seen and welcomed in the city, i.e., changes she thought would help consolidate cyclists' space in the urban landscape. June was a bit more pessimistic on this topic, and said that although in physical terms, the red-painted space is there, she did not think that cyclists' space was fully recognised by other road users yet. The state of the infrastructure greatly influences June's cycling experience, and where she chooses to cycle. Accordingly, she is willing to make rather big detours to feel safe while cycling. For instance, she estimated that her usual route to work was 7 minutes slower than the ideal route, because she deemed the fastest route to have horrible cycling conditions.

Other aspects of women's cycling experience

Both June and Selma brought up economic aspects related to cycling. Selma, comparing with her experience from Copenhagen, thought the bicycle workshops in Oslo were expensive and unavailable, and said she did not know how to fix her bicycle by herself, which she linked to gender:

[4] In traffic as opposed to in Marka, i.e., the large and continuous forest areas surrounding Oslo, where Cathrine said she often goes cycling with a group of friends on handcycles.

> *… getting your bike fixed – I don't have a clue, and that's also something, fixing a bike when it's broken, the gender aspect … I know few women who know how to fix a bike, including simple things like changing an inner tube. But maybe it's a bit immanent, that men have a thing with tinkering and fixing things, they think it's fun and maybe they learnt it from childhood or youth. While women don't do that to the same extent.* – Selma

June was concerned about the range of cycle wear and accessories offered by sports shops and bicycle distributors being more directed at men, making it challenging for women to find suitable and comfortable cycle wear. She pointed out that there are other, purely physical challenges that comes with being a female cyclist compared to a male one, and that there are few places to ask about awkward things like discomfort related to the bicycle seat:

> *There are online chat rooms you can look up, but then again, you're often referred to special products that the chain stores in Norway don't carry, and that are difficult and expensive to obtain. And that make it quite the process, then, if you're planning to start cycling a lot.* – June

On the topic of clothing, Anja thought that appearances might, in general, be more important to women, and that factors like wind and weather and the fact that you get sweaty from cycling might play a different role for female cyclists than for male ones. She thought not arriving sweaty at work was more important to women, and that e-bikes could help. Anja herself was not bothered by these things, she would simply spend some extra time planning her outfit around the fact that she cycles, e.g., avoid wearing a skirt on rainy days. Though cycling is decisive on her outfit, Anja was clear that cycling was a liberating mode of transport:

> *It gives me a lot more freedom to be a cyclist, instead of having to do the work with planning a new route if I suddenly have to do something other than what I had initially planned for. But I can always bring the bike.* – Anja

4.2 How are women cyclists' interests, needs and preferences dealt with in planning for cycling in Oslo?

To understand if and how the municipality works with gendered experiences of cycling, I have analysed policy and strategy documents related to bicycle planning in Oslo and interviewed two employees at the Agency for Urban Environment *(Bymiljøetaten)* at Oslo municipality, who work with bicycle facilitation at a strategic level. The material and findings from these analyses are presented in this subchapter.

Interviews with bicycle planners

The planners are here called 'Lise' and 'Henrik' – those are not their real names. Lise works mostly with statistics, e.g., analysing data from bicycle counts and utilising those data in planning processes, and is often involved in the preliminary phases of projects. Henrik's work focuses on plans, inquiries and strategy, and his role is to decide which roads to prioritise for bicycle facilitation, based on what is possible and advisable. He also works on public campaigns, and with what he called soft measures to increase cycling, e.g., a project focusing on people who avoid cycling because they find it hard to navigate by bike.

The planners had similar perceptions of what the cycling culture in Oslo is like, and they both commented that there is no established unified cycling culture in the city today. There are several cyclist subcultures, and combined with what appears to be the lack of behavioural consensus in the bike lanes, the planners talked about challenging situations that arise when these different types of cyclists must relate to each other in traffic. As an example of the lack of a common cycling culture, Lise pointed out that it is not common for cyclists in Oslo to signal a change of direction. Both Lise and Henrik pointed out workout cyclists in bikewear as a group that has been dominating the bike lanes, and that this appears to be changing as more "everyday cyclists", as Henrik called them, are appearing in the lanes. The planners' overall impression was that there is still some level of conflict between different groups of cyclists, and that the road to a more unified cycling culture like the one in Copenhagen or Amsterdam is long, though things are moving in the right direction.

