Mind the Gap:

Dynamic social inclusion and sustainable mobility in Bergen, Norway

Devyn Remme

Supervisors: Håvard Haarstad and Siddharth Sareen

MA thesis: Geographies of Human Development, University of Bergen

Submission date: May 19th, 2021

Project affiliation

The Just Mobility Transitions (JUSTMOB) research programme at the Centre for Climate and Energy Transformation, on which I was hired through funding from a range of sources: the Responsive Organising for Low Emission Societies (ROLES) project funded by JPI Climate as part of its SOLSTICE call and the Research Council of Norway (grant 321421), the Trond Mohn Foundation project 'European cities as actors in climate and energy transformation (grant BFS2016REK04), and the Energy and Climate strategic priority area at the University of Bergen.

The photo on the cover depicts the light rail in Bergen, 2021. Source: Devyn Remme

Abstract

Scholars have claimed that regimes of urban automobility have reached their functional and ideological limits. Many cities are pursuing policies to restrict private vehicle use and prioritize walking, cycling and public transportation. De-centering automobility represents a prominent push to change resource intensive social practices and shift representations of 'the good life' in cities towards the low carbon logics of shared resources. Yet, as the policies seem to be working and policy makers seek to step them up, the celebratory proclamations of anti-car advocates are dampened by growing resistance and claims of social exclusion. Hence, it is imperative to account for transitions away from automobility as arenas of conflict over values.

I present research from Bergen, Norway – a city with a strong commitment to reducing the use of private vehicles. The aim of this thesis is to reflect on the systemic parameters of social inclusion in the context of these mobility transitions in Bergen and to describe the challenges of applying these insights in practice. I consider social inclusion in the context of shifting norms, practices and provision towards a common urban mobility system. Through multiple qualitative methods, I analyze three interventions aimed at reducing private vehicles: light rail expansion, congestion tolls and car free zones. These interventions have been contested by a new populist protest party that claims they cause social exclusion and disproportionately impact those who have the least. The research foregrounds the challenges of reconciling multiple aspects of social inclusion within urban transformation by applying a 'commoning' approach. Broadly, commoning refers to processes and conditions which support sharing resources and resist privatization and enclosure. This approach critically engages with the strong normative tradition of liberal distributive justice which prioritizes the value of individual choice and safety net solutions over structural changes. I introduce the term 'dynamic social inclusion' and describe it through a discussion of three conceptual areas related to mobility: access, imaginaries of space, time and social change, and the politics of commoning mobility. I find that different inclusion goals are in tension and identify fundamental constraints and trade-offs that policy makers and planners face with regard to social inclusion and mobility transitions.

Acknowledgements

Working in the offices of the Center for Climate and Energy Transformations has been a joy and a comfort thanks to the wonderful environment Håvard and the CET team creates. Thank you Håvard for all your advice and for telling me to work less and spend more time with my family.

Completing this thesis in a year wouldn't have been possible without the guidance and encouragement of Siddharth Sareen. He went above and beyond what anyone could ask for in an advisor and I have learned more the last year than I've even had time to realize yet. My academic career has begun with a bang and I look forward to honing my skills in the years to come.

Finally, thank you to both my advisors for walking the walk, literally, by choosing not to own cars and performing a good life that resonates with low carbon logics.

Table of contents

List of tables and figures

1. Introduction

1.1. The dynamics of inclusion in urban mobility transitions

> "The Anthropocene marks severe discontinuities; what comes after will not be like what came before" (Haraway, 2016).

As the above quote from Donna Haraway's opus *Staying with the Trouble* indicates, climate change looms over us, like a giant question mark hanging in the air - will we change with it and will we change fast enough? Many scholars have positioned cities as pivotal change agents with great potential to advance progressive climate agendas (Amundsen et al, 2018; Solecki et al, 2018, Bulkeley et al., 2015). Not only can local actors design infrastructures and regulations, they can also act in multiple capacities to demonstrate versions of the 'good society' through political activism, experimental pilot projects, municipal policies and inter-city agreements (Amundsen et al., 2018:26).

Urban mobility has emerged as a primary arena for action. Patterns of human settlement worldwide are urbanizing at the same time as carbon emissions from passenger transport are rapidly increasing. The Fifth Assessment Report of the Intergovernmental Panel for Climate Change (IPCC) estimates that greenhouse emissions from transportation have more than doubled since 1970, with road vehicles being responsible for 80 percent of the increase (IPCC 2014: 606). If no mitigation measures are taken, the IPCC estimates that greenhouse gas emissions from transport will increase by 50 per cent by 2035, and double by 2050 (i bid: 648). It is therefore imperative that cities decarbonize their transportation sectors as localized efforts to mitigate climate change.

However, environmental justice scholars have contended that a narrow focus on greenhouse gas emissions obscures the possibilities to address structural asymmetries of power and privilege that degrade environments in other ways and produce inequalities (Chatterton, 2016; Swilling & Annecke, 2012; Nikolaeva et al 2019). For example, the spread of electric vehicles as the

apparent ‘winners of the future’ (Henderson 2020, see also Sovacool et al 2019) threatens to marginalize post-car visions of common urban mobility systems. In Europe research has demonstrated that policies supporting the introduction and diffusion of electric vehicles are in danger of reinforcing the cultural and consumptive patterns of automobility which disproportionately benefit, male, middle aged and above average income groups (Peters and Dutschke 2014). Indeed, in Norway the share of car sales in April 2021 marked a 77% increase from April 2020.[1] In addition, reports have shown that the subsidies and other policies designed to encourage electric vehicle ownership have primarily benefited those in the highest income brackets (Urbanet, 2020b). The true carbon footprint of electric vehicles is uncertain, but preliminary research indicates there are non-trivial levels of emissions associated with their life cycles (Henderson 2020, Sovacool et al 2019, Sovacool et al 2021, Bergman, 2017, Morten, 2018). In addition, struggles over urban space (Creutzig et al, 2020) and the uneven distributive effects of transportation infrastructure investments (Enright, 2019, Levinson, 2010) are also prominent concerns related to urban automobility. All these issues contribute to growing interest in some cities for de-centering cars, including electric ones, within urban mobility systems.

Sustainable mobility transitions that challenge entrenched car culture represent a prominent push to change resource intensive social practices and shift representations of ‘the good life’ in cities towards the low carbon logics of shared resources. Many cities are pursuing policies to prioritize walking, cycling and public transportation. Yet, as the policies seem to be working and cities step them up, the celebratory proclamations of anti-car advocates are dampened by growing resistance. The inherited geographies of car centric planning are entangled with everyday lives and cultural meanings. This makes endeavors to restructure the way people move around deeply contentious. They bring up fundamental questions about whose activities, movements, meanings and practices are enabled collectively, how decisions are arrived at, who gains from urban transformation and how power dynamics are condensed, reinforced or challenged. Hence, it is imperative to account for mobility transitions as arenas of conflict over values.

The aim of this thesis is to reflect on the systemic parameters of social inclusion in the context of Bergen’s mobility transition and to describe the challenges of applying these insights in practice. A deep engagement with the social dimensions of transitions, while recognized as important, is often neglected in sustainable mobility policies where the primary focus is on technological

[1]https://www.abcnyheter.no/motor/bil/2021/05/03/195756531/bilsalget-okte-kraftig-elbiler-dominerer

innovation and economic growth (Gallo and Marinelli 2020, Karjalainen and Juhola, 2019, Kohler et al, 2020). Literature that theorizes social inclusion within sustainability transitions almost exclusively relies on liberal justice frameworks. Liberal policies of redress seek to incorporate marginalized individuals and groups into existing social systems while leaving the systems themselves unchallenged (Enright 2019; Sheller, 2018; Wolff, 1977). I seek to rethink social inclusion in the context of shifting norms, practices and provision towards a common urban mobility system to account for dynamic processes of societal transformation. Social inclusion entails an essential capacity to participate in collective life. Dynamic social inclusion recognizes that collective life is not a static concept.

This thesis foregrounds the challenges of reconciling multiple aspects of social inclusion within urban transformation by applying a 'commoning' approach. Broadly, commoning refers to processes and conditions which support sharing resources and resist privatization and enclosure (Helfrich and Bollier, 2015; Singh, 2017; Huron, 2015). Commoning *mobility* means recognizing the shared responsibility for how different mobility constellations shape societies (Nikolaeva et al, 2019). This approach critically engages with the strong normative tradition of liberal distributive justice which prioritizes the value of individual choice and focuses on safety net solutions for particularly disadvantaged people. Commoning is a structural approach to inclusion which counters regimes of scarcity (Hoeschele, 2010) with the affirmation of abundance within planetary boundaries.

To investigate how a commoning lens changes the meaning of social inclusion, I link social inclusion with three conceptual areas related to mobility: (i) access and exclusion, (ii) imaginaries of space, time and social change, and (iii) the politics of social inclusion. *Access to mobility options* is an important element of social inclusion because urban mobility systems are central to accessing opportunities. Lack of access is therefore recognized as a form of social exclusion. *The way space, time and social change are imagined* and assigned value within traditional transport planning is contrasted with the commoning framework, revealing how different imaginaries inform approaches to social inclusion. Finally, I elaborate on *the politics of social inclusion* to account for the ways in which social inclusion rhetoric is a driving force in political *advocacy for* and *resistance to* sustainable mobility policies. In the discussion that

follows the presentation of the three studied interventions, I consider how my findings may inform and be informed by the three conceptual areas.

I present a case study of the mobility transition in Bergen, Norway – a city with a strong commitment to reducing the use of private vehicles. Through multiple qualitative methods, I analyze three key interventions aimed at preventing growth in private vehicles: light rail expansion, congestion tolls and car free zones. These interventions were chosen because they directly challenge the historically prioritized, collective provision of infrastructure for automobility. For this reason, they have been hotly contested in the public discourse which is the second justification for studying these three interventions. In the last municipal elections, a new, populist political party called 'the people's action against tolls' won third place (Wanvik and Haarstad, 2021). The party claims that the policies aimed at restricting private vehicle use, especially the three interventions studied in this thesis, are unjust and socially exclusive towards those who are already the most disadvantaged. I argue that different inclusion goals are in tension, and identify fundamental normative questions, constraints and trade-offs that policy makers and planners face with regards to social inclusion and mobility transitions. A key finding is that transport is not a discrete policy arena and the social inclusion impacts of interventions into urban mobility systems are entangled with processes in other sectors and scales.

1.2. Research question and objectives

Following from the context presented above, the research question for this thesis is:

How are key policy interventions in Bergen aimed at restricting car use impacting social inclusion in the city?

To answer this research question I selected three interventions to study: light rail expansion, congestion tolls and car free zones. A full justification and discussion of the implications of selecting these three interventions is presented in the methods section. In addition to the research question, this thesis is guided by four objectives:

- collect multiple perspectives on the meaning and state of social inclusion related to the three mobility interventions
- analyze these perspectives through the three axes of the conceptual framework and elucidate the interdependence of the interventions and their networked effects on social inclusion
- describe and reflect upon the power dynamics which shape social inclusion outcomes
- describe the contours of 'dynamic social inclusion' through the analysis and discussion of the data with the aim of building an empirically grounded theoretical concept of inclusion suited to large scale social transformations towards decarbonization

Pursuing the research question and objectives required operationalizing the term social inclusion. I have done this in two ways. First, by theorizing 'dynamic social inclusion' rooted in scholarship on commoning and mobility justice to account for shifting norms, practices and provision towards low carbon societies. Second, by collecting data on multiple viewpoints, experiences and perspectives from actors. These included people involved in formal processes at

the municipal scale such as professional planners, policy makers, institutional partners such as the state House Bank, private developers and the chamber of commerce as well as residents of the city who have differential access to modes of transportation. The primary qualitative data is supplemented with secondary quantitative data.

1.3. Structure of thesis

The thesis proceeds as follows, first, I introduce the liberal concept of inclusion and theorize social inclusion through the lens of urban commoning in a theoretical section. Flowing from this overarching comparison, I discuss and unite three conceptual areas within a conceptual framework of inclusion as commoning: access, imaginaries of space and time and the politics of social inclusion. In section two, I then discuss the case study methodology and data collection. Next, sections three-five feature a presentation of the empirical analysis for the three respective interventions: light rail expansion, congestion tolls, and car free zones. This is followed by a discussion in section six, which is structured in terms of the three conceptual areas of my theoretical framework: access and exclusion, imaginaries of space, time and social change, and the politics of social inclusion. Finally, section seven concludes with some indications for future research.

2. Inclusion through commoning

It is widely recognized that sustainability transitions should be socially inclusive. Since the 1990s, interest in the relationship between social justice and transport has steadily grown (Lucas et al. 2016; Beyazit, 2010; Mullen and Marsden, 2016). The following section introduces the primary way social inclusion has been approached in transportation policy and literature, grounded in liberal theories of distributive justice. Thereafter, I engage critically with this approach, by introducing an alternative concept that I term 'dynamic social inclusion', which is grounded in scholarship on urban commoning and mobility justice. To explore the contours of dynamic social inclusion, I delve into three conceptual areas related to mobility transitions: access, imaginaries of space and time and the politics of social inclusion. I conclude this section with a synthesis of the literature and a condensed description of my analytical approach based scholarship at the intersection of urban commoning and dynamic social inclusion.

2.1 Liberal distributive justice

Theorizations of social inclusion in relation to transportation are grounded almost exclusively in liberal justice frameworks. Specifically, Rawls' *A Theory of Justice* (1971) has captured the attention of many social justice scholars with his assertion that societies should maximize benefits for those who have the least (Pereria et al, 2017; Martens 2012). Rawls' theory offered the first major challenge to utilitarian ethics in liberal political philosophy in almost a century, putting the fate of marginalized people in poverty back center-stage (Moehler, 2018). While acknowledging the progressive impact of Rawls' contribution to liberal justice theory in the 20th century, some critical scholars and activists have pointed out crucial blind spots that limit the capacity for transformative justice (Enright, 2019; Mullen and Marsden, 2016). The two blindspots I see as particularly important to highlight due to their relevance for my research questions are (i) the pervasive influence of neoliberal ideology on Rawl's conception of the nature and functions of government (Patton, 2013) and (ii) the underlying commitment to rational choice theory (Moehler, 2018). Neoliberalism is discussed in more detail in the next subsection.

Rational choice theory holds that discrete, atomized individuals act according to universal logics to maximize their own utility. The preferences of these individuals can be aggregated and provided for by expert planners and policy makers. Consequently, social inclusion is reduced to redistribution seeking to incorporate people who are presumed to be disadvantaged according to predefined indicators. This approach largely avoids participatory procedures and the recognition of difference (Fraser, 1995). The literature on mobility routinely frames inclusion in narrow terms of how the benefits and burdens of transportation infrastructures – understood as public goods – are distributed unevenly in space (Hertel et al., 2015; Litman, 2012; Mercier, 2009; Pereira et al., 2017; Wee and Geurs, 2011). Benefits and burdens related to mobility are confined to the discrete policy arena of transportation (see e.g. Litman 2002; Lucas and Jones 2012; Rock et al, 2014). Mobility justice scholars have pointed out there is "little conceptual clarity about what justice means in the transport context" (Periera et al, 2017: 170) and that there is no standard definition in practice or theory of a fair distribution of costs and burdens from transportation infrastructure investments. In practice, inclusion in the liberal framework refers to the diverse and fragmented attempts to incorporate marginalized people into existing social systems and expectations while leaving the systems themselves unchallenged.

I agree that existing theories of distributive justice may be useful for identifying some of the cracks people might fall through and designing mechanisms to prevent people from falling too deep. However, I argue that they are ultimately insufficient to account for inclusion within the complex, dynamic, and emergent processes of large-scale social transformation required for decarbonization. For successful achievement of socially inclusive, low carbon mobility systems, there is an urgent need for theories of inclusion beyond liberal policies of redress subsumed under neoliberalism.

The notion of social inclusion I engage with is time and space specific. I aim to move beyond transcendental first principles towards a comparative approach to make the processes of inclusion and exclusion more explicit and tangible rather than describing what would constitute an ideal, inclusive mobility system. This approach foregrounds participatory and disaggregate approaches that recognize the indivisibility of agency from relational, historical and geographical entanglements and the contested power relations that shape mobility options. For this, I turn to

the literature on urban commoning (Huron, 2017; Nikolaeva et al, 2019) and the new mobilities paradigm (Sheller and Urry, 2006; Cresswell, 2006).

2.2 Commoning

Broadly conceived, commoning refers to the conditions and forms of organization that support sharing resources (Singh, 2017). This includes processes of inclusion, exclusion and the exercise of power (Nightingale, 2019). Thus, commoning entails both distributive and procedural justice. Commoning is often defined dialectically against enclosure, where enclosure implies privatization and commodification. I take the notion of commoning in the context of low carbon transitions to mean countering regimes of scarcity (Hoeschelle, 2010) with the affirmation of abundance within planetary boundaries.

2.2.1 (De)Constructing Scarcity

> "One of the privileges of power, and an integral part of its rationality, is the freedom to define reality. The greater the power, the greater the freedom in this respect, and the less need for power to understand how reality is ``really'' constructed. The absence of rational arguments and factual documentation in support of certain actions may be more important indicators of power than arguments and documentation produced." (Flyvbjerg, 1998: 321)

As follows from the quote above, the power to define something as 'scarce', for example space, time or energy, establishes the terrain of appropriate responses. Scarcity is a ubiquitous rhetorical strategy used both to advocate for accelerated sustainability transitions as well as to resist change (Nikolaeva et al, 2019). Free market ideologues such as Diedre McCloskey (1990: 108) have praised economics as "the science of the post-magical age", which "came to tell that all good things must be scarce in equilibrium, all magical opportunities used up". Today, neoliberal logic based on the virtues of competition, efficiency and individualism dominate responses to scarcity (Nikolaeva et al, 2019). The sociologist Pierre Bourdieu (1998: 1) described Neoliberalism as a "programme for destroying collective structures which may impede pure market logic". Further,

neoliberalism as a theory has the means of "*making itself true* and empirically verifiable*"* (i bid). Bourdieu claims that,

> "In effect, neoliberal discourse is not just one discourse among many. Rather, it is a 'strong discourse' (…) It is so strong and so hard to combat only because it has on its side all of the forces of a world of relations of forces, a world that it contributes to making what it is" (ibid).

A key aspect of neoliberalism is the project to reorganize society and social relations through technocratic and privatized forms of decision making. Scholars have argued this results in a lack of transparency and democratic control (Harvey, 1989, 2008; Healey, 1996; Legacy, 2017). Neoliberal ideology asserts that markets are the best way to allocate resources. Fundamentally, scarcity is the premise for markets. Hence advocates of markets as the best way to allocate resources tend to naturalize and generalize scarcity, detaching it from historical and geopolitical entanglements. Neoliberal policies target defunding democratically controlled bureaucratic institutions that allocate resources and provide services (Jessop, 2002). Once these institutions are hobbled, market advocates can point out how inefficient they are and argue for further privatization (Viens, 2019).

It is an established truth that we live in a privatized and commodified world in which an increasing share of our lives are mediated through markets (see Patel 2009; Klein, 2010). In literature on the commons, processes of commodification and privatization are understood in terms of enclosure. This framing suggests that the conversion of things and services into commodities is not natural but a social process. Enclosure entails a redistribution of resources - dispossessing the many and allocating to the few. In the face of cascading economic and ecological crisis, interest is growing in alternative forms of organization grounded in the assertion that distribution does not have to be a zero-sum game based on individual property rights (Harvey, 2011; Helfrich and Bollier, 2015; Huron, 2017; Singh, 2017; Nightingale, 2019). Alternative forms of social organizing around shared resources counter scarcity producing regimes of enclosure with the notion of abundance (Hoeschele, 2010). In the following section, I discuss urban commoning and how this scholarship may contribute to thinking about social inclusion and low carbon mobility transitions.

2.2.2 Urban commoning

The notion of the commons has featured prominently in debates within human geography and sustainable development studies (Ostrom, 1990, 2008). One of the most widely cited publications of the past half century is 'The Tragedy of the Commons' (Hardin, 1968) which argues for privatization and enclosure in response to environmental degradation. The narrative in the article exemplifies the relationship between neoliberal economics, rational choice theory and white supremacy all tied together under the false premise of scarcity within a zero-sum game (Brinkley 2020, Harvey 2011, Hartmann, 2010, Ostrom 2008, see also Hardin, 1974). Ostrom (1990) refuted Hardin's claims convincingly enough to win the Nobel prize in economics in 2009. In the past decade, commons scholars have turned the noun 'commons' into the verb, 'commoning' to highlight the processes of (re)production that constitute a commons rather than the notion of a static pool of resources. The latter exposes the commons to the vagaries of commodification and privatization (Linebaugh, 2007; De Angelis and Harvie, 2013; Bresnihan, 2013). Conceptualizing commoning as a process of social organization brings to the fore strategies and practices that can foster more inclusive, just and sustainable spaces (Jeffrey et al., 2012) and as applied in this thesis, more inclusive and sustainable mobilities (Nikolaeva et al, 2019).

Recent scholarship on urban commoning has called into question both Hardin's (1968) and Ostrom's (1990) conception of the commons as a subtractable resource, subject to overuse (Huron, 2017; Borch and Kornberger, 2015). I observe that, within urban commons such as shared spaces and public transportation, the more people use these resources the more their value increases. When public transportation is treated as a public good and thus provisioned and subsidized by the state, the services only improve with more users and the income from their fare. The 'urban' thrives on connectivity and encounter (Merrifield, 2013; Huron 2015). Hence the important distinction is not between users and non-users or how much use is sustainable but rather the definition of appropriate use (Fournier, 2013). The goal is to stimulate the use of shared resources which in turn increases their use value while shielding the commons from the enclosures that translate them into exchange value (Harvey, 2008, 2011). Commoning scholars emphasize that access to resources and opportunities should not be restricted by socio-economic class or identity but by commonly agreed upon conditions of use. Thus, urban commoning

moves beyond property rights (Rawls, 1971) and the distribution of 'rights to access' (Ostrom, 1990, 2008) to make 'use' conditional on care and reciprocity (Huron, 2017).

A definition of access beyond the rights-based approach emphasized in Ostrom's (1990) work is provided in Ribot and Peluso's (2003: 153) *A Theory of Access* as, "the ability to benefit from things – including material objects, persons, institutions and symbols". While Ribot and Peluso focused on natural resources as the things in question, I focus on access to the city conceived as a commons. Shifting focus from the right to access the city towards the ability to access and benefit from the city provides a more realistic picture. The latter is an actual property, reflecting lived experiences while the former is a virtual property, reflecting potential but obscuring the barriers that are exposed through engaging with the messy, contingent situations people make decisions in.

Commoning scholars are particularly concerned with resisting elite capture of common resources. Better access should not be relegated to the sharing of resources among already advantaged urban dwellers or generate new forms of marginalized 'others' (Kurtz 2001). This pursuit is far from straightforward. As Ostrom's (1990) work demonstrated, the commons are constituted through collective management and as such are not the same as 'open access' or a 'free for all' as incorrectly described by Hardin (1968). This means that the commons are predicated on forms of exclusion which require the exercise of power (Nightingale, 2019).

