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Alena Shishkina

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Abstract

This thesis examines everyday cycling in Vienna as an embodied, socially negotiated, and institutionally shaped form of urban mobility. Drawing on the anthropology of infrastructure and the new mobilities paradigm, it treats cycling as “movement spent with intent” and asks how cycling is shaped by infrastructural design and how cyclists experience the underlying dynamics in motion. The study uses qualitative methods such as participant observation, semi-structured interviews with cyclists, expert interviews, and analysis of key strategy and planning documents. The findings show that cyclists experience infrastructure through affective and cognitive dimensions: relief and confidence on coherent, legible, and protected routes, and stress, overload, and uncertainty where infrastructure is narrow, ambiguous, discontinuous, or car-dominated. These experiences contribute to perceptions of cycling as contested urban life structured by struggles over recognition, simultaneously the findings reveal how it enables pleasure and higher quality of life. The thesis further shows how planning coordination, district politics, and limited participation help explain persistent gaps between policy narratives and street-level realities. Theoretically, the thesis contributes to debates in infrastructure and mobility studies by conceptualising cycling infrastructure as an affective and political environment that stems from embodied experience. By drawing on interdisciplinary cycling research and bringing it into conversation with anthropological view of infrastructure, the thesis addresses a comparatively under-theorised area and extends anthropological debates on socio-material urban environments.

Zusammenfassung

Diese Arbeit untersucht den Alltagsradverkehr in Wien als eine verkörperte, sozial ausgehandelte und institutionell geprägte Form urbaner Mobilität. Aufbauend auf Ansätzen der Infrastrukturanthropologie und dem New-Mobilities-Paradigma versteht sie Radfahren als „Zeit mit Absicht“ und fragt danach, wie Radverkehr durch infrastrukturelles Design geprägt wird und wie Radfahrende die zugrunde liegenden Dynamiken in der Bewegung erleben. Methodisch stützt sich die Studie auf qualitative Verfahren, darunter teilnehmende Beobachtung, leitfadengestützte Interviews mit Radfahrenden, Expert*inneninterviews sowie die Analyse zentraler Strategie- und Planungsdokumente. Die Ergebnisse zeigen, dass Radfahrende Infrastruktur über affektive und kognitive Dimensionen wahrnehmen: Erleichterung und Zuversicht auf kohärenten, gut lesbaren und geschützten Routen sowie Stress, Überforderung und Unsicherheit dort, wo Infrastruktur schmal, uneindeutig, unterbrochen oder autozentriert ist. Diese Erfahrungen tragen zu Wahrnehmungen des Radfahrens als umkämpftes urbanes Leben bei, das von Aushandlungen um Sichtbarkeit und Anerkennung strukturiert ist, zugleich aber auch Freude und eine höhere Lebensqualität ermöglichen kann. Darüber hinaus zeigt die Arbeit, wie Planungskoordination, Bezirkspolitik und begrenzte Partizipation anhaltende Lücken zwischen politischen Narrativen und straßenräumlichen Realitäten erklären. Theoretisch leistet die Arbeit einen Beitrag zu Debatten in den Infrastruktur- und Mobilitätsstudien, indem sie Radinfrastruktur als eine affektive und politische Umwelt konzeptualisiert, die aus verkörperter Erfahrung hervorgeht. Durch die Einbeziehung interdisziplinärer Radverkehrsforschung und deren Verbindung mit anthropologischen Perspektiven auf Infrastruktur adressiert die Arbeit einen bislang vergleichsweise untertheoretisierten Bereich und erweitert anthropologische Debatten über sozio-materielle urbane Umwelten.

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Introduction

My interest in cycling infrastructure emerged through a personal trajectory across different urban contexts, so a brief backstory is necessary. I come from a provincial city in Russia where cycling has never been mass-adopted. My own cycling journey started in the village where we had our summerhouse, where my grandmother taught me how to cycle. In general, neither children nor adults would cycle anywhere except in villages remote from the city: it was a past time, a fun hobby. Bicycles were never used for transportation purposes, only to enjoy the summer weather and the landscape. The same applies to cycling in the city – I cycled in the city centre only once, it proved to be a frustrating and inconvenient experience, which I never wanted to repeat. Nevertheless, starting from around 2016, the city started to introduce some minor cycling lanes along the central pond and main tourist streets as a way of promoting tourist attractions. This was when something shifted – more people started to cycle around central districts in the summer, even in the absence of any kind of cycling infrastructure (except for the 0,5-meter central lanes). I followed out of interest and discovered how fast and reliable it was for trips within 20 minutes. However, cycling in Yekaterinburg remains very seasonal and limited to certain areas to this day.

In 2020 I won a grant to study at the University of Copenhagen for a semester. Immediately, I decided that I would become a cyclist to immerse myself into the Danish culture. I rented a bicycle – and there I was, standing in a huge lane, not knowing which way to go, how to keep up, how to cross intersections, which side of the road to take. My first journey was terrific: I stopped every five minutes and walked on the sidewalk, dismounted at every crossing, and could not figure out how to get home. What should have been a seven-minute ride took me forty minutes, and I was horrified. Yet I faced this fear every day, and after two weeks of adjusting I already felt like a local (the locals would not agree). Suddenly, it was easy and intuitive.

Coming to the present day, I moved to Vienna in 2023. I assumed that a European capital city would be very similar to Copenhagen in terms of cycling – I bought a used bicycle on my third day and used it almost exclusively throughout the first month. I was surprised to find that Vienna is not like Copenhagen. First of all, the landscape itself can be a hindrance: there are many hills and elevations. The streets are also larger, and in the beginning, I often stopped to consider where I was supposed to go. One of my trips took me two hours by bike because of the absence of any lanes (which has since improved). The overall feeling was different. Unlike

in Copenhagen, even after a month I still did not feel adjusted – and to this day it often takes considerable effort to explore unfamiliar areas and figure out how to get where I need to go. After this first month I bought a semester ticket and discovered how easy it was to get around Vienna by public transport; I almost regretted buying a bicycle. Yet soon enough I found a different use for it: I cycled for groceries, to go to the gym, to explore the city and its surroundings, and simply for fun. I began asking myself what differentiates my cycling experiences and what forms them. The answer, I believe, is cycling infrastructure itself.

These shifts across Yekaterinburg, Copenhagen, and Vienna made cycling feel like three entirely different practices, even though the activity was the same. What changed was not only the presence or absence of bike lanes, but the wider system of street design, intersections, traffic speeds, norms of movement, and the sense of comfort or stress produced by particular infrastructures. This observation turned a personal curiosity into an empirical question: how does cycling become possible, attractive, or intimidating in a given city, and how are these conditions planned, negotiated, and contested? Starting from the everyday experience of cycling, this thesis examines how infrastructures shape mobility practices and how those infrastructures are produced through governance arrangements and civic intervention in Vienna.

Cycling is climate-friendly, cost-effective, and adaptable to a wide range of urban needs, therefore offering a solution to a whole multitude of modern economic, social and environmental problems. In my initial master thesis proposal, I intended to focus on how residents incorporate cycling into everyday routines, and to analyse cycling through the lens of Vienna as a “smart and green” city. During fieldwork and interviews, however, these frames proved to be less salient than expected. Rather than describing cycling through explicit references to sustainability or smart-city goals, interlocutors consistently spoke in more immediate terms – safety, comfort, stress, continuity, intersections, missing links, political responsibility, and the unevenness of implementation. As a result, the thesis refocused from documenting everyday routines across diverse residents toward analysing how cycling is enabled and constrained through infrastructure design, governance and planning arrangements to show how these dynamics shape the lived experience of urban mobility. The thesis therefore does not aim to provide a representative account of how ‘Viennese residents’ in general incorporate cycling into everyday routines; instead, it offers an in-depth account of cycling as a practice shaped by infrastructure and contested planning.

More specifically, this thesis asks how cycling in Vienna is made possible, difficult, and meaningful through the interplay of infrastructure, social negotiation, and planning arrangements. It addresses one overarching question:

How does urban cycling infrastructure shape and organise everyday cycling as an embodied, affective, and politically negotiated practice in Vienna?

To address this question, the thesis proceeds through three sub-questions that examine cycling in Vienna from the perspective of lived experience, everyday spatial negotiation, and the institutional production of infrastructure:

- How do cyclists experience Vienna's cycling infrastructure in motion, and what emotions does it produce?
- How do everyday cycling practices assemble mobility, meaning, and power in Vienna, making space feel contested, yet also enabling sociality and quality of life?
- How do planning arrangements and civic actors (city departments, districts, advocacy) shape cycling infrastructure and help explain gaps and inconsistencies across the city?

Conceptually, the thesis builds on scholarship that treats infrastructure as more than a neutral technical object. Infrastructure is understood here as a dense social and political formation that carries meanings and organizes relations, not simply a physical network for movement. It communicates recognition or neglect, inclusion or marginalization. At the same time, the work draws on the “new mobilities” paradigm, which rejects the idea that travel is merely a functional in-between time and instead treats movement as a meaningful social practice. Cycling becomes an especially productive site for this approach because it is an embodied practice: cyclists directly register surfaces, speeds, proximities, weather, and the micro-politics of space allocation. As a result, infrastructure is not only seen; it is felt as an affective environment.

Methodologically, this research employs qualitative methods grounded in ethnographic traditions. It combines (1) participant observation as a cyclist navigating Vienna's infrastructures; (2) recording fieldnotes of the infrastructural conditions and their use; (3) semi-structured interviews with cyclists about their route choices, safety perceptions, everyday interactions, and evaluations of the city; (4) expert interviews to understand how cycling infrastructure is imagined, coordinated, and implemented within Vienna's institutional landscape; and (5) strategy and planning document analysis to examine how cycling and “sustainable mobility” are framed in Vienna's policy and planning agenda.

My research is deliberately not a representative study of “Viennese residents” as a whole. The interview material primarily reflects the experiences of current cyclists (including many with international mobility biographies), which means that the thesis captures cycling as lived practice among those who already ride, rather than among those who avoid cycling altogether. This presents a limitation to the study. At the same time, because participants have learned to cycle under Vienna’s conditions, they can articulate the skills, compromises, and affective labour that the city demands. Where possible, I also draw on perspectives from advocacy actors who explicitly represent “potential cyclists” who do not ride due to fear or lack of enabling conditions.

The argument unfolds across three chapters. **Chapter 1 (“Cycling as “lively” infrastructure”)** shows how cyclists evaluate Vienna’s infrastructure through embodied feelings, not just isolated technical criteria. The chapter maps recurring tensions – protection versus exposure, continuity versus interruption, legibility versus ambiguity, flow versus stoppage and shows how “patchy” infrastructure produces cognitive overload, while coherent design produces confidence, calm, and moments of joy. **Chapter 2 (“Cycling as Contested Urban Life”)** moves beyond material design to a wider analysis of cycling as an everyday negotiation of space: how hierarchy is perceived through allocation, how interactions with drivers and pedestrians are managed, how policing and enforcement shape behaviour and legitimacy, and how cycling in Vienna is experienced as an emerging culture marked by ongoing struggles over visibility, recognition, and quality of life. **Chapter 3 (“Planning, experts and activists”)** connects these lived experiences and meanings to institutional processes: how municipal departments coordinate, how political priorities and district-level decisions shape outcomes, and how activists interpret the gap between strategic visions and street-level reality. The conclusion returns to the central claim: cycling in Vienna is not simply enabled by infrastructure as hardware. It is produced through an interplay of design, governance, and negotiation – and it is lived affectively as comfort or stress, recognition or marginalization, continuity or interruption.

Literature Review

The “problem” of cycling infrastructure

While cycling infrastructure has been extensively examined in sustainability studies, transport studies, urban geography, sociology, anthropological engagement with cycling infrastructure remains comparatively limited. Although mobility is an important field within anthropology, its development in the current understanding (not only connected to geographical movement across the globe) is relatively recent (Salazar and Smart 2011). Moreover, discussion on cycling in anthropology remains scarce (Verstappen 2023). As a result, much of the literature on cycling infrastructure approaches it primarily as a technical or spatial intervention rather than as a lived, embodied, and socially meaningful practice. Anthropological mobility research, however, emphasizes movement as embedded in power relations, embodied experience, and identity formation. The few anthropological studies on cycling tend to focus on cycling cultures in different regions and the embodied experiences of cyclists and meanings surrounding the bicycle as an object (Sabelis 2022; Vivanco 2013). Therefore, this literature review presents an interdisciplinary drawing on anthropology, urban studies, and transport research to understand cycling infrastructure as a socially, politically, and materially entangled system, where affective attachments are negotiated.

Cycling is widely promoted as a solution to urban sustainability challenges, yet its benefits are realized only when infrastructure supports safe, efficient, and accessible movement (Cox and Koglin 2020). Research shows that cycling can improve public health, provide cost-effective transport alternatives, and enhance spatial efficiency, but these outcomes depend on the availability, design, and connectivity of cycling infrastructure (ibid.). Whitelegg (2020) emphasizes the “enormous gap between what we know about [cycling’s] exceptional ability to deliver desirable outcomes and the very low level of acceptance, development, funding and delivery” (p. 96), highlighting that the realization of cycling’s potential is inseparable from infrastructure provision and governance. In other words, cycling infrastructure is the link between the recognized benefits of cycling and their practical enactment in everyday mobility, shaping both the experience of cyclists and the broader effectiveness as a sustainable urban transport mode.

This work examines cycling infrastructure as a socially and politically embedded system, exploring how its design, governance, and material form shape both mobility practices and the

lived experience of cyclists. Firstly, it establishes the conceptual foundations of the field, moving beyond static definitions to explore the political, aesthetic and affective dimensions of infrastructure. The provision of infrastructure is not merely an engineering issue or a design solution. Infrastructure is never a neutral object, rather it is a dense social, material, aesthetic, and political formation (Anand et al. 2018). Furthermore, the development of infrastructure is often contradictory and is rarely absent from the issue of politics, often resembling “power-games” rather than a planning process (Cox and Koglin 2020). It additionally draws on the concept of “mobile ontologies” (Adey 2017) to frame movement not as dead time, but as a meaningful, sensory practice constitutive of reality.

Secondly, the review turns to the anthropology of cycling, examining the unique “human-machine assemblage” (Vivanco 2013, 11) and the reductive urban paradigms such as “rationalization” and the “mobility fix” that have historically marginalized cycling in favor of economic productivity and car dominance (Koglin 2020). Thirdly, my work explores the politics of space and the institutional landscape. It analyzes how infrastructure acts as an indicator of “mobile hierarchies” (Morgan 2019; Sancho-Reinoso et al 2022) and investigates the “ambivalent” planning strategies and mental barriers among decision-makers that hinder progress (Whitelegg 2020). Fourthly, it contrasts the idealized narratives of “cycling paradises” with the contested realities on the ground to understand how distinct “cycling cultures” and identities are formed and governed (Aldred and Jungnickel 2014; Freudendal-Pedersen 2020; Feddes et al. 2020; Vivanco 2013). Finally, it analyzes the “embodied experience” of safety and skill, highlighting the discrepancy between perceived and objective risk (Larsen 2014; Sabelis 2022). By synthesizing these perspectives, the literature review identifies how the material, social, and institutional dimensions of cycling infrastructure create both opportunities and barriers, revealing why the ‘promise’ of cycling as a sustainable mode of transport often remains unrealized in urban settings.

The concept of infrastructure: social, material and affective

As previously mentioned, infrastructure is not merely a physical object. Brian Larkin (2013) defines infrastructure as a physical network which allows for the movement of people, objects, good, finances, ideas and so on. He emphasizes that the concept of techno-politics is central for understanding infrastructure in modern anthropological studies as every infrastructural project has its own “political rationality” behind it.

At the same time, infrastructure exists outside of this techno-political sphere, acquiring various semiotic meanings. It signifies aspects of our ‘imagined future’ reflecting the hopes and aspirations of a society. For example, a road serves a technical purpose, but it simultaneously generates feelings of desire, excitement and enthusiasm. This power is embedded in the aesthetics and sensory experiences of the material. Mrazek’s analysis of Dutch colonial Indonesia to illustrate how the materiality of infrastructure such as the hardness, colour and smoothness of asphalt reflect societal and political tensions (Mrazek 2003). In that context the roads physical characteristics were an expression of ‘Dutchness’ while the ‘softness’ of the surrounding environment was associated with ‘Indonesianness’. A wide array of sensorial characteristics contributes to the conceptual entanglements of infrastructure. Therefore, we see that the physical design is not just about the flow of traffic, for example, it is an expression of society.

Thus, when this infrastructure engages with people on the level of emotions and affects – it becomes affective. Bosworth (2023) explores the idea of connection between emotions (or affect) and infrastructure. Affects are defined as “indexes of transformation of capacities to affect and be affected, and the ideas of those capacities, each of which traverses multiply situated bodies, histories and scales” (Bosworth 2023, 56). Various qualities and processes of infrastructure such as expectations, maintenance and degradation are connected to hopes, frustrations, happiness and so on.

Sara Ahmed’s research on happy objects (2010) provides a useful point of view – infrastructure does not inherently cause good or bad feelings – “We judge something to be good a lot bad according to how it affects us, whether it gives pleasure or pain” (Ahmed 2010, 31). If infrastructure facilitates smooth movement – we evaluate it as good, if not – then it is evaluated negatively. Notably, Ahmed notes the troubling assumption that good feelings are often assumed to be progressive, while bad feelings are associated with regression. Such an evaluation is then maintained by the person’s habits. Different interlocutors assess the same event vastly different; one’s reading of the atmosphere could change their behaviour which in turn influences what happens next. Objects can also be affective even before one encounters them, if the knowledge and feelings of the object are shared beforehand. Moreover, this understanding is central to the “differentiated experiences of everyday life” (Anand et al. 2018). This moves the analysis beyond physical characteristics to explore powerful symbolic and affective dimensions of infrastructure.

Transport infrastructure

Dalakoglou and Harvey explore the implications of the roads in anthropological research. Roads “elicit powerful temporal imaginaries, holding out the promise (or threat) of future connectivity, while also articulating the political and material histories that often render these otherwise mundane spaces so controversial” (Dalakoglou and Harvey 2012, 460). Additionally, roads are presented as multi-level public works. Drawing on examples from research from various parts of the world, the authors suggest that roads can both connect and disconnect, breaking their “promise”, presenting a system of exclusion. Furthermore, the authors argue that even when the road disappoints (by breaking or causing environmental harm), the idea of the road remains “enchanted.” People still believe in the promise of the road because it represents a future that hasn’t arrived yet, echoing the concept of representation by Cresswell. The affective state of infrastructure is, again, visible in roads (Harvey and Knox 2012). Drawing on an ethnography of road construction in Peru, the authors show that roads operate not only as material interventions but as technologies of progress that carry powerful promises of development. These promises are articulated through three interlinked imaginaries: speed, political integration, and economic connectivity. Road instability is not simply a failure of infrastructure but part of how roads become a politically charged sites of statecraft, even when they disappoint or generate unintended consequences.

Orlova explores the implications of ‘broken roads’ in Eastern Siberia and the affects that come with that. A ‘broken road’ can produce a sense of belonging and identity in the nearby communities, additionally functioning as a tool for storytelling through the stories of trouble. As she claims: “There is an apparent ouroboros movement that takes place between affect and infrastructure; the affects get embodied in infrastructure which, in turn, generates affect” (Orlova 2021, 30). Moreover, smooth infrastructure and roads go unnoticed, only when they do not function as intended do the users actively think about them. Affects are still produced even on good-quality roads, but the affect from ‘broken roads’ is stronger in itself (ibid.). The construction of the Baikal-Amur Mainline (BAM) was framed as a major socialist modernization project and a symbol of progress (Povoroznyuk 2019). In the article, infrastructure emerges not merely as a material object, but as a social and political force. The railroad functioned as a source of transformation reshaping the natural environment, reorganizing regional development, and structuring new forms of social life. At the same time, it played a central role in identity formation. The social memory of the BAM is emotionally

charged, with narratives of enthusiasm, pride, and fulfillment attached directly to participation in the infrastructural project.

The concept of mobility

To understand how infrastructure influences road users, we must conceptualize mobility itself. Spinney (2009) argues that geography has historically treated movement either as a negative "placeless" activity or as a purely rational transport activity defined by time and cost. This approach treats the journey itself as a "non-space of nothingness," assuming meaning is derived only from the origin and destination (Spinney 2009, 819). Spinney (2009), in turn, calls for a "mobilities turn" in cycling research that explores the *kinaesthetic* (feeling of movement), sensory experiences of the journey itself. He argues that researchers must investigate what cycling *is* – a complex, sensory, and embodied practice rather than just what it *should* be (a rational transport choice).