In Oslo's bicycle strategy 2015-2025, the Agency for Urban Environment states that only 1/3 of cyclists in Oslo were women.[5] When asked if and how this gender gap has been approached by the agency, Henrik pointed to the new offensive bicycle strategy being a big change from previous decades of bicycle planning in Oslo, and how it was based on a comprehensive collection of analyses and other background material. By following the strategy, according to Henrik, the agency has tried to make cycling something for everybody, not merely the hard-core workout cyclists. The planner did not mention any measures targeting female cyclists specifically. Knowing that safety is often brought up as an issue in attitude surveys related to cycling, Henrik thought that the building of more cycling infrastructure, removal of street parking for cars etc. has contributed to the safety for cyclists, implying that this is important to many women, though he acknowledged that there is a long way to go to reach Copenhagen levels of perceived safety for cyclists. Lise also thought that bicycle facilitation and perceived safety have been important to even out the shares of male and female cyclists.

> *When something is new, even though cycling is not 'new', it is often men who try it out first, because they are more willing to take risks than women. So I think it has to do with all the bike paths that have been built, it now feels safer and the threshold for cycling is lower for everybody.* – Lise

Assuming safety to be an important aspect of cycling for many women, both Lise and Henrik thought lack of safety is something that could constitute a barrier to cycling. Lise had the impression that men are more inclined to take risks and might have less of an issue with breaking traffic regulations, like running red lights, and therefore, compared to women, might experience more seamless bicycle rides. This would imply that women, in general, because of their relatively higher risk-aversion, experience less seamless bike rides. Another topic that both planners brought up, is the effect of how the social life at home is organised. Henrik talked about how women often have bigger responsibilities for the family, like grocery shopping and bringing and picking up children from day-care and school etc., indicating that such responsibilities might influence women's cycling experience and choice of transport mode. Likewise, Lise thought that a commute including trip-chaining, rather than a

[5] As will be further discussed in chapter 5, other data sources did not find a similar gender gap among cyclists at that time.

straightforward A to B route, could constitute a barrier for cycling. In the extension of that, she talked about the importance of high-quality bicycle infrastructure on roads and routes to workplaces with high shares of women employees, something she said is lacking more often than for workplaces where many men work. Apart from family responsibilities, i.e., trip purpose, and the safety aspect, the planners did not mention any barriers or aspects of cycling that they deemed specific to women.

Upon being asked about what could motivate people to cycle more, Henrik thought "making cycling more seamless" would be an important measure. Although people often state the environment and their own health as motivations for cycling, Henrik said, he thought that "… it's really about [cycling] being flexible, that it's fast, and that it's what's most convenient". I.e., to make cycling more flexible and convenient would motivate more people to cycle more often. Although this in some ways relates to the earlier mentions of trip-chaining, Henrik made no distinctions between men and women's motivations for cycling. Lise also mentioned easiness and seamlessness, as factors she deemed important to the cycling motivation. She implied that cycling in Oslo today is not as easy or well facilitated for as women, in general, would like it to be:

I think that if cycling was as easy as other ways of travelling, like driving a car or catching the bus or… walking. I think that would have been a great motivation for women. … Available, and easy. And, for instance, in the Netherlands, there are more women than men who cycle. And the bicycle facilitation there is very good, and [cycling] is definitely the best way to travel. So, I think that if it was more like that in Oslo, more [women] would have cycled. – Lise

Linked to this, the planners both mentioned incoherence and missing links in the cycling network causing a lack of flow for cyclists. This coheres with the female cyclists' experiences. Planner Henrik believed that the lack of bicycle infrastructure especially through crossroads and roundabouts could constitute an obstacle for cyclists. He did not talk about this from a gendered perspective; however, this assessment can be linked to the planners' previous statements about women's risk-aversion, inclination to follow the rules, and need for more seamless rides.

Lise had the perception that, regarding appearances and outfits, women might experience that they are met with different expectations in their workplace than men, which ultimately could constitute a higher threshold for cycling to work for women:

I'm not sure if it also has something to say that there are slightly different expectations for women at work … That in some workplaces, there are expectations that one should be nicely dressed and be well-groomed, and things like that might take a little longer for women, getting ready, and if you must do that at work, it might be a barrier… – Lise

Lise emphasised that she did not think this to be the situation for all cycling women, and she did not experience such expectations in her own workplace.

Neither of the planners could think of any concrete bicycle related projects they had worked with in Oslo where gendered experiences were taken into consideration. Henrik expressed enthusiasm and interest in incorporating the experiences of different groups of cyclists, e.g., women, into Oslo's bicycle planning. However, he emphasised that the needs and preferences of specific groups are not something that can or should be prioritised until most of the planned bike lane network has been built out and reached a certain standard, in a way that benefits all cyclists.