The politics of social inclusion must contend with the consequences of the exclusions and inadvertent production of 'others' that even the most well-intentioned efforts to transform urban subjectivities and relations generates (Enright, 2019; Jensen, 2011). The instability implied by shifting patterns of inclusion and exclusion creates the possibility of rupture such that, "any moment of coming together can be succeeded by (...) relations that un-common" (Nightingale, 2019: 1). Signaling commoning as a process highlights ongoing negotiations around the conditions of use that define access to the city and the potential for rupture. These negotiations happen inside and outside of democratic institutions at multiple scales.

Many commoning scholars note the potential of the commons to provide spaces for constructing social relations in the context of 'increasingly failing markets and states' (Fournier, 2013; Linebaugh, 2007). Commoning literature often focuses on conflict and struggles as important for

creating new political communities (Singh, 2017; Helfrich and Bollier 2015, González-Hidalgo and Zografos, 2019). Notably, I did not find any commoning literature dealing with populist ruptures or middle class resistance to commoning projects. Those who study commoning as an anti-capitalist endeavor are interested in the collective political experience and subjectivities produced through (mostly small) commoning projects (e.g. Linebaugh, 2008; Banerjee, 2008; Federici, 2009). These approaches focus on the progressive potential of new political communities but even as they recognize the possibilities for 'un-commoning' they do not address the potential for new political communities pushing for regressive policies. I attribute this to the focus on resisting 'un-commoning' from capitalist accumulation and neoliberal governance models. The projects highlighted in the literature are generally initiated by communities *in* cities but don't constitute a commoning *of* the city more broadly (Huron, 2017). To common urban mobility systems, there must be shifts towards more collective and democratic forms of governance integrated into efforts to move beyond small, niche interventions and projects towards commoning urban mobility constellations (Nikolaeva et al, 2019; Sheller, 2018). However, large scale changes and the exercise of power can be expected to generate resistance from people who are happy with current arrangements.

The possibility of rupture and 'un-commoning' together with thinking about processes of political community formation is especially important for my thesis because finding ways to align interests between different groups in ways that support sharing resources, i.e. building solidarity, constitutes an essential element of social inclusion. In the following table I compare liberal and commoning approaches, highlighting the salient aspects of each, as a consolidated summary of the preceding discussion. In the following subsections, I build on this comparative approach to discuss three conceptual areas, (i) access and exclusion, (ii) imaginaries of space and time, and (iii) the politics of social inclusion. I identify these areas as likely to benefit from a commoning lens to ensure that transformations towards low carbon, urban mobility systems are socially inclusive.

Table 1. A conceptual comparison of liberal and commoning approaches and values

Liberal	**Commoning**
Rational choice	Context specific, bounded rationality
Fungible individuals	Relational, contingent subjectivities
Rights based / property	Conditions of use / ability to access benefits
Privatization/ enclosure	Shared resources/ commons
Instrumental rationality/ depoliticized	Communicative rationality/ political
Scarcity	Abundance
Reform	Transform

2.3 Access and exclusion

Access is a specific aspect of mobility which is linked with social exclusion. I engage with the dominant notion of inclusion within urban mobility policy and literature, 'transport related social exclusion' and expand it by considering the dynamic, relational nature of access and inclusion.

2.3.1 Transport related social exclusion

Social inclusion and mobility have primarily been approached in research and practice through the concept of 'transport related social exclusion' which seeks to improve access to mobility options for marginalized individuals and groups. This approach looks at the social and economic impacts that arise when people lack access to adequate mobility services. These impacts have been documented for diverse groups and communities (Button et al, 2000; Rudinger et al, 2004; Tillberg,2002; Uteng,2009; Lucas 2012, 2019). In the UK, transport related social exclusion has been formally investigated by the Social Exclusion Unit since 2001, demonstrating a growing

recognition of the issue in policy circles (Lucas, 2012). The literature emphasizes how lack of access to mobility options disproportionately affects people who are already vulnerable in other ways and how they might be better included into the existing system. Kenyon and co-authors (2003: 210) provided this widely cited definition of transport related social exclusion:

> "(It is) The process by which people are prevented from participating in the economic, political, and social life of the community because of reduced accessibility to opportunities, services and social networks, due in whole or part to insufficient mobility in a society and environment built around the expectation of high mobility."

This definition highlights that disadvantage is relational by comparing access levels to the rest of society but still sites the situation of disadvantaged people as the necessary location of change rather than the societal expectations themselves. Access and social exclusion are conceived of as problems of individual capacity to translate resources into mobility. Following from this discourse, mobility planners and policy makers frame access in terms of whether people with pre-defined indicators of vulnerability such as unemployment, single parent families, low-income areas or neighborhoods with a high concentration of immigrants have a basic minimum level of access to public transportation. Meanwhile, levels of mobility amongst the majority and the most advantaged groups are left unchallenged. In the context of rethinking cultures of mobility in order to achieve rapid decarbonization, a narrow focus on incorporating marginalized people into current systems of provision is insufficient.

2.3.2 Hypermobility

Drawing on mobility justice scholarship, the definition of transport related social exclusion provided by Kenyon and co-authors (2003) can be interpreted as a question about how different forms of movement shape social practices, expectations and cultures of mobility. This opens up the inquiry beyond focusing on the characteristics of poverty to consider how exclusion is produced through societal expectations and the strategies of the wealthy. To this end, Urry (2000) solicits attention towards "reducing the escalating dynamic of *hypermobility* and its effects across society as a whole" (Lucas, 2012: 9). Urry explicates the relationship between

hypermobility and social exclusion by foregrounding how focusing only on the aggregate increases in distances traveled, removed from the context of why the travel took place and by whom, obscures the uneven benefits and burdens of hypermobility (Cass et al, 2005). This framework also emphasizes how transport related social exclusion approaches, as they are practiced, make assumptions about who is vulnerable and what type of access is required to participate in society (i bid).

Lucas (2012) builds on the concept of hypermobility, and complicates the transport related social exclusion approach by reintroducing agency with the notion of 'self exclusion'. She draws on Barry (2002) and Currie and Delabosc (2010) to discuss exclusion as a result of people's own preferences and attitudes which determine both the mobility options available to them as well as their willingness to use public transportation when it is available. These authors suggest that addressing the dynamic relationship between social inclusion and mobility systems implies paying attention to self-enforced exclusion in addition to externally imposed barriers. For example, policy makers should consider limiting the ability of people in higher income brackets to 'opt-out' from using public transportation either by choosing to live in areas with no service or by driving even though good public transportation exists. The latter point highlights how focusing on access levels is insufficient to account for modal shifts and inclusion into the common mobility system.

This underexplored aspect of social inclusion linked with mobility is one of the key features of my study. The strategies of the poor are often circumscribed by the strategies of the wealthy, thus a narrow focus on including marginalized people misses the opportunity to understand and rectify the processes that produce exclusion and inequity. Further, it misses the potential for aligning interests and building solidarity among people at any point along the socio-economic spectrum, for example with regard to clean air or thriving urban spaces of encounter. Dynamic social inclusion then, interprets access as a relational and subjective concept dependent on cultural context and societal expectations. Furthermore, levels of access are entangled with the strategies of different socio-economic classes.

2.4 Imagining space, time and social change

This section addresses the way space, time and social change are imagined in traditional transport planning contrasted with the approaches found in mobilities scholarship. The purpose is to illustrate how these conceptions are linked with values. I contend that making these values explicit allows for a more democratic discussion of the trade-offs entailed in different approaches to mobility and social inclusion.

2.4.1 Traditional transportation planning

Transportation infrastructure is a dimension of mobility that has traditionally been treated as an isolated policy arena dominated by economists and engineers. The primary method underpinning transport investment decisions is 'predict and provide'. This entails forecasting future demand from models of current demand based on the aggregate of observed preferences. These preferences are assumed to be fixed and supply side limitations are viewed as deficiencies to be overcome rather than policy tools to shape the trajectory of mobility systems (Beyzit, 2010; Levinson, 2019). Supply side policies to reduce travel volume are thus taboo, meaning reductions are left to the demand side (Holden, 2007). This translates into emphasizing individual responses to a large-scale societal crisis.

Following 'predict and provide' models, the next step is to apply cost -benefit analysis making extensive use of financial costs and projected benefits of investments with scant consideration of environmental impacts or consideration of social impacts at a disaggregate level (Beyazit, 2010; Levinson, 2019). Social impacts are translated into economic terms where travel time (both actual and projected) equates to a monetary amount. Travel time 'saved' is counted as economic gain for individuals and economic growth for regions and nations. The dominant perspective in the transportation sector is that knowledge is of little value unless it can be quantified (Rodrigue, 2020). Mobilities scholars argue that the disregard for relational subjectivities (Manderscheid, 2014), differential experiences of gendered and racialized bodies (Uteng, 2009), and uneven distributional effects (Beyazit, 2010) tends to support policies that favor people who are already highly mobile and privileged in other ways (Urry, 2000; Cresswell, 2010; Sheller, 2018).

The lack of accounting for uneven social impacts is exacerbated through the lack of post-ante evaluations. Practices of post-ante evaluation are rarely institutionalized in the transport sector. This provides the conditions for overly optimistic appraisals of the potential for large road projects to produce widespread societal benefits while simultaneously obscuring the negative impacts (Langmyhr, 2001). Transport policy documents are routinely designed to read like non-normative academic texts, reflecting,

> "the pursuit of an 'apolitical' economic equilibrium, turning politics into something that we should all agree on—if we are rational. It is but a short next step to dismiss opposition as irrational and hence close the discussion before all points of view have been elaborated and appropriately presented." (Sager, 1999: 517).

Neoliberal rationality is concerned with the 'efficient' allocation of resources rather than equitable distribution or social inclusion. Societal benefit is presumed to flow naturally from economic growth. Sager (1999) claims that, "The purpose is often to make conflicts go away. (…) bounded rationality is banished from the transport policy documents. Best-solutions are in line with the optimality-thinking of the transport plans, while satisficing is not, as it does not guarantee consistent decisions" (Sager 1999: 518).

In this section I have described the way space, time and social change are imagined in traditional transport planning. Key concepts include predict and provide which relies on demand side signals for large scale changes and prioritizing reduced travel times translated into economic benefits and growth. Traditional transport planning leaves little room for participation, preferring to rely on technocratic modes of governance. In the next section I describe an alternative approach to conceptualizing and governing mobility developed by mobilities scholars.

2.4.2 The mobilities turn

The mobilities turn refers to a contemporary paradigm in the social sciences founded by John Urry and Mimi Sheller at the turn of the century (2000). Mobility scholars argue that by making assertions about what is valuable and what creates value, transport policy documents embody normative ideas linked with their assumptions about how mobility systems do or could work. For

example the assumption that reduced travel times are inherently valuable and that they create value through economic growth. While the purpose of traditional transport planning is to *overcome* space (Rodrigue, 2020), mobilities scholars argue transportation infrastructures *produce* space which entails trade-offs and is therefore inherently political (Rutherford, 2020; Enright, 2019).

The theorization of a "politics of mobility" (Cresswell, 2010, 2006) interrogates the forces that shape and reinforce high‐carbon mobility and corresponding lifestyles. Mobilities scholarship rejects the view that transportation is a discrete policy arena and instead looks for networked relations between different sectors and scales. Analytical approaches within the mobilities turn put political economics, with it's attention to power dynamics and underlying socio-cultural, political and economic structures (Keblowski and Bassens, 2018) into conversation with studies of everyday practices, embodied knowledge and affect (Doughty and Murray 2015; Jensen, 2011; Waitt and Harada, 2012). Thus, mobilities scholarship focuses not only on the movement of bodies in space but also the power of discourses, social practices and technologies in reinforcing and challenging cultures of mobility (Sheller, 2018).

Scholars working from this framework recognize three dimensions of mobility; movement, meaning and practice (Cresswell, 2010). Movement is the central focus of transportation geography, the actual kinetics of bodies in motion which can be modelled and analyzed quantitatively through for example travel time, trip patterns and modal choices. Meaning refers to the representations and discourses that give movement shared meanings for example links between what type of car one drives and the identity they wish to project to the world which is facilitated by advertisement campaigns. Practice incorporates insights from social practice theory to include "the internal world of will and habit and the external world of expectation and compulsion" (i bid: 20).

The relationship between automobility, social relations and the production of space has been a central focus within mobilities scholarship (Sheller and Urry, 2006; Mattoili et al, 2020). Illich (1974: 42) summarized one of the central concepts neatly by saying, "Motorized vehicles create remoteness which they alone can shrink. They create distances for all and shrink them for only a few". Critical mobility scholars have built on this thought, describing how,

> "Effectively, the twin processes of social and physical reconstruction transform roads from a commons, accessible to everyone, to a space reserved to car users, making a car a critically important needs satisfier while also limiting the ability of other transport modes to satisfy people's needs." (Mattoili et al, 2020: 6)

In *The city and the car,* Sheller and Urry (2000), "examined how the automobile was not simply a technology of transport, but had transformed public space, public life, and democratic participation" (Sheller 2018: 21). These approaches pay close attention to interactions between modes of mobility, social relations and 'the production of space' (Lefebvre, 1991; Harvey, 2008). The relationship between structure and agency is central to the emancipatory potential of concepts like 'the production of space' . Stated very simply, we make spaces and spaces make us. This leads to the notion of the right to the city (i bid) which can be summarized as the right to change ourselves through changing the city. These ideas inform transition scholars such as Burch and co-authors (2014) who argue that community level interventions and experiments can make space for low carbon logics, thereby planting the seeds of transformation.

In conclusion, mobility justice scholarship aims for more than to describe, explain and make current arrangements more socially inclusive (Sheller, 2018)**.** They seek to materialize transitions which contribute to more socially just *cultures* of mobility. Conceiving of culture as a dynamic phenomenon subject to change reveals possible levers for transformation towards low carbon futures. Denaturalizing culture also exposes the discursive strategies and relations of power that underpin it's reproduction. This is important for discussions of social inclusion where efforts to reduce private vehicle use clash with the culture of automobility. Treating systems of urban mobility in terms of social production and the production of space, rather than the effort to overcome space, opens up the possibility for intentionally re-configuring spatial arrangements to support social transformation consonant with decarbonization (Bulkeley et al, 2013). Transformations are expected to surface tensions and contestations. In the next section I delve into the processes of legitimation and politics of social inclusion related to commoning urban mobility.

2.5 The politics of social inclusion

A very broad definition of politics can be summarized as, "all of the activities of cooperation and conflict that emerge as humans make decisions about the creation and distribution of resources" (Leftwich 1983: 11, as cited by Avelino et al. 2016: 557). I adopt an elaborated notion where politics involves the formation of identity through relationships, processes of legitimation and the negotiation of values (e.g. Bulkeley et al, 2015; Nightingale, 2019). In the following section I discuss (i) approaches to legitimacy in planning theory and (ii) how efforts to create a common mobility system are linked with identity creation and group belonging for populists and commoners.

2.5.1 Legitimacy in planning theory

Discussions about legitimacy in planning theory are replete with comparisons of instrumental and communicative planning (Sager, 2009; Langmrhy, 2001; Aarsæther, 2018; Flyvbjerg, 1998). Tensions between these approaches represent one of the biggest trade offs in contemporary mobility planning. The former focuses on efficient goal achievement, wherein the planner's legitimacy depends upon their ability to act as 'visible hands', correcting for externalities and market distortions to secure the provision of public goods and services (Langmyhr, 2001). This approach supports the role of the planner as an expert on how to achieve goals in the most efficient manner (I bid). Instrumental rationality has played a dominant role in transport planning (Langmyhr, 2001; Aarsæther, 2018; Sager, 1999)

Frustrated with depoliticization, activists and scholars from the 1990's onward devised new roles for planners. The most prominent form of non-instrumental rationality is the communicative planning paradigm (Healey, 1996). In this framework, the planners' legitimacy rests upon the ability to facilitate communication and subvert asymmetrical power dynamics which may produce inequitable outcomes. Communicative planning expands the notion of procedural justice beyond the formal rules of representative democracy to include more direct procedures of participation for people impacted by specific interventions and policies. This approach holds that citizen participation, ongoing dialogue, time consuming persuasion and even conflict are

valuable elements of planning which lead to better results. This contrasts with instrumental rationality where participatory processes are often seen as obstacles to efficient processes (i bid).

Mobility justice scholars argue that for transformations to be progressive, inclusion needs to happen from the earliest stages of planning processes and forward (Sheller, 2018). However, the challenges and limitations faced by participatory approaches should not be understated. To be meaningful, participatory processes require the delegation of power to residents to make decisions about the trade-offs that shape their built environments (Legacy, 2017). An example of a value laden trade-off is 'should the ability of children to play and travel outside safely take priority over convenience for drivers?' The practical limits to participation have been well documented which has implications for the epistemic claims which can be made for it, including issues around the numbers of people who can engage in a public debate and how long public engagement can be sustained for longer projects (Mullen et al, 2011; Dryzek, 2001; Legacy, 2017).

Participatory processes also risk becoming oriented towards enrollment as a tool for legitimation rather than a co-production endeavor in which power is delegated to public actors (Legacy, 2017). One way this can play out is that by the time the public is invited to participate, projects have often already been formulated. The lack of deep participation is linked with feeling like an object in planning processes rather than feeling like a subject who has any power to impact the direction of a plan. Scholars have argued that when people do not feel heard, their confidence in planners and elected representatives is reduced (Hanssen et al, 2015; Healey, 1996; Mouffe, 2005). This view resonates with wider discussions of popular legitimacy in planning theory and democratic governance.

2.5.2 Populists and Commoners

In this thesis, I seek to understand how contested efforts to materialize a common urban mobility system impact social inclusion, thereby reshaping local politics and revealing new questions about governance and legitimacy. Very recently, some attention has turned toward emergent populist ruptures and what they mean for planning rationalities. Some scholars have suggested

that lack of participation and consensus building around low carbon mobility transition policies, i.e. instrumental rationality, has galvanized populist movements. For example the yellow vest protests in France and anti-toll protests in Norway (Haarstad and Wanvik, 2021; Tønnesen et al., 2020). Others note the challenges that populist political ideology poses to communicative planning and ethics (Sager, 2020). Populism is predicated on a distinction between 'real' or 'regular' people and 'elites' (I bid). There is also an implicit third category of people who don't fit the construction of 'elites' but also don't align with the 'real people', for example immigrant communities, LGBTQ communities or alternative social movements. The problem with having "real people" is that there must then be unreal people (Temelkuran, 2019). "Unreal people" are excluded from populist claims for social justice and inclusion. A framework or worldview in which only a portion of the population constitutes authentic people is inherently anti-pluralist and socially exclusive. Sager (2020) points out that the authoritarian brand of populism is incommensurable with the ideals of Habermasian conflict resolution, i.e. mutually respectful and rational discourse, upon which communicative planning is predicated. However, not all populism is authoritarian and scholars disagree on the relationship between populism and democracy (I bid). For Mouffe (2013: 236) and Tormey (2018) populism is a symptom of crisis and can have both positive and negative effects while for Muller (2016) populism is inherently damaging to liberal democracy.

Group identity is also important to commoning projects. According to commoning scholars, processes of normalization create 'common' social worlds with "often tacit but recognizable boundaries, within which people share identities, habits and values" (Stravrides 2016: 31). These "worlds of commoning" (i bid) are built on a sense of group belonging just as the populist movements discussed in the previous section are. In the commoning literature, commoners are actors who actively participate in the shaping of rules and boundaries that define the commons in question, meaning that populist political resistance is also part of commoning processes. However, the sense of group belonging emphasized in commoning literature is not predicated on insider/outsider distinctions but rather as a pluralist, open system constituted by partial connections, alignments of interest and reciprocity. Commoners perform a good life based on social coordination and shared resources (Singh, 2017).

2.6 Synthesis and analytical approach

Synthesizing the literature discussed so far to frame my research design, I condense the different approaches to mobility concepts into the following table.

Table 2: Synthesis of literature review and comparative approach

Key concept	**Liberal**	**Commoning**
Access and exclusion	The problem is individual capacity to access mobility options Ensure basic min. level of access for marginalized people Inclusion focuses on predefined categories of disadvantage Access mapped by geographic proximity	The problem is an escalating dynamic of hypermobility and the expectation of automobility Rationality is context dependent, inclusion focuses on dynamic structures facilitating inclusion Access includes accessing indirect benefits and shifting norms and practices for social participation
Imaginaries of space, time and social change	Transportation infrastructure seeks to overcome space Reduced travel times = economic gains for individuals *and* economic growth Social change is the result of innovations, technocratic governance & economic growth Prioritizes the value of individual freedom and rational choice	Recognizes the production of space, transportation infrastructure is seen as urban development Seeks to reduce travel volumes including leisure travel by car and plane Performances of the good life without reliance on technological innovation Values social coordination and local accessibility
The politics of social inclusion	Legitimacy is based on instrumental rationality: solutions designed and implemented by experts Inclusion seeks to fold in marginalized people into the existing system Populist ruptures are barriers to transitions	Legitimacy is based on reducing power asymmetries to allow for a fair negotiation of different values Inclusion may require restricting the those with the most resources to support sharing in the urban commons Populist ruptures are a crisis of legitimacy

2.6.1 Dynamic social inclusion

To theorize social inclusion in the context of commoning mobility and sustainability transformations more broadly, I propose the term 'dynamic social inclusion' to account for shifting norms, practices and provision. Dynamic social inclusion seeks to move beyond safety net solutions that target disadvantaged individuals and neighborhoods toward structural changes that affect overall policies and planning activities. This approach to inclusion is still concerned with improving conditions for the least well off but it is also about changing cultures of mobility to support collective resource use. It expands from a narrow view of redistribution within the current system and treats urban mobility systems in terms of social production, necessitating demanding greater inclusion in planning processes. The figure below represents my analytical approach for discussing the findings in relation to three conceptual areas integral to mobility and dynamic social inclusion. Each intervention intersects two of the conceptual areas, guiding the structure of the discussion in section 6.