Similarly, Elliot and co-authors (2017) conceptualize mobility as a metaphor that "captures the common impression that our lifeworld is in flux" (Elliot et al. 2017, 1). They agree with Cresswell on understanding mobility as a complex phenomenon that combines movement, meanings, imaginaries and experiences, yet stress the lack of theorization of participant observation in regard to how anthropologists engage "with subjects, objects and ideas 'on the move'" (Elliot et al. 2017, 3). For a very long time mobility in anthropology was associated with nomadic groups and seen as an abstract concept. More recent scholarship, however, shifts this perspective by emphasising that "ethnographies of mobility necessarily draw researchers into a multitude of mobile, material, embodied practices of making distinctions, relations, and places" (Elliot et al. 2017, 3). The approach to "follow the thing" (Appadurai 1988) allows for valuable theoretic and empirical contributions and has taken two forms: (1) following and travelling alongside the moving objects and (2) interviews, observations and other methods that allow to analyze this 'mobile thing'. Thus, the scholars conclude that the methodologies of mobility are important to re-considering and theorizing mobility itself.

Furthering this argument, Peter Adey (2017) argues that reality is not merely movement from one point to another, but a constant state of motion, creating the concept of "mobile ontologies". Drawing on Henri Bergson (2012), Adey suggests that "mobility and any idea of a world-in-process lay below the individual's capability to perceive that reality" (Adey 2017, 7). Furthermore, mobility and movement are very easy to overlook, and they proceed to go unnoticed, as something too mundane. In this framework, similarly to the idea stated previously,

infrastructure involves a transformation of contexts and spaces that it occurs through. In saying this Adey portrays mobility as both a social and a spatial phenomenon.

Salazar and Smart (2011) advocate for an anthropological discourse in mobility studies and argue that mobility should not be understood as mere physical movement, but as socially constructed, politically regulated, and morally evaluated. Mobility is therefore always entangled with inequality, governance, and regulation, and carries symbolic meanings associated with ideas of progress, freedom, and improvement, which differ across social contexts. The authors defend the value of ethnography for mobility studies, emphasizing that anthropological research can ground abstract mobility theories in lived experience, showing how movement is imagined, experienced, and negotiated in everyday life (Salazar and Smart 2011).

Building on the aforementioned shift, Cresswell (2010) provides a more differentiated conceptualization of mobility. He identifies six parameters that constitute mobility: motive force, velocity, rhythm, route, experience, and friction. Following his previous research (Cresswell 2006), he argues that mobility presents itself as an “entanglement” of the physical action of movement; its representation and meanings; and the embodied practices associated with it (Cresswell 2010). He further introduces the concept of constellations of mobility, referring to “particular patterns of movement, representations of movement, and ways of practising movement that make sense together,” containing traces of the politics of mobility (Cresswell 2010, 18). While planners find new ways to make mobility more efficient, such technical interventions do not necessarily reveal the practices, meanings, and frictions that constitute mobility in lived experience.

Cycling anthropology

Luis Vivanco’s book *Reconsidering the Bicycle* (2013) establishes a framework for the anthropology of cycling, arguing that the bicycle serves as a “lens into contemporary dilemmas of urban life, sustainability, social change, and globalization” (Vivanco 2013, 9). This perspective challenges the dominant approaches in transportation studies, which are largely dominated by engineers and urban planners. Vivanco argues that these technical fields often treat travel as a problem of moving “passengers” effectively viewing people as objects to be transported efficiently, rather than examining the “actual people” and their lived experiences.

A central point of cycling anthropology is the unique relationship between the rider and the vehicle. Vivanco claims that the bicycle presents a curious case where the vehicle and the rider merge – creating a new unit or a fusion. The experience is deeply sensory – Vivanco describes "wind rushing through one's hair, legs pulsating, feelings of vulnerability and fear mixed with exhilaration..." noting that these physical sensations have profound social repercussions (Vivanco 2013, 12). Because each mode of mobility carries its own potential for "knowing, sensing, and interacting with the world", cycling produces a distinct way of inhabiting the city that differs fundamentally from driving or walking (ibid.). Despite these unique qualities, cycling remains underrepresented in anthropological research (Verstappen 2023). The goal of an anthropological approach is not to ignore pragmatic concerns but to provide insight into the cultural meanings of these practices:

“...anthropology’s goal is not to deliberately skirt pragmatic concerns, but to provide a deeper level of insight into the social organization and cultural meaning of mobility practices and the objects involved in them, demonstrating that what may feel “natural” is the product of social and cultural processes that vary across time and space and may not be valuable to everyone involved.” (Vivanco 2013, 11)

Drawing on Urry’s (2007) thought that different kinds of mobilities result in different kinds of societies, Vivanco argues that mobility shapes local cultures and social identities. In the US context, this often results in a cultural dissonance, for example. Cyclists frequently feel they are "being punished for doing good" – experiencing hostility from drivers despite engaging in “good cycling actions” (Vivanco 2013). This example highlights the existence of bicycling cultures.

Finally, Vivanco offers a critique of how infrastructure is typically implemented. While acknowledging the practical benefits of bicycles such as their flexibility to bypass congestion and their spatial efficiency (18-20 bikes fit in one car space), he argues against "technological determinism". The "build it and they will come" (Cervero et al. 2012) logic is insufficient because infrastructure treatments do not work in isolation – they must be systematic and comprehensive. Furthermore, successful cycling cities rely not just on bike lanes and built infrastructure but on strategies that actively demotivate driving.

Urban planning paradigms

Despite the theoretical understanding of mobility as a rich, sensory experience, urban policy has historically been driven by reductive paradigms. The literature identifies two primary forces: the historical "rationalization" of space and the contemporary "mobility fix". Infrastructure is understood as a social product that reflects, produces and reproduces social relations (Koglin 2020). Koglin, using the theory of Lefebvre, identifies three lenses of analyzing space – spatial practice, representations of space and representational spaces (Lefebvre 1991). Using this approach, Till Koglin argues that space is a crucial element in the marginalization of cycling (Koglin 2020).

Principle of rationalization is identified as a primary source of exclusion in urban transport policy. Using Sweden as a case study, Koglin (2020) notes that planning in the 1960-1970s was based on said principle of rationalization of space, technocracy and neutrality, viewing technology as de-facto objective and neutral tool. This approach prioritized efficiency and speed leading to a car-dominant urban design with highway systems dominating the landscape. The result is the perception of a car-dominant design where cycling feels irrational (Koglin 2020). Koglin claims that this approach to urban design persists even today. Even in the newly built districts, the lack of space remains a primary problem for cyclists. Furthermore, this marginalization has its social consequences – Swedish cyclists are often verbally assaulted by the car drivers since the infrastructure de-facto suggests that “their presence is delegitimized” (Koglin 2020, 67). Thus, the policy of ‘rational’ planning created a reality where cars can dominate by sheer mass and physical volume (Cox 2020).

Research shows that there is a broader systemic issue: the persistence of a car-centric paradigm. John Whitelegg (2020) argues that current paradigms are centred around the constant growth of motorised vehicles numbers, effectively excluding the possibility of reduction. He contends that administrations greatly inhibit cycling by adopting policies which favour motorised vehicles. To achieve the transformation, Whitelegg advocates for a systemic paradigm shift. This would involve policies that effectively "combine incentives for cyclists and disincentives for car use" (Whitelegg 2020, 95). He points to the approach like "Vision Zero", which sets a goal of zero road fatalities, as a necessary framework that refuses to accept road deaths as inevitable. A new framework would require an integrated approach that combines urban infrastructure, public health, policy and quality of life and does not treat them as separate things. Without such a shift, planning remains stuck in a model where cycling is accepted as a risky mode of mobility, and infrastructure remains a series of disjointed interventions rather than a

cohesive network. Furthermore, the author argues that the new paradigm should focus on the matter of public health and the quality of life (Whitelegg 2020).

Recent critical literature suggests that this gap is complicated by the nature of the current cycling renaissance. Justin Spinney (2020) argues that in many cities, the promotion of cycling represents a "mobility fix" – a strategy to solve economic problems (congestion, pollution, unhealthy workforce) while maintaining the dominant paradigm of endless economic growth. He critiques this trend as a "green growth agenda", where cycling is "economised", i.e. stripped of its alternative qualities like slowness and sociability, and engineered to maximize labor productivity. Consequently, cycling does not represent sustainability or a better quality of life, it aims to reproduce the current approach “to produce better human capital and faster circulation times” creating a "weaponised" version of cycling (Spinney 2020, 2).

Marginalization and politics of space

This marginalization is further theorized by Peter Cox (2020), who argues that cycling infrastructure is often determined by the space that is ‘leftover’ after the needs of the car drivers are met. Similarly, Amin in his article “Lively infrastructure” (2014) theorizes that street design often symbolically prioritizes motorized vehicles by the distribution of space, while every other road user is subjected to the “leftover space”. The concept of lively infrastructure underlines the agency of these physical structures in urban life. Amin finds that the infrastructure shapes experience of the city itself and the social identities – aesthetics are a powerful dimension shaping perception of mobile bodies. At the same time Cox also warns that the creation of high-quality infrastructure is not a cure for inequality. In general, the dedicated infrastructure can lead to exclusion if it privileges a specific section of society while undermining the needs of others (Cox 2020).

This dynamic is fluctuating and can be observed in history. Spinney (2020) traces the fluctuating state of the bicycle to show that its current status is shaped by economic and social forces. In the late 19th century, cycling began as an invention for the wealthy, but as bicycles became affordable for the working class in the 20th century, they lost prestige and evolved to means of transportation meant for the poor. The rise of the car, supported by pro-car urban planning, rendered cycling dangerous and marginal.

The political nature of infrastructure is quite well illustrated by Njogu Morgan’s historical analysis of the Louis Botha Avenue cycle lane in Johannesburg in the 1930-40s. Morgan (2019)

challenges the idea of static infrastructure, proposing the idea of a ‘co-evolution’ between society and technology. He argues that cycling infrastructure and its changes should be perceived as an indicator of political and social changes. Morgan (2019) elaborates how a cycling lane was originally painted on the avenue to improve safety for workers traveling along the road. While the lane was widely used, safety measures were insufficient, and cars would often park and drive on the lane forcing cyclists into the open road and inevitably leading to accidents. A commission recommended building a separate cycling track yet this was never realized for various reasons.

As travelling by car gained more and more popularity and the car became the priority vehicle, media narratives began to portray cyclists as the main cause of accidents and congestion on the road. Additionally, new laws prohibiting cycling side-by-side were introduced, allowing police officers to discipline cyclists to stay on the very margin of the road. Eventually, the lane fell into disrepair and disappeared entirely. Morgan concludes that the disappearance of the lane is a reflection of social and mobile hierarchies in Johannesburg. A society striving for inclusivity would produce different roads, thus, “cycle infrastructure cannot be considered in isolation from other social and political considerations” (Morgan 2019, 47).

Similarly, in the study of Baikal Amur Mainline the “hierarchies of mobility” are shown across two scales: state prioritisation in strategy and investment, and intersectional structural conditions shaping who benefits and who is disadvantaged (Sancho-Reinoso et al. 2022). Low road satisfaction of the population in the region stems from structural difficulties in accessing the transport network, combined with a perceived lack of convenience. This dissatisfaction is intensified by barriers to individual mobility reinforcing the sense that the system does not consistently support everyday mobility. In this way, disappointment becomes an indicator of mobility hierarchy: it reveals how infrastructural design and policy choices distribute mobility unevenly.

Planning: institutions and ambivalence

Literature points at the importance of institutional role in planning the infrastructure. There exists a gap between the wish or plan for more infrastructure and the actual implementation of it, as Whitelegg claims (2020). As Cox and Koglin assume “planning is one element of the operation, but what results is often very different from even the most comprehensive strategic imagination” (Cox and Koglin 2020, 3). When the institutional priorities and social values are in conflict, the result is often infrastructure that is ambivalent, inconsistent and suboptimal for

the user. In many cases this gap is attributed to the lingering paradigm of car dominance, ambivalent planning strategies, and even mental barriers in planners themselves (Whitelegg 2020; Leyendecker 2020; Brezina et al. 2020).

The study of Brezina and co-authors (2020) of Austrian administrators and planners (mainly outside Vienna) reveals a significant disconnect between the creators of infrastructure and its users. The study found that the majority of administrators and planners are men over 50 years old who have held their positions for at least 15 years. The scholars argue that this demographic characteristic is one of the primary reasons for the lack of cycling change, as these officials grew up in a car centered environment and have settled work habits (*ibid.*). Consequently, their perception of user needs is often flawed. Said strategies often aim to encourage cycling, yet do not consider any measures to hinder the attractiveness of driving a car. Some administrators in the study explicitly claimed that cyclists "can be left on their own as they will find their way around" revealing a lack of urgency regarding dedicated infrastructure (Brezina et al. 2020, 87). Furthermore, administrators often cited a "lack of political will" as a major hindrance to prioritizing cycling. This institutional inactivity results in a gap between policy drafting and realization. Additionally, the authors note that when no strategic document for cycling exists or it does not feature extensive details, two times fewer measures are implemented. Interestingly, the administrators noticed a lot less barriers and hindrances in the road network than the cycling advocates.

Katja Leyendecker's (2020) comparative analysis of Newcastle and Bremen illustrates how "good intentions" often result in suboptimal outcomes due to conflicting priorities. In Newcastle, the city's strategy expresses a will to incorporate more cycling yet remains very superficial and uncertain about specific methods. Crucially, the policy is contradictory: while claiming to support sustainable transport, the city simultaneously promotes free car parking and increases parking space for cars. In Bremen, a city with a high cycling share (23%), policy shifts have led to stagnation. Leyendecker (2020) identifies a technocratic approach where the city began removing kerb-protected cycle tracks in favor of painted lanes on the road since the city strategy expressed its dissatisfaction with the dominating "culture" of protected cycling tracks. This decision directly contradicted the preferences of users, 95% of whom stated they would choose protected tracks over painted lanes due to safety and convenience. This misalignment between technocratic planning and user preference highlights how transport politics are often made invisible resulting in infrastructure that serves administrative thinking rather than human needs.

John Pucher and Ralph Buehler (2008) argue that successful cycling cities make cycling "irresistible" not just through infrastructure ("the carrot") but through restrictive policies for cars ("the stick"). The researchers note that cities in the Netherlands and Denmark implement restrictive policies that make car use less convenient and more expensive, such as traffic calming (30 km/h zones) and "Home Zones" where cars are restricted to walking speed. Without this "double-barrelled combination" planning remains stuck in a paradigm of car dominance where cycling is treated as a secondary mode (Pucher and Buehler 2008, 525).

Finally, the literature suggests that the failure to produce effective infrastructure often stems from a "top-down" approach that excludes the community. Cox notes that when advocacy groups are removed from the planning process, "infrastructure appears imposed" rather than owned by the users (Cox 2020, 21). This contrasts with the success of Amsterdam, where it was the "bottom-up" input and consistent collective effort were central to the city's transformation (Feddes et al. 2020). When the personal day-to-day experiences of cyclists are ignored by the planning bodies, the result is the "patchy" disconnected, and often hostile environment that forces cyclists to rely on the high affective capacities described in the previous sections (Sabelis 2022).

Cycling narratives

Freudendal-Pedersen (2020) examines how an international narrative of a cycling paradise shapes the reality of cycling in Copenhagen. She argues that cycling infrastructure in Copenhagen is a product of 'collaborative storytelling', where the central narrative prioritizes cycling in urban development strategy, as well as the well-being of cyclists. Cycling has been normalized to the point that the municipality considers that "Copenhagen doesn't have cyclists but merely people transporting themselves by bike" (Freudendal-Pedersen 2020, 183). The author then argues that this creates a powerful "project identity", which in turn can also act as a mask for any issues, tensions and conflicts that might arise. Among such issues that are not addressed in city planning are the comparative danger of cycling for a child and the long waiting time for a cycling bridge in the crucial city network (noting that it never takes that long to build a bridge dedicated for cars). In doing so, Freudendal-Pedersen warns that such a narrative of a "perfect world" can become a barrier.

The central tension is shown to lie within the "car dominance" versus "cycling freedom" narrative. While freedom is associated with the flexibility and speed of the bicycle, aligning with "liveable and greener cities", the car narrative persists (Freudendal-Pedersen 2020, 190).

Freudendal-Pedersen notes that many Copenhageners still believe owning a car has its privilege which contradicts the general narrative. Furthermore, the sheer increase in cyclists themselves has created internal friction – faster communities and experienced locals often feel annoyance at tourists, since not following or not knowing the "unwritten rules of the cycle paths" generates feelings of risk (Freudendal-Pedersen 2020, 187). Thus, the narrative is a useful tool that reflects how infrastructures can both facilitate and impede cycling.

Speaking of other cases of “cycling paradise”, Feddes and co-authors (2020) challenge the assumption that Amsterdam’s cycling dominance was a pre-existing condition or historical accident. Despite having high level of motorization, Amsterdam has a widespread practice of cycling and corresponding infrastructure. The authors show that it was the result of specific actors and movements over decades and their consistent collective effort. In the 1970s, younger populations who viewed cycling as a symbol of freedom and high flexibility, combined with anti-car movements, began to reshape the city. A crucial role was played by the *Fietersbond* (ENWB), a cycling union of volunteers who analyzed street situations and offered concrete solutions to the administration. This bottom-up input approach was formalized into working groups that combined citizen complaints with statistics.

The result was the creation of the "Handbook Fiets Amsterdam," a set of guidelines for every district on creating cycling infrastructure. This document standardized the safety approach: lowering car speeds in residential areas and building separate tracks on main roads. Feddes and co-authors (2020) emphasize that this transformation relied on transparency and trust between the administration and the activists. This contrasts sharply with the "ambivalent" planning described earlier. Amsterdam’s infrastructure is not just a collection of bike paths, it is the physical manifestation of a successful social movement. As the scholars conclude, however, this specific historical alignment of transparency and trust cannot be easily implemented in every case, suggesting that infrastructure requires a supportive social fabric to thrive.

Cycling cultures

Beyond the physical infrastructure, cycling culture plays a massive role in who cycles and how. Aldred and Jungnickel (2014) argue that cycling should not be analyzed as a simple individual choice, but as a "social practice" composed of three components: materials (bikes, gear), competences (skills, navigation), and meanings (identity, cultural status).

By contrasting "established" cycling cultures with "emerging" ones, Aldred and Jungnickel show how the local environment shapes these elements differently. In places with high historical cycling rates like Cambridge, the practice is viewed as mundane and everyday. Because the practice is normalized, it requires fewer specialized materials (people ride "ordinary" bikes) and lower levels of competence compared to traffic-heavy cities. It is embedded in other daily practices like shopping, making it feel like the "right" thing to do. However, established cultures are not always positive, in Hull, cycling is framed as a "lack of choice" associated with working-class necessity rather than lifestyle, often leading to stigma (ibid.).

In areas where cycling is rising but not dominant, the practice is often tied to specific subcultures. In Bristol, the practice is frequently associated with sportiness, creating pressure regarding materials like lycra and specialized equipment. New cyclists often struggle with the identity of "utility cycling" versus "sport cycling" feeling they must dress or act a certain way to signal competence. Similarly, in Hackney (London), cycling is linked to "cool" subcultures and gentrification. While culturally visible, this association with trendy or middle-class identities can create barriers for long-term residents or different ethnic groups who do not identify with that lifestyle. The authors conclude that for cycling to become a mass practice, it needs to shift from being a high-skill, subcultural identity (as seen in Bristol and Hackney) to becoming a "culturally invisible" mundane activity requiring less specialized competence (Aldred and Jungnickel 2014).

Vivanco's comparative analysis (2013) illustrates how infrastructure shapes distinct cycling cultures. In Amsterdam, cycling is described as a "self-evident routine" embedded in a network of conventions felt to be natural. The riding style is described as collective, traffic presents an organized chaos where cyclists rely on non-verbal communication and anticipation rather than strict adherence to signals. In contrast, in Burlington, the lack of cohesive infrastructure forces cycling to become an "individualized performance" (Vivanco 2013, 95). Without a protective network, each cyclist must develop personal strategies to manage risk, such as "acting like a car" or riding on sidewalks. Here, cycling is not a normalized habit. In Bogotá, the culture is defined by a class divide, despite the success of recreational events, everyday cycling is still widely perceived as a vehicle for the poor, while the middle class adheres to car ownership (ibid.). This demonstrates that "cycling culture" is not universal but is constructed by local histories and social hierarchies.