We are at a rather preliminary level. There are some things that, from my experience from Lund, I know would help make cycling safer and better for women, like lighting up certain stretches, building underpasses etc., but those measures are a couple of steps further ahead. We need to first ensure that there is a bicycle path to cycle on at all before we start thinking about lighting. – Henrik

This viewpoint, which seems to cohere with Oslo's bicycle strategy, seems to postpone gender-conscious planning into to the far future, as something to address only when all other requirements are met. According to Henrik, the agency is not working with any women-specific measures in bicycle facilitation, and neither of the planners seemed to think this was problematic at this point. To carry out bicycle facility measures targeted at female cyclists, Henrik thought that a critical analysis would be necessary first. Lise thought gender was often considered indirectly, but she did not have any examples. The closest thing she could think of was a pilot project with self-driving buses, where the issue of how a woman would experience

boarding a driverless bus alone at night was discussed. Arguably, this example is rather irrelevant to bicycle planning, and, more than anything else, feeds the notion that Oslo municipality does not focus on gendered experiences in bicycle planning.

Apart from a general awareness of kerbstones and working to ensure comfortable exits from bike lanes, the planners had no knowledge of how road paint and manhole covers in the bike lanes could be an issue for women with abdominal pains. When Lise was told about how these things affected the cycling experience of one of the cyclists interviewed for this thesis, she commented that rumble strips[6] must be very bothersome in such cases.

Hmm well, the thing with manhole covers is very difficult… But that's definitely something we should start thinking of, if it's a barrier, I'm not sure how many it makes out a barrier for, though. […] And it's tricky thing to ask about as well, because people aren't usually that open about those kinds of issues. – Lise

Lise thought reaching out to regular cyclists, and different groups of cyclists, would be important for future bicycle planning. The ones showing up and being heard at information meetings hosted by the agency, and in other channels, are usually people who are particularly interested in cycling, Lise said. Henrik talked about a project where he had interviewed cyclists with different levels of experience, but commented that they had not divided the data by gender.

How are gendered experiences of cycling presented and dealt with in bicycle planning documents?

The bicycle planners' work is steered by political guidelines and by the planning system, and so is the degree to which the planners can consider gendered-specific measures in their work. At a national level, the National Transport Plan (NTP) aims for all growth in passenger traffic in urban areas to happen by public transport, cycling and walking (Meld. St. 33 (2016-2017)). This goal is passed on in Oslo's municipal master plan, the Oslo transport package, the

[6] Rumble strips are a type of speed humps, consisting of "a series of raised strips across a road or along its edge, changing the noise a vehicle's tyres make on the surface and so warning drivers of speed restrictions or of the edge of the road" (Oxford Dictionary of English).

regional plan for land-use and transport planning, and in other plans. For this goal to be reached, increasing the bicycle share will be key.

To increase the share of trips by bike is the main goal of Oslo's current bicycle strategy (2015-2025), and the means to this end is getting citizens who never cycle to begin to cycle, and getting citizens who already cycle to cycle more often (Oslo kommune, 2014). In the evaluation of Oslo's previous cycling strategy (2005-2015), it is pointed out that the strategy until then had focused largely on commuter cyclists and adults cycling for transport. In order to increase the overall share of cyclists, bicycle policies and facilitation should focus on underrepresented groups, like women (Spacescape, 2014b). Attitude surveys on cycling in Oslo have been conducted every other year between 2016-2020 on behalf of the Agency of Urban Environment. Largely coherent with previous studies, the data from these surveys indicate that women are consistently more worried about traffic safety and the standard of the infrastructure than men are, and that men are more inclined to cycle regardless of road standard and level of perceived safety (D'Arcy, 2016; Opinion AS, 2018; Opinion AS, 2020).

The vision of Oslo's current bicycle strategy is to make Oslo a safe city for everyone to cycle in, and as mentioned above, it is also a goal to increase the share of underrepresented groups, as suggested in the previous evaluation (Oslo kommune, 2014). It is stated in the new strategy that in 2013, 2 out of 3 cyclists in Oslo were men, and that this imbalance was in part caused by the design of the cycling infrastructure (Oslo kommune, 2014, p. 17).[7] Much of the infrastructure had been designed following guidelines in the Cycling Handbook from the Public Roads Administration (SVV) – guidelines which, according to the bicycle strategy, prescribes a standard that mostly caters to adult commuter cyclists, which can in part explain the dominance of adult male cyclists. The Oslo standard for bicycle planning was introduced in 2017, supplementing the national Cycling Handbook with high-standard bicycle facilitation tailored for Oslo (Bymiljøetaten, 2017; Winsvold, no date). The Oslo standard was developed partly in response to statistics showing that a big share of Oslo's citizens felt unsafe cycling in the city.