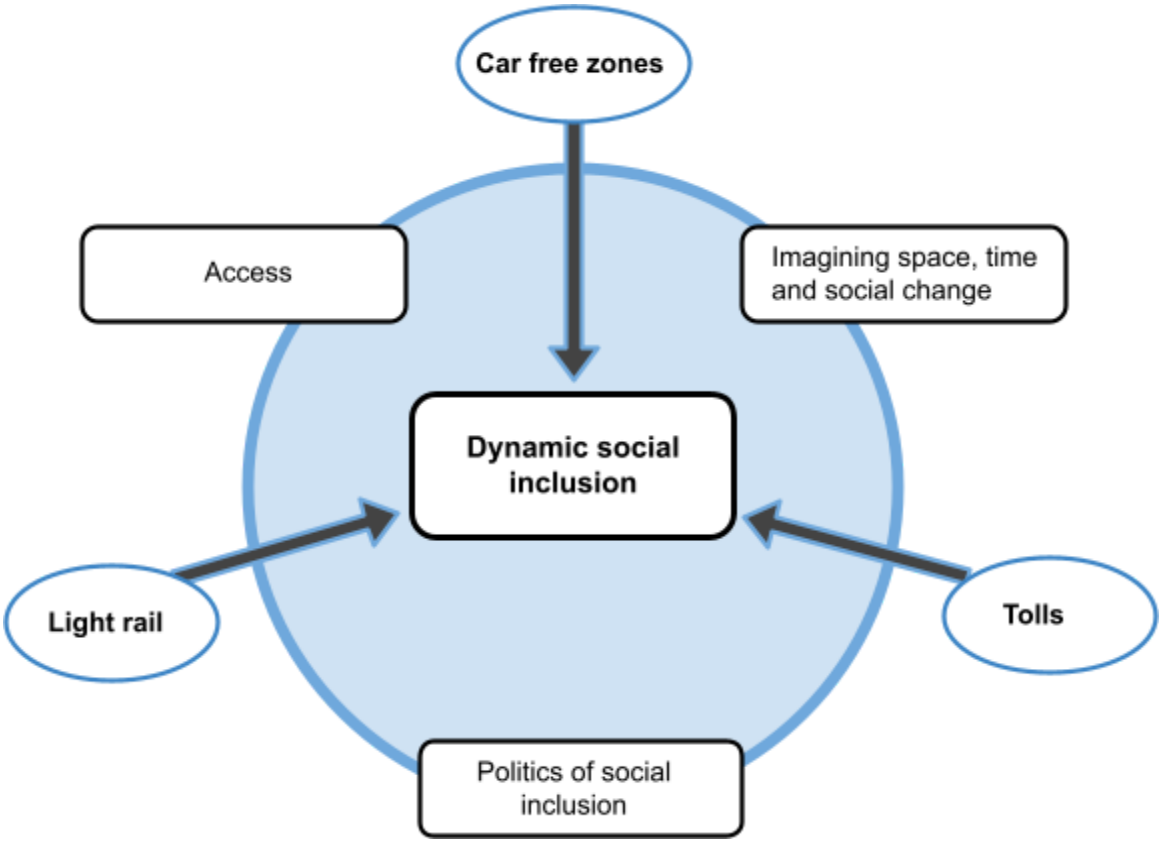

Figure 1: Illustration of the analytical approach for dynamic social inclusion. Source: Devyn Remme

3. Methods

I am driven by questions that require a kind of composing and decomposing of the skills and concepts for investigating them. Thus, I think together with many others in this thesis and tying everything together into a coherent presentation has been a demanding task. In the previous section I described many theories which I use to interpret the data from my findings. The diversity and breadth of ideas I have woven together into the analytical approach is inspired by methodological insights from STS scholar Donna Harway who said, "Stories reach into and change each other in their telling. Telling more than one at a time with and through each other is a way of becoming attuned to stories no one yet knows how to tell, as well as attuned to remembering stories that have been suppressed or forgotten" (Haraway, 2016: 39). In the following section I discuss in detail the research design and empirical methods that add primary data to the ongoing weaving of stories about living and dying together in the anthropocene.

3.1. Case study methodology

Flyvbjerg (2001, 2010) has become a prominent advocate of case study research in the social sciences and developed a methodology he calls 'phronetic value research'. The word phronetic refers to the field of knowledge concerned with values. Phronetic value research is a praxis oriented methodology which aims to understand the relationship between power and rationality in concrete decision making processes and "increase the capacity of a variety of human actors to think and act in value-rational terms" (Flyvberg, 2001: 35). Flyvbjerg argues there is an over emphasis on scientific knowledge (episteme) and technical know-how (techne) to the point that those two root words are common tongue while phronesis has fallen out of use. According to Flyvbjerg (2010), questions germaine to social science such as, 'how can societies achieve socially inclusive, sustainable mobility?' or 'how can we evaluate judgements and trade-offs?' belong to the realm of phronesis and cannot be adequately answered through the other forms of knowledge production.

By focusing on rationality, power and values through praxis oriented methodology I aim to move past some of the limitations of existing theories and of social inclusion discussed in the previous section. The approach in this thesis emerges from post-structuralist thought. Post-structuralists reject the view that there are objective, a priori values that can be rationally and universally 'discovered' and applied. However if we accept that values are socially constructed, we run the risk of relativism - the view that one set of values is as good as any other. I take the position that ethics are situational and relational. If it is not possible to derive praxis from first principles, then praxis is always contingent on context-dependent judgement. The context includes but is not limited to discourses and formal power structures, temporal, material and financial constraints, everyday practices and the circumstances in which decisions are taken. Case studies provide the best method for describing and explaining the contexts which shape the practical rationalities from which actors judge situations because judgement itself is cultivated through exposure to 'cases' and experiences in real life (Flyvbjerg, 2010).

Because social systems are emergent, complex and dynamic, I understand social inclusion as a contingent quality produced through relations and not by discrete events or decisions. Accordingly, I analyze the networked relations between interventions to reveal inclusion impacts that may be obscured by a narrower focus. This approach helps prevent inadvertently creating or entrenching injustices in one area through addressing an issue in another area. This approach is further supported by the praxis of strategic urban planning. The relationships between what currently exists (infrastructure, mobility patterns, socioeconomic differences, etc) and visions of the city's future constitute the space in which everyday lives unfold. One of the strengths of case studies is that they can offer 'thick descriptions' focused on context (Flyvbjerg, 2010). A 'thick description' involves using qualitative methods to describe not only observable human actions but the contexts in which those actions were taken as interpreted by different actors (Geertz, 1973). A case study is thus appropriate to investigating my research aims regarding social inclusion within mobility system transformations.

3.2. Research design

I conducted the fieldwork between August 2020 and March 2021. During 2020 this research overlapped with a research project called Just Mobility Transitions (JUST MOB) where I worked as a research assistant, and during early 2021 with a research project called Responsive Organising for Low Emission Societies (ROLES) where I was employed in a similar capacity with a conceptual and empirical focus on just mobility transitions in Bergen. The initial stage of the research involved collecting and analyzing policy and planning documents as well as local news media to identify relevant issues and actors. The local media outlets I drew from were primarily Bergens Tidende and Bergens Avisen. I searched for articles related to the mobility transition going back three years and closely monitored related stories during the research period Aug 2020 - March 2021.From this initial mapping I identified key areas to investigate further through focus groups with residents. I also mapped the responsibilities for different elements of the mobility system using government websites and requested interviews with relevant planners, policy makers and advisors.

Departing from the broad aim to investigate social justice issues related to the mobility transition in Bergen, I narrowed down the focus over time to social inclusion and three interventions aimed at reducing private vehicles. The research question is derived from the current city government's political platform which states social inclusion as a goal together with reducing private vehicles (Bergen Municipality, 2019). In addition, social exclusion related to the interventions is one of the primary reasons for contesting them as stated in the anti-toll political platform and in the party's engagement with local media. Finally, my literature review identified social inclusion as a primary goal within sustainable mobility transitions but the literature also identifies a need for deeper theorization of this dimension (Beyazit, 2017; Lucas, 2012; Verlinghieri and Schwanen, 2020; Enright, 2019; Levinson 2010, 2019).

The research question cannot be answered definitively, but I strive to clarify and deliberate the issues at stake and develop partial answers which contribute to the dialogue about problems, risks, goals and what might be possible in urban transition planning. I accomplish this through providing concrete examples and a detailed narrative of the ways in which power and values work in the formal future making processes at the urban scale, and with what consequences. The

goal is to provide input to ongoing processes and deliberations rather than generate ultimate, universally verifiable knowledge about the nature of social organizations.

The research process was iterative and abductive. Inductive approaches to research begin from empirical observations of the world and then move towards hypotheses and theory building (Douven, 2017). In deductive methods, the researcher departs from a theoretical framework, develops hypotheses and then produces empirics. I did not depart from one specific theory or define hypotheses I wished to falsify but aimed instead to develop a deeper understanding of how social inclusion goals are operationalized in mobility transitions literature and practices, and of how the large-scale transformations of sociospatial dynamics change the meaning of social inclusion. I used existing theories of social inclusion and mobility systems to guide my investigation and then used the findings to revisit and nuance theories of social inclusion and mobility transitions. Cycling between inductive and deductive methods is the abductive method (Douven, 2017), which represents the approach I employed.

3.2.1 The case

To gain a better understanding of the possible social implications of policies for de-centering automobility, I investigate the mobility transition Bergen, Norway. The case is bounded by concern for social inclusion impacts on residents of the functional urban area of Bergen, Norway. A functional urban area includes the dense center of a city together with its 'commuting zone' which encompasses the daily movements of people (Dijkstra et al, 2019). Bergen has several characteristics that make it a generative case for my inquiry. First, thanks to plentiful hydroelectric power the energy grid is already low carbon which was a selling point for advocates of electric vehicles. Due to generous state subsidies, Bergen became the first city in the world to pass 20% of the car fleet being electric in 2020 (Urbanet, 2020b). The current city government is also pursuing an aggressive agenda to reduce private vehicle traffic. While the state sponsored target for Norwegian cities is zero growth in private vehicles, the 2019 political platform for Bergen's city council set an ambitious agenda to reduce car traffic by 30 percent of the 2019 levels by 2023 (Bergen Municipality, 2019). The vision articulated in the platform is to create a socially inclusive, low carbon mobility system by prioritizing walking, cycling and

public transportation. The policies designed to achieve this vision are hotly contested in the public discourse and recently through the ballot box in the last city council elections.

The overall case studied in this thesis is Bergen's mobility transition. This is a case of a low carbon, urban mobility transition in which cars are deprioritized. I reviewed policy documents and news media to identify three interlinked interventions that are salient focal points in the changing constellation of mobility politics in Bergen: light rail expansion, road tolls and car free zones. These represent the embedded subunits of analysis. Thus, the research design is an *embedded, single case study.*

3.2.2 The subunits of analysis

The three interventions were chosen for several reasons. First, the choice to study three interventions rather than one or five for example. Including no more than three was both a practical and a strategic choice because the chosen three are the most polarizing elements of the mobility transition and the most directly targeted at restricting car use, not just offering an alternative. If I had studied only one intervention it would have been car free zones. However, the car free zone in the city center has already been studied and does not provide an opportunity to discuss wider dynamics of inclusion and urban/suburban conflict. The suburban car free zones do not exist yet so while I was able to collect data on the policy design and planning process, I would not have been able to say anything about actual social inclusion impacts.

The light rail and the road tolls are too entangled for it to make any sense in studying the social inclusion impacts of only one with my analytical approach of dynamic social inclusion. Furthermore, a comprehensive mixed methods study of social exclusion impacts from the tolls was already published by Norconsult in 2020 and it thus made sense to build on these findings rather than attempt to confirm or challenge them at this time, especially since I have considerably less resources than the team that completed that study.If I had studied only the light rail, the study would have turned into a study of mobility *and* land use or housing justice which was not the goal of the research project.

Ultimately, I was looking for systems perspective on urban mobility transitions and how interventions and social inclusion impacts are interlinked. I could have included more than three interventions, such as cycling infrastructure or bus provision. While there are some conflict over particular projects, the principle of cycling infrastructure is not particularly contested in the public discourse and it doesn't directly restrict car drivers or change the character of neighborhoods like the light rail. Bus provision did not fit the design of investigating interventions governed by municipal policy makers and planners. The busses are the purview of regional authorities. Bus routes and their administrative control comes up in the findings as an explanation for why the municipal spatial plan for densification is so tightly linked with the light rail, but the data is from the municipal actors perspective. I could have presented findings from an interview with a representative of the regional bus provider, Skyss or conversations with the bus drivers during a strike they held in September, 2020 but I chose to maintain focus on the urban scale and how the light rail impacts social inclusion. Park and rides are another element that I considered including in the study but they, too, are barely ever brought up in the public discourse or challenged on principle compared to the three interventions I chose. Furthermore, almost all of them are administered by regional authorities and the regional bus provider.

I made a similar choice to use observations from the National mobility conference but not direct interviews with actors on the national scale. I became interested in the formal discourse around transport planning at the national scale because municipal planners expressed frustration with the Public Roads Administration and in particular plans to build mega road projects into the city. The Public Roads Administration is an actor at the municipal scale in the sense that they are responsible for some roads in and around the city and in that they sign the Urban Growth Agreement together with municipal actors. However, the 'thick description' I develop in this thesis is primarily about the subjective contexts that urban actors of all kinds take action in. Part of that context is the material consequences of the mega road projects and the discourses that support building them. The mobility conference provided me with an excellent opportunity to observe the discourse at the national scale that partially shapes the context of urban actors and the mobility transition in Bergen.

Finally, I decided to include the car free zones instead of focusing solely on the tolls and the light rail for two reasons. The first is the contrast between the discourse at the national level and the

discourse around car free zones with regard to social change. The former seeks to instigate social change through massive infrastructures that reduce travel times between cities through technological innovations such as building the longest and deepest undersea tunnel in the world (Davik, 2020). The promised economic growth and widespread societal benefits are refuted by researchers but the story lives. Car free zones, especially the plan to distribute them throughout the suburbs offers a deep contrast. Here, the hope is to plant the seeds of social transformation through making space for low carbon logics. No technological innovation or massive financial investment required. The second reason was a novel opportunity to study the planning process in the early stages. The planners were positive towards working with researchers and I was able to organize a co-production workshop with them in a relatively short amount of time.

In conclusion, the choice of the case and the three interventions were a combination of feasibility (in the midst of a global pandemic) and strategy. All three interventions directly challenge the historically prioritized, collective provision of infrastructure for automobility and therefore may provide insights for the many other cities considering pursuing a car free or car lite future. Also for this reason, they have been hotly contested in the public discourse which is another important justification for studying them. In the last municipal elections, a new, populist political party called ‘the people’s action against tolls’ won third place (Wanvik and Haarstad, 2021). The party claims that the policies aimed at restricting private vehicle use, especially the three interventions studied in this thesis, are unjust and socially exclusive towards those who are already the most disadvantaged. Accounting for and addressing this resistance is a crucially important element in the politics of urban sustainability transitions.

3.3 Methods and data sources

I employed multiple qualitative methods to triangulate and complement the strengths and weaknesses of each.

Table 3: Overview of methods

Method / data source	Why
Official documents - planning and policy (Secondary)	Identify formal statements of intention, understand the overall vision for the city and the underlying value and assumptions that are communicated
Local media & consultant reports (Secondary)	Identify mobility justice issues and perceptions in the public debate, make use of secondary data from consultant reports commissioned by the city using mixed methods to establish facts about mobility justice claims in the public debate
Focus groups	Elucidate lived experiences and perceptions of social inclusion and mobility issues from city residents
Semi-structured interviews	To access subjective experiences and perspectives from actors engaged in the formal processes related to the mobility transition
Observation (mobility conference)	To observe the primary forum for the future of mobility leading up to the new national transport plan with top government officials (elected and appointed) giving presentations and responding to researchers challenging their claims
Participant observation (CFZ workshop)	To work together with municipal planners to brainstorm ideas for public participation in the new suburban car free zones and understand the limitations and challenges they face in the process

3.3.1 Interviews

The interviews reveal everyday practices and bounded rationalities that shape the way projects actually unfold. Interviews were necessary to understand how actors involved in planning and policy formulation operationalize social inclusion and what elements come into and shape trade-offs in decision making and planning processes. I conducted 20 semi-structured interviews with a total 25 informants between August 2020 and March 2021 (see appendix A). The majority were conducted online due to pandemic restrictions. I designed interview guides based on background research into informants roles and previously published statements when relevant but remained flexible to follow up on topics interviewees brought up.

The interviews focused on issues related to the zero growth target and specifically the three key interventions designed to achieve it: light rail expansion, tolls and car free zones. I particularly focused the informant's attention on issues related to social inclusion and change over time in the practices and rationalities governing Bergen's mobility system. I aimed to surface the details of specific experiences, perceptions of fairness and conflict, and relationships between sectors and system components.Nearly all the interviews included times when the interviewee would clarify whether they were sharing a personal opinion or the stance of the organization they represented. I noted these clarifications and presented the findings accordingly.

I employed purposive or strategic sampling to identify informants. I identified prospects from organizational charts, government websites, planning and policy documents, newspaper articles, and social media. The interviewees were primarily selected on the basis of their specific first-hand knowledge of the mobility policies and planning practices in Bergen. The 20 interviewees included local and county government politicians and officials from Bergen municipality, as well as a few municipal officials from neighbouring municipalities, policy advisors, mobility and spatial planners, a representative of the Norwegian social housing bank, private sector property developers and architects, the chamber of commerce, community representatives and other interest groups. At the end of every interview I asked if they knew of anyone else I should talk to, adding snowballing to the initial strategic sampling.

3.3.2 Focus Groups

I held three focus groups with residents of Bergen. Participants were recruited through social media, print announcements distributed on the university campus and key mobility hubs in the city and a snowballing approach using multiple existing local networks. I offered two tickets to the local cinema for participation. In total there were 17 participants. Females were disproportionately represented with only two male participants.

Each focus group lasted one hour. I guided discussions with prepared, open ended questions on different mobility topics designed to start conversations. I also included activities such as a word association where I introduced a controversial topic and encouraged participants to call out words that came to mind while I wrote them on a white board. We then discussed the constellation of words. For the second activity I passed out maps of Bergen with yellow and red markers and asked participants to color areas they feel are easily accessible in yellow and areas that they avoid traveling in red.

3.3.3 Participant observation: Car free zone workshop with planners

Following a conversation with two municipal planners responsible for selecting locations and initiating participatory processes for designing the CFZs in the suburbs, we decided to hold a workshop with their team and other planners working on related projects. In total there were ten participants from municipal planning offices including some who have expertise in the 'Plan and Building' law (a keystone legal framework for Norwegian development) and worked with the spatial plan (Bergen municipality, 2019b) and some who have been working with car free zones in Bergen center. All ten were female. I invited two researchers with expertise in car free zones to give short presentations, one from the University of Bergen's climate and energy transformations center and one from the transport economic institute based in Oslo. In addition, three colleagues who research urban transportation were in attendance, one moderated the workshop and the other two were participant observers like myself.

3.3.4 Observation: Mobility conference

Multiple municipal planners indicated in interviews that planned mega road projects in the national transport plan designed by the Public Roads Administration were expected to have negative impacts on social inclusion and the city's target to reduce the number of private vehicles. I therefore looked up the national transport plan and learned there was a national conference organized by the government leading up to it's release during my field work period. All the major actors in national transport planning, including the minister of transport, the director of the transport economics institute, the director of the public roads administration and the director of 'New Roads' would be giving statements or presentations. New Roads is the private company dependent on state tenders created to stimulate competition with the Public Roads Administration consonant with neoliberal logics. Of particular interest was that two researchers in transport economics would be presenting data challenging the claims used to justify the mega road projects my interviewees identified as a major goal conflict. The final comments from the director of the Public Roads Administration, in response to the researchers, directly referred to social inclusion as the primary justification for the road projects.

3.4 Strengths and weaknesses of the data

3.4.1. Validity

"Social science doesn't prove things but it can learn things" (Flyvbjerg 2010: 223).

The broad range of informants I spoke with improves the reliability of the responses and my interpretation of them. Several of the interviews are not used directly in the thesis but the insights I gained helped shape my overall impression of the complexities involved. Also, there were 'boundary' informants in the sense that I wanted to keep expanding the sphere of inquiry until I reached relatively irrelevant informants (with regards to social inclusion and the three

interventions I focus on) in order to ensure that my net was wide enough to capture the intricacies of my case study.

I made some attempts to interview single moms who do not own cars, reaching five through my own personal network as a mother without a car. Ultimately, I decided that sampling through my personal network, the low number of informants, and most importantly the fact that the informants were already aware of my own opinions on the matter and could be reasonably expected to say what I wanted to hear, all amounted to a biased account. Therefore, I have not presented any findings from these interviews.

The focus group data has three primary weaknesses. First, there were only two males out of 17 participants. Second there were only 17 participants and recruiting more people was a challenge due to shifting restrictions due to the Covid pandemic. Third, no participants supported the anti-toll party. This may have been due to the method of recruitment which may not have reached that demographic. Another possible reason is a potential inverse relationship between willingness to participate in academic focus groups conducted at the center for climate and energy transformations and willingness to support a populist movement defending 'the right to drive' in the city. I would have liked to collect more data on perspectives and experiences from people who voted for the anti-toll party but the pandemic limited the opportunities. For example, I had planned to attend the party's annual meeting but it was cancelled.

3.4.2. Generalizability and transferability

In the essay, *5 Misunderstandings about Case Studies,* the first misunderstanding is that generalizable, context independent knowledge is more valuable than concrete, practical, context dependent knowledge (Flyvbjerg 2010: 224). This misunderstanding is based on the prestige given to predictive theories and universals but I depart from the position that these cannot be found in the study of human social affairs. On generalizing from case studies, Flyvbjerg (2010: 226) emphasized,

> "Finally, it should be mentioned that formal generalization, whether on the basis of large samples or single cases, is considerably overrated as the main source of scientific

> progress. (...) Thomas Kuhn (1987) has shown that the most important precondition for science is that researchers possess a wide range of practical skills for carrying out scientific work. Generalization is just one of these".

As far as transferability, Bergen is a small to medium sized city which is an identifier held in common with a plethora of other places across the world. I have endeavored to develop the theory of social inclusion and social change in addition to conducting time intensive empirical work to provide a rich case study description. Doing this work in a city on the forefront of a large-scale mobility transition like Bergen may enable planners, practitioners, activists and researchers concerned with transitions elsewhere to more readily identify and compare key dynamics. Understanding these and the associated social inclusion dimensions is necessary to anticipate, circumvent and address transport injustice issues as they arise and before they exacerbate existing inequalities or stall a transition. It is my ambition that the partial answers and questions about the possible social inclusion implications of mobility policies and the politics of transitions presented in this thesis may contribute to theorizing and practicing processes of solidarity building and legitimation that support inclusive and rapid decarbonization.

3.4.3. Positionality

I was already based in Bergen before the field work began and I was familiar with the city and the local culture. I also speak Norwegian which made it easier to follow local media stories, read planning and policy documents and interview informants who preferred to speak Norwegian. Although I am not originally from Norway, I consider myself an 'insider' with regard to this research (Mullings, 1999). However, as a professional academic who does not drive, I was considered an outsider by the representative of the anti-toll party. Also as a mother who does not own a car I was particularly sensitive to representations of mothers in discourses and claims that full participation in society for mothers requires a car.

3.5 Ethical issues

The basic principles of ethical social science research are to: avoid harm to participants, ensure informed consent of participants, respect the privacy of participants and avoid the use of deception (Skilbrei, 2019). First, no participant was under the age of 18. The greater the vulnerability of participants or impacted communities, the greater the responsibility of the researcher to protect them. I did not identify any of the people I interviewed or that participated in the focus groups as particularly vulnerable and requiring special efforts to protect beyond standard anonymization where appropriate.

The focus group participants were informed that the sessions would be recorded and transcribed but not shared with anyone or made public. Participants signed up voluntarily based on a publicly circulated invitation to participate, and had a chance to acquaint themselves with details of the larger research project prior to participation, and to withdraw if they so wished.
I typed notes during the interviews. All interviewees were asked how they would like to be referred to in the thesis and any other output.

In order to avoid one form of deception, I was clear about how much time I requested for interviews and focus groups and stuck to the time limits agreed upon. This means the focus groups did not go longer than one hour and interviews ended precisely at the length we previously agreed upon.

3.6 Summary

I have introduced the relevance and scope of this case study for policy and theory building. In short, it constitutes an empirically grounded exploration of social inclusion within large scale transformations to urban mobility systems. Next, the section on case background provides relevant geographical, demographic, and administrative details for Bergen pertaining to the low carbon mobility transition and the three concrete interventions I analyze.

4. Case Background

4.1 Field area

"The mountains are the most powerful planners in Bergen" (municipal planner 03.09.2020).