Anne Jensen (2016) applies a Foucauldian framework of governmentality (the "conduct of conduct") to argue that urban planning shapes the emotions, sensory experiences, and very identities of citizens. Focusing on Copenhagen, Jensen argues that the Municipality uses cycling policy to construct a specific type of "mobile subject". Through strategic documents the city explicitly links cycling to the city's identity and the sensory experience of the city "pulse". Policy narratives construct the "idealized subject" as someone who desires flexibility, speed, health, and a climate-friendly lifestyle. By promoting cycling as a symbol of freedom, the state exercises "biopower," shaping the desires and behaviors of citizens to align with the city's goals of becoming a green, competitive metropolis (ibid.).

The embodied experience

As Peter Cox (2020) argues, infrastructure implies a training of competencies that one must master to move through the public environment. This requirement for skill creates a divide between "newbies" and experienced cyclists. Cox notes that while new cyclists demand dedicated infrastructure to feel safe, experienced cyclists often have the skills to ride on roads "without any issue". This suggests that the current infrastructural design in many cities implicitly relies on the user's ability to build the skill to a certain level rather than providing an environment that is accessible to all skill levels.

The concept of affective capacity explains how a cyclist must develop physical and emotional capabilities in order to navigate the environment (Larsen 2014). Larsen highlights the contrast between Copenhagen – where the needed cycling capacities are quite low and London which proved to be a “frightening experience”. In Copenhagen, the infrastructure allows cycling to be an ordinary practice. The skills required are minimal; the ride is described as short, relaxed, and safe, allowing users to ride in everyday clothes on old, not well-maintained bicycles. The environment itself supports the user, reducing the need for vigilance.

On the contrary, London's non-existence of cycling lanes, noisy and narrow streets full of cars result in an overwhelming feeling of danger in this environment, especially for an outsider. It requires cyclists to actively assert themselves on the road and fight for the road space, as well as a knowledge of local (unspoken) rules of traffic. This demands the rider to act more like a car and is reflected in the use of expensive professional gear to develop the speed and increase defense. In his autoethnography Larsen (2014) explains that over a few weeks of cycling in London he was able to develop the needed affective capacity and his safety perception improved

– yet, this proves that cycling on roads without cycling infrastructure is physically and mentally demanding, not to mention the danger of an accident is much greater.

However, as Larsen insists, “getting people to cycle more and for longer is not only a question of bicycle-friendly design (no matter how important that is) but also of enhancing people’s affective capacity” (Larsen 2014, 69). Thus, cycling infrastructure and culture must evolve together: while cities can provide the environment, people will have to adjust to a cycling lifestyle and the fact that sometimes one will have “tough rides” due to the weather conditions, for example. Therefore, the adaptation of the cyclist is not just about overcoming fear of cars. It involves mastering a complex set of physical skills (fighting for space), cognitive skills (navigating patchy routes) and social skills (negotiating with other road users). The literature suggests that as long as infrastructure remains "chaotic, contradictory and imperfect", the barrier to entry for cycling will remain high, excluding those unable or unwilling to develop these demanding competencies (Cox and Koglin 2020, 3).

While autoethnography provides the narrative of the "sensuous" city, quantitative research confirms that these individual feelings are widespread and structurally determined. The literature identifies the embodied perception of safety as the single most critical factor influencing the decision to cycle (Lim et al. 2025). However, this fear is not unreasoned; it is directly correlated to specific infrastructural designs.

A critical theme is the difference between the perceived risks that cyclists rely on and the objective risks calculated statistically and used by policymakers (Gössling and McRae 2022). Perceived risks naturally cause a sense of fear in cyclists, thus, influencing the behaviour and the motivation to ride a bicycle or not. According to Gössling and McRae (2022), this fear is often shaped by the near-miss situations (when an accident, usually with a car, almost occurred) and the stress caused by it. Because of these unrecorded frightening experiences, a large group of potential cyclists choose not to cycle, waiting for conditions to improve, while others take significant detours to avoid dangerous roads. This disconnect means that an intersection might be statistically "safe" (low accident count) but affectively "hostile" (high fear), effectively acting as a barrier to mobility.

Gössling and McRae’s study (2022), which collected data from over 20,000 participants in Berlin, provides a comparison of how different infrastructure types are perceived. The results show a picture of the failure of "mixed" traffic solutions:

- **Shared Spaces:** The study found that shared lanes for cyclists and automobiles were considered the most unsafe. Only 11% of respondents considered a road without a cycling lane to be safe for them.
- **Painted Lanes:** While often used by cities as a quick solution, painted strips were considered to be 20% less safe than physically separated tracks. Lim et al. (2025) reinforce this, claiming that the existence of a painted bike lane did not equate to improved comfort when compared to roads which did not have any bike lanes at all.
- **Physical Separation:** The highest scores for safety were consistently given to physically separated cycling tracks. Specifically, tracks separated by a grass strip or physical barriers like bollards and flower boxes were rated significantly higher than those merely separated by paint.
- **Width:** Wide lanes were ranked higher than narrow ones, especially when car parking was present nearby. The fear of "dooring" – being hit by an opening car door – remains a major concern for cyclists. Interestingly, even painted buffer zones designed to prevent dooring were not rated as significantly safer by users.

Lim et al. (2025) further this discussion by distinguishing between "safety" and "comfort". While safety often refers to the risk of collision, comfort relates to the stress and mental load of the journey. They found that safety, comfort, calmness and pleasure are correlated among the participants of the study, even though they are not identical. A key finding is that narrow lanes and those near parking spots are generally perceived as uncomfortable. At the same time, contrary to the findings of the previous study, smaller roads without any cycling infrastructure did not cause any discomfort in cyclists – the authors even suggest that secondary streets could be a way of improving the general cycling network in the city. Conversely, slower traffic speeds and infrastructure made specifically for cycling increase the subjective safety of riders (ibid.). Additionally, this perception varies by demographic. Lim et al. note differences in results among men and women, as well as in varying cycling confidence levels, with males typically expressing a more confident cycling behaviour. The key outcome of the study is that infrastructure that was built bearing user experience in mind could contribute to a higher rate of cycling and a more positive experience (Lim et al. 2025). As Gössling and McRae (2022) report, 72% of cyclists in Germany are afraid of riding to work because of car traffic. This statistic alone demonstrates that the current infrastructure solutions are failing to provide the conditions needed to normalize cycling.

‘Patchy’ infrastructure

One of the ways the ambivalence manifests is the patchwork experience. Sabelis’s autoethnography (2022) on long-distance cycling in the Netherlands – a country often viewed and portrayed as a cycling paradise – describes how routes often differ in their quality, interconnectedness and cyclist-friendly design. She notes sharp curves which force the cyclist to slow down drastically, as well as frequent interruptions of the cycling track which force one to switch to the main road 4-5 times on a single commute. Temporary cycling paths are also cause for concern since construction might last for a few years and the temporary lanes are not easy to notice or to navigate. The lack of continuity creates a ‘sensescape’ that feels unpredictable and stressful rather than freeing. Sabelis concludes that this narrative illustrates “the ways in which good intentions are micromanaged (patch by patch) and ultimately turn out to provide suboptimal solutions overall” (Sabelis 2022, 9).

The literature overwhelmingly demonstrates that the "problem" of cycling infrastructure is not merely a lack of engineering knowledge. It is a complex entanglement of techno-political power (Larkin 2013; Morgan 2019), embodied affect (Larsen 2014; Bosworth 2023), and institutional ambivalence (Brezina et al. 2020; Leyendecker 2020). While the literature touches on these inconsistencies, the specific notion of ‘patchy infrastructure’ remains underrepresented in research. Existing works focus on the concept of infrastructure patching as a description of small citizen-led actions aimed at improving local infrastructure or addressing a certain issue (Bryson et al. 2023). Consequently, there is a lack of research on ‘patchy infrastructure’ as a structural characteristic of urban design. This review suggests that such patchiness is a major tangible barrier that inhibits cycling and its normalization as a cycling mode.

Buehler and Dill (2016) categorize the literature into three consecutive types: links (roadways), nodes (intersections), and networks (the overall system). Their analysis supports the hypothesis that “patchy” infrastructure acts as a structural barrier to mass adoption. Most research has focused on "links", the specific segments of the network where cyclists travel. The overwhelming consensus is that cycling infrastructure, particularly facilities separated from motor traffic, has a positive effect on cycling levels. While experienced cyclists may tolerate mixed traffic, most studies show a strong preference for low-traffic, low-speed residential streets. "Bicycle boulevards" (traffic-calmed streets) are preferred over standard streets, although their direct impact on increasing numbers of riders is still being debated (Buehler and Dill 2016). Studies from Copenhagen and the US confirm that installing separate cycle tracks

leads to increased ridership and improved safety perceptions. While painted lanes have a positive correlation with cycling levels, separated paths are generally preferred over on-street painted lanes, with some cyclists willing to travel longer distances to use a separated path rather than a direct route on a busy road (ibid.). Therefore, physically separated facilities are the most preferred infrastructure type, especially among women and less experienced cyclists.

Intersections, or “nodes”, are identified as critical stress points in the network (Buehler and Dill 2016). They generally have a negative effect on cycling comfort and route choice, causing cyclists to avoid difficult crossings or heavy traffic signals. Specific treatments can offset this; “Bike Boxes” allow cyclists to be more visible at the front of intersections, making most cyclists feel safer. Furthermore, separate bicycle signals are highly valued by users. Interestingly, high volumes of car traffic can actually make traffic signals *more* attractive to cyclists (compared to unsignalized crossings) because the signal provides a protected opportunity to cross.

Furthermore, research is shifting towards analyzing the *entire* network rather than just individual parts. A higher density of bikeway facilities is strongly associated with higher levels of bicycle commuting. Crucially, new methodologies measure “low-stress” connectivity, assuming that a cyclist will only travel if the *entire* route stays below a certain stress threshold. If a route has even one “high-stress link,” it may be rejected (Buehler and Dill 2016). This supports the argument that “patchy” infrastructure is fundamentally flawed; disjointed interventions fail because the lack of cohesion breaks the stress threshold required for mass adoption.

Methodology

This section presents the theoretical framework guiding my research: the "new mobilities" paradigm. The "new mobilities" paradigm emerged in the social sciences in the early 2000s, this theory challenges traditional approaches to studying movement, space and society. It does not see travel merely as a function of transport engineering or economic utility, proposing instead that movement is an element of social life and is much more complex than previously thought.

The main argument of the new mobilities paradigm is the rejection of "sedentarism" which is a tendency in traditional sociology, geography and anthropology to treat the stability of the place as "normal," while viewing change and movement as "abnormal" or problematic (Sheller and Urry 2006). Traditional transport research has historically treated the time spent traveling as a "black box", a period of getting from point A to point B that is not counted as a part of social life. In this view, travel is purely functional, regulated by "rational" reasons such as time, cost and distance. The new paradigm disproves this so-called black box, arguing that social relations are enacted *during* travel and that activities occur *while* on the move.

Moreover, another example of traditional view in social science is its failure to elaborate on the significance of the car (Sheller and Urry 2006). In analysing social space in the modern city, urban studies largely "failed to consider the overwhelming impact of the automobile in transforming the time-space scapes of the modern urban/suburban dweller" (Sheller and Urry 2006, 209). The paradigm argues that automobility reconfigures urban life, impacting all of the spheres attached to it.

"New mobilities" paradigm emphasizes that all physical movement involves specific immobile infrastructures and networks. They are described as complex and interdependent systems that are "neither perfectly ordered nor anarchic" (Sheller and Urry 2006, 216). The paradigm asserts that "mobility and control over mobility both reflect and reinforce power" (Sheller and Urry 2006, 211). Furthermore, the paradigm analyzes how mobility systems create zones of connectivity and empowerment for some while creating zones of disconnection and social exclusion for others (Graham and Marvin 2001).

A significant difference from traditional transport studies is the focus on the experiences and senses during travel, the notion that is very important in my own research. The paradigm further

draws on the “recentring of the corporeal body as an affective vehicle through which we sense place and movement and construct emotional geographies” (Sheller and Urry 2006, 216). Means of travel are not just ways of getting from one point to another – each mode provides different experiences and performances. Based on the works of Georg Simmel (1997), the paradigm emphasizes the sensory nature of urban mobility, the "onrushing impressions" and the "tempo" of city life. It is underlined that the sheer amount of these impressions and “stimuli” causes the urban dwellers to develop a certain degree of insensitivity to it, thus, making this field harder to examine and study.

Consequently, Mimi Sheller and John Urry argue that social science methods must likewise be “on the move” (Sheller and Urry 2006, 217). Within the new mobilities paradigm, they propose a range of mobile methods that seek to capture movement as lived practice. First, observation is reoriented toward “mobile bodies undergoing various performances of travel, work, and play” (Sheller and Urry 2006, 217), emphasizing the embodied dimensions of mobility. Closely related is mobile ethnography, which involves “participating in patterns of movement while conducting research” which can also take the form of cyberethnography (ibid. 217). It can take the form of "walking with" or cycling with participants. With the help of such immersion the researcher can participate in the movement and then interview people about how their diverse mobilities constitute their everyday life. Time–space diaries present another method tracing how individuals move through time and space, revealing patterns, rhythms, and interruptions that may remain invisible in stationary interviews. Finally, Sheller and Urry (2006) point to methods that explore imaginative or atmospheric dimensions of mobility, attending to the affective qualities of movement and the felt “atmosphere” of places. Together, these approaches seek to capture mobility as spatial, temporal, and affective practice.

Autoethnography and embodied methods

To investigate the complex interplay between infrastructure, politics, society and the embodied experience of cyclists I also employ the approach of autoethnography. Traditional transport research has historically relied on quantitative surveys, traffic counts, and flow models. However, the literature suggests that these methods are insufficient for capturing the affective meanings which are absent from official statistics or quantitative surveys. Consequently, scholars like Jonas Larsen (2014) argue for the use of autoethnography to explore cycling not merely as transport, but as a cultural, social and political practice deeply affected by individual experience.

Recent methodological developments have emphasized embodied methods, such as walking with participants or "cycling with" them. Jonas Larsen identifies this as a "sensuous turn" in mobility research (Larsen 2014). This approach is predicated on the understanding that everyday mobility is an "embodied, affective and emotional practice involving specific, societal body techniques" (Larsen 2014, 59). He further draws a compelling parallel between cycling and professional sports: just as one cannot fully understand the intensity of a sport merely by observing it from the sidelines, one cannot understand the "sociality and sensuousness of mobility" without actively participating in it. Observation and interviews alone often fail to reflect the intensity of the activity for those practicing it. Therefore, immersion into movement is necessary to capture the full spectrum of the experience.

An inherent advantage of this method is the presence of a "protagonist" – the researcher themselves. Unlike distant observation, autoethnography allows the researcher to express and evaluate subjective thoughts and feelings that are typically limited or excluded in other methodologies. This transparency helps prevent "alienation in research," rendering the findings more personal and relatable to the audience (Larsen 2014). By engaging in the everyday lives of mobile actors, the researcher uncovers the deeper cultural meanings that define the "politics of infrastructure" discussed in the previous sections.

A challenge in mobility research is that routine journeys are often habitual, they are repeated by many people over and over again and are rarely reflected upon by the users. Larsen (2014) argues that mobility becomes reflexive, and thus open to analysis, primarily when we are "mobile out of place". This phenomenon occurs when a cyclist encounters the unfamiliar: moving in the wrong direction, encountering confusing signs, or navigating unknown routes. It is in these moments of disruption that the infrastructure becomes visible. For example, Ida Sabelis's (2022) autoethnographic account of long-distance cycling in the Netherlands highlights how the "patchwork experience" of infrastructure is revealed not through seamless travel, but through the friction of sharp curves, "cycling prohibited" signs, and forced detours. By deliberately placing oneself in these "out of place" scenarios, such as Larsen's experience of cycling in London as an outsider, the researcher can critically analyze the "affective capacity" required to navigate a specific urban environment.

Finally, autoethnography is improving our understanding of cyclists' vulnerability. Each mode of transportation generates different sensuous experiences and requires specific skills. Unlike the car driver, who is insulated in a climate-controlled "cocoon," the cyclist requires driving

ability, spatial awareness, and a heightened sensitivity to environmental conditions (Larsen 2014). Cyclists are constantly exposed to natural elements such as wind, precipitation, and temperature. This exposure allows for a "deeper level" of engagement with the place, but it simultaneously places the cyclist in a vulnerable position. The influence of weather coincides with the feeling of being fragile in a "car-dominated space". As the author notes, fear is a major obstacle to cycling in such environments. However, this methodology also captures the positive affect that quantitative data often misses: the feeling of fresh air, exercise and the satisfaction of self-propelled movement. Sabelis (2022), for instance, notes that even the wind could be positively assessed as an energizing force. Autoethnography, therefore, provides the necessary nuance to understand how infrastructure mediates these conflicting sensations of fear, freedom, vulnerability, and power.

Field site and empirical material

The empirical focus of the thesis is everyday cycling in Vienna and its infrastructural context. Vienna was chosen as a field site where continuous observations were possible. More importantly, with Vienna being one of the biggest capital cities in Europe, it presents an opportunity to study velomobility and infrastructure around it in a bigger context of high-quality life and liveability. At the same time Vienna does not possess the reputation of a cycling capital, which I would describe as an "in-between" state – it is neither a low-cycling city, nor a "cycling paradise", which furthers the notion of how cycling is normalised and felt in daily life.

The material for this research combines four sources. First, it draws on participant observation and autoethnographic fieldnotes from my own cycling in Vienna across different districts, routes, and infrastructural conditions. Second, it includes semi-structured interviews with everyday cyclists focusing on their practices, route choices, safety perceptions, and evaluations of infrastructure. Third, expert and activist interviews were conducted with actors involved in cycling planning and advocacy, including representatives of planning departments, private planning expertise, and activist initiatives. Fourth, document and strategy analysis was undertaken, including municipal planning documents and strategic plans referenced by planners and advocacy actors, in order to contextualise and interpret how cycling is imagined and operationalised institutionally.

Participant observation

Participant observation is the foundational method of social and cultural anthropology. According to Musante and DeWalt (2010), it is a method in which a researcher takes part in the daily activities, interactions and events of a group of people as one of the means of learning aspects of their life routines and culture. Bernard (2017) suggests that method involves establishing oneself within a community and immersing oneself in the data to understand the "insider" perspective. In the context of this study, this involves immersion on the bicycle, where the researcher acts as a participant-observer and as a participant, navigating the same infrastructure and traffic conditions as the study subjects. Observations are systematically recorded in field notes, which serve as one of the primary data sources. As Spradley (2016) outlines, these notes span from descriptive observations (what is happening) to focused observations (specific interactions).

Cycling is particularly suitable for participant observation because it is a sensorial and exposed mode of transport, in contrast to car driving. The cyclist's body is directly affected by surfaces, traffic speeds, weather, and various types of interactions. Observation therefore supports the thesis's core analytic claim that infrastructure is not only a network of objects but a lived landscape that shapes the experience on many levels. The core of the fieldwork consists of participant observation and autoethnography conducted on the bicycle, where I cycled across different districts (mostly 1st, 2nd, 3rd, 4th, 9th, 22nd) routes, and infrastructural conditions, and documented how cycling "works" in practice in relation to lane design, intersections, signage, continuity/disruptions, and interactions with other road users. These observations were recorded in systematic fieldnotes (see Figure 1) and autoethnographic notes, allowing me to capture not only what is physically present on the street but also the embodied, affective, and cognitive dimensions of cycling. In addition to interviews and participant observation, I systematically documented relevant cycling infrastructure through photographs taken during fieldwork; these images are provided in the Appendix.

The fieldwork also draws on the logic of "being mobile out of place" as a methodological resource: I paid particular attention to situations where movement becomes difficult to "read" (for example, unclear markings, forced detours, or sudden endings of cycling lanes). These moments of disruption are analytically productive because they make infrastructure visible and reveal the practical work cyclists perform to continue moving. In addition, I engaged with cycling-related organisations and civic actors as part of the broader field context, complementing street-level experience with insight into how cycling is discussed, represented, and advocated for. The fieldnotes gathered during cycling events are not presented in the

analysis and serve the purpose of my own deeper understanding of the environment and discussions around it.

Semi-structured interviews

This research uses semi-structured interviews as the main source of data. Unlike structured surveys, semi-structured interviews allow for a flexible exploration of topics. As described by Bernard (2017), semi-structured interviews are based on an "interview guide" which presents a written list of questions and topics that need to be covered. At the same time, it allows the interviewer to follow the respondent's lead and ask probing questions. In my opinion, this is essential for uncovering the tacit meanings and personal narratives that participants might not reveal in a rigid questionnaire. The guide for this study covers key themes such as perceptions of cycling, safety, experiences with infrastructure, route choices etc., while remaining open to the unexpected stories that emerge during the conversation, therefore making it more dialogical.