[7] The gender gap among Oslo cyclists seems to have almost evened out, as share of weekday trips by bike made by women was reported at 48,4% in 2017 (Bayer, 2018, p. 8).

Apart from the reporting of uneven gender shares among cyclists, there is little explicit focus on women cyclists in the bicycle strategy, what their needs and preferences are, and what can be done to increase women's bike trip share or improve their experiences of cycling in Oslo. Improving the perceived safety of cycling is identified as the most important measure to reach the goal of increasing the share of underrepresented groups, but this is stated in a section about children and youth (Oslo kommune, 2014, p. 18). On the pages concerning "focus areas and measures", there are many good measures for making cycling in Oslo safer and improving the cycle infrastructure, and formulations about the infrastructure being designed for "… many and different types of cyclists" (Oslo kommune, 2014, p. 34, my translation). Most of these measures will doubtlessly be beneficial to female cyclists as well as male ones, but there is no mention of any measures targeted directly at existing or potential women cyclists, which might have been expected following the advice in the evaluation of the previous strategy, and with only 1 in 3 cyclists being women when the new strategy was made. The gender imbalance among cyclists is highlighted throughout the report *Oslosyklisten* (Spacescape, 2014a), which presents a mapping of the existing and potential pool of cyclists in Oslo. The report, which was a groundwork for the new bicycle strategy in Oslo, also notes that the gender gap among cyclists in Oslo contrasted statistics on a national level, where the gender ratio for cyclists was close to even (Spacescape, 2014a, p. 28).

Summing up, several reports and other data used as groundwork when developing the new bicycle strategy around 2013-2015 stated an imbalanced gender ratio among cyclists in Oslo and advised a specific focus on underrepresented groups in bicycle planning to increase the overall share of cycling. Later strategies and other steering documents for bicycle planning offer few gendered perspectives on cycling, but a 2018 report on the results of Oslo's efforts in bicycle facilitation shows a weak positive trend in the gender ratios among cyclists (Bymiljøetaten, 2018). As highlighted in a report on cycle planning in Nordic cities, planning for cycling in Oslo after 2014 has not been targeting specific demographic groups (Øksenholt et al., 2019, p. 23). Rather, the strategy has focused on Oslo becoming a city in which everyone can enjoy cycling (Oslo kommune, 2014).

5 Discussion

The starting point of the thesis was the questions of how women experience cycling in Oslo, and how their interests, needs and preferences are dealt with by bicycle planning. This chapter offers a discussion of the answers I found to these questions in a broader context – seen in the light of theory and existing literature on the field.

5.1 Summary of findings

The major themes brought up by the female cyclists were the cycling culture, or lack thereof, and the infrastructure for cycling in Oslo, focusing on narrow bike lanes and an incoherent network of bike lanes. The relation between cyclists and other road users was also a recurring issue. The eldest cyclist interviewed appeared to be the one who worries most when cycling, and she also commented explicitly that she did not enjoy cycling at high speeds, and as such not following the prevailing speed norms Oslo's bike lanes. Considering the cycling culture, the cyclists all talked about the lack of a common set of behavioural rules for cyclists to follow, and that some types of cyclists seem to have little regard for others in traffic. These experiences cohere with the planners' comments on cyclist subcultures, and that the atmosphere in the bike lanes has been driven by competition, but that this has changed in recent years as more casual cyclists has appeared. The planners had some thoughts about the different life situations, responsibilities at home, and expectations at work that men and women often have, and how these can affect daily mobility patterns and the cycling experience. These aspects were not mentioned by the female cyclists. Some of the cyclists praised recent developments in bicycle facilitation and held the view that, although they were displeased with several aspects of the current state of the cycle network, things were moving in the right direction regarding bicycle facilitation. The planners seemed to think that a well-integrated and logical bike lane network should be in place before focusing on the needs and preferences of different groups of cyclists.

The main takeout from the analysis of bicycle strategies and policy documents, is that there is little focus on gendered preferences and experiences of cycling in bicycle planning. Though a gender imbalance among Oslo cyclists was stated to be the situation in several groundwork documents, and reports have advised focusing on underrepresented groups to increase cycling shares, no parts of the current strategy seem to specifically target potential or existing female

cyclists. The idea behind the chosen strategy seems to be that most improvements to the bicycle infrastructure will benefit most types of cyclists.