Bergen city center is surrounded by mountains on all sides except the opening to the sea. Tendrils of habitation snake away from the center through valleys between the mountains and along the coast line. The center struggles with air pollution problems associated with the topography and emissions from transportation including land and sea vehicles (Høiskar et al, 2017). The photograph below depicts the central central valley of Bergen.

Figure 2. Bergen city center. Source: Marco Franchino, 2007

Bergen has a population of about 280,000 inhabitants and is expected to grow by about 2,000 inhabitants a year[2]. At the same time, relative population growth in neighboring municipalities is projected to grow at even higher rates contributing to increased numbers of commuters into the city. Jobs are located in three primary areas, the two center districts, one of which holds the largest single employer - the hospital, and an industrial park where the international airport is located. Relatively few jobs are located outside of these areas. The suburbs are referred to throughout this thesis. They are not homogenous but defined through not being the two central districts (Bergenhus and Årstad). This distinction is found in policy documents as well as in popular discourse related to place belonging and the distribution of resources and services. There are six official areas (suburbs) in addition to the two central ones. With the exception of Arna, the smallest and most peripheral suburb, the populations of each area range approximately between 30,000 and 40,000 inhabitants within a margin of 2,500.

4.2 Governing context and transport planning

The overall governing context in Norway includes a historically strong social contract, commitment to affirmative action, resistance to elite capture (Aarsæther, 2018). Since 2015, the conservative right coalition of the national government has pursued a neoliberal agenda called the 'de-bureaucratization and effictivization reform'. The reform has resulted in restructuring and centralization as well as annual budget cuts between .5 to .8 percent across all state institutions and enterprises, hitting welfare institutions the hardest (FAFO, 2019; Jansen, 2020). Sager (2009) described tensions between the instrumental rationality of new public management favored by the current national government in Norway and the communicative approaches planners are trained in, concluding that the values held by municipal planners are often at odds with the neoliberal inflected rationality of the national government; "important elements of the typical attitudes of Nordic planners correspond to the ideals and values embedded in communicative planning. Private and market-oriented development is regarded with considerable scepticism" (Sager, 2009: 75).

[2] Norwegian Bureau of Statistics: https://www.ssb.no/kommunefakta/bergen

4.2.1 Zero growth target

The overarching policy guiding mobility policies in Norwegian cities is the zero growth target. The zero growth target states that private vehicle use should not increase even as the populations of Norwegian cities are growing. Instead, transport needs should be met by public transportation, walking and cycling (White Paper 26, 2012-2013). The goal is the premise for funding allocations dictated through the Urban Growth Agreement (UGA). The UGA is signed by cities, the State and the national roads department. The UGA dictates how funds generated from tolls can be allocated including directing a portion towards public transportation infrastructure and operating costs, cycle paths and a number of other projects. Assessing these agreements, Westskog and co-authors (2020: 554) found that they are "framed by complex underlying structures of roles and powers, which challenge the working and legitimacy of the governance structures". The UGA that Bergen signed with the Ministry of Transport gave the city ample funds for infrastructure projects, but also integrated decision making in a complex set of decisions and obligations that could not easily be disentangled.

4.2.2 Transport pyramid

Achieving the zero growth target entails major structural shifts in the spatial organization of the city and it's mobility system. The image below depicts the desired hierarchy of transport mode splits in Bergen's mobility strategy (Bergen municipality, 2016).

Figure 3: The Bergen Transport Pyramid. Source: Bergen municipality, 2016: 36

Walking is placed at the top with the biggest share, followed by cycling (including electric bikes), then public transportation, then car sharing and private vehicles at the very bottom. The pyramid represents a reversal of the recent past when car drivers were prioritized. This entails systemic change and necessarily disrupts established sectoral interests, planning processes and priorities. Emission reduction goals are bulwarked through corollary goals of transforming Bergen into an active city characterised by inclusive, citizen-centric public space. The trajectory is pointed in the right direction but the progress thus far doesn't reflect the extent of the city's ambition. Further interventions are required to accelerate the transition in line with a 30% reduction in private vehicle use from 2019 levels by 2023 (Bergen Municipality, 2019a).

4.3 Modal profile of transport in Bergen

Around 1.2 million trips are taken daily in the Bergen region. Car traffic into the center was 6% lower in 2017 than in 2015 and 20% lower in 2017 than in 1990. The number of trips taken on public transport has doubled between 2010 and 2017 (from 27 million to 56 million) (Miljøløftet, 2020). These numbers are based on paid trips, the company operating public transport (Skyss) estimates that during Corona, one in four trips were not paid for so the number of trips on public transport are likely higher than the official account. Walking represents the second largest share of trips (24%) followed by public transportation (18%) and cyclists (4%) (Urbanet, 2020a). Public transportation includes busses, light rail, ferries and scheduled boats. There have been modest shifts in the proportion of modes over the last six years with cycling and public transport increasing by 1 and 3 percent respectively and walking and private vehicle use decreasing each by 2 %. Within private vehicles there has been a substantial increase in electric vehicles which grew from 3% of the car fleet in 2014 to 24% in 2019 (Urbanet, 2020b).

The following figure illustrates the distribution of travel modes for daily trips. Gray represents driving, yellow is being a passenger in a car, light blue is public transportation, dark blue is walking, orange is cycling and the green sliver is motorcycles.

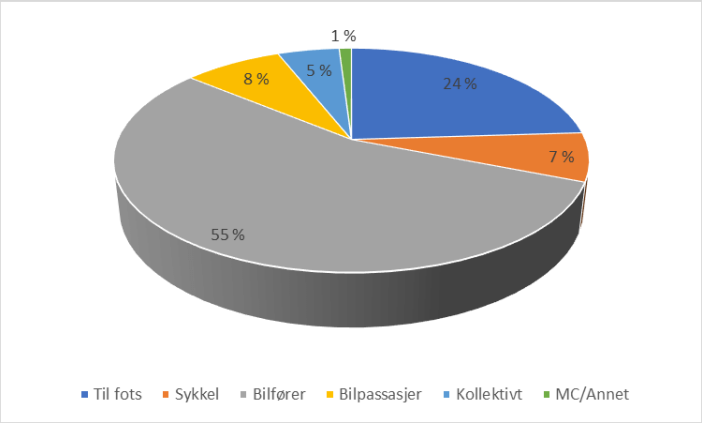

Figure 4. Diagram of travel mode distribution for daily trips. Source: Urbanet, 2020a.

4.4 Mobility politics in Bergen

Bergen is experiencing growing polarization around the politics of mobility. While the changes aimed at preventing growth in private vehicle use have been welcomed by many (Tvinnereim et al, 2020), they have also sparked controversy most noticeably in the form of a new political party called the 'People's Movement – No To More Road Tolls' (hereafter referred to as the anti-toll party). The anti-toll party argues that tolls exacerbate differences between city center and suburban residents, and penalize economically vulnerable groups [interviewed 27.10.2020]. In the last local election, the new party formed just months prior came in third place with 18 percent of the vote and notable popularity in suburban areas. Meanwhile the other young party, 'The environmental party - the greens' (hereafter referred to as 'the greens'), won the majority in the city center. Both the well established parties, the Conservative Party (Høyre) and the Labour Party (Arbeider partiet) still won the majority but lost substantial support. The following figure shows the 2019 electoral map and key. H stands for the conservative right party, Ap stands for the centrist labour party, FNB stands for 'The people's action - no to more toll roads' and MDG stands for 'The environmental party - the greens'.

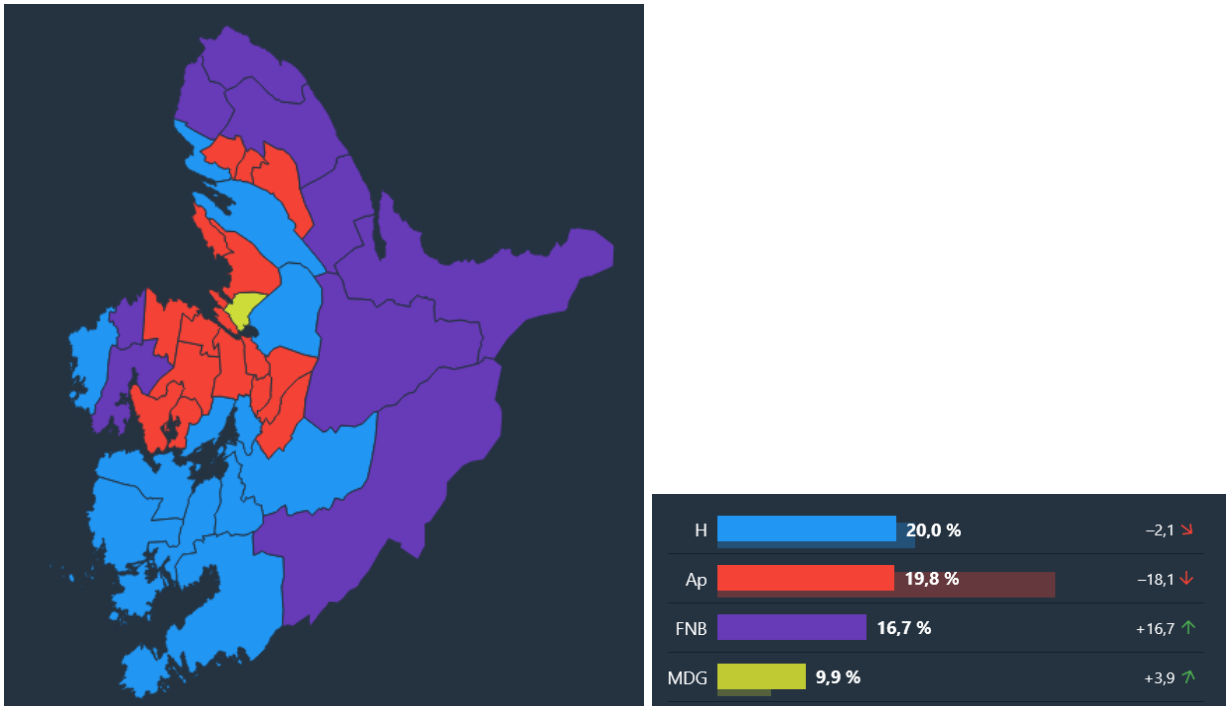

Figure 5. Electoral map and key for the 2019 city council elections. Source: NRK

As the map demonstrates, the greens won the majority of the votes in the most central district while the ani-toll party won the outer edges of the municipality. The success of the anti-toll party in those areas may be attributed to the impact of the new toll stations installed in 2019. Before that, residents of the outer suburbs paid substantially less in tolls than households in the inner suburb (Norconsult 2020). The greens won just 10% of the total votes but now holds the seat on the city council for environment, climate and urban development. The city center doesn't have more people than the other administrative areas, and together the suburbs have several times the number of people as the city center. The anti-toll party points to this as evidence that residents in the center have too much power compared to residents of the suburbs.

5. Analysis

I structure the presentation and interpretation of data in the form of a section for each of the three interventions I investigated: light rail expansion, congestion tolls and car free zones. Together they seek to prevent growth in private vehicle use and establish a common urban mobility system that is low carbon and socially inclusive. The social inclusion aspect is contested in multiple ways.

5.1 Light rail expansion

5.1.1 Background

Plans for a light rail in Bergen have existed since the 1970s and it was first officially proposed in the 1990s (Vollset et al, 2007). During this period and into the 2000s, tolls were used to finance massive investment in infrastructure projects for cars. Despite this, or more probably because of it, congestion continued to increase (i bid). In 2005 it was decided to begin construction of the light rail and the first line opened in 2010 with 15 stations. Today, the state covers 40% of the cost as part of the UGA, contingent on meeting goals to prevent growth in private vehicles.

The light rail departs every 5 minutes during rush hour and has a capacity which correlates to around 90 busses (Miljøloøftet, 2020). On average, between 40,000 and 50,000 people travel on it every day. A 2013 travel survey revealed that the light rail had changed the distribution of transport modes in the corridor it runs through (Bergensprogrammet, 2017). The portion of trips between the areas of Bergenhus (the center), Årstad (the center), Fana, and Ytrebygda increased from 19% in 2008 to 28% in 2013 (i bid). The same survey revealed a decrease in the portion of trips taken with a car in Bergen for the first time in several decades. The light rail is the primary mode of transport for 14% of the trips between the four areas mentioned above (Miljøløftet, 2020).

5.1.2 Light rail politics

Several informants described the last two city council elections as 'light rail elections'. The politics of urban mobility in Bergen are hotly debated in public forums, with the light rail and the congestion tolls that partially finance it, the centerpieces of the debate. Several different groups have organized public demonstrations to support the light rail over the years. Leading up to the city council elections in 2019, there were demonstrations against the light rail by the anti-toll party. At least two groups organized counter demonstrations; 'Bergen's Mothers' and 'The Grandparents Climate Action'.

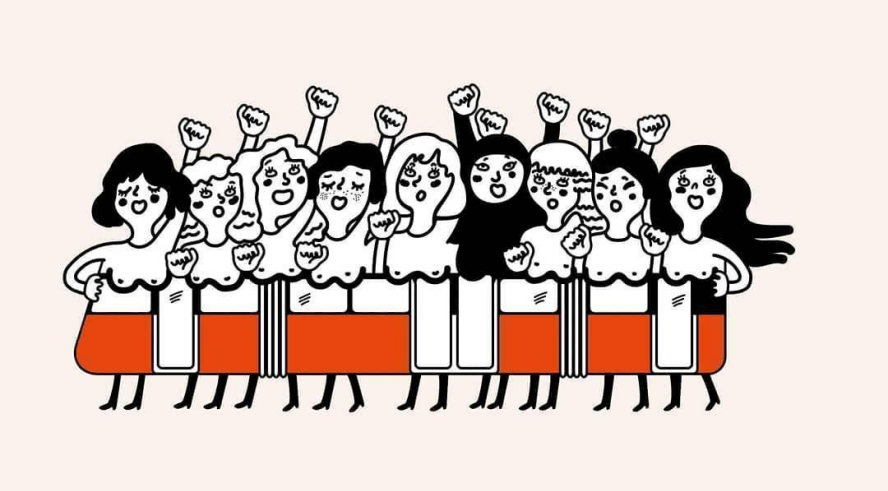

Figure 6. 'Bergen's Mothers' logo. Source: Nhu Diep

Bergen's mothers brought a feminist dimension to the political engagement around the light rail[3]. They argued that the tolls were getting too much attention in the public debate and sought to refocus attention on the light rail. There were several critical responses to the demonstrations[4] including a representative from the right wing, neoliberal, "progress" party who told local journalists that his concern is for "all the grandchildren of these mothers that will have to use large sums of money on the light rail, that is our dilemma. We are concerned with the grand

[3] https://www.bt.no/btmeninger/debatt/i/EWKEMP/bybanen-er-feminisme

[4] A representative from the right party said "the mothers should rather be concerned with getting money from the state to finance the light rail instead of supporting the tolls policy". However, a group of women affiliated with the right party argue that the light rail is a waste of taxpayer money: https://www.bt.no/btmeninger/debatt/i/P9a52R/vi-er-ogsaa-bergens-moedre

childrens economy"[5]. Meanwhile, Bergen's mothers and the Grandparents Climate Action argue that they stand in solidarity with young people around the world demanding policies and infrastructure that improve ecological sustainability.

The image below shows two photos. In the bottom left corner is an anti-toll protest with banners hung on trucks that say "Enough is enough" and the larger photo shows a counter protest on the same day organized by the 'Grandparents Climate Action' with signs that read "Enough is enough! Stop the exhaust comrades", "More light rail, More city", and "The children's climate is our cause".

Figure 7. Protests and counter protests related to tolls and the light rail. Source: NRK

The protests and counter protests illustrate political engagement outside of formal processes to impact the direction of urban development. All the dissenting opinions are a part of the processes of producing space, commoning mobility and the right to the city.

Back in the offices of city hall, formal debates and votes finalize decisions about urban development. The municipal planners I interviewed emphasized the role of the light rail as an

[5] see debate here: https://www.ba.no/politikerne-far-nye-kraftsalver-fra-bergens-modre/s/5-8-1115305

urban development project rather than simply a transportation project. One mobility planner [interviewed 26.10.2020] explained there was a political debate about whether to prioritize the fastest possible travel times from major hubs to the center or whether providing access to the largest number of people within ten minutes of walking distance should be the priority. The latter perspective won in the end. The planner emphasized that frequent stops make the light rail more socially inclusive and contribute to overall urban development rather than a strict focus on rapid commuter transport.

Social inclusion and accessibility are not only addressed through distributed stops but also through universal design. Municipal planners emphasized that an inclusive mobility system should be "Universally designed, not particularly affected by private actors, economically accessible for everyone, and holistically designed" [interviewed 22.10.2020]. Universal design is a concept for the design of buildings, products, services and environments that aims to make them accessible to all people regardless of age, disability or other factors. The foundational idea is that the built environment should be designed to be as inclusive as possible. Universal design differs from the concept of accessibility in that the goal is to avoid specialized solutions for specific groups, for example ramp extensions on busses for wheelchair users. Mobility planners pointed out universal design features of the light rail such as the smooth surface between the platform and the train, and predictable design for the platforms and door locations across different stations. The spatial planners pointed out that "accessibility is often reduced to wheelchair users but we also think about children and elderly, safety and ease of use for everyone" [interviewed 22.10.2020].

5.1.3 The power dynamics of light rail driven densification

The light rail is the basis for the municipality's master plan for spatial zoning (Bergen municipality, 2019b). Three senior planners responsible for the spatial plan explained that "the spatial politics of the municipal plan is to build up around public service provision" and "the light rail is the backbone of the cities spatial plan" [interviewed 22.10.2020]. In 2019, a new zoning plan was approved for the city which signaled strong commitment to densification around

the light rail and deprioritizing private vehicles through strict limits to allocating space for parking in new developments. The new zoning plan is expected to reduce the demand for transport substantially as well as stimulate modal shifts from cars to the light rail. Municipal planners cited a report commissioned by the municipality which found that the new spatial plan is projected to reduce growth in transport by 40-45% relative to projections based on the plan from 2010 (Rambøll, 2017).

The municipality regulates the light rail but doesn't have any control over the bus routes. This administrative arrangement was identified by the spatial planners as the reason the zoning plan is so tightly linked with the light rail [interviewed 22.10.2020]. The planners informed me that the regional bus operator participates in project groups sometimes but they answer to regional authorities not municipal. The city spatial planners expressed that if bus routes were planned and provisioned at the municipal level they could design new housing areas with complementary busses. However, since that is not the case they rely heavily on densification around the light rail. They emphasized that bus routes can be changed relatively quickly and easily compared to the more permanent infrastructure guiding the light rail.

The new, light rail driven zoning plan was highly contentious. The business community, including developers and the Bergen Chamber of Commerce, protested vigorously against it. Opposition politicians from the right wing side of the spectrum claimed the plan was illegal but their appeal to regional authorities lost[6]. The plan mandates that new developments will be restricted to seven zones that are already built up. The intention is to stimulate compact urban development and prevent further sprawl. This essentially re-zoned areas that had previously been zoned for residential development, scrapping plans developers had been advancing. In addition to placing undue burdens on the commercial developers, they argued, this would increase housing prices and put home ownership in the city centre out of reach for many.

A city council member described the new spatial plan as a shift in development paths from a "city of chance driven by lobbyism" towards "knowledge based, long term planning" [Interviewed 04.11.2020]. The more rigid plan marks the end of an era when lobbyists from developers could circumvent democratic and technocratic processes and influence politicians to decide in their favor. An architect and economist working for a property developer stated that

[6] https://www.bt.no/nyheter/lokalt/i/LAmPLp/opposisjonspolitikere-mener-bergens-nye-arealplan-er-ulovlig

lobbyists, “used to be able to ring up politicians, get a meeting and explain why your project is important to get it reviewed. That’s not possible anymore after the new spatial plan was adopted, concessions are way harder to get” [interviewed 23.10.2020]. He added that today politicians rely on technical expertise within the municipality to navigate the complexities of planning dilemmas on the case list of city council meetings. This resonates with the emphasis made by a current political representative at the city council who argued that when there is more space for discretion the politicians get more power, while when frameworks are more rigid, technical experts have more power [interviewed 06.11.2020]. As further noted by a political representative at the county committee for transport and mobility, their decisions are based on the input from the technical experts and the need to balance budgets” [interviewed 30.10.2020].

In the current system, public planners design zoning systems based on democratically determined trajectories and the private sector is responsible for 80 - 90 % of the project plans. According to spatial planners, at the scale of detailed plans, public planners are mostly case workers, saying yes or no to proposals rather than developing projects themselves [interviewed 22.10.2020]. Nonetheless, there is widespread agreement that their knowledge-based recommendations have more influence over political decisions than they did before the new spatial plan [interviewed 15.10.2020; 22.10.2020; 27.10.2020; 04.11.2020]. The architect and economist working for a private developer said “the new plan is so detailed and technical that the amateur politicians have to rely on the expert opinions, giving them more power” [interviewed 27.10.2020]. The head of business policy for the chamber of commerce was even more emphatic, stating that “Bergen is run technocratically by bureaucrats” (referring to professional planners) [interviewed 23.10.2020]. However, politicians still have the final say and can potentially overrule recommendations from planners in many cases.

In the past year since the new spatial plan was approved, the political interpretation has been even stricter than the professional planners. As a political advisor explained, “The politicians own the spatial plan, they are ultimately responsible for it” and “they have to show that they mean it” [interviewed 04.11.2020]. Several proposals that received positive feedback from the agencies have been shot down by the city council development committee. The city development committee has also disregarded expert opinions when they are initiated by citizen complaints.

There have been active debates about problems related to light rail densification in local media[7]. These debates are part of larger questions about the social impact of compact city development as it is currently being pursued. commentators point out that the municipalities desire for densification aligns very well with the developers desire to maximize profits by building small, low quality apartments that are very expensive.

A recent conflict in an area undergoing rapid property development due to a light rail stop exemplifies issues at other current and proposed stops, each leading to large scale changes of land use and the character of places. These conflicts reinforce growing popular resentment towards a sustainable development agenda that appears to lack reflexivity or concern for people's everyday lives. After complaints from the residents of one neighborhood impacted by light rail driven developments, Skjold, a panel of municipal experts (fagetaten) reviewed the situation and together with the national road department recommended a 'building stop' in response to undesirable effects emerging from large scale private development projects. The city council committee for development denied the request. The representative for the greens, in the seat for urban development, explained that there were similar complaints at several other stops, and that approving a building stop at Skjold could undermine the strategy for densification along the light rail[8]. This instance resonates with what the policy advisor working between the planning agencies and the politicians articulated above, the current city government is taking an even stricter line than the expert recommendations.

5.1.4 Gentrification

Private investment along the light rail far exceeds the cost of the light rail itself according to the calculations of the Bergen Development Corporation (Wågsæther et al, forthcoming). The Light Rail corporation, as well as pro-Light Rail politicians, point to this as proof of the success of the Light Rail. The negative side of this from an inclusion perspective, is that it increases property values and housing prices in areas with access to the Light Rail. While local government can strategically shape property development that reduces car dependence, they are less able to

[7] https://www.bt.no/btmeninger/kommentar/i/LnR8ex/bergen-trenger-et-permanent-arkitekturopproer
[8]https://www.fanaposten.no/meninger/debatt-fortetting-eller-byggeforbud-pa-skjold/reptdp!bTkjqxtIhwmZi5vcTI55Iw/

ensure that property prices are such that the most convenient locations in this new system are accessible to all. The anti-toll party argued repeatedly in the election campaign that these policies are multiplying privilege [interviewed 27.10.2020]. The spatial planners also expressed concerns about housing justice,

> "it is a huge challenge. We must make it possible for people to live centrally, with quality, now and in 50 years. But the planning and building act is not a tool that deals with finance. We need other tools to help people into the housing market" [interviewed 22.10.2020].