As mentioned above, mobility practices are usually habitual and rarely reflected upon, therefore interviews were designed to make cycling experiences more explicit and describable. Participants were encouraged to recall concrete routes, specific intersections, and moments of disruption or comfort (rather than only giving general opinions). This approach helps to move from an abstract critique into a set of situated experiences and evaluative criteria: where exactly does continuity break, what kinds of labour do cyclists perform, and how do riders interpret their experience (e.g., as a lack of care).

Participants and recruitment

Interviewees were recruited through personal networks and online groups. The sample is not intended to be statistically representative of all Vienna residents. Instead, it prioritises people who cycle in Vienna and can articulate the competencies and compromises required to do so. This is an analytic advantage: cyclists are more sensitive to infrastructural detail and can describe how design choices translate into embodied effort and affective states. Yet the research is not representative of those who choose not to ride a bicycle or fear it altogether, which is a limitation.

Between September and November, I conducted overall 16 interviews (see Figure 2): nine with regular cyclists, four expert interviews: two with planning experts, another two with cycling activists and three with the leaders of cycling clubs. The main focus of my study lies on the embodied experience of regular users who do not have any expertise. The nine regular cyclists

were between the ages of 20 and 35, mostly females and mostly students or young professionals. Curiously, none of the interlocutors come directly from Vienna, with only one coming from a village near Vienna and four more coming from other Austrian provinces. Another four participants come from other countries, namely, Albania, Germany, Russia and Spain. I have to acknowledge that their cycling perceptions are very much informed by comparison to the city of origin and sometimes to the cities that they have travelled to. Such diversity reflects Vienna's own status of a multicultural city and suggests that cycling is not a unified practice, it is also shaped individually.

Simultaneously, expert interviews shed light on institutional coordination and political prioritisation. They clarify how cycling infrastructure projects move through administrative departments, how responsibilities are divided (e.g., strategic planning vs. implementation), how consensus is negotiated, and how decisions shift to political actors when conflicts arise. In this way, expert interviews support the thesis aim of linking affective experience (stress, uncertainty, feeling secondary) to governance arrangements that shape what is built and where.

The interviews with cycling club leaders were not used in the final version as they mostly spoke on the distinction between suburban and urban cycling/ sportive and urban cycling which I deemed as a different focus from my topic. All of the interviews were conducted in English, except for one interview with a planner from MA18 which was conducted in German on the planners' request. Thirteen interviews were, therefore, transcribed and later coded.

Data analysis: coding and interpretive strategy

The analysis follows an interpretive approach inspired by grounded theory. Rather than testing a fixed set of hypotheses, I moved between fieldnotes, interview transcripts/notes, and planning material to develop empirical themes while informing myself on conceptual language developed in the literature review.

Practically, analysis proceeded in three steps. First, initial/open coding was conducted by coding interviews and fieldnotes for recurring topics and evaluative categories (e.g., separation, intersections, parking interfaces, signal timing, "missing links," detours, conflict with pedestrians, policing, maintenance etc.). Second, focused coding and thematic clustering followed, grouping codes into higher-level tensions that repeatedly structure cyclists' accounts – such as protection vs. exposure, continuity vs. interruption, legibility vs. ambiguity, and flow vs. stoppage – while paying attention to the emotional vocabulary attached to each. Third,

analytical integration connected experiential themes to institutional and political explanations emerging from expert interviews and documents, asking how governance arrangements help explain why certain problems persist (e.g., coordination across departments, district differences, budget priorities, and political decision points).

This approach allows the thesis compare between the scales: embodied experience, social negotiation, and institutional production.

Ethics, data handling and the use of AI

All participants were informed about the purpose of the study and the intended use of interview material. To protect privacy, everyday cyclists are presented under pseudonyms, and institutional actors are anonymised by their respective role (e.g., “MA18 planner,” “private planner,” “activist representative”). Potentially identifying details (exact workplaces, personal biographies, or specific incidents) are omitted or generalised where necessary. Participants were offered to sign a written consent form where they specified what kind of data they were willing to share and the level of data protection. Interviews were transcribed using an AI-based transcription tool. The transcripts were subsequently manually reviewed and corrected to ensure accuracy. Additionally, AI tools were used for improving the clarity and fluidity of the text, without influencing the analysis or arguments presented.

Positionality, limitations and future research

My position as a cyclist with experience in several cities shaped the research in multiple ways. First, it allowed me to compare expectations and to read the ways cycling becomes “legible” or confusing depending on infrastructural state. Second, it made “being mobile out of place” a recurring condition useful for analysing how uncertainty and self-doubt are generated. Rather than treating this positionality as bias to be eliminated, I treat it as a methodological resource that is explicit and critically reflected upon through fieldnotes and participants’ accounts.

At the same time, the study has limitations. The interview material primarily reflects current cyclists; it does not fully represent those who do not cycle at all, including “potential cyclists” who are deterred by fear or lack of enabling conditions. Institutional access also shaped the scope: while I interviewed several planners and advocacy actors, I was unable to conduct an interview with the Mobility Agency, one of the major actors in the field, which would have provided additional insight into mediation between citizens and administration. Additionally, I

did not engage with the political and decision-making levels of urban infrastructure, however, as my interlocutors suggest, it is almost impossible to get in direct contact with them.

Future research possibilities include comparative examination on how cycling infrastructure is experienced across different spatial and social contexts. This might include contrasting urban cycling in Vienna with rural settings, where infrastructure density and traffic dynamics differ, as well as comparing everyday commuter with sport-oriented practices. Additionally, exploring variations in perception across user groups, such as differences in age, gender, experience, or length of residence, could further demonstrate how infrastructural effects are socially differentiated rather than uniform.

Chapter 1. Cycling as “lively” infrastructure¹

This chapter draws on the nine semi-structured interviews with regular cyclists and residents in Vienna. Evidently, cycling in Vienna is widely valued for its affordability and efficiency. All-year cyclists appreciate not needing an expensive annual public transport ticket, while others favour renting a bicycle due to low costs and the absence of maintenance or theft concerns. Most of my interviewees describe cycling as the fastest and most reliable mode of transport for everyday activities such as commuting to university or work, grocery shopping, or going to the gym, additionally it is one of the only means of transport at night or in areas with limited public transport connections. Yet participants’ accounts also show that cycling is never “just mobility”: it is an affectively charged way of moving through the city, shaped by feelings of safety, stress, calm, irritation, anxiety, confidence, relief, and joy.

What was particularly interesting to me was how every cyclist articulated their own distinct narrative of cycling. While some described it primarily as a functional mode of transport, others emphasized sensory pleasure and emotion regulation as primary motivations. For some, infrastructure was a central concern, while others highlighted the social dimensions of cycling and the shared nature of urban space, which will be the focus of Chapter 2. Nevertheless, what could be said for all the interlocutors – rather than evaluating Vienna’s cycling environment through isolated technical elements, cyclists consistently judge infrastructure through how it *feels* in motion and what it demands from the body. “Thoughts and feelings, along with social dispositions, appear as formed in the interactions of the sentient body and a sentient landscape with varying degrees of intelligence incorporated in its infrastructures” (Amin 2014, 139). Across interviews and fieldnotes, riders repeatedly return to a set of tensions that are both material and emotional: protection vs exposure (feeling safe vs vulnerable), continuity vs interruption (feeling in control vs uncertain), legibility vs ambiguity (feeling confident vs confused and self-blaming), and flow vs stoppage (feeling smooth, free and efficient vs frustrated, rushed). These affects are practical signals produced by design choices such as lane width, separation, intersections, parking interfaces, signage, and signal timing.

¹ The initial version of this chapter, along with some parts of the Chapter 2, was uploaded as an assignment for the 2025W 240541-1 MM6 Data Analysis course.

1.1 Protection vs exposure

To begin with, I intentionally use the term cycling lanes in association with the road, drawing on anthropological work that conceptualises roads as paradigmatic infrastructures of modern mobility and socio-technical power (Dalakoglou & Harvey 2012). As they argue, roads are not merely transport surfaces but material interfaces that organise circulation, boundaries, social relations, and imaginaries of connectivity: “In all cases, the roads emerge as interfaces, negotiating but also creating and consolidating boundaries and borders while at the same time transcending the limitations of prior relations in their promise of new found connectivity” (Dalakoglou and Harvey 2012, 461). In this sense, cycling lanes present as reconfigurations of the infrastructural order.

Cycling lanes can be classified into two different types: painted-on lanes on the asphalt and physically separated cycling lanes from the main road traffic (cycling tracks). The latter, physically separate lanes, are evaluated as the most protected and the safest (in the rider’s individual perception). There are multiple different configurations of such paths: elevation from the car road, curbs, poles, even flowerpots separating it from the car flow and pedestrians. Separate lanes are additionally described by their size and width – which point to the next issue – narrowness of the lanes. During the interviews narrow lanes were commonly associated with overcrowding, limited maneuverability and even cyclists feeling insecure. In contrast, a “good cycling lane”, according to the interlocutors, should present enough space for two riders to ride side by side simultaneously – which further proves that the notion of space is central in this regard. This finding reflects the broader results from the scholar surveys where cyclists consistently rate physically separated tracks as safer and more comfortable than painted lanes or mixed traffic, and that width becomes an essential criterion (Gössling and McRae 2022). Width and separation allow the many road users (whether cars, cyclists, or pedestrians) to co-exist in the same road space more “enjoyably”. The notion of space will be elaborated upon in the 2nd chapter.

Moreover, painted-on cycling lanes (that do not feature any physical separation) are perceived quite ambiguously since they do not offer the same amount of protection as the completely separate cycling tracks. This, again, coincides with the results of the study by Gössling and McRae (2022). As a few of my interlocutors claimed, such lanes look like extension of the regular car road, much less like a dedicated cycling space. This results in a persistent sense of exposure and vulnerability in comparison to cycling tracks:

“I don't like driving on the streets, even if it's painted on, like the bike lane. They [cars] just overtake you really close, and of course I don't like this, but I just don't drive on those streets.” (Max, 17.09.2025)

This also brings me to my next point – despite the rider being visible in any configuration – it appears to be that material protection matters much more. One participant stated that he would not cycle at all if separated tracks did not exist. Across interviews, separation was consistently framed as the most efficient, practical, and safe infrastructural solution.

Meanwhile, there is a whole new other type of streets that shape the riders' experiences greatly – smaller residential and secondary streets. Many of such streets are characterised by the 30 km/h speed limits for car drivers. Because of this speed limit, riders recount feeling much safer, calmer and relaxed, even when no actual cycling lane was present. Additionally, oftentimes such zones feature environmental elements such as trees, bushes and shade, which are also linked to this sense of calm. This example illustrates how infrastructural (and even ecological) features shape our experience on the road and our perceived feeling of safety. Consequently, participants express a strong preference for calm, predictable environments.

“I enjoyed when I biked and there was more calmness around me and I wasn't in a rush. And now I feel like the city around me is more in a rush. And also you smell the gases from the cars.” (Robin, 22.10.2025)

Nevertheless, there is a contradictory example that I have discovered in my own fieldwork. Dedicated infrastructure with the best of intentions does not always eliminate the risks it is meant to prevent. I encountered situations where the advantages of separation were undermined by other (foreseeable) issues:

Fieldnote (2nd district residential lane): The cycling lane was running between a multitude of parked cars and the sidewalk. I decided to turn left which required crossing the car road, as I was turning I noticed how the view was completely blocked by a car parked directly next to the lane. To check whether a car was coming, I had to move out into the middle of roadway first, putting myself in a risk the lane is meant to prevent. The opposite side of the street, however, was built slightly better due to the absence of parking directly beside the lane - suggesting that removing even one or two parking spots could significantly improve visibility and safety.

1.2 Safety trade-off, stress and adaptive capacities

This section elaborates on the intertwined relationship between the sense of said perceived safety and the stress one experiences. In general, my interlocutors and many others with whom I conversed admitted to feeling quite safe when cycling in Vienna, even noting that it is one of the best cities in this regard. At the same time, in the analysis I encountered that this feeling of safety was often negotiated. On multiple occasions, the riders describe having to trade safety for convenience and efficiency. As Robin explains, choosing routes that feel safe and comfortable often means taking longer, less direct paths:

“I feel like oftentimes if I want to take ways that feel safe to me and comfortable to me then they are not the straightest way ... finding a quick way for me to the university, I have to do all the time the zigzag path in some sort of way.” (Robin, 22.10.2025)

Following Robin’s confession – I carried out a small experiment and offered my interlocutors to choose between a safer but slower cycling lane, and faster and potentially unsafe route. Interestingly, all participants admitted to choosing the latter, showing how efficiency is prioritized by the riders.

As I found, stress is an important factor in this regard as it is mostly caused by being in the proximity of the car traffic. They are repeatedly mentioned as the primary source of stress across interviews and districts. A study on road anger in Finland revealed a correlation between the vicinity to cars and feelings of anger in cyclists, noting that motorized vehicles are the main source of anger on the road (O’Hern et al. 2022). Robin notes that stress is not experienced uniformly: stress from having to do sharp turns or going down the hill can be a manageable or even enjoyable challenge, whereas stress caused by “a mass of iron” is evaluated very negatively. Several participants describe feeling safe only when they are not “disturbing” cars, which indicates an awareness that cyclists possess of their own vulnerability. Notably, the only participant who reported no traffic-related stress was a night-shift bakery worker who cycles at around 3 a.m., when traffic is minimal.

Although none of the interlocutors reported having been involved in a serious accident, nearly all described near-miss situations involving cars and trucks. Most of these near-accidents happened at intersections involving drivers that paid no attention to the cyclist riding beside them. These experiences contribute to an ongoing awareness of risk. On Untere Donaustraße I myself witnessed a near collision when a car turned right across a cyclist’s path without

checking the side-view and almost hit a cyclist crossing the intersection. The cyclist stopped abruptly, gestured at the driver, and then laughed nervously (“Wahnsinn”) before continuing – “routine” crossings can expose a cyclist to an incredibly dangerous situation within seconds.

At the same time, there appears to be a factor of “getting used” to the car traffic in an urban environment. Evidently, the experience of cycling in a small town or village is drastically different from cycling in a big city. One of my participants, upon moving to Vienna, stopped cycling altogether due to a feeling of being overwhelmed by the high traffic volumes. Later she would start cycling again, as she tried and tried again, which expanded her adaptive capabilities, similar to Larsen’s case of affective capabilities needed to cycle in London (Larsen 2014). Many participants described cycling as initially stressful or negative, particularly when navigating and exploring new routes. Over time, repeated cycling along new environments led to acquired knowledge and enjoyment, suggesting that urban cycling competence is learned rather than intuitive. My interlocutor Leonard points to this issue as well:

“I think many people tell me that, especially when they move to Vienna, that they're afraid of cycling. Especially on the big roads. And many people only ride at the Danube Island or something like that.” (Leonard, 29.10.2025)

These experiences highlight the need of learned capabilities required for cycling in dense urban environments. Comfortable and (almost) stress-free cycling involves building up skills, confidence, and situational awareness over time, suggesting that safety is not only infrastructural but also experiential and acquired. Notably, when cyclists describe recurring hazards, the complaints are often followed by “but it’d okay, it gets better”. This suggests a certain normalisation of risk – the problems become manageable through experience. At the same time, as Cox and Koglin (2020) suggest, when the demands to cycle are too high – less people would be motivated enough to continue, which is exactly why stress and fear for one’s own safety have to be minimized. Studies, however, show that while skill and capacities are important in navigating the city – when the skill required to do so is too high, it might lead to discourage (Vivanco 2013; Cox and Koglin 2020; Larsen 2014).

1.3 Continuity vs interruption

Continuity of the network was an important criterion in my assessment of the cycling lanes across the districts. One of the main findings of the fieldwork is the “patchiness” of Vienna’s infrastructure – cycling lanes ending abruptly, then continuing in a completely different place;

whole cycling blocks of a district entirely disconnected from each other and so on. Interviewees observed the same problem – one of the cyclists characterized it as a “Fleckerlteppich,” or patchwork carpet, capturing the sense of inconsistency encountered across routes (see Figure 5). Cyclists frequently recount riding along clearly marked lanes or tracks that suddenly end, leaving them uncertain about where to continue. In such moments, questions such as “Am I supposed to be here?” or “Am I breaking some rule?” arise.

Währinger Straße offers a clear example of this issue (see Figure 3): the cycling lane repeatedly starts and ends every 50–100 metres in the same direction of travel and cyclists have to squeeze in between the cars when the lane is not present. More commonly, however, patchiness was present at intersections, confirming the hypothesis of Buehler and Dill (2016) of links and nodes being the “weakest points”. Across the districts that I have observed, more often than not lanes ended at a crossroad and reappeared only after the crossing with minimal guidance on how to continue. This leads to cyclists having to resort to improvisation on how they want to continue and cross. These observations suggest that “patchiness” is not an isolated flaw of particular streets or districts but a recurring structural feature of how cycling routes are connected (or fail to connect).

In contrast, cyclists describe “good” infrastructure as continuous and predictable where one “almost always knows what the next step is” and does not experience hesitation about where to go (Camilla, 16.10.2025). Furthermore, when infrastructure is predictable, cyclists feel a sense of their own priority and thus describe the environment as empowering. The cognitive demand that is needed to navigate the streets elevates. According to Sabelis (2022), such patchiness is one of the main factors of having to evolve high adaptive capacities, which I have already touched upon previously.

Connecting to the wider topic of district differences that will be explored in the later chapters, cycling infrastructure in Vienna is largely uneven across districts, as is evident from my fieldwork and interlocutors accounts. Different districts produce different degrees of “patchiness”. Leonard compared his experiences across various districts:

“I used to live in the 20th and there are way less green arrows compared to the 18th, where there are many more. And last week I actually talked to a lady that works at the something, government of the 18th district. And she told me that they are constantly evaluating new crossings for green arrows. Yeah, but the 18th district is a little bit more wealthy” (29.10.2025).

2nd, 7th, 18th districts were often acknowledged for having a bigger, more coherent network, in contrast to the 1st, 9th, 19th districts, for instance. This notion suggests that cycling conditions in Vienna are often shaped by local district governance rather than uniform citywide planning.

1.4 Legibility vs ambiguity

Legibility is, what I would describe, an ability to clearly read the street as one ride, in other words, whether it clearly communicated where cyclists are expected to be. This issue is closely tied to the “patchiness” of the overall network and here, again, intersections were described as particularly confusing and cognitively demanding (see Figure 4). For instance, participants criticized layouts that require cyclists to cross multiple times at a single intersection. Such designs were described as illogical, time-consuming and overall inconvenient. As examples, the Ringstraße and Karlsplatz were cited in almost every interview, leading many cyclists to avoid these central arteries altogether.

In my fieldwork, I repeatedly observed that when signage and markings were unclear, riders often crossed via zebra crossings (sometimes not dismounting) or riding on the pavement. This suggests that when the infrastructure is ambiguous, cyclists try to do their own sense-making and oftentimes choose the option that is quickest to interpret and execute, even if it does not correspond to formal cycling logic. This notion is confirmed by my field notes:

Fieldnote (2nd district, Ausstellungsstraße): There were two ways for cyclists to cross the street: either using the zebra crossing with pedestrians, or following the unclear bicycle markings. In my observation, cyclists consistently chose the zebra crossing. I witnessed one cyclist approach the marked crossing, then change course and walk the bike over to the pedestrian crossing instead. This suggests that, when markings are inconclusive, cyclists stuck to the option that is quicker and easier to interpret—even if it means temporarily switching into a pedestrian logic. Notably, after crossing, all cyclists turned left immediately onto the cycle lane.

This pattern suggests that even in the absence of formal separation, cyclists attempt to produce an informal “lane logic” to maintain predictability and reduce friction in shared space.

Moreover, an unexpected theme emerged in the analysis – confusion surrounding signage and color-coded infrastructure. None of my interlocutors expressed knowledge or understanding of the red- or green-coloured sections of the lanes/roads. Additionally, the existence of different

cycling signs, i.e. blue square and blue circle, was a total mystery to most – a round sign with a bicycle symbol indicates mandatory use, while a square sign means that the road next to it may also be used (Radlobby 2024). According to the planner from MA18, the red coloured paths signify the shared car/cyclist space or increased danger at intersections, while the green coloured paths symbolise the shared cyclist/pedestrian zones. In reality, this was not always the case and participants expressed uncertainty or recalled streets that appeared to contradict this official system.

This gap between the planning logic and actual on the road interpretation highlights how design does not guarantee legibility. Admittedly, for many cyclists this is experienced as confusion and even internalized self-doubt:

“Maybe it’s also a ‘me’ problem that I still don’t 100% know my way around, you know, and then it’s a combination of everyone being confused” (Maya, 23.10.2025).