5.2 Discussion

Looking at my findings in the light of the different mobility concepts presented by Jones (1987), I would argue that women like Tove, who seem to have a high risk-aversion and make detours to make their bike trip feel safe, are experiencing restrictions to their potential actions, partly as a result of inadequate bicycle facilitation. Tove's everyday trip to work takes longer time because she is scared to cycle the most direct route, and her potential mobility is somewhat limited by this. Cathrine's potential action is restricted to bike paths separate from car traffic because it is unsafe for her to use her handcycle in regular bike lanes, which is what most of the inner-city bike lane network consists of. Cathrine's freedom of action, which offers options to select from and knowledge about such options, is limited as she is missing official information about the standard of different bike routes.

Coherent with findings in previous studies (Garrard et al., 2008; Goel et al., 2021; Grudgings et al., 2018), the cyclist gender ratio in Oslo seems to be reaching parity as bicycle facilitation is improving and the overall number of cyclists is increasing. As the number of cyclists has increased quite rapidly since the current bicycle strategy came into effect, the cycling culture seems to have entered a critical phase with some adjustment issues. The cyclists and the planners interviewed had similar comments on the bicycle culture. As argued by Beebeejaun (2017), a person's experience of an urban space is greatly influenced by the dominating culture and by how the space is physically planned, and these aspects are interconnected. In Oslo, there seems to be a clash between different cyclist subcultures both regarding behaviour and space. Following Beebeejaun, the dominating culture, i.e., speedy and rule-breaking workout cyclists, is key to the experienced inclusivity, access, and safety of minority groups, e.g., risk-averting women cyclists. The cycling culture may be challenging for the planning system to improve – as planner Henrik said, it is hard to reach the right target group with public attitude campaigns, and it is hard to measure the impact of such campaigns. In addition, one may not think it a planner's role to change people's attitudes, at least unless there are politically stated goals about behavioural change. The planning system can, however, contribute to inclusive bike lanes by promoting the needs and preferences of underrepresented cyclist groups in bicycle facilitation.

Oslo municipality is not planning specifically for female cyclists, and does not appear to be "deliberately targeting infrastructure and policies towards under-represented groups" (Aldred et al., 2017), as suggested throughout the literature, but focuses on increasing the general diversity of the cyclist population of the city. According to planner Henrik, the Agency for Urban Environment spends a lot of time and resources on fact finding and elucidations, but has not gone into detailed inquiries about the different cycling preferences between men and women, apart from the fact that there is (or has been) a higher number of male cyclists. Henrik stressed that the new Oslo Standard for bicycle planning might have considered women's preferences when it was published, but he was not sure. The Oslo Standard is, however, merely a guide or instruction book, and hence not legally binding. Other than any potential considerations for women cyclists in the Oslo Standard, Henrik could not think of any projects where the needs or preferences of women cyclists had been taken into consideration. This is not to say that it has never happened - but it might be an indication that it is not a very high priority. The idea that the network of bike lanes should reach a certain standard before focusing on gender-specific measures does not cohere with the literature, which largely suggests the opposite. Arguably, many measures can and should be made, or at least considered, in the early planning process, before the bike path is built. E.g., the design of road signs on the tarmac, as the cyclist Selma brought up as an issue. The specific bike lane Selma used as an example (Åkebergveien) was built after the Oslo standard took effect. From this perspective, there seems to be few reasons to postpone gender-conscious bicycle planning, though likely, considering the preferences of different demographic groups in the planning process will prolong the process. Naturally, though, the planners cannot be blamed for decisions that politicians make against the planners' advice, or decisions where planners just have been instructed to develop solutions where restrictive (and perhaps unfavourable to female cyclists) presuppositions must be met.

Many studies find that the daily mobilities of women include a higher level of trip-chaining than the mobilities of men (see e.g. Havet et al., 2021). Planner Lise talked about female trip-chaining in relation to possible barriers to cycling, which seems to contrast the female cyclists mentioning of flexibility and freedom as their main motivations for cycling, stating that cycling gets you from door to door and makes it easy to rearrange plans and stopping by somewhere without having to plan a whole new route with public transit. Depending on the distances involved, cycling does not necessarily make up a challenge for trip-chaining – in the

context of Oslo, you can park your bicycle closer to the places you are going and usually at no cost compared to driving a car, and as the cyclists commented, cycling also frees you of dependency on public transport. As such, cycling is advantageous to trip-chainers. Lise's comment might merely demonstrate that gender-based barriers to cycling is not something the planners reflect much on in their work.