Within a highly liberalized housing market there are few effective policy instruments available to ensure that developers build housing for everyone. Therefore, the municipality aims to secure mixed income housing through their owned residential building stock, and through financial support structures. Municipal planners and policy makers designated the Norwegian State House Bank (hereafter the House Bank) as a primary partner to develop mechanisms to support first time buyers and to work against spatial segregation along income lines.

Accordingly, I interviewed a local representative of the House Bank. The House Bank is officially responsible for implementing the national government's housing policy[9]. Traditionally, Norwegian housing politics has emphasized ownership over renting as a socially just policy. In the 1980's the Norwegian housing market was deregulated and then, according to the representative, "the 1990s started with an economic downturn and the collapse of the private banking system. Many customers were beset by financial problems, and the banks suffered large losses. Again the House Bank was used to counteract the business cycle and financed nearly all home building" [interviewed 10.11.2020]. Since then, following trends in the national government, the House Bank has largely been relegated to helping "people with long term difficulties" (i bid). In 2014, the government directed the House Bank to end the long standing program offering low interest loans to first time buyers if they are eligible for loans from private banks with significantly less favorable terms.

The interview took an unexpected turn from the beginning when I asked the representative about the recently announced new, national "strategy for social housing politics". He replied that he

[9]The institution was established by law after world war two to ensure "adequate and secure housing for all" and has played a key role in the development of the Norwegian welfare state. (https://www.husbanken.no/om-husbanken/)

hadn't been given any information about it yet. His team had been called into a meeting about it two weeks before but when they got to the meeting, they were not briefed on the new plan. Instead, they were informed that the House Bank is being restructured. His team is going to be relocated to the central regional office and local offices will be shut down. The financial arm of the bank will be "severed from the competence branch" and moved to the national department [interviewed 10.11.2020]. He said he and his co-workers were "a little shocked, we didn't see it coming". The House Bank representative explained that the current reforms initiated by the ruling Conservative party in 2015 are an extension of a longer running trend, "originally, the House Bank was for everyone but over the last 30 years it's been diluted to a "social housing bank" meaning it can only help people who are especially disadvantaged, for example people fresh out of prison, refugees, severely disabled. He went on, "but the real challenge is the middle, people who are not disadvantaged enough to get help from the House Bank but are still unable to compete on the housing market. It's called the 'missing middle'" [interviewed 10.11.2020].

In 2008 changes to the planning and building law meant private developers could send in their own plans. In the House Bank representative's opinion, shared with the spatial planners, this change has led to low quality housing with high turnover rates and a lack of affordable family housing. The municipality doesn't have the legal tools to ensure that housing for everyone gets built, they can only control prices and quality in the property they own which is far less than it used to be. The House Bank representative explained that in other European countries there exist laws and financial tools to counteract market forces and secure affordable housing. In England for example, a municipality can regulate a percent of affordable housing in a development project. The representative and his team put together a report to see what kinds of tools exist in Norway compared to other countries and found that Norwegian cities had less tools than cities in neighboring countries. The representative shared his personal opinion that ultimately,

> "The municipality is dependent on private developers. The city talks a lot about diversity and social sustainability but if we look at what is actually being built, there isn't much of that. Planners - a lot of talented people - but their role has changed. We can say there has been a shift from municipal planning to the private sector."

He agreed with the spatial planners that the only way to change the market based system is to change the law. "As long as we have a right wing government this isn't going to change. There

has been very little attention from the political leadership on the House Banks desire to solve the ensuing problems." [interviewed 10.11.2020].

5.1.5 Summary of light rail analysis

There has been active public engagement about the light rail featuring debates about the fundamental values that should guide urban development. According to the current city government, the light rail is the backbone of the future mobility system and as such, it is the basis for the municipality's zoning plan for future developments. The new zoning plan signaled shifting constellations of power between planners, elected officials and developers with less power available for lobbyists to obtain concessions. Given regulatory constraints and protections for private property, the densification agenda aligns with the profit maximizing agenda of private developers leading to concerns about gentrification.

5.2 Tolls

In the previous section I discussed the light rail which is intimately connected with congestion tolls in at least two ways. First, a portion of the funds generated from the tolls are used to partially finance expansion of the light rail. Second, there were highly visible public demonstrations leading up to the last city council election organized to protest tolls and the light rail together met with multiple counter protests. In the following section I present social inclusion considerations emerging from the relationship between congestion tolls, the commoning of urban mobility and a surge of popular resistance to policies aimed at reducing personal car use.

5.2.1 Background

In 1986, Bergen was the first city in Norway to introduce an urban investment package partly financed by tolls. Tolls are charges collected from cars when they pass fixed stations.

Historically, tolls were placed on the facility, usually a road or bridge, that the funds were used to finance. Today they are used to address problems such as traffic congestion, air pollution, carbon emissions and scarce urban space. In Bergen, funds generated from tolls are earmarked for partially financing light rail expansion, subsidizing operating costs for the regional bus system, improving walking and cycling infrastructure, sidewalks, and road and bridge maintenance. In 2013, the tariffs at the toll stations doubled. In 2019, 15 new tolling stations were added bringing the total to 29. Fees double during rush hours at 14 of the stations but not at the 15 stations that became operational in 2019. For a few years there were exemptions for EVs, now they pay a sixth of what fossil fuel cars pay. People with documented 'reduced mobility' are exempt from tolls in Bergen.

The political will to use tolls as a tool has traditionally been lacking in most cities (Levinson, 2019). Consequently, there has been a great deal of research on the public acceptability of road pricing. Several studies have found that familiarity was a factor in public acceptance; once people saw the positive effects of the policy, acceptance increased (Hysing and Isakson, 2015; Eliasson and Jonsson, 2011; Steg and Forward, 2010). However, research in Bergen found that familiarity did not improve acceptance (Tvinnereim et al, 2020). Other studies have concluded that low trust in policy makers was a barrier and that dedicating a portion of the funds towards expanding public transportation and subsidizing operating costs would likely improve public acceptance (Viegas, 2001; Levinson 2010, 2019).

5.2.2 City political platform

The city council platform has a section dedicated to tolls which begins,

> "The fight against climate change and pollution goes hand in hand with the fight against growing inequality. A climate and environment policy that contributes to social equalization is not only right it is necessary. It must be easier to travel with public transport, such that more people have the opportunity to opt out of the car" (Bergen municipality, 2019a).

Tolls are not mentioned until the fourth sentence which acknowledges that "Toll roads are not the ideal method to finance development of the public transportation system and necessary roads.

Toll roads in the city are today an important and effective tool to secure better air quality, more space, less noise, less emissions and less congestion" (i bid). This leads to the question of what the ideal method to finance development of the public transportation system and necessary roads is. When I asked a previous city council political advisor, they replied that the wording here reflects the delicate rhetorical art of coalition building, ideal would be no resistance or no climate change or scarcity but given reality, tolls are the best option we have [interviewed 24.09.2020].

5.2.3 The Public Roads Administration

The tolls are legislated through the zero growth target's corresponding Urban Growth Agreement, a multilateral strategy for preventing growth of traffic into cities reinforced with contingent national funding for public transport. As remarked on by all of my informants from municipal planning offices, the city's goal is even more ambitious than zero growth – they aim to reduce traffic by 30% from 2019 levels by 2023. However, they expressed concern that planned mega road projects leading into the city may jeopardize efforts to achieve the targets. Several municipal planners and policy makers expressed frustration with the Public Roads Administration's continued commitment to a planning rationality they view as "outdated" and "car centric" [interviewed 04.11.2020a, 04.11.2020b, 15.10.2020, 22.10.2020]. As one mobility planner put it, "The Public Roads Administration signs the (urban growth) agreement but they don't practice it", and "We have been on track, reduced traffic by 10% one year ahead of schedule - surpassing the target. But the new roads make the targets impossible" [interviewed 28.10.2020].

The mega projects will replace and expand fully functional roads to reduce travel times between urban regions and increase capacity from two lanes to four to meet projected demand. The first leg is expected to reduce the travel time between Bergen and Stavanger from around 4 hours to 2 hours by constructing unprecedentedly large bridges and tunnels (Davik, 2020). According to the Public Roads Administration website, this mega project is expected to be "the great work of our time" (i bid). The administration also claims, "the expanded E39 will result in such large changes in time use, distances and predictability that the potential for major changes in society is likely"

and that the projects will benefit “not only those that use the roads but also the entire country” (i bid).

A new national transport plan was released in March 2021 and I attended the national Mobility Conference leading up to it’s release. Some of the frustrations with the Public Roads Administration expressed by the municipal planners and policy makers I interviewed were represented at the conference by transportation economics researchers. The researcher’s departed from the observation that,

> “Many of the projects in today's national transport plan are socio-economically unprofitable. However, it is argued that these large road projects create substantial, positive ripple effects that aren’t represented in classic cost-benefit analysis. Are politicians expecting effects that don’t exist?” (Welde et al, 2020)

The researchers presented findings that demonstrated there is no empirical evidence to support the projections of ‘ripple effects’ described in the net value added analyses. On the contrary, their findings counter the claims in the project proposals. The researchers stated, “people believe that building roads leads to economic growth but it’s often not true in already developed places” (Welde et al, 2020). As a parting thought, the researchers ask the question, “who might benefit from the projects if not ‘society at large’?”. Besides actors who profit directly from the projects, the researchers conclude that a relatively small number of commuters will benefit from reduced travel times.

These presentations were immediately followed by the two principal entities which design and build mega road projects; a private company reliant on state tenders called ‘New Roads’ and the Public Roads Administration. The director of New Roads delivered a sales pitch about the socio-economic benefits of building roads using the very same claims that had just been refuted by the researchers. The company produces analysis and reports they make with their own, proprietary “travel time calculator” to show how reduced travel times convert to financial gain in diverse ways. The director of the Public Roads Administration followed with a presentation about how building mega roads to connect cities increases productivity and “benefit everyone” (Hovland, 2021). After the presentations, the moderator asked the director about the preceding research that contradicted her claims. She answered by arguing that unless we are going to force

everyone to live in the big cities, social inclusion means building bigger and better roads for people in rural areas to access job markets.

The goal conflict is glaring. As an exacerbated municipal planner put it, "What they say is that we build more capacity but then we will reduce it with tolls. Smashes the city targets. Its obvious, but it's a paradox" [interviewed 28.10.2020]. All the institutions involved agree that building increased road capacity into the city will inevitably require price hikes in the congestion tolls in order to achieve zero growth in traffic. Additionally, the road projects undermine the logic of densification that is central to the mobility transition and the sustainability agenda more broadly. An informant pointed out that a broad coalition of interests including environmental scientists[10], labour unions, and the anti-toll protest party opposed prioritizing these projects [interviewed 04.11.2020]. The new, national transport plan was released in April 2021 and the four lane mega projects will be financed.

5.2.4 Populist resistance

The increasing number of toll stations and rising prices were met with vocal and occasionally violent opposition leading up to the establishment of the anti-toll party[11]. The photo below depicts a protest against tolls. The signs read, "No to incompetent politicians, No to robbery, No to corruption, dictators and liars"; "No to tolls, Enough is Enough"; and "R.I.P. Freedom".

Figure 8. Anti-toll protest in October 2018. Source: Ole Andreas Bø for NRK

[10] Massive amount of CO2 will be released from swamps when the roads are built: https://www.nrk.no/norge/xl/klimabombene-ingen-tenkte-pa-1.15217036

[11] This article documents harassment and death threats towards politicians and multiple vandalisms of toll stations: https://www.nrk.no/vestland/drapstrusler_-trafikksabotasje-og-haerverk_-slik-er-den-skitne-siden-av-bompengeoproret-1.14567366)

There were also multiple "drive slowly" demonstrations against road tolls leading up to the last elections in 2019. One of the protests blocked traffic on a major highway for hours, leading to significant delays for an ambulance on a call[12]. The following photo shows a truck in the middle of downtown Bergen with a banner reading "Politicians are taking from the weakest".

Figure 9. Anti-toll protest in Bergen leading up to 2019 elections. Source: NRK

Anti-toll party rhetoric refers heavily to social justice with their top priority listed as "to oppose financing transportation infrastructure with tolls or road pricing. Tolls are an anti-social fee which unfairly impacts those who have the least" (FNB, 2019). Climate politics also feature heavily in the platform under the general umbrella of, "concern at an overly high resource use on climate purposes" and "opposition to climate politics that are intrusive in people's lives" (i bid). The party's platform and media communications often refer to 'elites' who are unfairly punishing 'regular people' for driving cars.

The following figure shows the distribution of car ownership, electric and fossil fuel between different income groups. Grey shows electric vehicle ownership, blue shows fossil fuel car ownership and green shows how many people don't own a car. The left column shows household income brackets with the lowest income on the bottom. The figure shows that 40.7 percent of

[12] The organizer of the protest temporarily lost their licence and was fined https://www.nrk.no/osloogviken/bom-protest-hindret-ambulanse_-og-arrangor-mistet-lappen-midlertidig-1.14235261

households in the lowest income category do not have access to a car. The figure also illustrates a strong correlation between income and electric vehicle ownership.

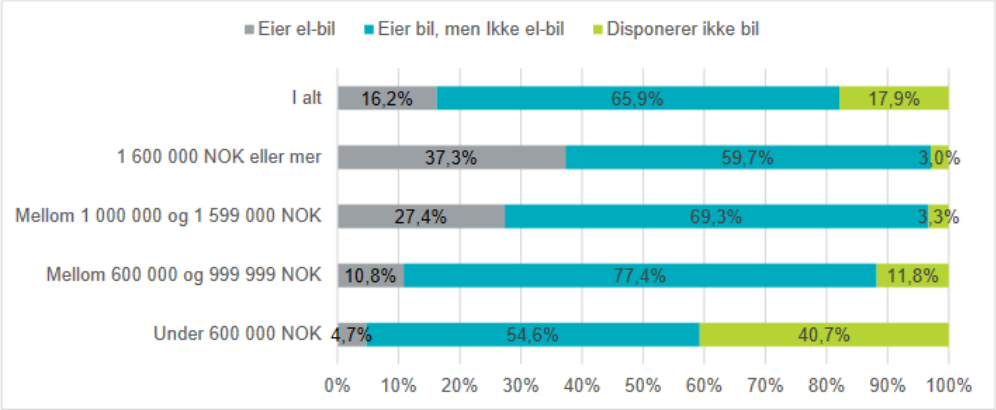

Figure 8: Distribution of car ownership by fuel type and household income. Source: Urbanet, 2020

The benefits from owning an electric car including paying far less in tolls and other financial benefits due to state subsidies and tax breaks are primarily benefiting those who are in the highest income brackets[13]. A transport policy advisor responded to the claim that tolls disproportionately impact those who have the least by first acknowledging there are individual cases in which people with few resources struggle to make ends meet because tolls add pressure to already stretched budgets [interviewed 04.11.2020]. However, he emphasized that many people in the lowest income bracket do not own cars and even among drivers, there is no empirical foundation for the perception that tolls impact those who already have the least the hardest. The city council has ordered at least two comprehensive reports on the social impacts of the tolls (Urbanet, 2020; Norconsult 2020). They both concluded that tolls function according to their intention, i.e. they impact those who drive a lot rather than those who have the least. The reports also concludes that replacing the toll system with tax payer financing for the urban growth agreement, as advocated for by the anti-toll party, would benefit the highest income bracket of the population the most and hurt people with the lowest income and those who don't travel by car the most.

[13] see the Norwegian Statistics Bureau:
https://www.ssb.no/transport-og-reiseliv/artikler-og-publikasjoner/kvart-sjette-av-dei-rikaste-hushalda-har-elbil

In addition, the reports found that men pass tolls stations far more frequently than women. In the public discourse, including local media, academic conferences[14], public meetings and political debates, sIngle mothers are often used as an example of those who suffer from the toll ring and other restrictions on automobility in the city. In every case I have encountered so far they were being spoken for by men[15]. Several of the planners I spoke with shared this experience and related stories of men bringing up single mothers as the primary victims of interventions aimed at reducing private car use [interviewed 08.10.2020; 04.11.2020; 22.10.2020].

The anti-toll party further claims that the toll ring contributes to sociospatial divisions and specifically that it limits the ability of children to participate in activities. The most recent report investigating potential social exclusion related to the tolls found no decrease in the levels of participation in free time activities such as sports and the arts (Norconsult 2020). They noted in their report that when they interviewed several different arenas for freetime activities including sports organizations, community centers, dance and music studios, they were told that while people at that center hadn't had too much trouble, people at other centers were struggling. The researchers contacted the other centers the informants were referring to but no center reported any issues among their own users.

In separate interviews with a political advisor and a transportation researcher, the interviewees postulated that perceptions of unfairness were exacerbated by the technocratic process to decide where the new stations should be located [04.11.2020; 15.02.2020]. The location of the toll stations were decided based on recommendation by the state road department, with no public participation. This lack of participation may be characterized as a procedural failure which has largely been blamed on an 'out of touch urban elite' in the public discourse. The political advisor compared the situation to Trondheim where toll resistance has been much lower.

Opposition to the light rail features heavily throughout the anti-toll parties political platform, for example "A big problem in today's politics is the building of the light rail financed by drivers through tolls". The party platform goes on to speculate on possible corruption:

[14] see Bjørn Flø's presentation at Klimaomstillings konferansen, 2020

[15] For example four men (two on each side) debating whether single mothers need cars:
https://www.bt.no/btmeninger/debatt/i/yRw5vx/unoedvendig-aa-latterliggjoere-bilistene
https://www.bt.no/btmeninger/debatt/i/yR2wL2/hva-vil-fremtiden-mene-om-oss

> "The toll ring has become a major source of income. The 'goods' are concentrated around the light rail and the mantra is that all problems will be solved if we build the light rail. The enormous income from tolls and development around the light rail has created the possibility for a large conspiracy between developers of the light rail, property developers and the municipalities building & planning bureaucrats."

The platform goes on to say that there is a lack of transparency about how toll funds are used and repeats suspicions about possible economic collusion between municipal planners and private developers.

5.2.5 Summary of tolls analysis

Public acceptance of tolls in Bergen has defied results in other cities such as London where familiarity with the policy together with dedicating a substantial portion of the funds generated towards public transportation were factors that increased public acceptance. The latter point has been especially contentious, with the funds from tolls that partially finance the light rail reinforcing populist rhetoric of 'regular people' against 'urban elites'. Planned mega road projects leading into the city are expected to require even further increases in toll prices if the city is to meet its targets for private vehicles reductions. This is identified by municipal planners, policy makers and the anti-toll movement as a major goal conflict between the national Public Roads Administration and the urban dynamics of social inclusion and commoning mobility.

5.3 Car free zones

While the city can not prevent the national road department from building four lane roads into the city center or demand dedicated bus lanes, they do control spatial allocations related to driving and parking (Bergen municipality, 2019b). The most recent zoning plan marked a change from designating the minimum required parking spaces for new developments to now setting maximum limits to the number of parking spaces together with a minimum requirement for cycle

parking spaces (i bid). This regulatory change was described in an interview with an architect and economist working with property development as "the most influential transport intervention of the new spatial planning directive" [interviewed 27.10.2020]. The municipality also has the authority to remove existing parking spots on public property and repurpose the space for other uses such as playgrounds as well as establish car free zones (CFZs). A successful CFZ pilot was first rolled out in the city center and further projects are now under way, developing more car free zones in the city center, as well as in the outer suburbs. With an 85 million kroners budgeted for the roll out and expansion of car free zones in the next three years, the political coalition government in Bergen is sending a clear signal that car free zones are an important element in the envisioned low carbon mobility system (Bergen municipality, 2020).

5.3.1 Background

The introduction of CFZs, which are usually more like zones with substantially less cars, is linked in policy documents to emission reduction targets, transport mode shifts and the intention of creating inclusive urban spaces (Bergen municipality, 2019a). CFZs usually allow for emergency and handicap vehicles, waste collection and delivery vehicles. A popular assumption regarding the role of public transport in transitions is that expanding public transport to increase accessibility encourages mode switches away from automobility, thereby reducing energy consumption (Holden, 2007: 181). However, comprehensive empirical investigations have demonstrated that expanding public transportation provision leads to only modest reductions in per capita energy consumption unless it is combined with other actions to restrict private car use such as tolls, removing parking spaces, and car free zones (i bid). Likewise, studies have shown that the likelihood of car trips being replaced with soft mobility is linked to the built environment which can be designed to encourage or discourage the substitution (Gallo and Marinelli, 2020; Cevero and Radish, 1996; Arroyo et al, 2018; Fistola et al, 2018).

5.3.2 CFZs Downtown

I separately interviewed two planners who were involved in the establishment of the first neighborhood CFZ located in Møhlenpris. One of the informants is a senior mobility planner who has a few decades of experience and the other was in her first year when she worked on the pilot CFZ at Møhlenpris. Møhlenpris was built before the advent of ubiquitous automobility. The area is compact and densely populated with excellent connection to the rest of the city through public transportation, with a major bus hub on one end and the light rail on the other in addition to walking and cycling infrastructure. As one of the planners put it, "we got a lot for free" [interviewed 08.10.2020]. I understood this comment in reference to both the physical properties and socio-cultural composition of the area as well as the ability to take action when the street was being dug up for infrastructure upgrades. "(Møhlenpris) was a bit special because it took a long time for the political position to become operational" but then "the whole area was being dug up due to water, sewerage upgrades. we could use the opportunity but we didn't have time for long planning processes so we needed to do something that could be done without asking too much permission" [interviewed 28.10.2020].

The planners emphasized that during the planning and roll out of the project, they made special efforts to make sure that all the groups could be heard and they were able to get feedback from people who don't normally speak up.

> "Initially it was the most resourceful people leading the discussion- what they ended up doing in MPris was in the part of the area that was mostly inhabited by resourceful people, they got something they wanted. It was beneficial to the whole area but those closer to the bridge were more in need of an upgrade but we couldn't manage to really do much about that in the first stage" [interviewed 28.10.2020]

The area "closer to the bridge" is earmarked for improvements based on the 'Living and health conditions survey'. The senior planner explained that it's uncertain if they will be able to expand the project into that area or if they need to move on to somewhere else in the city that needs help more. The living conditions and health survey is a tool for understanding sociospatial patterns across the city. It combines data from diverse databanks and creates a comprehensive report on social indicators related to health, income, immigration, family composition and a diverse set of

other indicators. This data is integrated with the geographic information system planners use to identify the needs of different areas and direct investments towards those with the lowest scores. This is one of the primary tools planners use to incorporate social justice concerns into their work systematically. As the senior planner put it, "People are very aware of these things, the data from that is included in the digital map system the city uses to plan initially" [interviewed 28.10.2020].