At Franz-Joseph-Kai / Schottenring I experienced the space as visually overloaded: white markings, poles, rails, and signs created an impression of chaos even where the route was technically straightforward. I felt unsure and afraid of “not understanding something,” which mirrors interviewees’ reflections. Several participants remarked that cycling can feel as if it requires prior “homework” in order to be done correctly such as inspecting the route on foot before attempting to cycle. Furthering this argument, cyclists sometimes speculate that planners themselves may not have experienced the lanes they built in practice.

1.5 Flow vs “being stuck”

Flow, i.e. the ability to move smoothly and predictably, was another key criterion shaping cyclists’ evaluations. Following the interviews, traffic lights were the most cited point of this discussion. Interestingly, traffic lights were evaluated both positively and negatively. For instance, they served as hindrances as one respondent recounted waiting up to five minutes at a single intersection or the need to accelerate quickly in order to keep up with cars and “catch” the green light, reinforcing the perception that traffic systems are primarily designed for motorized traffic.

On a positive side, several cyclists noted on certain streets the traffic lights appear synchronized for cycling. Traffic lights designed specifically for cyclists were viewed particularly positively. Even if this did not significantly alter traffic flow, participants emphasized that such lights made

them feel acknowledged and “seen” as legitimate road users. Across interviews, the ideal ride was often described as one that has the least amount of stops and allowing for uninterrupted movement. Finally, Grünpfeile – green arrow signs allowing cyclists to turn right on red – were widely praised and described as a “win” for cyclists, along with buttons designed to change lights for a cyclist. Participants framed these signs as small but meaningful acknowledgements of cyclists’ needs, improving efficiency and well-being on the road:

“I don't know if it's actually more efficient but it felt more efficient because... I can make a difference to when the light is going to change.” (Maya, 23.10.2025)

This wish for acknowledgement becomes particularly visible in comparison with other cycling contexts. Even when efficiency gains are uncertain, the feeling of being acknowledged and having influence over the system reduces cognitive strain. Being “seen” and having predictable interactions with infrastructure thus become central to cyclists’ sense of control and comfort.

Connecting to the theme of the safety section. A fieldnote comparison in the Nordbahnhofviertel illustrates this: I timed two alternatives between the same points: (1) the officially marked route following the designated lane, and (2) an informal shortcut that involved briefly riding on the car roadway, cutting through a parking area, and continuing for a short stretch on the pavement before rejoining cycling infrastructure. The shortcut was one minute faster. While this difference is small in absolute terms, it helps explain why riders sometimes deviate from formal routes: even minor time penalties can accumulate in everyday commuting and make improvised routes feel more “logical” in practice.

1.6 Rules vs practicality: legality and moral navigation

In this section I treat rules as an extension of infrastructure, since they also influence our behaviour, experiences and choices. A curious tension emerges around legal and non-legal behaviour in everyday cycling practices. Cyclists are generally aware of traffic rules and attempt to follow them, yet they repeatedly report situations in which infrastructure basically forces them into behaviour that they perceive as illegal. A prominent example concerns bicycle parking in the city centre, particularly around Schottentor. Due to the lack of designated parking options, many cyclists attach their bicycles to trees, fences, or lampposts. All cyclists I spoke to assumed that this practice was prohibited by authorities yet continued to do so out of necessity: “I do not care as long as it is locked up” (Lia, 21.10.2025). According to official regulations (RIS, § 68./ 4 StVO), attaching bicycles to other objects (such as lamp posts or

signposts) is permitted if there is a minimum clearance of 2.5 meters. However, there is a level of uncertainty about how this rule is applied in practice, among many other rules.

Consequently, dissemination of official regulations and explanations appears to be an important topic. Several respondents expressed this wish for clearer rules and more accessible information on where and how cycling is legally permitted. Furthermore, Robin described her foreign friends' difficulties in finding reliable information about cycling regulations in Vienna, particularly in English. This, again, points to a broader lack of easily accessible and multilingual sources on cycling regulations. Lia, who previously drove a car, admitted that she often relies on traffic rules learned in car driving school – such as letting buses pass or turn – as a substitute for cyclist-specific rules. This highlights the already on-going uncertainty and a lingering sensation that the whole system is not designed with cyclists in mind. As Mikhail reflected, “I'm still not sure if I'm not breaking some rules when I'm travelling by bike” (Mikhail, 23.10.2025).

1.7 Control vs overload: cognitive “tax” and vigilance

One of the most prominent themes across the interviews concerns the cognitive load or “tax”, as I would describe it, that is associated with cycling in Vienna. My interlocutors consistently described cycling as something that demands significant mental effort, planning, and constant attention. Moreover, this cognitive load begins even before riding: cyclists must consider where to park their bike, how to lock it securely, what clothing or equipment to bring, and even how to drag their bicycle along if meeting some friends. As one participant noted, walking can sometimes feel more convenient precisely because one does not need to manage the bicycle as an object. For some participants, especially those who had not previously cycled in urban environment, such responsibility felt overwhelming. Helmet, basket, lock, keys – one needs to have control over everything, as Clara puts it. Thus, urban cycling in itself is not an automatic routine but a demanding self-discipline.

Furthermore, the cognitive demand of cycling is also intensified by the fear of theft. Approximately 80% of participants mentioned bike theft, often describing an “aura of fear” that circulates through shared stories in their social circles. This narrative has tangible effects: one participant reported using three locks simultaneously, while others preferred riding older bikes to reduce the risk of loss. At the same time, many expressed a wish to own better-quality bicycles in the future, which illustrates the tension of such a precaution.

Coming back to infrastructure, the cognitive load intensifies when one is on an unfamiliar street with complex and ambiguous intersections. As was already stated, several participants described such situations as mentally demanding to the degree that they occasionally dismounted and continued on foot. In order to cycle around Nordbahnhofviertel, I had to constantly shift between traffic logics: riding in the centre of a street briefly “like a car,” at other times crossing as a pedestrian or walking the bike through unclear transitions. My notes summarized this as: “Sometimes you have to pretend you’re a pedestrian, sometimes you have to pretend you’re a car”. This code switching contributes to the feeling of being overwhelmed. Furthermore, constant vigilance was linked to specific hazards, especially tram rails and close car traffic on painted-on lanes, features that demanded continuous scanning of the space.

Robin, when asked to choose between a safe but slower route and a faster yet less safe shortcut without dedicated cycling infrastructure, stated that she would avoid both options and instead take public transport. Avoidance is a strategy to reduce mental load. More broadly, avoidance appears as a common behavioural pattern. Cyclists report actively avoiding busy arterial roads, streets where cars frequently overtake them, and ambiguous infrastructure that forces the brain to “work overtime”.

Digital navigation tools add another layer to this. Many participants reported frequently checking apps such as Google Maps, a tool meant to simplify one’s experience. Yet, in practice it often does the opposite – it leads onto the roads without any dedicated cycling infrastructure, forcing to re-route many times. Because of said issue, two cyclists described deliberately exploring new routes on foot or by tram before attempting them by bike, to know what was coming where and when. Interestingly, this preparatory exploration was not associated with negative emotions but rather framed as a coping strategy in response to this “infrastructure of surprises” – a system of sudden changes, unclear transitions, and unpredictability. As Robin explained:

“I feel like taking the bike on days where I don't have any important meetings... because when I have more time to go there, I feel like it's easier to take a bit of time to explore new ways. That really helped me. And I think also just hearing from other people that you need to find the cycling paths and not trust Google Maps too much.” (Robin, 22.10.2025)

Across these accounts, the main conclusion is how cyclists are demanded to have everything under control and predict what could happen. Therefore, it was clear from the discussions that there is a need for overall predictability.

1.8 Joy: sensory experience and urban connection

Having read the previous section, it might appear that cycling in Vienna is an utterly stressful and horrible experience. And yet, it is not. This section highlights how cycling shapes how the city is experienced in a very positive light, even contributing to personal well-being. It was repeatedly emphasized that moving through Vienna by bicycle opens a different spatial and sensory understanding than travelling by car or public transport. Riding a bicycle allows us to perceive distances more concretely, unexpectedly discover how close some neighborhoods actually are, and develop a sense of the city's actual scale, not just a drawing, a scheme or a map.

For some, this dimension is among the primary motivations for cycling. For instance, Hanna contrasted cycling with metro travel which fragments the city into disconnected points, while cycling provides a continuous and comprehensible view. Additionally, cycling also enables access to areas that are difficult to reach by public transport, particularly at night. As cyclists described their routes in great detail, it became evident that cycling cultivates a particular set of spatial skills (Larsen 2014). Cyclists themselves recounted developing better abilities in estimating distances, anticipating upcoming turns and evaluating streets in real time. Contrasting with the passive navigation by public transport, cycling does not only provide physical exercise but also orientation capabilities.

This notion translates into sensory joy as a very strong and recurring theme. Being physically active, breathing fresh air, feeling the wind and the elements are commonly mentioned motivations for cycling. Interestingly, many of my interlocutors simply enjoy the embodied experience of "being on the bike." The ability to go where one wants and to explore the city on one's own terms is the kind of freedom that many seek. In several entries of my fieldnotes I explicitly noted cycling as a way to clear my head when overwhelmed. This aligns with participants' descriptions of cycling as self-reflection time and a mental rest. Specifically, riding in big green spaces such as the Prater and Donauinsel is frequently mentioned as one such place, where proximity to nature intensifies feelings of freedom and happiness.

"And then I drove to the forest a little bit and through the parks. It was really – I think when I came home it was like two. I went on the bike for like two hours, I think. But the time just went like nothing. Yeah. I hope summer's back soon, I want to cycle again" (Lia, 21.10.2025).

Despite the mental overload, inconsistency and uncertainty, cycling is framed as a positive activity, boosting powerful emotions that help overcome all of the negative sides and motivate the users to continue cycling.

1.9 Imagined futures and aspirations

Looking into the future, cyclists have additional aspirations intended to make the activity safer, more enjoyable and attractive. A third of the participants recounted the issue of speed differences among cyclists themselves. The space must account for the slower riders (i.e. children, bike carriages and trailers) and fast riders, in order for all to move comfortably. This would require building more spacious cycling tracks. More broadly, cyclists wished for additional 30 km/h streets and increased physical separation on the cycling tracks, while emphasizing, again, that sufficient space remains the most important indicator of safety:

“Yeah, but I think it can really, really make a change when there are better bike lines. And because I know so many people also in Vienna, also my age, that say that they don't cycle because they find it so dangerous. And I understand it “(Hanna, 29.10.2025).

Other suggestions included more underground parking for cars, as riding between parked vehicles and moving traffic was widely described as uncomfortable and stressful. As Robin overall summarized: “I think it is better to rethink the infrastructure for bikes if the city of Vienna wants to encourage people to cycle more.” (22.10.2025)

Chapter 1: Summary

This chapter shows that cyclists' evaluations of Vienna's infrastructure are inseparable from the affective and emotional side of riding. Participants rarely spoke about lanes, crossings, and signals as neutral objects. Instead, they described how these elements produce feelings: calmness and relief in spaces that feel protected and predictable; stress, fear, irritation, and hypervigilance where cars are too close, interfaces are risky, or rules are unclear; uncertainty, shame when continuity breaks and cyclists must improvise. In other words, infrastructure is experienced not only as a transport system but as an affective environment.

Firstly, physical separation is the precondition for feeling safe – cyclists repeatedly show that easy-to-implement measures of protection are not enough (especially turning movements), where designated lanes can still generate anxiety and anticipatory tension. Calm 30 km/h

residential streets can feel safe even without lanes, showing that safety is also produced by surrounding vehicles, their speeds and environmental qualities. At the same time, safety is often negotiated through trade-offs between comfort, directness, and efficiency.

Secondly, the recurring pattern of a *Fleckerlteppich* or “patchwork” points to more than inconvenience: patchiness across districts produces hesitation, cognitive overload, and a fear of “doing it wrong,” pushing cyclists into improvised strategies (detours, dismounting, zebra crossings). At the same time, cyclists’ accounts contain clarifications of what “good” infrastructure means: cyclist-specific signals, continuous routing, readable intersections, and separation and space. These measures reduce not only risk but also emotional labour: they produce confidence, ease, and moments of satisfaction, the feeling of being seen, even respected, and accommodated for rather than merely tolerated. This issue is confirmed by studies: “it is the capacity for, say, potholes to ‘rupture’ otherwise-smooth expectations or intentions that creates a gap for another form of politics to emerge” (Bosworth 2023, 57). These examples show that design appeals to emotions and meanings.

Thirdly, despite stress and overload, cycling also produces strong positive affects: sensory pleasure, freedom, mental clarity, and a more connected understanding of the city’s scale. Cycling enables exploration and access, develops spatial skills, and can function as well-being practice, especially in green spaces like Prater and Donauinsel. These joys help explain why cyclists persist despite the aforementioned shortcomings.

Overall, the chapter argues that infrastructure in Vienna operates as a symbolic and affective landscape. In a similar way to how roads in Peru become politically charged through promises of speed, integration, and connectivity (Harvey and Knox 2012), cycling infrastructure in Vienna also operates as more than a technical intervention: infrastructure carries expectations about order, safety and modernity. Cyclists evaluate width, separation, signage, and network logic, but also the emotional consequences those features repeatedly generate. It is a response to how the city is built, how space is allocated, and how cycling is made legible, or left uncertain.

Chapter 2: Cycling as Contested Urban Life

While Chapter 1 showed how cyclists evaluate infrastructure through safety, stress, competence, and joy, the analysis in this chapter moves onto the next scale to show how those everyday experiences accumulate into interpretations of hierarchy, belonging, and power in public space. Following research that treats infrastructure as simultaneously material, affective, and political, I approach cyclists' accounts as evaluations of both function and meaning. Infrastructure matters in what it communicates: care or neglect, inclusion or marginalisation. In this sense, lanes, crossings, and rules do not simply organise traffic; they also organise social relations and make particular forms of mobility feel more or less legitimate.

The central argument of this chapter is that cyclists experience struggles over visibility and recognition: being seen and recognized by drivers, protected (or exposed) by governance and enforcement, and acknowledged by planning institutions as a relevant group with needs. At the same time, cyclists describe moments that make it appear more than just individual performance: social interactions, collective rides and activist events, lead to a sense of empowerment when cycling becomes publicly visible and shared. The chapter therefore traces how cycling in Vienna is experienced as contested space, but also as a source of sociality, quality of life, and emerging forms of a community.

2.1 Contested space: hierarchy and allocation

The initial analysis of the participants' evaluation of cycling infrastructure and my own fieldwork led me to a question: what do all of the aforementioned issues convey in summary. The underlying idea in each and every interview was the dominant position of the motorized vehicles in Vienna's traffic hierarchy. For many cyclists, cars are not merely another mode of transport but a symbol of a broader system of exclusion: the city caters for the needs of car drivers first, while cycling infrastructure is perceived as secondary. Narrow lanes, discontinuous routing, and parking-dominated streets are not simply design problems, they show political standing, similarly to the study of Johannesburg by Morgan in the middle of the 20th century (2019).

Half of the interviewees explicitly characterized Vienna as a city built primarily for cars, though the proof of that was varying. For some, the dominance of cars became visible through parked vehicles filling both sides of the street, leaving cyclists with narrow, often unusable strips of

space. For others, it is a question of the vast space that cars possess on the road. Maya described this arrangement as “ridiculous,” highlighting the difficulty of safely fitting a bicycle between parked cars and moving traffic (See Figure 6). Others perceive this hierarchy more abstractly, describing an order in which cars are prioritized first, pedestrians second, and cyclists left merely as an afterthought. This aligns with arguments that street space often symbolically transmits priority through allocation, leaving cyclists to navigate “leftover” margins (Amin 2014; Cox 2020). This perception is supported very clearly by Robin, who describes cycling infrastructure as something “added at the end” of the planning process:

“Sometimes you have the cars parked here. Then you have a cycling strip which is this big. I don't know, 30 centimetres maybe. And then you have the whole road for the cars... I feel like a secondary or even third thought.” (Robin, 22.10.2025)

Robin’s account illustrates how spatial arrangement is interpreted as a moral and political statement. The narrowness of the cycling lanes and tracks is not only inconvenient; it communicates that cyclists are less valued than motorized vehicles. In this sense, infrastructure operates as a techno-political form that materializes social relations and hierarchies (Larkin 2013; Koglin 2020). The need to monitor cars exiting parking zones while being right next to them, the pressure to move aside, car drivers honking at the slower cyclists – all of this transmits the vulnerability and marginalized position of cyclist in the urban context.

A cyclist riding on the main road, without any cycling lanes, with a line of cars behind them signaling to move away, asks in anger: “Where should I go?!” – a question that captures both spatial confusion and social exclusion. This feeling of inequality even raises the question of belonging. Some cyclists reported feeling like “second-class citizens” when navigating streets where cycling lanes are either absent or obstructed by parked or stopping cars. Designated cycling lanes offer a sense of relief and even ownership being often described as “my space”, yet this sense of security is fragile. The Ringstraße was repeatedly cited as an example of spatial imbalance (see Figure 7):

“There’s so much space and we have to share like two metres with pedestrians.” (Max, 17.09.2025)

Similar critiques emerged in discussions of newly developed districts such as Seestadt and Nordbahnhofviertel (see Figure 5). Max’s reflection on Seestadt highlights a contradiction between the area’s branding as modern and sustainable and the lived experience of cycling infrastructure:

“...it’s a new place, new town, but they just forgot about bikes for some reason... they said, well, oops, there’s bikes. Oops, there’s trees.” (Max, 17.09.2025)

Here, cyclists frame the absence and retroactive addition of cycling infrastructure as evidence that bicycles are not treated as an integral part of urban planning, even in projects explicitly marketed as environmentally conscious. This disconnect between discourse and practice contributes to disappointment and distrust toward planning institutions which I will also speak about in more detail in one of the sections (Cox 2020; Koglin 2020).

Of course, there are counterexamples such as the latest projects – Praterstraße, Argentinierstraße, Donauinsel, Donaukanal and the Prater park (see Figure 8). On Praterstraße a car lane was removed in order to accommodate for much bigger cycling tracks, which is a positive development. Yet so far this remains an exception rather than the norm. Recreational areas remain the most popular spaces for cyclists precisely because of the spatial configuration that prioritizes cyclists and pedestrians, the cars are absent from these areas. The abundance of space creates a sense of balance and contributes to peaceful “co-existence” between road users.

Several interviewees argued that meaningful improvements to cycling infrastructure would require making car use less comfortable and less central to urban mobility planning. Robin suggested that reducing car priority is a necessary precondition for change, noting that modal shift toward cycling mostly occurs within public transport users, which does not decrease the share of car drivers in Vienna. Exactly this idea was also conveyed by the researchers John Pucher and Ralph Buehler (2008) who stressed the need of a ‘stick and carrot’ policy with making car use less attractive. Within this framework, cycling is not simply an alternative to driving, but a call for a reconfiguration of urban mobility hierarchies.

2.2 ‘Having to think for the car’

Beyond infrastructural design, contested space is experienced in everyday interactions between cyclists and car drivers. As already stated, a third of the respondents recounted near-accidents involving cars, however, what matters is how each one of these were accompanied by aggression from the driver. Max described an encounter in which a car was blocking a cycling lane, preventing him from passing. When he gestured to the driver to move, the situation escalated:

“... sometimes cars, they're just standing on a bike lane because they're chilling there and it's annoying. And I tell them <...> and they're just getting crazy. I mean, like for real, it was a taxi driver and I just did this [gestures to say “move”]. <...> And then he drove to me like he was, how do you say it? Like he was making it look like that he was driving over me, like he was driving on the bike lane and accelerating” (Max, 17.09.2025).

Similarly, another cyclist recalled allowing a bus to proceed at a crossing, only to be met with the same exact situation – driver cursing and accelerating menacingly. It appears that such encounters have become the norm rather than an exception. Additionally, cars were generally reported to drive “way too close” as well as failing to slow down in cycling lanes, pedestrian crossings or 30 km/h streets. Such experiences require cyclists to maintain constant vigilance, reinforcing the perception that streets are structured primarily around cars in a more social way. Hanna articulated this asymmetry:

“It often feels like you have to think for the car and for yourself. Because they won't think for you.” (Hanna, 29.10.2025)

This statement highlights an important finding: responsibility for safety is experienced as disproportionately placed on cyclists. Several interviewees suggest that drivers often do not consciously register cyclists at all, focusing instead on other cars and large vehicles. This invisibility connects closely to themes of recognition and respect, which also occurred in the previous chapter. Rather than road users having mutual awareness, cyclists describe a situation in which they must anticipate the actions of drivers who may not acknowledge their presence, specifically on busier streets: „on the busier streets I feel like I have to adapt to the cars. And on the calmer streets I feel like both are looking out for each other” (Robin, 22.10.2025).