Though there are some recurring issues with cycling in Oslo mentioned by female cyclists, which seem to cohere with the existing literature, women in general are perhaps not a very marginalised group of cyclists in Oslo today. That is not to say that considering women's experiences in bicycle planning is pointless, it might benefit all cyclists to have more focus on the surface of the bike lane tarmac for example. But it may be more important to consider other underrepresented groups of cyclists, like women with certain immigrant backgrounds who experience restrictions of both individual, potential, and freedom of action. Although, this may be due to religious and patriarchal attitudes and power relations in their cultures that would be difficult for planners to do much about.

6 Concluding remarks

The aim of this thesis has been to broaden the understanding of women cyclists' experiences from Oslo, and to find out how these experiences are perceived and dealt with by the planning system. To do that, I have carried out a qualitative study, interviewing female cyclists about their experiences of cycling in Oslo, interviewing bicycle planners about their perceptions of female cyclists' preferences and needs, and analysing strategy and policy documents related to bicycle planning in Oslo municipality.

The experiences of the female cyclists were focused on the topics of cycling culture and incoherence in the bike lane network. The cyclists all had similar experiences of missing a common set of behavioural rules in the bike lanes, a perception shared by the bicycle planners. The cyclists were quite critical to the state of the bicycle infrastructure in Oslo, though several thought recent developments had greatly improved the cycling experience and that the cycling culture would improve with time and with more cyclists in the lanes. The oldest cyclist (though only 54) seemed to be the most worried about what directions the cycling culture was moving in and appeared to have the highest risk-aversion.

The bicycle planners recognised most of the challenges described by the cyclists, and as such, there does not appear to exist any dissonance to speak of between the planners and the public. The interviews with the planners and the analysis of bicycle strategy documents both showed that the bicycle planning in Oslo has documented earlier imbalances in the gender ratio among cyclists, but made few, if any, measures targeted specifically at female cyclists. Rather, the policy has been to make Oslo a city that 'everyone' can enjoy cycling in.

Like much of the existing literature, my findings indicate that bicycle planning should put more emphasis on the preferences and experiences of different underrepresented groups.

6.1 Implications for policy and future research

The material presented in this thesis provides some insight into some women's experiences of cycling in Oslo, and their preferences and needs when cycling. The next step could be to do a bigger study similar to this one, which includes female cyclists in different life situations, particularly women with minority backgrounds and women who cycle with children, and

comparing these to the experiences of male cyclists. Following suggestions in the existing literature, I would argue that my findings also call for more bottom-up planning, and the inclusion of specific demographic groups that are underrepresented among cyclists, at earlier stages in the planning process. These groups are missing out on health benefits, both on the individual and societal level. It may be time-consuming and resource-demanding, but more in-depth qualitative interviews can probably offer information that is not easily uncovered in standardised questionnaires. It is, after all, too late to include any cyclist's experience of manhole covers in the bike lanes when the manholes are already built.

As planners to a large degree must follow political guidelines, it may not matter how aware they are of any gendered implications of the way they plan for cycling. Future research should therefore focus not only on local planners' perceptions of gendered mobility experiences, but also on the views of politicians, on both local and national levels.

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Appendices

Appendix 1: Invitation to take part in the study (in Norwegian)

Appendix 2: Interview guide – women cyclists (in Norwegian)

Appendix 3: Interview guide – planners (in Norwegian)

Vil du delta i forskningsprosjektet

"Sykling og sykkelplanlegging i et kvinneperspektiv"?

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å identifisere holdninger og forhold til sykling blant kvinnelige syklister. I dette skrivet gir vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

Formål
Prosjektet er del av en masteroppgave i by- og regionplanlegging ved Norges miljø- og biovitenskapelige universitet (NMBU). Opplysningene du gir vil ikke brukes til andre formål enn denne masteroppgaven.

Bakgrunnen for prosjektet er en skjevhet i kjønnsfordelingen blant syklister i Oslo. Kommunen har som målsetting at den syklende delen av befolkningen skal være mer mangfoldig, og gjør ulike tiltak for å få til dette. I dette masterprosjektet vil jeg se på forholdet mellom hvilke oppfatninger planleggere har om hvorfor og i hvilke tilfeller kvinner velger eller ikke velger sykkelen som transportmiddel, og hvilke tanker syklende kvinner selv har om dette. Basert på studier fra andre land, er hypotesen at det kanskje kan være en viss avstand mellom disse oppfatningene. Dette vil igjen kunne ha noe å si for hvilke tiltak som iverksettes for å få flere kvinner til å sykle, og hvor effektive disse tiltakene er.