In Møhlenpris, there were organized groups requesting the CFZ and multiple interest groups to consult with on potential issues and concerns related to social inclusivity and accessibility. These included: Møhlenpris action group, Møhlenpris street forum (invited the planners to their meetings), Somalian Women's Association and the Retirees Group. When I asked about the risk of the most engaged or loudest voices getting too much attention, the junior planner responded that participants were often telling the planners about other people who needed to be considered and talked to. They played an active role in identifying stakeholders the planners might otherwise have missed.

Without being prompted by me, the junior planner also relayed an observation that attracted my attention throughout the research. During her work on public participation for car free Møhlenpris she noticed that more than once men over the age of 50 would state that removing the cars was unfair to families with small children. She specifically related a time at a public meeting, there was a man she estimated over the age of 60 who stood up and said that the car free plan ignored the needs of young families. Then, a young father who lives in the neighborhood stood up and said that was an inaccurate claim about their family's needs and they preferred a car free street. When I subsequently interviewed the senior planner, I asked about this observation and he confirmed that it is a noticeable phenomenon and it pops up in the media fairly often as well. Planners working on other car free zone projects confirmed this trend and expressed frustration that single mothers are used as a rhetorical strategy to defend automobility.

The junior planner stressed that it is important to "work a little extra" and "you need an extra pair of eyes" to make sure your work results in equitable and inclusive solutions. She added that, "There is no official handbook on how to make socially just decisions" and there is no replacement for talking to people [interviewed 08.10.2020]. The senior planner explained his view on participation, "it seems like a hassle, public hearings, involving stakeholders, but it's

important to preserve democratic principles. Ensures nobody can do anything that is unaccountable, not considering groups that need to be considered" [interviewed 28.10.2020]. All of the municipal planners I interviewed emphasized the value of accountability and listening as part of the learning process about how the city works and how changes impact people with the aim of being more systematic and strategic with interventions.

5.3.3 Suburban CFZs

CFZs in the suburbs will face challenges particular to the planning legacies embedded in the built environment i.e. lower densities with car dependent mobility infrastructure and social practices. One planner reflected that, "space is organized differently, you have segregated spaces in the suburbs" [interviewed 28.10.2020]. In addition, planners expect the cultural attitudes towards CFZs and sustainability transitions in general to be different than areas in the center. The electoral map of the city (see section 4.1) indicates that if CFZs are linked with the tolls in the public discourse as part of the sustainable mobility agenda they could face heightened opposition.

In section 3.3.3 I described the workshop I conducted with researchers and municipal planners working on CFZs. It began with two presentations from researchers in which they emphasized the importance of telling residents that car free zones are not new and are being established in cities all over Europe and beyond as a tool for decreasing anxiety and increasing public acceptance. This resonated with several of the planners who remarked that they always point out to people that car free zones are not new. Thus rooting interventions in historical practice is viewed by these planners as an important tool for public acceptance.

These practices of enrollment are possibly more important in light of the lack of public participation in selecting areas for the new zones. When the planning department received the mandate from the city council to establish car free zones in every suburb, a planner then began working with a specialist in geographic information systems to identify suitable locations. At the co-production workshop, the planners agreed that it was best if they selected the locations before any participatory processes were initiated. The planners justified this position due to time and

budget constraints but also because they have the competence to consider all the necessary factors.

One of the team leaders in the co-production workshop shared that she uses a heuristic for socially just planning in which she imagines a "single mom from Africa with five children and no car". I was reminded of a comment from my interview with the spatial planners where they agreed that, "What's good for a single mom is also good for a man in a tie" [interviewed 22.10.2020]. I also asked if the distribution of ownership versus renters was a factor in deciding where to put the zones. They replied that they weren't using data on that aspect in their planning. I went on to ask whether they were concerned that improvements to an area might cause property prices to rise, potentially pushing out poorer residents but they answered this did not seem like a very realistic scenario.

The project description for car free zones in the suburbs states that the purpose is to "make space for people at the expense of private cars" (Bergen municipality, 2020), representing the city government's interpretation of people centric urban design. The suburban car free zone planners at the co-production workshop agreed that they did not expect the zones to contribute directly to meeting the zero growth target in any significant way because it was likely that people would not stop using their cars, they would simply park a little further away. Another mobility planner, interviewed separately, works with CFZs in addition to several other initiatives and explained,

> "We need to do something that can change some transport habits in the short time with the infrastructure that's there. There are a lot of long term plans to change everything when the light rail arrives but we are also working on pilots projects now. In the short term, how much can we influence?" [interviewed 28.10.2020].

When I asked the representative whose party spearheaded the campaign for suburban CFZs what they hoped to achieve, she answered, "we want to fill the streets with joy" and "make it better for people there" [interviewed 15.10.2020]. She went on to explain that her party wants to give something good to the suburbs and counter the perception that they only care about the city center where the overwhelming majority of their constituents live. Perhaps the most important insight from the interview came when the representative added that she hoped the car free zones would "make areas so nice that people wouldn't feel the need to travel further to the mountains or take plane trips to the south for vacation" [interviewed 15.10.2020]. While not articulated in

any formal documents, this sentiment clarifies what the greens aspires to achieve with these interventions, i.e. the reduction of greenhouse gas emissions through reductions in leisure travel by car and plane.

The above interpretation of people centric urban design is contested. The representative for the anti-toll party called the initiative to create CFZs in every suburb "political abuse". He went on to say that "people perceive this as completely meaningless and provocative, and without factual justification. This is why people call them (The Green Party) car haters." He went on to say that the job of politicians is to make life better and simpler for people.

> "Our experience is that the people who govern today are more concerned with political fads than with giving people a better life. Many of us think the city council today only serves the city center. Those who live in the center get everything, culture, public services, city bicycles etc and most of it is almost free. Meanwhile, people in the suburbs have worse services and they have to pay for everything." [interviewed 27.10.2020]

It was clear in the interview that creating car free zones in the suburbs was not viewed by this representative as a public service meant to improve the lives of suburban dwellers and include them in the benefits of low carbon spatial logics.

5.3.4 Summary of car free zone analysis

For some people, including the planners and policy designers working with them, CFZs represent a vision of people centric urban design. These actors view CFZs as having the potential to make space for low carbon logics by supporting soft mobility and performing a good life without cars. For others, CFZs, especially in the suburbs, represent empty symbolism and punitive actions against 'regular' people who drive cars. The plan to establish CFZs in every suburb is an experiment without very many examples to learn from. Planners attributed the success of the CFZ pilot project in the city center to several factors that will not be the case for suburban CFZ planners. Chief among these were engaging public involvement from the first stages of planning and a pre-car planning legacy.

5.4 Analysis summary

In the table below I summarize the policy characteristics and implications for social inclusion for each intervention before revisiting inclusion at a higher level of abstraction using the three pronged conceptual framework developed in section 2.

Table 4: Policy characteristics and inclusion impacts of each intervention

Intervention	**Policy characteristics**	**Function**	**Inclusion impacts**
Light rail expansion	"the most important climate and city development project in Bergen" (Bergen Municipality 2019a) Partially funded by congestion tolls	Backbone of the mobility system Basis for densification and long term spatial planning	Concerns about gentrification Universal design Frees up space for soft mobility and other activities by reducing car and buss traffic
Congestion tolls	Toll ring into the inner city, higher prices during rush hour, lower prices for electric vehicles	Decreases urban traffic Record revenue flows for further investment in public transport infrastructure and operations	Perceived as exclusionary by a section of the population Expanded road infrastructure leads to higher tolls and potential social exclusion for low income, car dependent commuters
Car free zones	Regulatory limits to street car parking; car-free zones in the center and the suburbs	Limited parking spaces to reduce entry of cars into the center and increase space for soft mobility	Redistributes street space from cars to people Foregrounds the strategies of people w/o cars as the low carbon good life

6. Discussion

To address the question of how the three interventions aimed at reducing private car use impact social inclusion, I conceptualized social inclusion as a dynamic process related to urban commoning. Commoning refers to the conditions that support sharing resources and resist enclosure. The relationship between the three interventions and social inclusion allows for a threefold discussion of how social inclusion within mobility transitions is understood and practiced: (i) how access and exclusion are thought about, (ii) how space, time and social change are imagined, and (iii) the politics of social inclusion. In the rest of this section, I use the three core axes of my conceptual framework (see figure 1) to revisit aspects of the cases in terms of their implications for social inclusion and commoning urban mobility.

6.1 Access and exclusion

The three cases illustrate the complex nature of access and social inclusion. As discussed in section 2.3, the main approach to access that explicitly deals with social inclusion is transport related social exclusion (Keynon et al, 2003). This approach to access focuses on how lack of adequate access to mobility impacts disadvantaged and marginalized individuals and communities. I juxtaposed this approach with the concepts of hypermobility (Urry, 2000) and self-exclusion (Lucas, 2012) and combined them to develop the concept of dynamic inclusion. The following discussion draws out two elements of access that illuminate the contours of dynamic social inclusion, (i) representations and categories of vulnerability, and (ii) trade-offs of access related to light-rail expansion in the context of market driven development.

6.1.1 Representations of vulnerability

The case study of Bergen offers an opportunity to explore the limits of the transport related social exclusion approach. Once a city has managed to ensure basic levels of access with particular attention to disadvantaged populations, there is still potential to make urban mobility

systems more socially inclusive. In an interview with a representative of the public transportation company (Skyss), the informant cited a 2018 report that showed 65% of people over 18 have 'excellent' access to public transportation, which means a bus or light rail stop within 500 meters of their residence that is serviced at least 4 times an hour. Another 15% has 'good' access [interviewed 14.03.2021]. According to the representative , access has improved in the three years since the report and the remaining (less than) 20% lack good service primarily because they are geographically dispersed, not necessarily because they live in poor or racially segregated neighborhoods which is a central focus in 'transport related social exclusion' studies (Lucas, 2012). As the mobility planner in Bergen explained, municipal and regional actors use the comprehensive 'living standards and health' survey to identify areas where residents are disadvantaged in diverse ways and direct investments towards them. The areas with the lowest scores in the survey do not correlate closely with lack of access to public transportation. This provides a backdrop to explore the notion of dynamic social inclusion beyond efforts to provide basic levels of access to the most disadvantaged populations.

As I noted in the discussion of urban commoning scholarship (section 2.2.2), public transportation, when subsidized and provided as a public good, is not a subtractable resource. As long as increased funds from ticket fares are cycled back into improving the service, the more people use it the better it gets. This is a prime example of how dynamic social inclusion in the context of commoning urban mobility expands the notion of inclusion advanced through liberal distributive justice. In addition to ensuring basic levels of access for the people with the least resources, dynamic inclusion also concentrates on the middle and upper classes to look for common solutions that build solidarity through scaling up and normalizing non-car mobility.

Public transportation in Bergen is also subsidized partially through funds from tolls. Thus, access to the city by car is conditional on contributing to the expansion and subsidized operating costs of public transportation. This partially addresses the problem of self-enforced exclusion described by Lucas (2012) and Barry (2002) whereby people who have access to public transportation choose to drive anyway. Tolls ensure that even in the act of choosing to opt-out of using the common system, drivers still contribute to the commoning project. This policy is more than redistribution within a zero-sum game because regardless of whether they use public transportation or not, drivers still benefit indirectly from better air quality and reduced

congestion. I interpret this as an example of dynamic inclusion through countering the regime of scarcity (Hoeschele, 2010) imposed by automobility with the affirmation of abundance within planetary boundaries.

My interpretation is contested by the anti-toll party which claims that they, the 'regular people' bear the costs while 'elites' reap the benefits. The party habitually uses single mothers as an example of vulnerable people who are unfairly impacted by tolls leading to social exclusion. Throughout my research, single mothers were represented in multiple ways, but their voices are rarely heard directly. The underlying assumption in the claims made by the anti-toll party is that access for single mothers is dependent on automobility and that the costs associated with driving are not outweighed by the benefits of the policies. Conversely, some of the car free zone planners imagine "an African, single mom with several children and no car" to aid in designing inclusive spaces.

Overall, there seems to be agreement across disparate actors that single mothers are vulnerable. Indeed, in the public discourse it seems that they represent the very essence of vulnerability. This makes them powerful rhetorical devices within conversations about social inclusion and access. However, as noted by Cass, Shove and Urry (2005) in their critique of transport related social exclusion in practice, local authorities routinely conflate predefined demographic categories such as single parent homes with lack of access and related social exclusion. In this case, reference to single mothers as a blanket category conceals the differences between actual single mothers and their situated relationship to access. First, there is no reason to assume all single mothers are poor or burdened by the financial costs of driving, including paying tolls. Second, there is no reason to assume a single mother without a car is experiencing social exclusion from lack of access to mobility services. It is not objective or obvious what adequate access and participation in society means for different groups or individuals (i bid). As illustrated by the anecdote from the planner about a father who said he welcomed a planned car free zone, there is also support for restricting automobility among parents. This issue highlights the significance of inclusive participatory processes that can allow people to speak for themselves about their needs rather than be reduced to representations and categories of vulnerability. The planners who worked with participatory processes for the successful CFZ pilot downtown agreed, there is no replacement for talking to people.

6.1.2 Accessing benefits from the light rail

Ribot and Peluso's (2003) definition of access beyond rights-based approaches allows for a nuanced discussion of access and the light rail. While I interpret shifts in public investment from automobility to public transportation as broadly progressive and promoting dynamic social inclusion, public transportation infrastructures are not unqualified goods set to benefit everyone equally. Through this example I want to celebrate the successes and transformations underway while heeding Nightingale's (2019) call to keep sight of the exclusions and enclosures that result from processes of commoning as it unfolds within the wider context of growing inequality and neoliberalisation.

On the positive side, the light rail's universal design is a material manifestation of inclusivity. It moves beyond a binary of able/ disabled bodies towards recognizing that people are differently abled throughout their lives. This speaks to a notion of inclusion that recognizes that needs change over time and preferences are not fixed. It also speaks to an expanded notion of access, by highlighting the differences between the right to access something, the geographic ability to access something and the physical ability to access it for differently abled bodies. In addition, the frequent stops provide access to more people, reflecting the concept of transportation infrastructure as urban development (Bannister, 2008; Holden et al, 2020).

The biggest pitfall of the light rail is not within the technology itself but in its relationship to the densification agenda and the commodification of urban space (Enright, 2019). This demonstrates the assertion throughout mobility scholarship that a narrow view of access within the transportation policy arena obscures the barriers that exist due to processes in other sectors and scales. In this case the relevant other sectors and scales are the market driven property development sector and the national laws that support it together with the neoliberalisation of the welfare state that is restructuring the historically strong social housing politics overseen by the state house bank. Commoning scholars are particularly concerned with resisting elite capture of common resources. Access to the light rail should not be relegated to people with the most resources or generate new forms of marginalized 'others' (Kurtz, 2001; Nightingale, 2019).

Municipal actors are cognizant of this challenge but have limited tools to address it. This plays out in two ways. First, many current residents of areas undergoing large scale change due to the light rail are not all pleased. However, they have no recourse because the project is seen by the current city council as too important and too fragile to slow down. The relative permanence of the light rail compared to bus routes, and the administrative control the municipality has over the former but not the latter, means that new developments are restricted to limited strategic corridors. These residents feel marginalized by the agenda for densification linked with the urgency to mitigate climate change. The rhetoric used to defend densification is such that context specific claims can be refuted as resistance to 'the big picture' of climate change mitigation measures.

Second, the light rail mobilizes space for capitalist accumulation through creating high value corridors for property development and supporting the establishment of service and consumer hubs. The exchange value of the property along the light rail is inflated due to the strict new spatial plan prohibiting development elsewhere. This is a form of constructed scarcity. There are concerns that this will push out or exclude not only poorer residents but the middle class as well. For residents who can afford to buy housing along the light rail, the quality of homes in densified areas is decreasing. When the production of space is dominated by market forces, transportation infrastructure becomes a tool for the creation of urban rent (Enright 2016). The mobility infrastructure and service itself is a public good, theoretically open to everyone but using it as a primary travel mode from places of dwelling is largely dependent on one's ability to secure housing in a competitive private market.

Developers respond to this scarcity with demands for deregulating the strict municipal zoning plan. For the spatial planners and the city council this is an unacceptable solution because of the links between mitigating climate change, densification and meeting the zero growth target through shifting from a car centric mobility system to one that prioritizes public transportation and soft mobility. Another potential solution was mentioned by the spatial planners which is to transfer the responsibility for providing bus services from the regional to the municipal level. However, the planners acknowledged both political and practical challenges with this solution, including the potential for services throughout the rest of the region to decline without the funds

from urban fares and congestion tolls. This could have negative social inclusion impacts on people in the wider region.

Given current administrative and judicial arrangements, a primary pathway for the municipality to counteract gentrification is through partnering with the state House Bank. However, the institution is about to be restructured and severed from its financial branch. After decades of market liberalization, the House Bank has already been relegated to serving the most disadvantaged people rather than playing a key role in housing politics in general as they originally did. A comment from the House Bank representative points to the problem with this approach, "it's not just defunding, it's the stigma around the house bank as something for needy people, not regular people - undermines the whole project" [interviewed 10.11.2020]. This assessment aligns with my critique of liberal policies of redress in practice. When inclusion is only facilitated by the state for the most disadvantaged people, there are missed opportunities to make structural changes that would make social transformations more inclusive and equitable [Enright, 2019]. The normative argument throughout this thesis is that commoning both processes and resource use is more inclusive than safety net solutions for 'the least well off'.

While several of my informants from the public and private sector described the recent spatial plan as a shift in power from private developers and their lobbyists towards technocratic planners and the city council, this is a short-term perspective. In a longer time frame, market actors have been gaining power for decades and maintain the upper hand (Aarsæther, 2018). As the state House Bank representative pointed out, Norwegian cities have less ability to regulate affordable housing and put restrictions on private property developers than any of our Scandinavian neighbors or several other European countries including the UK. Under these conditions, there is a strong alignment of interests between the sustainability agenda for densification and capitalist interests to maximize profits by building many small units of low quality with high prices.

However, following from Ribot and Peluso's (2003) notion of access that includes the ability to benefit from something, access to benefits flowing from the light rail is not restricted by owning property near it. The light rail stops at many mobility hubs connecting to park and rides, buses, bike sharing, and car sharing nodes. It is used frequently by people who don't live near it as part of multi-modal journeys around the city. There are also more indirect benefits such as reducing congestion for car dependent and bus dependent people, thus freeing up the urban space

previously required for parking and the equivalent of 90 buses during rush hour. The space freed up can be used for other shared purposes like playgrounds and parks or to provide more housing which can be regulated for affordable housing if it is owned by the municipality. To summarize, the light rail impacts social inclusion and access in diverse ways, shaped by forces in other sectors and at other scales.

6.1.3 Concluding reflections on access

I have argued that transport related social exclusion, based on liberal policies of redress, is insufficient for addressing the escalating dynamics of hypermobility. Representations of vulnerability, even when with the best of intentions, are not a substitute for participation because people's needs are context specific and relational. At worst, relying on assumptions related to predefined categories of people can turn them into rhetorical devices for agendas that are counter to their actual interests.

Read through a theory of access, the analysis of the light rail demonstrates that the ability to benefit from mobility infrastructures is not limited to directly accessing them. On the other hand, the ability to access the light rail directly is more limited than the right to access it. My findings indicate that cross sectoral analysis is an important arena for thinking about access. Accordingly, mobility cannot be treated as an isolated policy arena but rather entangled with broader processes of urban development and social transformation. Thus, bringing mobility planning and policy making into dialogue with literature on urban commoning may generate new forms of thinking about and practicing social inclusion during low carbon transitions. Viewing mobility simply in terms of access distribution and designing policies to expand public transportation doesn’t account for the way mobility infrastructures are linked with, as I demonstrated in the previous section, processes of gentrification, and in the upcoming sections: imaginaries of space, time and social change followed by processes of legitimation.

6.2 Imagining space, time and social change

My analysis of the three interventions illustrates multiple ways that space, time and social change are imagined in relation to mobility. In this section I elaborate on how these imaginaries impact the way social inclusion is operationalized to justify different mobility infrastructures as well as some of the social inclusion consequences. I center the discussion around two of the interventions studied: tolls and car free zones.

6.2.1 Bigger, faster, better: The great work of our time

The prime directive for transportation infrastructure to overcome space and reduce travel times (Rodrigue, 2020) has traditionally been linked with economic growth and widespread societal benefits. In the context of shifting norms, practices and provision towards commoning the urban mobility system, the vision of social change as the product of mega road projects between cities is challenged. The Public Roads Administration claims that increased road capacity into the city is necessary to provide more people the option to live spread out and still have access to the urban labor markets through reduced travel times. Social inclusion is thus translated into building bigger and better roads with higher speed limits. The claim that the projects will also benefit society as a whole rests on the assumption that reduced travel times between cities will necessarily stimulate economic growth and thereby benefit everyone.

While empirical evidence refutes the claims about widespread societal benefits, the costs are substantial. Taxpayer money finances 40% of the projects meaning people in the lowest income bracket and people who don't drive still pay for the mega road projects. In addition, low income, car dependent commuters in the areas adjacent to Bergen's center will pay the cost of the toll hikes. Essentially, they will be subsidizing reduced travel times for people who are able to capitalize on the reduced travel times between cities. The claim that these projects benefit society as a whole obscures the mechanisms by which distribution is heavily slanted towards a relatively small number of people with enough resources and flexibility to benefit. Therefore, the road projects satisfy neither the Rawlsian principles of liberal justice nor the notion of dynamic social inclusion grounded in commoning. The latter prioritizes social coordination around shared

resources over individual choice enabled for some by regimes of automobility, read through Hoeschelle (2010) and Nikolaeva et al (2019) as regimes of scarcity.

Reflecting upon the continued commitment to mega projects despite research undermining the claims used to justify them, I draw on Bourdieu's (1998) assertion that neoliberalism is a 'strong' discourse and Flyvbjerg's (1998: 321) observation that "The absence of rational arguments and factual documentation in support of certain actions may be more important indicators of power than arguments and documentation produced." The evidence points to an agenda to build roads that lacks institutionalized poste-ante evaluations and ignores independent research that contradicts the claims justifying the agenda. One of these claims is that "large changes in time use, distances and predictability mean the potential for major changes in society is likely"(Davik, 2020). Thus, the mega road projects may be seen as manifestations of a notion of social change as the product of technocratic governance, technological innovations and economic growth.

In conclusion, to understand the impact of congestion tolls on social inclusion, it is necessary to account for processes at other scales and the imaginaries of space, time and social change that inform them. The informants I interviewed expect that the mega road projects will require the city of Bergen to continue increasing toll charges to meet the zero growth target and thereby place more hardship on local commuters, possibly leading to transport related social exclusion. The Public Roads Administration claims that the necessary increases in tolls are worth the increased ability of people to choose where to live and work, reflecting the values of individual choice and hyper mobility. In the next section I will contrast the imaginary discussed above with the low carbon logics of commoning mobility through car free zones.