Moreover, for some cyclists this marginalization translates into perceiving *themselves* as hindrances within traffic, almost shamefully. Half of the respondents explicitly reported not wanting to “disturb” larger vehicles such as trams, trucks, or cars. Lia, for example, describes feeling safe when she is “not disturbing” cars. Furthermore, one participant refers to car traffic as “real traffic,” implicitly positioning cyclists as less legitimate road users. Notably, participants do not express any desire for cyclists to dominate the urban space. On the contrary, some explicitly disagree with the practices where bicycles are perceived as the primary actors, such as Amsterdam and its disregard for pedestrians. Instead, many cyclists value mutual acknowledgement and reciprocal attentiveness and perhaps even respect.

Within this context of contested space, cyclists repeatedly emphasized their need to adapt. The main adaptation strategy is to practice reading traffic situations, anticipating behaviour, but apart from that, asserting one's own presence on the road. As Hanna put it, cyclists often have to "take your space when you're not really given a space" (Hanna, 29.10.2025). This necessity to adapt highlights the fact that rather than infrastructure accommodating cyclists, cyclists must continuously adjust themselves to infrastructure designed with other users in mind.

2.3 Interactions with pedestrians, balance and communication of space

Relations with pedestrians emerged as ambiguous. In planning discourse, pedestrians and cyclists are often grouped together as a single category opposing cars, according to Vivanco (2013). However, cyclists' narratives reveal a more nuanced picture. While cyclists' frustration and fear are mainly directed toward car drivers, pedestrians are frequently described as a source of confusion and mild irritation. Here again, material cues play a crucial role. Cyclists emphasize that the lack of clear physical differentiation such as height differences or surface changes makes it unclear to pedestrians where cycling lanes begin and end. Therefore, the result is road conflicts between pedestrians and cyclists.

"I mean, yeah, they always think they have the right to go, even though it's not always true. I mean, I get it, it's weird as a pedestrian to be aware of your surroundings. But yeah, sometimes if they cross the lane, they should just look." (Max, 17.09.2025)

At the same time, cyclists report trouble in spaces such as the Prater, Donauinsel, and along the Donaukanal embankments. These areas were described as places where "we understand each other," a dynamic participant strongly associated with the availability of space, as I already affirmed. Thus, spaciousness becomes a factor of peaceful interactions in the sphere of urban mobility. This balance ends on narrow, high-traffic streets such as Mariahilfer Straße or shared paths along the Ring and Max-Koppe-Gasse near the WU. In these environments, cyclists described widespread confusion over right-of-way and direction, with all users being uncertain "who is going where." This aligns with critiques of the "bike-pedestrian" bundling as an analytically convenient strategy but interactionally messy realization (Vivanco 2013).

On a separate note, tourists were frequently mentioned as a particular subgroup of pedestrians causing havoc on the cycling lanes. Several cyclists reported that tourists are less attentive to the lanes and the traffic, particularly in the first district. Camilla suggested that tourists "do not

respect the natural flow of the city” framing attentiveness as a key moral expectation in shared space (Camilla, 16.10.2025).

2.4 Planners, trust, and perceptions of care

Across the interviews, a sense of mistrust emerged in relation to city planners and planning institutions. This mistrust is not directed at individuals but at the distance between institutional decision-making and cyclists’ everyday experiences. There is on-going doubt concerning the implementation and enforcement of planning standards – while official regulations specify minimum widths for cycling lanes, several cyclists questioned whether such standards are actually implemented and controlled. As Hanna noted, even if a standard exists, “who will check?” (Hanna, 29.10.2025) This highlights the doubt in the city’s commitment to improve the cycling environment.

The notion of the “infrastructure of surprises” arises again as several cyclists express that they simply do not know what infrastructure changes to expect in the future, with one participant summarizing this uncertainty by saying, “I will let myself be surprised” (Robin, 22.10.2025). This conveys unpredictability coming from the institutional level. The lack of transparency forces cyclists to wonder about planners’ intentions and to question whether their interests are genuinely acknowledged and are a mere afterthought. In addition, Robin explicitly criticizes their contradictory planning strategy:

“I think if the city of Vienna really wants to encourage cycling more, that they need to make things a bit less comfortable for cars actually and yeah, I think just take away from the car priority because I feel like almost every street in Vienna is made for cars” (Robin, 22.10.2025).

From the cyclist’s perspective, this approach results in half-measures that fail to meaningfully improve conditions for any group; therefore, stagnation is imminent. Reflecting upon the newly built infrastructure, an all-year cyclist noted that new intersections are often confusing, making it unclear where the cycling lane continues:

“Sometimes I have the feeling that the people that designed the roads never ride their bikes themselves” (Leonard, 29.10.2025).

This statement highlights a perceived lack of embodied knowledge in planning processes, the same idea that John Whitelegg stresses in his article (2020). Cyclists interpret confusing layouts

not merely as design flaws but as evidence that planners lack experience of cycling and testing their own projects, reinforcing the divide between expert knowledge and everyday practice.

Participants further suggested that planners often resort to the easiest solutions, such as painting cycling lanes onto existing car roads rather than constructing physically separated tracks. While the painted lanes are preferable to having no infrastructure at all, this could be interpreted as limited commitment or even an absence of concern. As Max remarked, “they try to make it safe, but if there’s no space, they also don’t care” (Max, 17.09.2025).

Evidently, words such as “thought” and “care” were repeatedly mentioned by the cyclists in regard to the city planning. Infrastructure was perceived as functioning at its best when it showed attentiveness to cyclists’ needs through small but meaningful details, featured in chapter 1 – traffic lights that allow continuous riding, pumping stations, regular maintenance of cycling paths, wide-enough doors in metro stations, new bicycle racks near universities etc. Such elements were described not only as practical improvements but as symbolic acknowledgements of cyclists as legitimate subjects on the road. As Vera explained:

“Everybody can see that it seems that they have done the best... it seems that they take care of bike riders as well alongside other transportations.” (Vera, 22.10.2025)

In this sense, care presents itself as a relational concept: cyclists assess infrastructure not only by its technical performance, but by what it communicates about inclusion, recognition, and respect. When care is perceived, trust in planning institutions increases; when it is absent, mistrust deepens.

Furthering this argument, Robin reflects critically on Vienna’s climate-oriented cycling policies, questioning whether they target the appropriate groups: from her point of view, cycling as a mode of transport only competes with public transport, not influencing the modal share of car drivers in Vienna – rendering all the effort to reach an environmentally friendly city useless. More broadly a couple of the interlocutors wondered whether investment in cycling infrastructure reflect a genuine commitment to environmental goals or whether they primarily serve to improve the city’s standing in international rankings.

2.5 Sociality in motion

Following the stories from various cyclists, I noticed how much role sociality plays in their assessment of the infrastructure. A cyclist from Spain describes cycling as a deeply social

activity that is meant to connect people. Many participants mentioned friends who introduced them to cycling or motivated them to start, and several referred to group rides or activist events as spaces where they felt a sense of collective identity, motivating them to cycle. However, this sense of community often remains elusive. Camilla, for instance, explains that she does not feel herself a part of a Viennese cycling community, describing local cyclists as cold, indifferent, highly goal-oriented, and even competitive. She portrays the social environment of cycling as unfriendly and at times dangerous, expressing uncertainty about whether other cyclists would stop and help in the event of an accident.

At the same time, moments of spontaneous sociality do occur. Lia describes cycling as her main way of meeting new people as she recounts conversations that emerge while stopping at red lights or to have a drink in park. For some Austrian participants, cycling is closely tied to childhood memories of family outings. One interviewee explains that joining a cycling club after moving to Vienna helped her overcome her fear of riding in the city, illustrating how collective practices can build confidence and competence. As Robin summarizes, “seeing other people use the bicycle and hearing about other people using the bicycle, that was motivating me” (Robin, 22.10.2025). Leonard even expresses the desire to collectively own cargo bicycles within a household, sharing costs and access. While not explicitly framed as such, this idea connects with the notion of shared mobility. Cycling thus emerges as a practice shaped not only by infrastructure and regulation, but also social ties and a sense of community.

2.6 Cycling culture in Vienna

As several interlocutors noted, cycling in Vienna does not constitute a strong element of Viennese identity in the way it does in cities such as Copenhagen or Amsterdam, as they feel. In Aldred and Jungnickel’s terms (2014), Vienna most closely resembles a city with emerging cycling culture. As explored in the literature review, Bristol as an emerging city requires sportiness and specialized equipment to signal competence. The same phenomenon was observed in Vienna – my interlocutors buy helmets and gear to appear “safe” for the police or because “others are wearing them”. High capacities needed in order to move around the city also prove Vienna as an emerging city.

Participants with international cycling experience frequently describe Viennese cyclists as relatively rule-abiding. Vera, for instance, emphasises how cyclists in Vienna tend to keep to their designated spaces. However, this is not inherently a cultural norm alone but appears to be

a consequence of policing and enforcement. Half of my interviewees reported repeated encounters with the police – receiving fines for having no light in the early morning, undergoing sudden checks for alcohol on their doorstep, being fined for going in the wrong direction. These experiences were evaluated highly negatively. For one of my acquaintances, this experience caused her to stop cycling in Vienna altogether. Others mentioned informal payments without receipts or speculated that cyclists might even be more frequently targeted because they are easier to stop. At the same time, cyclists observed that wearing helmets and visible cycling gear appears to reduce police attention, suggesting the vision of “responsible” cycling helps to avoid problems. As a result, this system feels very punitive and discouraging for riders.

In general, cycling culture in Austria is strongly associated with sport cycling, particularly road and gravel cycling, which has increased significantly in popularity over recent years, according to the cycling club organizers. This orientation toward sport raises issues of accessibility, as sport cycling often requires expensive, professional equipment, discouraging from it due to financial resources. Evidently, cycling in Austria is more popular in the context of sport, nature and outdoors activity, rather than urban mode of transport.

Nevertheless, expats from outside Austria and Germany tend to note emerging traces of cycling culture. Over the last 5 years their friends started to spend their past time cycling, using the bicycle as a primary means of transportation, their own bicycle becoming a way to express themselves. Social media also plays a role in shaping its attraction. Interviewees described encountering cycling-related content on platforms such as Instagram, including images of newly built bike lanes, aesthetic cycling routes, and organized weekend rides. These digital representations, while not dominant, were nonetheless recalled as subtly motivating and as contributing to the normalization of cycling in everyday life.

2.7 Activism and visibility

As I have (to my surprise) observed, quite a few of my interlocutors and people that I have talked to engaged at least once in social rides organised by the green party, Radlobby and other cycling activist groups. Hanna, for instance, described organising protests with a group of friends in the Ottakring district and emphasised the joy and empowerment she initially felt through collective action. However, all participants who had engaged in activism eventually withdrew, recounting a sense of limited impact. As Hanna explains, despite knowing people within the district government and the Green Party, structural constraints made change feel slow

and discouraging: “We kind of felt like it’s not really worth it organising these demonstrations because it won’t really change anything” (Hanna, 29.10.2025). From my perspective, this suggests that cyclists are actively looking for a community and a sense of visibility and acknowledgement.

Despite the efforts that feel discouraging, cyclists continue to seek alternative ways of making their presence visible in urban space. Leonard, for example, intentionally rides past the bicycle counter near Praterstern station to increase recorded cyclist numbers, believing that data-driven visibility has tangible political impact: “...if someone in the government sees that it’s twice as many bikes here than last year, then they’re having to build more bike lanes” (Leonard, 29.10.2025). Collective rides, such as cycling along the Ring with thousands of others, are also described as emotionally uplifting and empowering experiences, reinforcing the importance of being seen not only statistically, but socially and affectively.

Overall, cyclists express a strong desire for recognition by both other road users and city administration.

2.8 Vienna as a cycling city in comparison

Vienna is often positioned in comparison to other European cities. Overall, my interlocutors describe Vienna as comparatively good for cycling, expressing gratitude for the existing infrastructure and sometimes characterising the city as being “almost perfect” in terms of cycling, which might even be considered a contradiction. A cyclist from Spain, Camilla, specifically chose Vienna as a place of residence due to its superior cycling conditions, especially when compared to cities her home country. As Hanna puts it, “I think it has a long way to go, but still there are a lot of changes being made that are working towards that. I think it does support cycling” (Hanna, 29.10.2025).

Participants frequently mention (almost with pride) newly renovated streets and ongoing projects from the past five years, emphasizing how everything is getting better quite quickly. As Leonard notes, “even improving improves”. They describe revisiting certain areas after a year and visibly noticing infrastructural changes, which are interpreted as evidence of the city’s ongoing commitment to cycling. Vienna’s public cycling-related services are also evaluated positively as one of the best in Europe – affordable bike renting system through WienMobil, the widespread availability of public repair and pumping stations, and the possibility of taking bicycles on the metro. Approximately half of the interviewees report making use of this option,

effectively combining cycling with the use of public transport, “taking the best of both worlds”, so to say. While these initiatives are highly valued, minor issues are also noted, such as missing tools at repair stations, short cables, or inaccuracies in the WienMobil app that show bicycles as available when none are present or only expensive e-bikes remain. Finally, cycling is sometimes framed as a form of privilege or choice rather than necessity. As Max states, “it’s not a necessity, it’s a luxury for me” – affirming the gratefulness for the ability to engage in this activity. As it appears from the discussions, cycling is directly linked to broader indicators of urban quality of life, specifically the infrastructure enables having a better quality of life:

“I end up living in places where it’s convenient easy to bike <...> like somewhere where there’s no bicycle infrastructure then I don’t think it improves your quality of life...” (Maya, 23.10.2025).

Comparative perspectives from frequent travels further reinforce Vienna’s positive evaluation. An Austrian living in Stockholm praises Vienna’s traffic lights system as being much more cyclist-friendly and highlights the affordability and accessibility of it. Others express their surprise at how poorly suited large cities such as Berlin are for cycling, which further elevates Vienna by contrast. At the same time, cities like Copenhagen and Amsterdam are repeatedly mentioned as aspirational models.

Interestingly, sustainability is never cited as a primary motivation for cycling. My interlocutors among regular cyclists did not mention ecological and environmental benefits as for why they are cycling, contrary to that, two even claimed that it does not play any role for them. When asked directly about sustainability and cycling during the interviews, the term was often reinterpreted to mean functional improvement, efficiency, or better infrastructure rather than environmental impact. This finding came as a surprise, as I initially believed that environment would be mentioned as a motivational aspect. Yet, cyclists’ motivations mostly stem from convenience and efficiency, in conjunction with the positive feelings or side-effects of cycling.

Chapter 2: Summary

Building on Chapter 1’s focus on safety, stress, competence, and joy, the analysis in this chapter demonstrates how the experiences accumulate into interpretations of hierarchy. Cyclists repeatedly read the street as a statement about priority: the dominance of cars is made visible through space allocation and “afterthought” bike lanes, which communicate who the city is designed for: “Such systems are culturally shaped and politically governed by mobility regimes

that govern who and what can move (or stay put), when, where, how and under what conditions” (Sheller 2018, 19). In this sense, contested space is not experienced only as inconvenience, but as everyday politics of recognition.

Interactions with drivers are framed by asymmetry as cyclists describe having to “think for the car,” anticipate aggression, manage risk proactively and “take up the space”. At the institutional level, cyclists interpret planning through the notions of trust and care. Mistrust emerges where infrastructure feels improvised rather than designed from own cycling experience, thus limiting cyclists. Conversely, small details and supportive services such as traffic-light design, repair stations, integration with public transport are valued not only for their practicality but because they signal attentiveness and inclusion. Cycling culture therefore appears as “emerging”: shaped by high competence demands and “individualized performance” (Vivanco 2013), while sport cycling remains a dominant cultural reference point in Austria.

Finally, the chapter highlights that cycling also becomes a form of urban life and community-making. Sociality can generate confidence and motivation, even if community remains hidden. Moments of informal connection (small talk at red lights, friendships that motivate cycling, clubs that build confidence), suggest that cycling sociality exists, but is episodic rather than building a stable community. Activism, in particular, illustrates a tension between empowerment and frustration: cyclists seek visibility and recognition, yet often stop when change feels slow, turning instead to alternative forms of being “counted” and noticed. A parallel can be observed here: “For communities that are awaiting new highways, the importance of roads is such that they often take to the streets, marching or setting up road blocks to demonstrate the passion and urgency in their desire for roads...” (Harvey and Knox 2012, 522). These dynamics help explain why cyclists describe Vienna as both “almost perfect” and still lacking: the city is experienced as comparatively supportive and improving, yet the persistent hierarchies and contested space exist at the same time. The promise of infrastructure is there but it is not yet fulfilled in a comprehensive way.

Chapter 3. Planning for Cycling

Chapter 3 turns from cyclists' lived experience and contested urban life to the institutional production of cycling infrastructure: how cycling is framed in strategy documents, translated into planning routines, negotiated across administrative levels. There is a multitude of administrative departments and organizations in Vienna that are engaged in the development of cycling infrastructure – various municipal departments (Magistratsabteilungen or MA), Mobilitätsagentur (Mobility Agency), private companies, various initiatives and the Radlobby activist group. I was, unfortunately, unable to conduct an interview with the Mobility Agency who act as a bridge between the regular citizens and city of Vienna administration, which would have been quite fruitful. At the same time, I was able to acquire an interview with a representative of MA18 responsible for urban planning, a planner from a private bureau and two representatives of activist groups/initiatives. This chapter is dedicated to the findings from those interviews and Vienna strategy documents and serves to explain or deepen some of the issues presented in chapters 1 and 2.

3.1 Strategy documents as institutional framing

I draw on Vienna's strategy documents and reports to contextualize the planning and activist perspectives discussed in this chapter. The central reference point is the Smart Klima City Strategie Wien (City of Vienna 2022), a revised version of Vienna's earlier smart city framework with an aim to reach climate-neutrality by 2040. The strategy puts an emphasis on quality of life and resource conservation, and presents sustainable mobility (using public transport, cycling and walking) as one of the key fields to achieve a higher quality of life and decrease gas emissions, aiming to boost the percentage of single journeys made by environmentally friendly transport to 85% (from 73% in the year 2020). The document's visual are also notable: its cover portrays a cyclist in a green urban environment. Across the sections of the Strategy, cycling is repeatedly positioned as both a mitigation tool (reducing emissions) and a quality-of-life practice (health, comfort, liveability).

The main cycling policy objective is expanding the intended space to implement the “15-minute city” strategy described as “short distances to services and amenities, lively, mixed-use neighbourhoods and redesign of streets to provide more space for active mobility options, public transport and pleasant places to linger and improving cycling infrastructure through

closing gaps, increasing quality, and providing supportive infrastructure like bicycle parking” (City of Vienna 2022, 41). Cycling infrastructure is framed as a separate goal in the report, aiming to bridge the existing gaps in coverage and improving the lanes for safer riding.

Vienna climate guide (2022), created in conjunction with the Vienna Smart City Strategy, focuses on climate protection and liveability of the city and is meant to showcase the measures and instruments that will be used in order to achieve the goal of climate neutrality. The two main strategies outlined in the report are climate protection where the city reduces greenhouse gas emissions, and climate adaptation where the urban space is transformed to withstand and counteract the already existing changes. The report highlights the discussions around transport as one of the most emotional as they “frequently involve two camps characterised by opposing views, in particular with regard to cars” (Vienna city administration 2022, 48). Interestingly, it is claimed that the change to eco-friendly transport has been stagnating in the last years.

Among the many objectives, 15-minute city is again present, however in greater detail. 15-minute city includes not only shorter trips, but also mixed road use, local pedestrian priority zones, reallocation of public streets to promote active mobility and increasing the attractiveness of surrounding area, where the denizens could linger. Radwegoffensive or cycleway offensive is a term used to refer to the expansion of the cycling network in order to extend long-distance cycling lanes, closing network gaps and improving the overall quality, as well as the increase of parking spaces for bicycles. It is also mentioned that transporting bicycles using other means of public transport should be made more accessible. Additionally, other initiatives include Vision Zero which is supposed to calm the traffic to reduce traffic fatalities by introducing a 30 km/h speed limit in residential streets, as well as establishing neighbourhood regeneration zones “Supergrätzl”; planting over 20000 trees in the public space which provide shading; expansion of sharing services via installation of mobility station and “free-floating services” (Vienna City Administration 2022).