I gjennomføringen av prosjektet ønsker jeg å intervjue opp mot 10 kvinnelige syklister og 2-3 planleggere som jobber med tilrettelegging for sykkel i Oslo.

Hvem er ansvarlig for forskningsprosjektet?
Institutt for by- og regionplanlegging ved NMBU er ansvarlig for prosjektet.

Hvorfor får du spørsmål om å delta?
Utvalget for prosjektet er kvinnelige syklister over 18 år som er bosatt i Oslo og sykler regelmessig. Du får denne henvendelsen fordi du har vist interesse for prosjektet etter å ha lest et innlegg om det i Facebook-gruppen *Den selskapelige*.

Hva innebærer det for deg å delta?
Hvis du velger å delta i prosjektet, innebærer det at du møter meg (Maja) til et personlig intervju på et sted i Oslo som passer bra for deg. Det vil ta deg ca. 40-50 minutter, hvor jeg stiller spørsmål om ditt forhold til sykling, som bl.a. hvorfor du liker å sykle, hva du tenker på når du velger sykkelrute, og hvilke tanker du har om tilretteleggingen for sykling i Oslo.

Jeg tar lydopptak og/eller notater fra intervjuet. Fordi jeg ønsker å ta lydopptak vil det fungere best å møtes fysisk (med 1 meters avstand), men det kan også være en mulighet å gjennomføre intervjuet via videosamtale/telefon.

Det er frivillig å delta
Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykket tilbake uten å oppgi noen grunn. Alle dine personopplysninger vil da bli slettet. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger
Ingen personer vil kunne bli gjenkjent i publiseringen av masteroppgaven. Alle navn anonymiseres. Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Det er kun jeg og min veileder på prosjektet som vil ha tilgang til opplysningene.
- For å sikre at ingen uvedkommende får tilgang til personopplysningene, vil jeg erstatte ditt navn og kontaktopplysninger med en kode som lagres på egen navneliste adskilt fra øvrige data.

Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?
Opplysningene anonymiseres når prosjektet avsluttes/oppgaven er godkjent, noe som etter planen er 15. desember 2020. Eventuelle opptak av intervju vil slettes når prosjektet avsluttes.

Dine rettigheter
Så lenge du kan identifiseres i datamaterialet, har du rett til:

- innsyn i hvilke personopplysninger som er registrert om deg, og å få utlevert en kopi av opplysningene,
- å få rettet personopplysninger om deg,
- å få slettet personopplysninger om deg, og
- å sende klage til Datatilsynet om behandlingen av dine personopplysninger.

Hva gir oss rett til å behandle personopplysninger om deg?
Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Institutt for by- og regionplanlegging ved NMBU har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

Hvor kan jeg finne ut mer?
Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Institutt for by- og regionplanlegging ved NMBU ved
  - Maja Bakkehaug (masterstudent) på tlf. 99449710 eller e-post maja.bakkehaug@nmbu.no
  - Tim Richardson (veileder) på e-post tim.richardson@nmbu.no
- Vårt personvernombud: Hanne Pernille Gulbrandsen, mobil: 402 81 558, e-post personvernombud@nmbu.no

Hvis du har spørsmål knyttet til NSD sin vurdering av prosjektet, kan du ta kontakt med:

- NSD – Norsk senter for forskningsdata AS på epost (personverntjenester@nsd.no) eller på telefon: 55 58 21 17.

Med vennlig hilsen

Timothy Richardson
(Forsker/veileder)

Maja Bakkehaug
(Masterstudent)

Samtykkeerklæring

Jeg har mottatt og forstått informasjon om prosjektet *«Sykling og sykkelplanlegging i et kvinneperspektiv»*, og har fått anledning til å stille spørsmål. Jeg samtykker til:

☐ å delta i personlig intervju

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet

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(Signert av prosjektdeltaker, dato)

Interview guide – women cyclists

Intervjuguide – kvinnelige syklister

Introduksjon til tema, generelle spørsmål

- Fortell litt om ditt forhold til sykling
- Har du alltid syklet? Hva fikk deg evt. til å begynne å sykle i Oslo? Venner/omgangskrets som sykler?
- Kan du fortelle litt om hvorfor du velger sykkelen som transportmiddel i hverdagen?
- Hvor ofte bruker du sykkelen?
- Kan du beskrive med ett ord hva sykling betyr for deg? Evt. hvilken følelse forbinder du med å sykle?
- Hva er den viktigste grunnen til at du sykler?