6.2.2. Making space for low carbon logics with car free zones

In the previous section I described the conceptions of space, time and social change implicated in the mega road projects. Implied by these conceptions is the value of individual choice over collective coordination. This analysis can be extended to private cars which not only enclose public space (Nikolaeva et al, 2019) but also segregate and enclose urban subjects (Nightingale, 2019; Sheller and Urry, 2006). Mobilities scholars argue that cars are a kind of bubble people cocoon themselves in, not only spatially but temporally (Cresswell, 2010; Lucas, 2012; Barry,

2002, Sheller and Urry, 2006). Automobility means not having to coordinate with collective time tables or systems of provision. People have demonstrated that they are willing to pay for this arrangement and based on predict and provide models, governments have provided more and more infrastructure for it. The result is the production of distances which only cars can shrink (Illich, 1974). If we think of infrastructures as declarations of society's values and therefore inherently political (Rutherford, 2020), then when it comes to car centric planning, we have collectively subsidized a system that devalues social coordination, spaces of encounter and the urban commons. This brings to mind how Bourdieu (1998: 1) described neoliberalism: "a programme for destroying collective structures which may impede pure market logic".

CFZs represent an alternative approach to space, time and social change. Rather than overcome space, CFZs aim to produce it in the tradition of Lefebvre (c.f. 1996). The production of space correlates to 'the right to the city' (Harvey, 2003), meaning the right to change ourselves by changing the spatial arrangements that structure our lives. This approach diverges from the notion of social change implicit in predict and provide. If planners only predict based on observed behaviours then they cannot provide for behaviours that are not yet possible or attractive. My interview with the representative for the party who designed the suburban CFZ policy revealed that they are intended to make space for social change grounded in low carbon logics by designing built environments that support performances of a good life without cars. Critics of the CFZs have argued that they are merely symbolic interventions but in light of scholarship on transitions and social change, (Burch et al, 2014; Bannister, 2008) being symbolic and performative is not inherently bad or useless. According to Amundsen et al. (2018) this is one of the primary ways cities can contribute to mitigating climate change. While planners do not expect the creation of CFZs in the suburbs to contribute substantially to the zero growth target directly, they may be understood as experiments in manipulating space to plant seeds of social transformation (Burch et al, 2014).

The degree to which CFZs impact social inclusion through a commoning lens reveals a weakness in the municipality's current approach. While the Møhlenpris CFZ is a good example of commoning because the local residents were engaged from the start, with some of them initiating the process to begin with, the suburban CFZs are more top down. Inclusion in the planning process will begin after the locations are chosen by professional planners. This case illustrates

the tensions between participation and other goals that municipal planners must navigate. On the one hand, the planners recognize that a significant element of success in the city center pilot project was deep public engagement and that the suburban CFZs risks backlash from local residents given structural and cultural differences between the city center and the suburbs. The planners will engage the public once they have selected the area, but the decisions delegated to the public will be minor and the primary purpose will be enrollment (Legacy, 2017;Hanssen et al, 2015). The legitimacy of the planners in this case rests on their role as experts in achieving politically determined goals in the most efficient manner, i.e. instrumental rationality.

It remains to be seen how this approach plays out in Bergen but the literature on communicative planning, as well as the interpretations of populist ruptures discussed in section 2.5.1, argue that denying opportunities for public involvement erodes the legitimacy of planning expertise and undermines the possibilities for goal achievement in the long run. This approach holds that citizen participation, ongoing dialogue, time consuming persuasion and even conflict are valuable elements of planning which lead to better results. As the senior mobility planner in Bergen described participatory processes, "it seems like a hassle, public hearings, involving stakeholders, but it's important to preserve democratic principles" [interviewed 27.10.2020].

The dynamic between social and spatial arrangements is complex and nonlinear. To address this complexity, mobility transition planners in Bergen view their work as experimental and they learn by doing pilot projects. These pilot projects provide opportunities for actors upon whom society depends to make knowledge based decisions to produce the knowledge they need about the relationship between urban space, mobility and social change related to decarbonization. Thus, experiments such as suburban car free zones are critical junctures through which new sociospatial configurations may take place (Bulkeley et al, 2013). I contend that experimenting with these configurations is a crucial method of commoning through creating spaces of encounter that support new social relations and sharing resources.

CFZs can potentially contribute to low carbon logics in at least two more ways, reducing leisure travel by air and car and leveling the playing field for modal choices. The possibility of reducing leisure travel through people centric built environments is not articulated in formal documents related to car free zones in Bergen but was expressed in the interview with the city council representative whose party spearheaded the campaign. Planners are skeptical towards the

potential for CFZs to reduce leisure travel and do not currently collect any data that could be used to measure whether this is the case. However, my findings reveal that some of the policy designers hope this to be the case.

The notion of leveling the playing field refers to how reallocating space away from cars reduces the attractiveness of automobility and improves the conditions for soft mobility and public transportation. Thus, CFZs and parking restrictions contribute to undermining the 'systems of provision' that reinforce car dependence (Mattoili et al, 2020). For people who own cars but can also access public transportation, an important element in choosing to drive is the convenience of arriving directly at a destination. This convenience may override the penalty of paying tolls but if parking is no longer ubiquitously available at all destinations, the convenience is undermined. In addition, car free zones present obstacles to direct routes for driving through the city such that travel times become longer and more frustrating. Accordingly, the inconveniences associated with using public transportation are relatively diminished.

While this effect was never articulated as a goal in policy documents or interviews, the sense I got from the focus groups and moving around in the field myself, is that this mechanism plays an important role in travel mode choice and also improves perceptions of fairness for those who are public transportation dependent. People with a lot of resources are able to buy electric cars and never worry about paying tolls, but a lack of space to park is harder to buy your way out of. By reducing the benefits of choosing to opt out of using public transportation and soft mobility, this policy approach contributes to diversifying the transport mode profile. This not only improves inclusion for current non-drivers but ideally generates more non-drivers. The more non-drivers there are, the greater the demand for improved soft mobility and public transportation services, creating a positive feedback loop that resonates with dynamic social inclusion (Mattoili et al, 2020).

There is a complication which arises from the same conditions described in the discussion of the light rail in the first section, namely the market logic that drives housing allocations. If the car free zones create such attractive built environments that they increase property prices, they may also drive gentrification. My conversations with the planners responsible for CFZs revealed that they are not using any data about whether the properties in areas they are considering are owned or rented. This makes them blind to this dimension of who will benefit financially if the zones

increase property values. The planners do not expect the zones to have a significant enough impact to press out lower income inhabitants but this is also not something they intend to gather data on as the project progresses so their assumptions will not be tested.

6.2.3 Concluding reflections on imaginaries of space and time

This section has looked at two alternative imaginaries of mobility futures and their social inclusion implications. The table below summarizes the relationship between the two mobility infrastructures and conceptions of space, time, social change and inclusion.

Table 5: Imaginaries of space, time, social change and inclusion in road projects and CFZs

Concept	**Mega road projects**	**Car free zones**
space	overcome space	produce space
time	reduce travel times for some people	level the playing field
social change	technocratic governance, economic growth and technological innovation	experimental, performative, relational - (urban subjecthood)
inclusion	inclusion is linked with individual freedom to choose inclusive towards people who have the resources and desire to live spread out and commute to cities for work	inclusion is linked with social organizing around shared resources inclusive towards non drivers and particularly children

I have claimed that in order for mobility transitions to be inclusive, there needs to be an explicit and ongoing negotiation of values. I would like to clarify that I do not reject the idea that time is valuable and thus reduced travel times can be valuable. Rather, the value of reduced travel times, especially when linked with enabling people to live more spread out, should be weighed against other societal values such as inclusion of vulnerable people and an overall reduction in resource use and carbon emissions. I have illustrated how the anticipated toll hikes caused by the mega road projects will negatively impact low income local commuters, potentially leading to transport related social exclusion. This trade-off is only made visible by disaggregating the benefits and burdens of the road projects.

While municipal mobility planners emphasize knowledge based decision making and the active production of knowledge that is lacking, the presentations from the mobility conference illustrate that the agenda to build mega road projects leans more on the exercise of power through decision based knowledge production as described by Flyvbjerg (1998). Rather than heralding "the great work of our time" as the Public Roads Administration proclaims, I interpret the mega road projects as barriers to a decisive transition towards low carbon logics, the great challenge of our time. The picture that emerges is of fragmented and parallel mobility regimes which undermine social inclusion goals. In contrast, CFZs are embedded in a vision of a decarbonized Bergen in which public space and collective transportation are prioritized over private enclosure instantiated by the car (Nikolaeva, 2019). I consider this an instance of commoning mobility in which shared forms of resource use are prioritized over private ones. However, participation in earlier stages of the planning process, for example where the zones should be located, would be an even deeper engagement with commoning mobility (Nikoleava et al, 2019, Nightingale, 2019).

6.3. The politics of social inclusion

The following discussion departs from the assertion that making large scale interventions in mobility systems has implications for the urban politics of sustainability transformations. Politics here is taken to mean not only "the activities of cooperation and conflict that emerge as humans make decisions about the creation and distribution of resources" (Leftwich 1983: 11, as cited by

Avelino et al. 2016: 557) but also the formation of identity through relationships, processes of legitimation and the negotiation of values (e.g. Bulkeley et al, 2015; Nightingale, 2019). Accordingly, a challenge for commoning mobility and urban transformations more broadly is negotiating collaboration and across differences.

Scholarship on urban commoning recognizes the power implicit in even the most well-intentioned efforts to transform urban subjectivities and relations (Enright, 2019; Nightingale, 2019). Following from this framework, I argued that the politics of social inclusion must contend with the consequences of the exclusions that commoning creates both materially and semiotically. A sincere engagement with the relationship between social inclusion and mobility transitions is incompatible with the "pursuit of an 'apolitical' economic equilibrium, turning politics into something that we should all agree on—if we are rational" backed up by transport planning documents written in a way that obscures conflict (Sager, 1999: 517).

From this perspective, I agree with the conclusion in Wanvik and Haarstad (2021) that the conception of a new party insisting on the re-politicization of questions around social inclusion and mobility can potentially be a positive force contributing to democratic transitions. In addition, the re-politicization has activated other groups to organize and counter demonstrate, producing political spaces of civic engagement outside of voting for representatives and regimented participatory planning activities. However, in the following discussion, I extend Wanvik and Haarstad's analysis and discuss in more detail the challenges posed by populist ruptures in the context of commoning urban mobility. The discussion unfolds in two parts: (i) legitimacy and trade-offs in procedural justice, (ii) producing an 'us' and a 'them': inclusion beyond 'those who have the least.'

6.3.1. Legitimacy and procedural justice trade-offs

Mobility justice scholars argue that for transformations to be progressive, inclusion needs to happen from the earliest stages of planning processes and forward (Sheller and Urry, 2006; Sheller, 2018). However, the challenges and limitations faced by participatory approaches should not be understated. All three interventions I analyzed have involved low levels of public participation in the early stages of planning processes with the exception of the pilot car free

zone in the city center. In the following subsection I discuss the challenges for more inclusive processes related to materializing a common urban mobility system.

A substantial limitation for participation and political negotiation related to the tolls is the interlocking nature of the multilateral urban growth agreement. The agreement, which governs the tolls and the light rail, means that there is little scope for local politics to change the agenda. This situation is perhaps positive for both decarbonization and for social inclusion as I have argued in the previous sections. However, Wanvik and Haarstad (2021) and Wågsæther et al (forthcoming) have argued that the populist rupture in Bergen may be a response to the depoliticization of the mobility transition. These authors, (myself one of them) observed that perceptions of the mobility transition as driven by technical experts or "elite" politicians is what seems to motivate the populist resistance, with the argument that the shift is far removed from "ordinary people" and their concerns. This view is exemplified in the speculation from the representative from the city council's department for climate, environment and city development (interviewed 04.11.2020) that the lack of public participation in the placement of the toll stations may have led to decreased public acceptance, citing the lower levels of resistance in Trondheim where the process had been substantially more participatory.

However, there are other potential explanations for less resistance in Trondheim. For example, Trondheim chose to develop a rapid bus transit system instead of a light rail. There are geographic and political reasons this solution was chosen in Trondheim but crucially, it is also substantially cheaper than a light rail, thus requiring less funds from tolls (Ingeborgrud, 2020). After spending the last year talking to people and reflecting about this issue, I am not convinced that a failure of procedural justice or depoliticization entirely captures the problem. Deeper participatory processes at the local level, circumscribed by the need to rapidly decarbonize, may fail to assuage the resistance. Moreover, when participation is reduced to enrollment as in the suburban car free zones, Hanssen and co-authors (2015) argue that people begin to feel like objects rather than subjects with any power to impact the direction of a plan. The authors conclude that when people do not feel heard, their confidence in planners and elected representatives is diminished. According to Mouffe (2005), these are the conditions which support populist ruptures. Therefore, I argue that participatory processes are important and valuable but also risky if planners are unable or unwilling to delegate any real power.

Another theory of legitimation that Bergen's populist rupture troubles is the link between public acceptance and using funds from tolls to finance public transportation. Counter to findings in other cities presented in section 5.2.1, (Viegas, 2001; Levinson, 2010), the resistance to tolls in Bergen and corresponding mistrust of municipal planners is galvanized rather than reduced by using a portion of the funds to finance public transportation expansion. Their supposition was that lack of trust in government officials and concerns about corruption could be alleviated through dedicating funds from tolls towards public transportation infrastructure and operations. However, in Bergen I find the contrary. Investment in public transportation infrastructure is used as a source of suspicion and anger in a country with a historically strong social contract and high level of transparency. On the other hand, if funds from tolls were not used to partially finance public transportation, maybe there would be even less public acceptance and more solidarity with the toll resistance movement. Rather than a straightforward rebuke of Viegas (2001) and Levinson (2010), my findings indicate that resistance to tolls in Bergen, and consequently theories about public acceptance towards road pricing more broadly, is better understood in the situated context of populist rhetorical strategies. These strategies and their relationship to the interventions studied in this thesis are discussed below.

6.3.2. Us and them: inclusion beyond 'those who have the least'

Populism relies on the discursive formulation of an 'us' and a 'them', where the us implies 'real' or 'regular' people and the them are 'elites'. As scholars have noted one of the challenges for scholarship on populism is that it's very difficult to define what they mean by 'elites' (Sager, 2020). It seems to be a flexible category open to whoever becomes the enemy of the 'real' people (Temelkuran, 2019). In the Bergen case, regular people are car drivers who must face urban elites such as politicians of all parties besides their own, professional planners, property developers, academics, climate activists, cyclists and seemingly everyone who lives inside the toll ring. One of the party's taglines is 'A city for all of us' signaling commitment to social inclusion, however the implication is that currently the city is only for 'elites' who live in the center.

The toll ring engenders a spatial division which supports this rhetorical construction. The next step for populist group building is questioning the legitimacy of planners and policy makers (Sager, 2020). Many people who drive and pay tolls do not identify with the anti-toll party. The unifying factor seems to be distrust of the government which is a central aspect of all populist ruptures. The claims formalized in their party platform such as: lack of transparency in city planning, the use of funds generated from tolls and accusations of economic collusion between spatial planners and private developers reflect a suspicion towards professional planners in particular. As I noted in my review of the commoning literature, there has not yet been attention paid to the potential for commoning projects to generate regressive, populist political movements. I contribute to this field of scholarship some reflections on the relationship between liberal policies of redress, dynamic social inclusion and urban commoning.

This is a crucial issue as these types of conflicts are likely to occur more and more frequently as transformations proceed. The tension only grows as some cities pursue progressive policies in the context of growing inequality and neoliberalisation at national and global scales. Thinking with Cass and co-authors (2005) about the relationship between social exclusion and escalating levels of mobility in societies, or *hypermobility* (Urry, 2000), I wish to highlight a limitation to liberal policies of redress. The impact of progressive policies to improve conditions for the most disadvantaged residents following the principles laid out by Rawls (1971) must be understood in the context of limited abilities at the municipal scale to deprivilege investments in mobility infrastructure for kinetic elites (Cresswell, 2010), i.e. people with the flexibility and resources to capitalize on reduced travel times between cities. This leaves the middle class feeling left out. The phenomenon raised by the House Bank representative called ‘the missing middle’, whereby middle class families are pushed out of the housing market but are ineligible for help from the House Bank, demonstrates this issue. The anticipated toll hikes from the mega road projects are another. My hypothesis is that there is a partial, causal relationship between middle class populist ruptures and progressive policies for social inclusion that only target ‘the least well off” while everyone else is left to navigate market driven environments.

Between these two prominent statements in the anti-toll party platform; The party “opposes policies that disproportionately impact those who have the least” and “opposes climate politics which are intrusive to people's lives” the latter emerges as the salient sentiment in practice and

policy rather than the former. For example, those who ‘have the least’ are relegated to those who have the least among those who can own and drive cars. According to the travel habits survey, 40 percent of households in the lowest income bracket do not have access to a car (Urbanet, 2020b). While the narrative of social exclusion resulting from the tolls is countered by empirical research, the situation reflects the gap between measurable equity impacts and perceptions of fairness. This is a sticky problem for progressive policy makers who require legitimacy from broad support.

There is also a risk of trivializing local struggles in the effort to put climate change and the city center in the foreground. The opportunities available to people, including the choice of travel modes, are circumscribed by the built environment in which they live. This in turn depends on a number of relational factors that inform decisions about where to live. People have varying capabilities to influence these conditions, constrained not only by economic capacity but also other concerns highlighted in the mobilities scholarship such as emotional ties to a place, family obligations such as elderly care and partner job locations which complicate ethical frameworks based on the methodological individualism implicit in rational choice theory.

Nevertheless, commoning necessitates boundaries and exclusions. The anti-toll party’s policy statement, “we oppose climate policies that are intrusive in people’s lives" points to a crucial question for social inclusion and low carbon transitions: what if a significant portion of the population does not wish to be included in the transformation because they wish for nothing to change? In that case, the solutions they are willing to entertain do not revolve around making the transformation more inclusive but rather demanding they be included without changing. An important observation here is that the anti-toll party often points to a lack of adequate public transportation as a reason they need to drive but never, in any of its communications, demands expanded bus services. This aspect of the debate undermines the anti-toll rhetorical appeals to support those who have the least. However, as illustrated in my comparison of liberal distributive justice and commoning as well as the previous discussion sections, a focus on who can be represented as having the least may be counter productive. Rather, the issue for dynamic social inclusion is how to use an understanding of mobility as movement, meaning and practice to enable as many people as possible to participate in commoning urban mobility.

6.3.3. Concluding reflections on the politics of social inclusion

Large scale interventions in mobility systems have implications for the urban politics of sustainability transitions. I identify trust in governance as a key condition in support of commoning and social inclusion during transitions. There is potential for deeper participatory processes to increase trust. However, my findings are inconclusive on this potential and indicate that attempts at more participatory planning and local democracy may be insufficient to address the underlying frustrations evident in populist resistance. There is certainly no consensus on what these underlying causes are, but I venture two points. First, in the context of national and global processes dominated by neoliberal ideology, growing inequality and the retreat of the welfare state to entrepreneurialism (Harvey 1989), redress at the local scale will be limited and we can expect frustrations over inequality and associated social exclusions to grow. Second, if people cannot imagine themselves benefiting from low carbon transformations, it makes sense they will resist imposed changes to their ways of moving, their social practices and their cultural representations. Thus, building solidarity around the shared responsibility for the impact of mobility interventions on society as a whole and on differently situated people, while leaving space for conflict and contradiction, is essential for the commoning project to be socially inclusive.

7. Conclusion

The aim of this thesis was to reflect on the systemic parameters of social inclusion in the context of Bergen's low carbon mobility transition and to describe the challenges of applying these insights in practice. The city of Bergen is committed to reducing the use of private vehicles and prioritizing walking, cycling and public transportation as a local effort to mitigate climate change and promote people centric urban development. The case study involved three sub-units of analysis: light rail expansion, congestion tolls and car free zones. These interventions were chosen because they directly challenge the historically prioritized, collective provision of infrastructure for automobility. For this reason, they have been hotly contested in the public discourse which is the second justification for studying these three interventions. In the last city elections, a populist party called 'the people's action against toll roads' made unprecedented gains for a new party (Haarstad and Wanvik, 2021). The protest party contests the three interventions studied in this thesis on the grounds that they cause social exclusion and disproportionately impact those who have the least.

This thesis foregrounds the challenges of reconciling multiple aspects of social inclusion within urban transformation by applying a 'commoning' approach. Broadly, commoning refers to processes and conditions which support sharing resources and resist privatization and enclosure (Helfrich and Bollier, 2015; Singh, 2017). Commoning *mobility* means recognizing the shared responsibility for how different mobility constellations shape societies (Nikolaeva et al, 2019). This approach critically engages with the strong normative tradition of liberal distributive justice which prioritizes the value of individual choice and focuses on safety net solutions for disadvantaged people. I have argued that approaching the question of social inclusion through straightforward redistribution reinforces the defining characteristics, boundaries and values of the present system. To operationalize social inclusion grounded in the commoning framework, I introduced the term dynamic social inclusion which moves beyond inclusion into the status quo towards inclusion into an emergent system that is still becoming.

This approach to inclusion is still concerned with improving conditions for the least well off but also focuses on changing cultures of mobility to support collective resource use. It expands from a narrow view of redistribution within the current system and treats urban mobility systems in

terms of social production, necessitating greater inclusion in planning processes. Thus, dynamic social inclusion accounts for time and place specific claims in the context of shifting norms, practices and provision towards a common urban mobility system. In Bergen this is a key element in the politics of mobility and social justice discourses. The primary concern for social inclusion in the public discourse is not the enrollment of previously marginalized residents into the current system but the potential for people whose movements, meanings and practices have hitherto been enabled collectively to find themselves subject to potential social exclusion and more burdens than benefits related to the new common system.

To answer the research question, '*how are key policy interventions in Bergen aimed at restricting car use impacting social inclusion in the city?',* I employed multiple qualitative methods including 20 semi-structured interviews with 25 actors involved in formal processes at the municipal scale, a co-production workshop with mobility planners and 3 focus groups with residents. I have answered the research question in two ways. First, I will summarize the findings for each intervention, then I will summarize how my analysis informs and is informed by key conceptual areas related to mobility.

Beginning with the light rail, the design of the infrastructure itself promotes social inclusion through universal design and urban development. However, as the basis for the city's densification plan in the context of market driven property development, the light rail becomes a driver of urban rent and gentrification. There is a risk that only people with the most resources and people who are willing to live in small, low quality apartments will be able to live near the light rail. Municipal planners and policy makers are cognizant of this challenge but face barriers in other sectors and at other scales, a recurring theme throughout the thesis.

Congestion tolls have yet to impact social inclusion in terms of measurable levels of participation in society. However, the formation of a new, popular political party solely formed to resist tolls demonstrates that tolls have impacted perceptions of social inclusion and fairness. People who voted for the new, protest party do not feel their interests and voices are being represented in the governance and planning of urban mobility which has become closed off to negotiation through multilateral agreements. Furthermore, the potential for social exclusion related to tolls will be exacerbated by large mega road projects that reinforce regimes of automobility and primarily benefit people in higher income brackets. These projects will not contribute to expanding public

transportation or benefit local car dependent commuters but they will increase the amount local drivers pay in tolls. Therefore, as with the light rail, understanding the relationship between tolls and social inclusion is entangled with processes in other scales and institutions.

Finally, car free zones impact social inclusion primarily by creating built environments that support soft mobility and spaces of encounter. Considering 40 percent of people in the lowest income bracket do not have access to cars, creating urban spaces that not only support soft mobility but aim to demonstrate the future good life, promotes social inclusion. I interpret the production of inclusive, urban spaces that support low carbon logics as instances of countering regimes of scarcity (Hoeschelle, 2010) and enclosure from cars (Nikolaeva et al, 2019) and affirming abundance within planetary boundaries.