The Vienna Mobility Report by the Mobility Agency (2019) combines walking and cycling and includes indicators such as perceived safety, satisfaction, and conflicts between user groups based on the conducted surveys across the public. Evidently, the report shows that almost 60% of road users consider climate protection as the main reason for choosing the mode of transport. The goal for 2025 was to achieve an 80% of single journeys made by public transport, walking or cycling. At the time of publication, cycling modal split equalled to 7% (an increase of 2%

from 2010), while car ownership declined by 6% in 9 years. Mobility Agency additionally provide statistics for the perception of cycling infrastructure:

- 71% of cyclists consider that cycling in Vienna as a whole has improved in 2019
- 76% perceive cycling to be safe (an increase of 10% from 2014)
- 69% believe Vienna to be a cyclist-friendly city
- 63-69% are satisfied with the number and width of cycling paths, and parking facilities

The report heavily focuses on walking as the main method to achieve the environmental goals. Notably, the report was published every couple of years from 2012 to 2019, after which the publication stopped. Additionally, Vienna used to have separate reports on cycling, however the last one dates to 2016.

The Stadtentwicklungsplan 2035 does not focus on cycling, yet it features the newest data for cycling modal share – 10% of all journeys in 2024 (Stadt Wien 2025). The principle of "cycling for all" is underlined throughout the report: creating a continuous, safe, and comfortable main cycling network that is tailored to the needs of all user groups. Extensive investments in the further development of cycling infrastructure are intended to contribute to increased safety and comfort. Together, these documents create an institutional outline for cycling infrastructure development.

3.2 Process of planning for cycling infrastructure

The planner from MA18 (Urban planning) describes the department as the city's strategic centre for cycling, responsible for keeping an overview of the citywide cycling network, especially the main cycling network. In his account, MA18's work has two main branches. Firstly, it continuously maintains and updates the network plan and identifies priority routes. Secondly, it prepares area studies for missing links or upgrades, coordinates these early concepts with relevant stakeholders, and then hands them over to MA28 (Road administration and road construction) for detailed design and implementation.

Both planners stress that cycling planning is rarely linear. Projects move through a process involving coordination within multiple administrative bodies and external actors: besides MA18 and MA28, this typically includes MA46 (Traffic organisation and technical traffic matters), Wiener Linien, MA33 (traffic Lighting), MA42 (City parks and greenery) the relevant district, and the Mobility Agency. The MA18 planner emphasises that if consensus cannot be

reached, decisions ultimately shift to the political level, i.e. city councillors and district heads. At the same time, the planning work is embedded in a political hierarchy. The Stadträtin “stands above everything” since she sets the political guidelines and makes budget allocations. Planners develop concepts and submit them, while the role of political decision-makers is to decide whether these proposals will be approved and when they will be implemented.

This framework also explains how private expertise enters the system. The private planner explains that smaller projects are ordered privately by the city. In practice, private firms often become involved through city-initiated commissions tenders: for smaller tenders, multiple firms may be invited, and then one is selected. As an example, he mentions having developed a cycling strategy for Vienna’s 14th district.

Finally, the planners describe how priorities are set through a mix of inputs. Complaints, suggestions, and requests for upgrades often come from the public via the Mobility Agency, while internal expertise and ongoing administrative discussions also shape what is taken up and when. Funding and political will remain the key enabling conditions: parts of the main city network are funded directly by the City of Vienna, while districts may be required to partially contribute, such as for greening measures (i.e. to plant trees). The funding, however, mainly covers only the main cycling network (Haupttradwegenetz) and not other secondary branches or smaller objects.

3.3 Focus and aims of planning

MA18 planner elaborates on the current goals of planning for cycling. Earlier, the focus was primarily on closing small gaps in the cycling network. Now, however, he claims that priorities have changed: around half of the work is devoted to upgrading existing infrastructure, because many cycle paths are already 30–40 years old and can no longer keep up with today’s cycling volumes. A lane that was sufficient in the 1980s has largely become insufficient since the same street now carries around 6000 cyclists a day in the example of the Ring.

Within this logic of upgrading, the planner repeatedly returns to width as a key indicator of quality and functionality. He establishes three categories of widths – approximately 4.0 or 4.5 meters, 3.2 meters, and 2.6 meters. In new projects, 4.0 and 3.2 are presented as the main aim, while 2.6 becomes the target in constrained streets where trade-offs are unavoidable. Interestingly enough, he does not devote much time during the interview to technical safety measures in a narrow sense. Instead, he speaks at length about comfort and “feeling good”

(Wohlfühlen) when cycling. In his view, comfort is strongly tied to space: the ability to overtake and to ride side-by-side, linking this directly to affect and bodily experience.

Finally, the planner frames “good planning” not only as improving individual street segments, but as building a coherent network logic. Vienna, he argues, needs major high-capacity protected corridors that allow cyclists to cross the city, as well as smaller-scale neighbourhood permeability. He warns against pretty but isolated infrastructure (similar to what participants describe at Altes AKH): a short, nice segment that does not offer connection to the overall network is pointless. In the same spirit, he emphasizes that cycling starts with easy access at home, without having to carry the bike up and down, and secure parking at destinations are also part of what enables cycling as an everyday practice.

MA18 describes evaluation as an integral part of cycling planning. The department uses fixed counting stations and display counters to assess how new routes perform (confirming Leonard’s actions from chapter 2), in addition to the surveys that ask cyclists about their experiences. In this perspective, the recent years also signal a broader shift in cycling practices. The MA18 planner frames a transition from leisure and seasonal cycling toward all-year cycling, having been enabled by network expansion as well as the speed and convenience of cycling for everyday trips. At the same time, he stresses that infrastructure is only the “hardware” of change: building a cycling culture also requires campaigns, trainings, and awareness-building, which he credits mainly to the Mobility Agency.

The private planner echoes this idea of cycling being more than traffic flow. He highlights an approach that shapes streets as friendly spaces in terms of climate and environmental quality, rather than focusing only on moving cars efficiently. In line with this, it is noted that in recent years cycling has expanded socially, with more people from different age groups and backgrounds taking up cycling.

3.4 Planning logics and practices

Beyond these concrete aims (upgrading, capacity, and network coherence), the private planner observes a shift in the planning practices. In his account, planning culture in Vienna has changed markedly over the past two decades. In the 2000s, cycling was still a marginal activity. A major institutional step occurred in 2003, when planning became centralized, meaning that key network planning and funding became a responsibility of the City of Vienna. The 2010s are described as a period of striving for improvement, but also of limited budgets and political

constraints. In contrast, the 2020s are framed as a phase of acceleration, in which more cycling infrastructure was built than ever before. The planner links this shift to broader pressure and changing narratives.

Within this context, he outlines a baseline for infrastructure design that goes beyond technical delivery. For him, planning is guided by three intertwined concerns:

- Safety: this category could be contradictory since people disagree what counts as safe, as my interlocutor suggests
- Street experience: greenery, trees, overall sense of comfort, how different users feel and interact
- Managing constraints: narrow streets force trade-offs – sometimes the best solution is traffic calming instead of building a dedicated lane.

This framework rests on what he calls a kind of “codex”: design shapes behaviour. In this view, people’s own behaviour is not a primary explanatory factor, because users largely react to the environments they are placed in. This also implies that planners and designers should try their own creations out – to feel what the user feels – so that design decisions are grounded in embodied experience rather than only technical standards. Importantly, he notes that data and statistics on accidents can be unclear, since accident categories do not always capture what actually happened (which corresponds to the finding about near-misses).

A common mechanism through which cycling upgrades happen in practice is described: they are often implemented when a street is being rebuilt anyway (e.g., expansion or underground maintenance), because combining works is cheaper and easier to justify. At the same time, he critiques this logic as reactive rather than strategic, since it ties cycling improvements to other construction cycles instead of treating them as a planning priority in their own right. However, the city has attempted to act more strategically through an internal priority network (which is not accessible to the public), aimed at closing key missing links, such as the cycling tracks on Kagan and Praterstraße. In this sense, implementation sits between two approaches: opportunistic upgrades when the situation allows for it, and selective interventions driven by internal priorities. This demonstrates that planning remains largely top-down. According to the planner, meaningful citizen participation is inhibited not only by decision-making culture but also by the districts, which often lack expertise and resources.

3.5 Political governance and districts as “battlefields”

Across interviews, political parties and political leadership are described as an enormous influence on cycling infrastructure in Vienna. Several interlocutors recounted how the Green Party was in charge of traffic policy in 2011–2020, while at the same time the SPÖ allegedly blocked many ambitions at district level. After 2020, SPÖ and NEOS took over and Ulli Sima was appointed as the Stadträtin für Stadtentwicklung, Mobilität und Wiener Stadtwerke. One interlocutor believes that she adopted much of the demands of the Platz Für Wien initiative without crediting them and presented them as her own program. He frames Sima as a strong PR person with top-down delivery: on the one hand, she has more resources and authority to implement projects faster; on the other hand, her strong public presence may actually limit citizen participation:

“I think that the semi-good work of Ulli Sima and the very good PR of Ulli Sima kind of keep people down, because they think, ah, they are doing a good work, I don't have to be involved anymore. They are taking care of us. And this patriarchal way of taking care of the city is the SPÖ approach, and it's a very good recipe, because by this you keep people happy, even if you're not doing too much” (Activist #2, 19.10.2025)

The recent acceleration and improvement of cycling infrastructure is also partially accredited to the federal funding that Vienna received. At the same time, Vienna's administrative approach is criticised for the lack of transparency about what, where and when will happen, and for a strict top-down style where mayors make the most decisions despite the public wants. In this view, participation is not only limited by political culture but also by structural exclusions: many residents are completely excluded from decision-making, such as those who legally cannot vote, and those who face language and cultural barriers. Ideas from various organisations such as Klimateam are submitted to selected district administrations, yet only a small fraction of them go into real planning.

While political guidelines and budgets are set at the city level, street-level changes and implementation are described as strongly dependent on district-level government, meaning the party that rules the district and the individual head of the district. Districts are continuously framed as the main “battlefield” of implementing new infrastructure. To illustrate this, the cycling activists categorised districts into types. Green-led districts are described as the most open to change and to sustainable infrastructure, as well as some of the more progressive SPÖ districts. Progressiveness is linked not only to party affiliation but also to the individual persona

of the district mayor, with younger generations and female mayors described as especially important contributors. By contrast, ÖVP-led districts are framed as especially resistant, and sometimes characterised by internal party conflicts that shape street outcomes. One example given is Landstraße Hauptstraße, where a lack of compromise between Ulli Sima and the ÖVP mayor led to a design in which some parts of the street will be reworked, while other segments remain car-oriented.

3.6 Civil society actors and initiatives

As I mentioned, Radlobby is the most prominent cycling activist organization in Austria – they have representatives in every Austrian state, including Vienna, mirroring the federal structure. As their spokesperson claimed, their mission is to represent the interests of current cyclists as well as potential cyclists who do not cycle because of their perception of cycling as dangerous, with the aim of increasing the use of bicycle as a transport. This is an important addition since in my fieldwork and interviews I only engaged with current cyclists. Radlobby has its own branches in every district of Vienna where the participants have meetings throughout the year, as well as a city-wide meeting JourFix every month, to discuss current infrastructure issues and cooperatively communicate with the administration via inquiries and sometimes publicly.

The Radlobby spokesperson identifies two major barriers to cycling uptake: fear, in particular fear of fast motorized traffic, and lack of access to a bicycle, which was not prominent in my interview findings. He links “access” less to ownership in general and more to practical obstacles such as bike theft and poor conditions of bike storage and parking in older housing stock. In this view, parking functions as a form of “enabling infrastructure”: if there are no racks to store the bicycle, or if parking requires carrying the bike up and down stairs to a basement, many people will not choose cycling because of inconvenience. Radlobby’s own studies, he claims, show that most Vienna districts do not meet estimated bike-rack needs.

From this starting point, the spokesperson expands his critique to the network as a whole. Similarly to my own findings, activists characterize cycling infrastructure in Vienna as having inconsistent quality and persistent gaps. He draws attention to the historical layering of the network: many cycle paths were built in the 1980s for much lower cycling volumes and have not been fully upgraded, meaning that infrastructure that once “worked” no longer corresponds to today’s levels of use.

In terms of design types, painted lanes (shared, advisory lanes) are framed as less safe and less attractive, echoing the perspectives of my interviewees and respective research (Gössling and McRae 2022). At the same time, the spokesperson describes an ongoing shift toward higher-quality designs, including cycle streets, protected lanes, and cycling highways, with the overall network becoming a mix of older and newer path types.

A central tension in his account lies between strategic goals and street-level outcomes. He highlights that Vienna's official documents express broad consensus around improving sustainable transport, and that maintenance work is continuously ongoing. Yet he stresses a major gap between high-level agreement and implementation: many cycling paths are not redesigned but simply repaved using old layouts. The most consequential weakness, in his view, is the lack of a continuous network, especially along major roads, where missing links, lack of standardization, and chaotic intersection designs interrupt safe and comfortable movement. He criticizes a planning "shortcut" in which bike lanes end before intersections and restart just after, which may be easier for planners but undermines continuity. More generally, he claims that the city often builds what is easiest first leaving difficult gaps until a better opportunity arises.

Finally, traffic calming is described as the most effective measure to make cycling more attractive, aligning this with research that suggests disincentives for car use are necessary (Pucher and Buehler 2008). However, he also notes that even smaller streets with traffic calming do not always work as intended, since car filtering may remain possible, as in the example of Czerninplatz.

Beyond diagnosing barriers and network weaknesses, civil society actors also try to influence cycling policy through campaigns and targeted interventions. One prominent example is the Platz für Wien campaign, which acquired 60,000 signatures for the improvement of 100 "superblocks" (hundreds of kilometers of cycling routes and cycling highways) in order to push the city toward a more climate-friendly approach. However, in the account of the activist, only one of these demands has been implemented by the administration so far. Despite this limited policy uptake, he describes the main outcome of the campaign differently: rather than pressure alone, its key success was building a new community, bringing together previously separate actors and empowering newcomers to become involved. At the same time, there exists about a handful of smaller and medium-sized cycling initiatives in Vienna, which are usually centred around specific districts and do not have sufficient funding and resources to facilitate large-

scale changes. Occasionally, Radlobby achieves its goal in specific areas: for example, near Westbahnhof, a slow and signal-heavy route was replaced with a short and protected cycling track, saving almost two minutes of time due to advocacy attempts. This is presented as an example of how relatively small design fixes can dramatically improve cycling experience.

3.7 Atmospheres of change

Across the interviews, cycling planning and advocacy are not only described as technical and political processes, but also as an emotionally charged field. The Radlobby spokesperson points to a tension within activism itself: on the one hand, there is frustration with the slow and sometimes inadequate response of city and district administration to requests; on the other hand, there are also high expectations among passionate cyclists who want a “bicycle paradise now”. In this context, activism can become internally conflictual, for example in heated debates around light electric vehicles (mopeds), where efforts may backfire and ultimately strengthen car dominance. The spokesperson also suggests that excessive complaint-making can undermine activists’ credibility in the eyes of the administration.

At the same time, the broader social climate around street change appears to have shifted. Interestingly, the public is not seen as a problem anymore: if previously replacing a car parking with a park was met with an uproar, now it often is not, which signifies a positive change in people’s minds:

“It's kind of different conflicts on different levels, inside parties, between parties. What's quite funny is that the population is not the problem anymore as long as they are not instrumentalised by, let's say, the car culture. So that's the most interesting turn, in my eyes, is that there is no big uproar anymore when you replace car parking by bike infrastructure or by park” (Activist #2, 19.10.2025)

These affective and political dynamics are closely tied to a climate framing that runs through the planner interviews. Vienna’s policies are believed to be insufficient to reach the climate neutrality goal with the current pace of implementation. The private planner confesses that he feels as if the citizens and politicians do not realise that sustainability lies at the heart of cycling strategy:

“I think [cycling infrastructure] is a main part of [sustainability]. For a long time I thought, and I also still think, that many people in the Austrian city administration and from politics don't realise that it's a main part.” (Private planner, 27.10.2025)

At the same time, the planner argues that cycling is one of the key elements of the mobility transition and reaching the sustainability goals: a strong network would complement public transport and enable multimodality, rather than simply replacing one mode with another.

Looking forward, the planners' future imaginaries extend beyond expanding cycling lanes. Long-term, they would like to see much more traffic calming in the inner districts to the point that there would be so few cars that dedicated cycling lanes would become less necessary. Yet my interlocutor is sceptical if this will be implemented in the next 30 years, signalling mistrust of the city administration. He also reflects on the cycling culture within Vienna, suggesting that the city could “culturally be a cycling city”, while infrastructure still constrains it for now.

Chapter 3: Summary

This chapter showcases how cycling infrastructure in Vienna is produced through multi-actor planning and several steps of decision-making, which ultimately decides what will be constructed in reality. Planning is therefore shown as non-linear and negotiated: ultimate decisions are pushed into political hierarchies, where budgets and timing are ultimately set. Radlobby identified a lack of investment into cycling infrastructure, arguing that Vienna historically underinvested in cycling and still invests much less in comparison to other European cities with a relative population. This helps explain why cyclists in Chapters 1 and 2 encounter “patchiness”, ambiguity and other issues: continuity is not only a design principle but also an outcome of coordination, funding scope and district-level feasibility. Thus, infrastructure also becomes an issue of “power games” (Cox and Koglin, 2020).

Planners, much like cyclists, framed quality through comfort, capacity, and network coherence. “Good cycling” was repeatedly linked to space – width, the ability to overtake, and riding without stress. Importantly, the chapter also highlighted planning constraints and norms: upgrades are often implemented opportunistically when streets have to be rebuilt in any case, which does not represent an active strategy, rather it is more of a reactive approach. Together, these findings connect to the embodied experiences described earlier: what cyclists name as confusion, vulnerability, or relief is tied to concrete planning priorities (separation, width, coherence).

Activists and experts also locate the real “battlefield” in district governance, where party leadership mediate whether citywide ambitions translate into street-level outcomes. As Sheller (2018, 24) notes: “The right to mobility exists in relation to exclusions from national citizenship and urban access, controlled via policing, fungible borders, gates, passes, and surveillance systems, but also architecture, design and everyday practices that limit the right to the city and to the protection of the state.” Despite Vienna’s official sustainability consensus, it does not automatically produce high-quality comprehensive infrastructure. Additionally, many residents remain structurally excluded from decision-making. These dynamics help contextualise why cycling in Vienna is simultaneously described as improving and as insufficient – the experience is marked by rising expectations, frustration with delays or underperformance, and competing imaginaries of what a cycling city should become.

Discussion

Taken together, the three chapters trace cycling in Vienna across three scales: the affective and practical experience of infrastructure in motion (Chapter 1), cycling as contested urban life shaped by recognition, social relations, and everyday governance (Chapter 2), and the institutional, political, and civic processes through which infrastructure is planned, negotiated, and implemented (Chapter 3). The discussion now draws these empirical findings together and situates them in relation to the literature.

Methodological reflections

Cycling has indeed proved itself to not be just dead time spent while moving. Cycling is treated as “time with intent,” the analysis can follow what happens *during* movement rather than only what the movement enables. As I have described in chapters 1 and 2, cycling lanes and other dedicated infrastructure create affects – confusion, mental overload, frustration, joy, relief and so forth. These feelings are later structured to build a bigger picture – contested space, urban hierarchy, society. All of the above constitute everyday mobility practices are shaped simultaneously by material design (lanes, crossings, continuity), social relations (drivers, pedestrians, policing) and institutional priorities. As Cresswell notes (2010, 20): “Similar sets of observations could be made about all forms of mobility – they have a physical reality, they are encoded culturally and socially, and they are experienced through practice. Importantly, these forms of mobility (walking, driving, etc) and these aspects of mobilities (movement, representation, and practice) are political – they are implicated in the production of power and relations of domination.” Therefore, the new mobilities paradigm suits my research as a theory: it legitimizes movement, taking cyclists’ sensory and emotional accounts seriously, and showing how urban order is produced through the ordinary act of getting from A to B.

At the same time, my findings nuance the new mobilities paradigm (Sheller & Urry 2006) by foregrounding interruption, friction, and infrastructural incoherence. Movement in Vienna is constantly negotiated through patchiness, discontinuity, and shifting hierarchies of space. In this sense, mobility is not only relational but materially conditioned. By tracing how affective states such as relief, vigilance, or overload correspond to specific design elements, the thesis contributes to anthropological mobility studies by showing how infrastructure actively organises embodied experience rather than just enabling movement.