Oppfatninger

- Hvordan synes du det er å sykle i Oslo?
- Hvilke aspekter opplever du som positive på hverdagslige sykkelturer i Oslo?
- Hvilke aspekter opplever du som negative på hverdagslige sykkelturer i Oslo?
- Hvordan opplever du sykkelkulturen i Oslo?
- Hva er viktigst for deg når du sykler?

Kvalitet på infrastruktur

- Hva tenker du på når du planlegger en sykkelrute?
- Hvilke deler av ruta opplever du som positive/nøytrale/negative? Hvorfor?
- Sykler du omveier for å integrere positive eller unngå negative aspekter på dine daglige sykkelturer? Forklar. Bruk evt. kartet hvis nødvendig.

Avrunding

- Hva vil du si er den viktigste motivasjonen din for å sykle?
- Hva hadde vært én ting som hadde gjort sykling i Oslo bedre for deg/at du valgte sykkelen oftere?

- Er det andre forhold du ønsker å ta opp, eller andre ting du ønsker å nevne?
- Vil du gi en avsluttende kommenter eller si noe mer om ditt forhold til å sykle i Oslo eller generelt?

Tusen takk!

Interview guide – planners

Intervjuguide – sykkelplanleggere

Introduksjon til tema

- Personlig forhold til sykling?
- Faglig bakgrunn?
- Hvordan jobber du med sykkel?
- Hva vil du si karakteriserer en god sykkelvei/rute?
    - Gi eksempler

Klargjøre at informanten skal svare på følgende spørsmål med bakgrunn i faglige erfaringer og ekspertise.

Oppfatning av situasjonen

- Hvordan er kjønnsfordeling blant syklister i Oslo i dag? Hvis skjevhet, hvordan kan den forklares?
- Hvordan vil du beskrive sykkelkulturen i Oslo?

Barrierer

- Hva ser du som de største utfordringene eller hindringene for kvinnelige syklister?
    Utfordringer nevnt i intervjuer med syklister:
    - Umoden sykkelkultur – forvirring, uforutsigbarhet, mix av trafikanttyper, aggressiv og uoppmerksom oppførsel.
    - Fysisk infrastruktur: usammenhengende sykkelnettverk, smale sykkelfelt, klinsj med busstopp, trikkeskinner, gateparkering, høyresving for biler, dårlige midlertidige løsninger ved veiarbeid. Ønske om fysisk sperre mot biltrafikken.
    - Underlaget – humper og sprekker (underlivsproblemer), kanter, oppsamling av vann, snø og blader i sykkelfeltet
    - Sosiale normer – man blir svett, vær og vind
    - Sykkelservice – utilgjengelig og dyrt
- Hvilke konkrete aspekter tror du kan hindre kvinner fra å sykle i Oslo?
- Hvilke områder/strekninger er særlig negative eller har særlig lav kvalitet («problemområder») for syklister? Hvorfor?

Motivasjon

- Tror du det er forskjeller for kvinner og menn når det gjelder motivasjonen for å sykle?
    - Hva/hvorfor?
- Hva kan motivere flere kvinner til å sykle/kvinnelige syklister til å sykle mer?
  Nevnt av syklister:
    - Mer tilgjengelige servicefunksjoner (sykkelrep., garderober på jobb)

    - Sammenhengende sykkelnettverk, breiere sykkelfelt, separat fra bilvei
    - Bedre sykkelkultur, signalisering og plassering ift. andre syklister etc. Holdningskampanjer → økt trygghetsfølelse
- Etter ditt syn, hvilke områder eller strekninger er spesielt positive for syklister/har særlig god sykkelkvalitet?
    - Hvorfor?

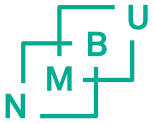
- Kan du fortelle om et konkret sykkelprosjekt hvor kjønnsaspektet var med i betraktningene rundt utforming etc.?
- Hvordan vil du generelt vurdere kvaliteten på sykkelopplevelsen i Oslo?

Avrunding

Er det andre forhold du ønsker å ta opp, eller andre ting du ønsker å nevne? Noe jeg burde ha spurt om?

Er det ok at jeg siterer deg i oppgaven?
Kan jeg sende en epost hvis jeg lurer på noe mer?

Tusen takk!



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