Sustainability as a narrative

Sustainable development is one of the main reasons, as I see it, as to why infrastructure in Vienna has been improving in the last few years, as evident from the strategic reports. However, the analysis shows a gap between policy-level framing and everyday motivation, which is important for interpreting what “sustainable mobility” means in practice. As it appears from the interview analysis, it does not represent a significant motivation for the cyclists themselves, neither do they actively think about it. It is certainly a co-benefit, being active, breathing fresh air, yet it is not the main motivation, cyclists, in turn, value efficiency, enjoying the feeling of riding the bike and its relative cheapness (compared to the annual public transport ticket). I do not evaluate this finding negatively, rather I take it as an indicator of honesty from my interlocutors. Additionally, this echoes with Spinney’s argument that cycling is a complex, sensory and embodied practice, and not merely a rational transport choice (2009). In contrast, the planners and activists pay much more attention to the environmental problems. Even without this outspoken motivation, the effects and benefits of sustainable mobility are undoubted, and in order to achieve it, infrastructure has to be improved (Cox and Koglin 2020).

Currently, the city of Vienna is failing to meet its 2040 climate neutrality goals due to the slow rate of changes, according to the experts. Lim et al. (2025) claim the need for strategic documents to feature extensive details on their implementations – Viennese urban strategies do not pride themselves on extensive detail. Moreover, since the mobility report and cycling report have not been issued since 2016/2019 respectively, there exists no detailed overarching framework for cycling infrastructure. This shows how the implementations differ from what was initially intended, as Cox and Koglin suggest (2020), infrastructure becomes ambivalent and inconsistent, which is exactly what we observe by the riders’ accounts in Vienna.

Here, my findings resonate with anthropological approaches to infrastructure (Larkin 2013; Anand 2018), which conceptualise infrastructure as both material and political form. The ambivalence and inconsistency described by cyclists are not merely technical shortcomings but manifestations of competing priorities, institutional fragmentation, and uneven commitments. Infrastructure thus becomes readable as a social and political notion, where its gaps and discontinuities highlight the tensions within urban governance, similarly to Amin’s claims: “...both the social and the technological are imagined as hybrids of human and nonhuman association, with infrastructure conceptualized as a sociotechnical assemblage, and urban social life as never reducible to the purely human alone. There is nothing a-social, mechanistic or

reductionist about how this writing imagines infrastructure, thus providing an interesting opportunity to reimagine the city as both a social and a technical arrangement” (Amin 2014, 137-138).

Top-down approach in planning, which Vienna is characterized by, results in “imposed infrastructure”, which does not feel owned by the users (Cox 2020). While Vienna is still generally considered a good city for cycling, partially this attributes to the very newness of its cycling infrastructure. As time passes, the gap between the top-down approach and the citizens will grow, therefore, Vienna has to work on engaging citizens in planning for cycling. From an anthropological perspective, this raises questions of participation and legitimacy. If infrastructure is not experienced as co-produced, its legitimacy remains fragile. My material suggests that recognition is central to how cyclists evaluate the city. Being considered in planning processes becomes part of what it means to ‘belong’ infrastructurally.

Power games

Vienna’s infrastructure planning indeed has a notion of power games, as it is described by Cox and Koglin (2020) – especially when it comes to district level governance and its opposition to the city-wide narrative. Earlier, I used the example given by the private planner where the city of Vienna built a cycling lane without the district’s agreement, which legally should not be possible. The planning process itself is not a part of the power games, yet on a higher decision-making level there are district mayors opposing to the city’s restructuring. Admittedly, even the lack of transparency about what is being planned from the city of Vienna itself is telling – it does not want to explicitly engage or be criticized by the regular road users. It is meant to be built for the public, for normal people, yet the people are very much excluded from the process and from knowledge that should be public. The current developments of cycling infrastructure, according to an activist, is a project of a single politician. Therefore, cycling has its own “political rationality” (Larkin 2013). Building on Larkin’s concept, my findings show how such rationalities become perceptible in everyday movement. The patchiness and uneven protection described by cyclists translate abstract political tensions into embodied uncertainty.

As I explained in the previous chapter, the political interplay and power games translate into the ambiguous lived experience on the road – patchiness and incoherence, even a type of disregard for the individuals’ safety (painted-on lanes are much more frequent than cycling tracks). Thus, Viennese infrastructure reflects political tensions much like the Dutch infrastructure in Indonesia (Mrazek 2003).

Spinney's idea of cycling being an economised "mobility fix" (2020) echoes with the overall narrative of the reports, however cyclists themselves come to appreciate it. For instance, riders enjoy the accelerated speed, yet Spinney treats the wish for high speed as a sign that bicycles (symbolically) become a substitute for cars – fast and desensitized vehicles devoid of social communication. None of my interlocutors recounted enjoying a slow ride, yet, in contradiction to Spinney's argument, many still emphasize the sociality of it – riding with friends, chatting with people, actively searching for a community.

Embodied experience

Vivanco (2013) emphasizes that cycling has its own way of inhabiting the city in many ways. This "inhabiting" appears as cyclists' own world of cycling where it grants one acute spatial awareness, which cannot be compared to any other mode of transport; sensuous experiences that are hard to achieve (freedom and relief). Nevertheless, marginalisation is indeed a factor that cyclists experience, and in my work the two main indicators of that are: the relations between drivers, cyclists, police; and the allocation of space. Similarly to Koglin's findings in Sweden (2020), Viennese cyclists report a lack of space for cyclists in old and new districts, in addition to experiencing verbal assault from drivers. The similarity of the findings points at a systemic problem, rather than just one limited occurrence. Therefore, I assess the overall infrastructure in Vienna as still being car-centric.

Building upon the previous works by Vivanco (2013), Whitelegg (2020), Pucher and Buehler (2008), driving has to be strategically demotivated in order for the population to take up cycling. Unfortunately, the city does not appear to be actively doing so, instead it tries to appease both groups. I suspect, it might also be the reason why the numbers of cyclists and its modal share is stagnating. As Cox (2020) and Amin (2014) argue, street design is inherently symbolic in that it reflects political prioritisation; in this sense, Vienna still prioritises cars.

In the study of Gössling and McRae (2022) it is evident that planners do not account for the perceived risks and overall comfort during the ride, yet, according to the expert interviews, for planners in Vienna this is the main concern. The overall issues and evaluations mentioned in the study correspond very closely to the ones I and my interlocutors observed. Contrary to Lim et al. (2025) neither the cyclists nor the planners meaningfully distinguish between safety and comfort, while the definitions are distinct, the result almost always correlates – these concepts appear to merge. What cannot be disproven is that infrastructure built bearing user experience in mind is effectively better. Additionally, the concept of affective infrastructure is useful for

various scientific fields and organizations “to become more adequately conscious of the elements determining their affects” (Bosworth 2023, 67).

Future of cycling in Vienna

Looking ahead, Vienna’s direction is shaped by two partially conflicting dynamics: on the one hand, visible improvement and policy ambition; on the other hand, persistent constraints that keep cycling uneven and too high-skilled. The gradual implementation of Vision Zero is a positive development, especially if it translates into more widespread 30 km/h streets and traffic calming. While it remains unclear how consistently this is realised in practice, such measures could directly address one of the most central problems across my material: the dominance of fast motorised traffic as a source of stress, fear and near-miss situations.

As I have elaborated throughout the thesis, cyclists must develop specific competencies in order to move through the city (Cox 2020; Larsen 2014). Vienna often presents itself as a high-skilled cycling environment (not yet equally accessible to all potential users) because of the uneven quality and discontinuity of its infrastructure. At the same time, skill is not only a barrier: it can also be framed positively as an acquired capacity that enables people to overcome fear, expand their mobility range, and manage difficult conditions (Sabelis 2022). The key question for Vienna’s cycling future, then, is whether the threshold lowers and infrastructure will increasingly reduce the skills and courage needed to cycle safely and comfortably.

In Aldred and Jungnickel’s terms (2014), Vienna still resembles an emerging cycling culture: many cyclists report being scared at first, having to build capacities over time, and learning the city through repeated exposure. In this sense, cycling remains partially individualised performance, similar to Vivanco’s description of Burlington, where cycling is present but not yet an effortless and widely shared urban norm (Vivanco 2013).

At the same time, experiences are not uniform. Expat cyclists from low-cycling countries often reflected on the prime state of Viennese infrastructure, not seeing any major issues. One expat cyclist from Albania reported no significant difficulty navigating Vienna’s streets, underscoring how evaluations are filtered through previous mobility histories and what “normal” traffic interaction looks like elsewhere. This divergence suggests that contested space is shaped not only by infrastructure, but also by prior expectations and comparative frames of reference. Simultaneously, this does not disprove issues reported by those who reside in Vienna long-term.

Finally, one of the respondents expressed satisfaction that cycling is not yet overly popular in Vienna, arguing that even newly built lanes would not suffice if significantly more people began cycling. This points to an important future tension: growth in cycling rates would test Vienna's infrastructure capacity and could reintroduce crowding, stress, and intensified competition for space, even if the current issues are solved. Cycling infrastructure therefore appears as an ongoing and unfinished process, where improvements will have to keep pace not only with political goals but with everyday volume and use. These findings contribute to anthropological discussions of space and recognition by showing how infrastructural allocation becomes a metaphor for hierarchy. In this sense, infrastructure distributes visibility and legitimacy, shaping who feels entitled to urban space and who must constantly negotiate it.

Conclusion

My thesis set out to understand how everyday cycling in Vienna is shaped by infrastructural design and how cyclists experience the dynamics and underlying meanings in motion. Across the three chapters, cycling emerges not as a neutral “mode choice” but as an affective, socially negotiated practice that makes urban order visible at street level.

First, this thesis asked how cyclists experience Vienna’s cycling infrastructure in motion, and what emotions it produces. Chapter 1 shows that cyclists do not primarily evaluate infrastructure through abstract technical criteria, but through how it feels while riding: safety and relief where space is protected and predictable, and stress, irritation, and hypervigilance where cars are close, interfaces are risky, or continuity breaks. The recurring tensions – protection vs exposure, continuity vs interruption, legibility vs ambiguity, flow vs stoppage – capture how design becomes emotional labour. “Patchiness” (Fleckerlteppich) matters because it produces hesitation, self-questioning (“am I doing it wrong?”), and improvisation, while coherent routes, clear intersections, and cyclist-specific signals reduce cognitive load and create ease, satisfaction, and the feeling of being seen. At the same time, cycling also generates strong positive affects – freedom, sensory pleasure, mental clarity, and a more connected sense of the city – which helps explain cyclists’ persistence despite shortcomings.

Second, the thesis examined how everyday cycling practices assemble mobility, meaning, and power – as contested space, but also as pleasure, sociality, and quality of life. Chapter 2 frames these embodied experiences up into an everyday politics of space. Cyclists repeatedly read Vienna’s streets as a statement about hierarchy: narrow “afterthought” lanes, parked-car dominance, and shared-path ambiguity are interpreted not only as inconvenience, but as signals of who the city is designed for and whose movement counts. Contested space is therefore lived as a struggle over visibility and recognition – being noticed by drivers, being legible to pedestrians, being treated as legitimate users and being acknowledged. Yet the chapter also shows how cycling becomes “more than individual performance”: brief social interactions, clubs, collective rides, and activist events interrupt isolation and can produce empowerment when cycling appears as a shared presence in public space.

Third, the thesis explored how planning arrangements and civic actors shape cycling infrastructure and help explain the gaps and inconsistencies experienced on the ground. Chapter 3 explains why the lived experience of cycling so often takes the form of discontinuity,

unevenness, and mixed signals. Planning is shown as multi-actor and non-linear: the decisive role of political hierarchies in budget and timing all shape what becomes buildable and where. This institutional architecture helps translate cyclists' "patchiness" into a governance outcome: network coherence is not only a design principle but also a product of coordination burdens, funding scope, and district "unopenness" to cycling. In parallel, civil society actors shape priorities by representing not only current cyclists but also "potential cyclists" who are deterred by fear or missing enabling conditions. Still, the chapter highlights strong limits of citizen participation and political transparency. As a result, Vienna can be experienced as both "improving fast" and "still insufficient": therefore, change is real, but uneven, negotiated, and constrained.

Returning to the question that opened this thesis – how urban cycling infrastructure shapes and organizes everyday cycling as an embodied, affective, and politically negotiated practice in Vienna – my findings show that infrastructure actively structures cyclists' movements, experiences, and engagements with the city. The city becomes readable as cyclists move: through the relief of protected tracks, the confusion of interruptions, the careful scanning at intersections, and the small moments of acknowledgement that make riders feel seen. Over time, these experiences combine into a broader interpretation of what cycling is in Vienna: a practice shaped by uneven space allocation and constant negotiation, but also by pleasure, sociality, and the promise of a liveable urban environment. Infrastructure, in this sense, is an active participant in everyday mobility, organising emotions, relationships, and possibilities. Cycling in Vienna therefore reveals how urban infrastructure is felt in the body, and how mobility becomes a site where the city's future is contested, imagined, and (sometimes) enjoyed.

Theoretically, this thesis contributes to anthropological debates on infrastructure and mobility by demonstrating how even a seemingly mundane and relatively narrow domain such as everyday cycling can illuminate the broader workings of urban infrastructure. Cycling infrastructure operates simultaneously as material design, affective environment, and political statement. By tracing how patchiness, continuity, and spatial allocation translate into embodied states such as vigilance, relief, or marginalisation, the analysis shows that infrastructure does not merely enable movement but organises the embodied experience, hierarchies and distributes recognition. Precisely because cycling appears ordinary and routine, it reveals how infrastructural peculiarities become naturalised, negotiated, and felt in everyday life. On a personal level, conducting this research has deepened my understanding of how infrastructure

shapes everyday experiences and meaning people gather from it. Observing and analyzing cycling practices has made me more aware of how material environments, design decisions, and spatial organization influence people's perceptions of the mobility in urban setting as a whole.

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Appendix

Date	Location	Short description
13.04.2025	Rathaus → Ringstraße (Burgtheater, Schottenring, Prater, Nestroyplatz)	Radparade: festival-like setting at Rathaus (bike check stalls etc.), then group ride along Ring with police escort; bell-ringing/cheering
13.06.2025	Maria-Theresien-Platz → Freudenauer Hafen	Friday Night Skating: ~100–150 participants, police + organisers closing roads at intersections, affective note about enjoyment of smooth car-road asphalt and “win over cars” feeling.
17.06.2025	2nd district (Radlobby office/meeting venue)	Radlobby district meeting: small group (~5), very concrete local infrastructure issues (Vorgartenstraße/Lassallestraße etc.), discussion of parking/space politics, citizen complaints workflow
16.07.2025	Central Copenhagen	Recreational/reflective comparison ride: broader lanes, colored crossings, easier to navigate, contrasts and similarities to Vienna;
18.07.2025	Schwarzenbergplatz → (loop via Linke Wienzeile / Ring / toward Schönbrunn / toward Heiligenstadt) → Lidlpark (17th district)	Observations on the ride – incoherent crossings, surface change every few blocks, smooth riding on the newer lane toward Schönbrunn

27.07.2025	around WU / Messe-Prater area (2nd district)	Observation in rainy weather: mixed pedestrian–cyclist path dynamics, lane widths/materials, rental bike station presence, “imagined lanes,” wrong-way riding, zebra-crossing behaviour, signage ambiguity
28.07.2025	2nd district / WU surroundings / Stadion Center area	Observation by bike: underused wide lane, poles in divided sub-lanes, Billa-grocery cycling, lane discontinuities “ending then reappearing,” parking-obstructed visibility at turns, bike-parking design as hazard, Prater popularity despite little infrastructure.
31.07.2025	WU campus / Messe-Prater mixed pathway + crossings	Behavioural observation: cyclist positioning on mixed paths, pedestrian congestion effects, narrow two-way lanes, rental/parking counts, patterns of crossing as pedestrian vs “as a car,” wrong-way use, infrastructure legibility.
03.08.2025	Engerthstraße → Nordbahnhofviertel → Lassallestraße → Donauinsel / Danube recreational area	Ride + reflection: “most dangerous lane” (Engerthstraße) due to narrowness, pedestrians/children, dooring/parking risk; contrast with pleasant wide Lassallestraße lane; Donau recreational cycling popularity with little formal infrastructure.
17.09.2025	Ringstraße (Urania → Karlsplatz corridor; Stadtpark/Stubentor/Schwedenplatz/Schottenring)	Route audit: mixed pedestrian/cycling sections, maintenance quality, confusing

		configurations and discontinuities, crossings and traffic-light logic, parking rack scarcity, places where cyclists ride on car road due to missing reverse-direction lane.
25.09.2025	Liesing / 23rd district (+ route via Ring/Karlsplatz/Argentinerstraße/Hbf area; later Neu Erlaa metro)	Group ride: group riding constraints at crossings; discussion with organiser re improvements since ~2020; difficult muddy/off-road sections near Boehmischer Prater; return via metro (light not working)
30.09.2025	Ring / Donaukanal area (Franz-Joseph-Kai/Schottenring)	Route + incident note: witnessed near-collision with right-turning car; reflections on chaotic signage/space at Franz-Joseph-Kai; bumps/maintenance; “nightmare” crossing Schottenring–Börse
03.10.2025	Bruno-Marek-Allee / Lassallestraße area; later ride via 3 rd district	Mobility-choice reflection: comparing shortcut vs “designed” route timing; lane branches that “end,” conflict/uncertainty in unregulated spaces; “sometimes pedestrian, sometimes car” navigation; evening ride noted as pleasant.
10.10.2025	WU ↔ Schottentor ↔ Altes AKH	Errands day by bike: bumpy segment through Prater, notes on convenience and micro-frictions, difficulty riding along the main roads in the 9 th district

Figure 1. Fieldwork sites and descriptions

Interlocutor	Category	General profile	Duration	Used/not used
C1-C9 (Max, Camilla, Lia, Vera, Robin, Maya, Mikhail, Leonard, Hanna)	Regular cyclists	Ages 20–35, mostly students/young professionals, mostly female	18-44 minutes	Used, participants are pseudonymized
P1-P2	Planning experts from public (MA18) and private sectors	Two men aged around 55 and 35 respectively	50-56 minutes	Used, experts are anonymized, only the role is given
AC1–AC2	Cycling activists from Radlobby and an initiative Wir Machen Wien (not specified in the thesis)	Two men around 40-45 years old	52-54 minutes	Used, collectively addressed as “activists”
SC1-SC3	Sport cycling club leaders	Three men aged 35-50 years old	57-68 minutes, one interview failed to record	<u>Not used</u> due to overall topics of the interview not matching the research, addressed shortly

Figure 2. Description of the conducted interviews.



Figure 3. Währingerstraße – cyclists riding in between the cars when lane disappears. *Photo taken by the author*



Figure 4. Schottenring – an example of illegibility on an intersection (markings end right after crossing). *Photo taken by the author*



Figure 5. Nordbahnhofviertel – an example of 'patchiness', lane ending abruptly. *Photo taken by the author*



Figure 6. Ernst-Melchior-Gasse – parked cars (danger of dooring) and a narrow cycling lane. *Photo taken by the author*



Figure 7. Ring – shared pedestrian/ cyclist space. *Photo taken by the author*

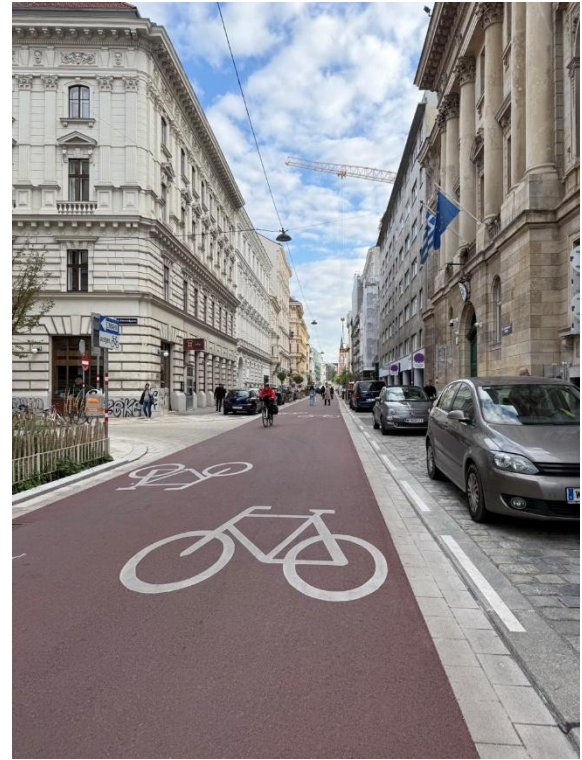


Figure 8. Argentinierstraße – street, commonly cited as one of the best built cycling streets in Vienna. *Photo taken by the author*