Through focusing on the networked impacts of the three interventions, I have illustrated that transport is not a discrete policy arena and examining social inclusion from an issue specific perspective is to obscure the wider impacts of policies. By tracing the intersections of policies and imaginaries, my analysis shows that social inclusion within mobility transitions is linked with processes at other sectors and scales. In Bergen these include regulatory changes to the plan and building act that leave detailed planning to private developers, liberalized housing markets with few tools in the municipal governments hands to ensure affordable housing, programs to restructure and defund state welfare institutions such as the state House Bank, and continued investment in mega road projects. Overall, the policy approach to the mobility transition in Bergen seeks to change existing conditions that reinforce reliance on cars. Therefore, taken together, the interventions promote dynamic social inclusion by changing the social expectations of automobility and providing alternatives.

I used the three core axes of my conceptual framework to revisit aspects of the cases in terms of their implications for theories of social inclusion and the practice of commoning urban mobility. *Access* to mobility options is important for participating in society but my findings suggest that the pre-defined categories of vulnerability commonly employed in transport related social exclusion approaches must be compliments rather than substitutes for participatory processes. I further expanded the notion of access by applying Ribot and Peluso's (2003) framework to consider how people can access benefits from the light rail without using it to move around through for example improved air quality and freeing up urban space. Next, I compared the way

space, time and social change are imagined within traditional transport with the commoning mobility framework, revealing how different imaginaries impact social inclusion. Infrastructures and policies that reinforce the regime of automobility present barriers to commoning urban mobility and vice versa - tradeoffs must be made (Mattoili et al, 2020).

The normative claim within the commoning mobility approach is that tradeoffs should prioritize affirming abundance through creating the conditions for sharing resources rather than privileging the value of individual choice and investing in reduced travel times for drivers who are able to pay for the associated rising costs. The latter manifests in mega road projects which are supported by an imaginary of hypermobility, technological innovation and economic growth linked with societal benefits. I contrasted this approach with car free zones which promote dynamic social inclusion through making space for low carbon logics, performing a good life consonant with the strategies of low-income people without cars, and leveling the playing field of modal choices which have historically been slanted towards systems of provision for automobility. Finally, I elaborated on *the politics of social inclusion* to account for the ways in which social inclusion rhetoric is a driving force in political *advocacy for* and *resistance to* sustainable mobility policies. My analysis indicates that building solidarity around the shared responsibility for the impact of mobility interventions on society as a whole and on differently situated people, while leaving space for conflict and contradiction, is essential for the commoning project to be socially inclusive.

I have argued that moving beyond inclusion into the current system towards inclusion into a transformed one, requires making the process of transformation itself as inclusive as possible. If democratic procedures and planning activities are considered unfair or closed off by technocratic decision making, the legitimacy of commoning efforts is challenged. Hence, I confirm that commoning mobility requires collective decisions about which social practices should be accommodated and ongoing negotiations on what is required to participate fully in society (Nikolaeva et al, 2019). In Bergen, lack of deeper participatory processes has been suggested as an explanation for the populist resistance. However, my thesis indicates that depoliticization and a lack of participatory processes is insufficient to account for populist ruptures. My argument is that it's not just about not being heard, it's also about growing inequality. I identified trust in governance as an important condition that supports commoning projects and a lack of trust as a

defining feature of the populist movement against tolls. Despite progressive agendas in the municipal government, they lack the authority and regulatory tools that could improve equity in housing and mobility policies. The inability or unwillingness (depending who you ask) to address growing inequality reinforces populist rhetorical strategies rooted in a dichotomy between 'urban elites' and 'regular people'.

Commoning literature often focuses on projects within cities, conducted 'outside of failing states and markets' (Helfrich and Bollier, 2015). My contribution to commoning scholarship is an interpretation of efforts to protect the urban commons through commoning the mobility system using state power. Nightingale (2019) noted that processes of commoning are always at risk of 'un-commoning' but so far as I know my analysis is the first to consider a large scale mobility transition as a commoning project and address the risk of un-commoning not from the state or market actors but from middle class, populist resistance. The relationship between public planning for socially inclusive, sustainability transitions and populist resistance is not well understood but I identify this area as a primary area of concern for transition studies more broadly.

Identifying these potentials and limitations of urban efforts to materialize common mobility systems may contribute to building broader coalitions of solidarity among diverse interest groups, thereby supporting a more robust and democratic transition to sustainable cities. Sustainability in this framework encompasses more than decarbonization and points to a process rather than product. Socially inclusive mobility transitions must therefore comprise sustainable but nevertheless political modes of city-making. Finally, I have argued that sustainability transformations require a dynamic concept of social inclusion to consider not just actors who currently exist but actors, subject positions, relations and contingent preferences that don't exist yet. This is a central challenge for pursuing inter and intra generational equity. What is at stake are inclusive low carbon societies living and dying together on a damaged planet.

Implications for future research

The prospect of car free cities is becoming more popular in urban policy circles but academic scholarship has barely begun to explore the issue (Khreis et al., 2017). Rather, the literature focuses on establishing small car free zones within cities. The conditions for ensuring a transition to a car free city is successful, including public acceptance and basic minimum standards for accessibility through alternative modes, are not well understood (Holden et al, 2020). In Bergen, the next major change, announced in January, 2021, will not ban all cars from the city center but create zero emissions zones where fossil fuel cars are not allowed as part of the effort to reach decarbonization of the city by 2030. Data presented in this thesis shows that access to an electric car is tightly linked to higher income groups. While my analysis of the transition so far argued that the policies studied promote dynamic social inclusion, if a ban on fossil fuel cars is implemented without feasible alternatives in place it will likely result in social exclusion for car dependent people in the lowest income brackets. Key areas of concern include limitations and financial burdens associated with existing park and rides and the provision of infrastructure and services for micro-mobility solutions such as electric scooters and bikes to help people in the suburbs access public transportation connections. Mapping the risks for social exclusion and initiating processes for public participation early in the strategy formation phase are crucial factors which require investment and innovative approaches.

Appendix

Appendix A. List of Interviewees by date interviewed

Nr.	Institutional affiliation	Date interviewed	Remarks
1	City council member (MDG)	15.10.2020	
2	City council member (Rødt)	06.11.2020	
3	City council member (FNB)	27.10.2020	
4	Political advisor	04.11.2020	Transport policy
5	Political advisor	24.09.2020	Urban development
6	Urban Environment Agency	28.10.2020	Mobility
7	Urban Environment Agency	08.10.2020	Mobility
8	Urban Environment Agency	09.10.2020	public procurement
9	Public Roads Administration	25.02.2020	car free downtown Bergen
10	Plan and Building dep	22.10.2020	3 planners present
11	State House Bank	10.11.2020	
12	Regional committee, public transport	30.10.2020	
13	Austevoll - Plan og Bygg dep.	22.10.2020	4 planners present, they commute from Bergen to Austevoll
14	Osterøy - Plan og Bygg dep.	29.10.2020	
15	Skyss	15.03.2021	
16	MUST lab	21.04.2021	Innovation lab - public/private
17	Bergens næringsråd	16.10.2020	
18	Bergen chamber of commerce	23.10.2020	
19	Bergen og Omegn Boligbyggelag	27.10.2020	Architect and economist
20	Bryggens Venner	19.10.2020	

References

Aarsæther, N., 2018. *Plan og samfunn : system, praksis, teori*. Oslo: Cappelen Damm akademisk.

Amundsen, H., Hovelsrud, G., AALL, C., Karlsson, M. & Westskog, H. 2018. Local governments as drivers for societal transformation: towards the 1.5 °C ambition. Current Opinion in *Environmental Sustainability*, 31, pp. 23-29.

Arroyo, R.; Mars, L.; Ruiz, T. 2018. Perceptions of Pedestrian and Cyclist Environments, Travelbergen municipality Behaviors, and Social Networks. *Sustainability,* 10, pp. 3241.

Avelino, F., Grin J., Pel, B. & Jhagroe, S. 2016. The politics of sustainability transitions, *Journal of Environmental Policy & Planning,* 18(5) pp. 1-9.

Banerjee, S. B. 2008. Necrocapitalism. *Organization Studies, 29* (12), pp. 1541–63.

Bannister, D. 2008. The sustainable mobility paradigm. *Transport Policy,* 15(1), pp. 73-80.

Barry, B. 2002. 'Social exclusion, Social Isolation and the Distribution of Income'. In: Hills, J., Le Grand, J., Piachaud, D. (Eds.), *Understanding Social Exclusion*, Oxford: Oxford University Press.

Bergen Municipality. 2016. *Green strategy: Climate and energy action plan for Bergen 2016*. Bergen: Bergen Municipality.

Bergen Municipality. 2019a. Politisk plattform: 2019-2023. For et byråd i Bergen utgått av Arbeiderpartiet, Miljøpartiet De Grønne, Venstre og Kristelig Folkeparti. Bergen: Bergen Municipality.

Bergen Municipality. 2019b. *Kommuneplanens Arealdel* [Municipal spatial plan]. Bergen: Bergen Municipality.

Bergen Municipality. 2019c. *Folkehelseoversikt: Levekår og helse i Bergen* [Public health overview: Living conditions and health in Bergen]. Bergen: Bergen Municipality.

Bergen Municipality. 2020. *Bilfrie soner projektbeskrivelse* [Car free zones project description]. Bergen: Bergen Municipality

Bergensprogrammet. 2017. *Bybanefakta.* Available at: <Bergensprogrammet.no/bybanefakta> (accessed 04.03.2021)

Bergman, N. 2017. Stories of the future: Personal mobility innovation in the United Kingdom. *Energy Research & Social Science,* 31, pp. 184–93.

Beyazit, E. 2011. Evaluating Social Justice in Transport: Lessons to be Learned from the Capability Approach, *Transport Reviews*, 31(1), pp. 117-134

Borch, C. & Kornberger, M. 2015. *Urban commons: Rethinking the city.* (1st ed.). London: Routledge.

Bourdiue P. 1998. The essence of Neoliberalism. *Le monde diplomatique*. [available at: <https://mondediplo.com/1998/12/08bourdieu>] (accessed 04.03.2021)

Bresnihan, P. 2013. John Clare and the Manifold Commons. *Environmental humanities*, 3(1), pp.71–91.

Brinkley, C., 2020. Hardin's imagined tragedy is pig shit: A call for planning to recenter the commons. *Planning theory*, 19(1), pp.127–144.

Bulkeley, H., Castan-Broto, V. & Maassen, A. 2013. Low-carbon transitions and the reconfiguration of urban infrastructure. *Urban Studies*, 51(7), pp. 1471-1486.

Bulkeley, H., Castán-Broto, V. & Edwards, G. 2015. *An urban politics of climate change: Experimentation and the governing of socio-technical transitions.* London: Routledge.

Burch, S., Shaw, A., Dale, A. & Robinson, J. 2014. Triggering transformative change: a development path approach to climate change response in communities. *Climate Policy*, 14:4, pp. 467-487.

Button, K., Root, A., Schintler, L. & Root, A. 2000. Women, travel and the idea of 'sustainable transport'. *Transport Reviews*, 20(3) pp. 369-383.

Cass, N, Shove, E & Urry, J. 2005. Social exclusion, mobility and access. *The Sociological review*, 53(3), pp. 539–555.

Cervero, R. & Radisch, C. 1996. Travel choices in pedestrian versus automobile oriented neighborhoods. *Transport Policy.* 3, pp. 127–141.

Chatterton, P. 2016. Building transitions to post-capitalist urban commons. *Transactions of the Institute of British Geographers*, 41 (4). pp. 403-415.

Cresswell, T., 2006. *On the move : mobility in the modern Western world*. New York: Routledge.

Cresswell, T. 2010. Towards a Politics of Mobility. *Environment and Planning D - society & Space*, 28, pp. 17-31.

Creutzig, F., Javaid, A., Soomauroo, Z., Lohrey, S., Milojevic-Dupont, N., Ramakrishnan, A. & Weddige, U. 2020. Fair street space allocation: ethical principles and empirical insights. *Transport Reviews*, 40(6), pp. 1-23.

Currie, G. & Delabosc, A. 2010. Modelling the social and psychological impacts of transport disadvantage. *Transportation,* 37, pp. 31–41.

Davik, K. 2020. Nye E39 blir vår tids Bergensbane! (18.12.2020) Oslo: Statens Vegvesen. [Available at: https://www.vegvesen.no/om+statens+vegvesen/presse/nyheter/nasjonalt/nye-e39-blir-var-tids-bergensbane#:~:text=Stortinget%20vedtok%20bygging%20av%20banen,som%20%C2%ABv%C3%A5r%20tids%20storverk%C2%BB.] (accessed: 02.02.2021)

De Angelis, M. & Harvie, D. 2013. The Commons. In M. Parker, G. Cheney, V. Fournier & C. Land (Eds.), *The Routledge Companion to Alternative Organisation* (pp. 280-294). London: Routledge.

Dijkstra, L., Poelman, H. & Veneri, P. 2019. The EU-OECD definition of a functional urban area, *OECD Regional Development Working Papers*, No. 2019/11, Paris: OECD Publishing.

Doughty, K. & Murray, L. 2015. Discourses of Mobility: Institutions, Everyday Lives and Embodiment. *Mobilities*, 11(2), pp. 303-322.

Douven, I. 2017. Abduction, *The Stanford Encyclopedia of Philosophy (Summer 2017 Edition)*, Edward N. Zalta (ed.)

Doyle, J. & Nathan, M. 2001. *Wherever Next. Work in a Mobile World*. London: The Industrial Society.

Dryzek J. 2001. Legitimacy and economy in deliberative democracy. *Political Theory*, 29 (5), pp. 651-669.

Eliasson, J., & Jonsson, L. 2011. The unexpected "yes": Explanatory factors behind the positive attitudes to congestion charges in Stockholm. *Transport Policy,* 18(4), pp. 636-647.

Elliot, A. & Urr, J. 2010. *Mobile lives.* London: Routledge

Enright, T. 2019. Transit justice as spatial justice: learning from activists. *Mobilities*, 14(5), pp. 665-680.

FAFO. 2019. *ABE-reformen i staten: Avbyråkratisering og effektivisering gjennom budsjettkutt*. Id-nr.: 20733. Oslo: FAFO

Federici, S. 2009. Feminism and the politics of the commons. In C. Hughes, S. Peace & K. Van Meter (Eds.), *Uses of a WhirldWind: Movement, Movements and Contemporary Radical Currents in the United States* (pp.283-294). Oakland: AK Press.

Fistola, R., Gallo, M., La Rocca, R.A. & Raimondo,M. 2018. Soft mobility in the "oblique city". *Town and Infrastructure Planning for Safety and Urban Quality*; Pezzagno, M., Tira, M., Eds.; (pp. 319–326). London: Taylor & Francis Group.

Flyvbjerg, B. 1998. *Rationality and Power: Democracy in Practice.* Chicago: University of Chicago Press.

Flyvbjerg, B. 2001. *Making social science matter : why social inquiry fails and how it can succeed again*. Cambridge: Cambridge University Press.

Flyvbjerg, B. 2010. Five Misunderstandings About Case-Study Research. *SAGE Qualitative Research Methods*, 12(2), pp.219–245.

FNB. 2019. Folkeaksjonen Nei Til Mer Bompenger - Bergen valgprogram 2019-2023. Bergen: FNB

Fournier, V. 2013. Commoning: on the social organisation of the commons. *M@n@gement*, Vol 16, no 4, pp. 433-453.

Fraser, N. 1995. From redistribution to recognition? Dilemmas of justice in a 'post-socialist' age. *New Left Review*, pp. 68-68.

Gallo, M. & Marinelli, M. 2020. Sustainable mobility: A review of possible actions and policies. *Sustainability,* 12(18), 7499.

Geertz, C. 1973. Thick Description: Toward an Interpretive Theory of Culture, *The Interpretation of Cultures: Selected Essays*, New York: Basic Books, pp. 3–30.

González-Hidalgo, M. & Zografos, C. 2020. Emotions, power, and environmental conflict: Expanding the 'emotional turn' in political ecology, *Progress in Human Geography*, 44(2), pp. 235–255.

Hanssen, G.S., Hofstad, H. & Saglie, I. 2015. *Kompakt byutvikling : muligheter og utfordringer,* Oslo: Universitetsforlag

Haraway, D. J. 2016. *Staying with the trouble : making kin in the Chthulucene*. Durham: Duke University Press.

Hardin, G. 1968. The tragedy of the commons. *Science,* 162 (3859), pp. 1243–1248.

Hardin, Garrett, 1974. Living on a lifeboat. *Bioscience,* 24(10), pp. 561–568.

Hartmann B. 2010. An environmentalist essay on the Greening of Hate. in Greenwash: Nativists, Environmentalism and the Hypocrisy of Hate, a report published in July 2010 by the Southern Poverty Law Center

Harvey, D. 2008. The Right to the City. *New Left Review*, 53 (Sep/Oct), pp. 23-40.

Harvey D. 2011. The Future of the Commons. *Radical History Review.* (109) pp. 101–107.

Harvey, D. 1989. From managerialism to entrepreneurialism: The transformation in urban governance in late capitalism. Geografiska Annaler: Series B, *Human Geography*, 71(1), pp. 3-17.

Hawkins, T., B. Singh, G. Majeau-Bettez, & Strømman. A. 2013. Comparative environmental life cycle assessment of conventional and electric vehicles. *Journal of Industrial Ecology,* 17(1) pp. 53–64.

Healey P. 1996. The Communicative Turn in Planning Theory and its Implications for Spatial Strategy Formation. *Environment and Planning B: Planning and Desig*n. 23(2), pp. 217-234.

Helfrich, S. & Bollier, D. 2015. *Patterns of commoning.* Germany: transcript Verlag.

Henderson, J. 2020. EVs are not the answer: A mobility justice critique of electric vehicle transitions. *Annals of the American Association of Geographers*, 110(6), pp. 1993-2010.

Hertel, S., Keil, R. & Collens, M. 2015. Switching tracks: Toward transit equity in the Greater Toronto and Hamilton Area. [Available at: ”http://suburbs.apps01.yorku.ca/wpcontent/uploads/2015/03/Switching-Tracks_9-March-2015.pdf]

Hoeschele, W., 2010. *The economics of abundance : a political economy of freedom, equity, and sustainability*, Farnham Surrey: Gower.

Holden, E. 2007. *Achieving sustainable mobility: Everyday and leisure-time travel in the EU*. Abingdon: Routledge.

Holden, E., Banister, D., Gossling, S., Gilpin, G., Linnerud, K. 2020. Grand narratives for sustainable mobility: A conceptual review. *Energy research and social science.* 65, pp. 1-10.

Hovland, I. 2021. *Hvordan øke produktiviteten i Norge?* Presented at Mobilitets konferansen 2021. Available at: <https://www.youtube.com/watch?v=HI8KrLgNimM> Accessed 16.02.2021

Huron, A. 2015. Working with Strangers in Saturated Space: Reclaiming and Maintaining the Urban Commons. *Antipode,* 47(4). pp. 1-17.

Huron, A. 2017. Theorising the urban commons: New thoughts, tensions and paths forward. *Urban Studies*, 54(4), pp. 1062-1069.

Hysing, E., & Isakson, K. 2015. Building acceptance for congestion charges – the Swedish experiences compared. *Journal of Transport Geography,* 49, pp. 52-60.

Høiskar, B., Sundvor, I., Johnsrud, M. & Haug, T. 2017. ‘Tiltaksutredning for lokal luftkvalitet i Bergen’. Norsk institutt for luftforskning. Bergen: Bergen Municipality.

Ingeborgrud, L. 2020. The Shaping of Urban Public Transport. *Science & Technology Studies*, 33, pp. 22-35.

IPCC. 2014. Climate change 2014 mitigation of climate change. Working group III contribution to the fifth Assessment report of the Intergovernmental Panel on Climate Change. O. Edenhofer, R. Pichs-Madruga, Y. Sokona, J. C. Minx, E. Farahani, S. Kadner, K. Seyboth, A. Adler, I. Baum, S. Brunner, P. Eickemeier, B. Kriemann, J. Savolainen, S. Schlömer, C. von Stechow, T. Zwickel, and the Working Group III Technical Support Unit (Eds.), Cambridge, UK: Cambridge University Press.

Jansen, Mareta. 2020. Statsbudsjettet 2021: Syv år med kutt i staten: Her er summene. Oslo: Frifagbevegelse.

Jeffrey, A., McFarlane, C. & Vasudevan, A. 2011. Rethinking Enclosure: Space, Subjectivity and the Commons. *Antipode*, 44(4), pp. 1247-1267.

Jensen, A. 2011. Mobility, space and power: On the multiplicities of seeing mobility. *Mobilities,* 6, pp. 255-271.

Jessop, B. 2002. Liberalism, Neoliberalism, and Urban Governance: A State–Theoretical Perspective. *Antipode*, 34(3), pp.452–472.

Karjalainen, L. E. & Juhola, S. 2019. Framework for Assessing Public Transportation Sustainability in Planning and Policy-Making. *Sustainability*, 11(4), p. 1028.

Kębłowski, W., & Bassens, D. 2018. "All transport problems are essentially mathematical": The uneven resonance of academic transport and mobility knowledge in Brussels. *Urban Geography*, *39*(3), pp. 413-437.

Kenyon, S., Rafferty, J. & Lyons, G. 2003. Social exclusion and transport: A role for virtual accessibility in the alleviation of mobility related social exclusion? *Journal of Social Policy*, 32 (3). pp. 317-38.

Khreis, H., Nieuwenhuijsen, M. & Bastiaanssen, J. 2017. 1863 - Creating Car Free Cities: Rational, Requirements, Facilitators and Barriers. *Journal of Transport & Health*, 5, pp. S65- S66.

Klein, N. 2010. *No logo : no space, no choice, no jobs* 10th anniversary., London: Fourth Estate.

Klimaomstillings konferansen. 2020. *Hand i hand. Og i klimapolitikken? Fordeling av klimarisiko og klimaansvar mellom distrikt og sentrale strøk*. Flø, B. Available at: https://www.youtube.com/watch?v=zl_8T8kU2QI&t=10230s (accessed: 25.09.2020)

Kohler, J., Turnheim, B. & Hodson, M. 2020. Low carbon transitions pathways in mobility: Applying the MLP in a combined case study and simulation bridging analysis of passenger transport in the Netherlands. *Technological Forecasting and Social Change*, 151, p. 119314.

Kuhn. T. 1987. What are Scientific Revolutions?, *The Probabilistic Revolution* edited by L. Krüger, L. Daston, and M. Heidelberger, Cambridge: Cambridge University Press: 7–22. Reprinted in Kuhn 2000: pp. 13–32.

Kurtz, H. 2001. Differentiating Multiple Meanings of Garden and Community. *Urban Geography,* 22(7), pp. 656–670

Lafferty, W. & Langhelle, O. 1999. *Towards sustainability development: On the goals of development and the conditions of sustainability*. Macmillan: London

Langmyhr, T. 2001. The rationality of transport investment packages. *Transportation*, 28, pp. 157-178.

Lefebvre H. 1971. *Everyday life in the modern world*. London: Allen Lane.

Lefebvre, H. 1991. *The Production of Space*. Oxford: Basil Blackwell.

Leftwich, A. 1983. *Redefining politics. People, resources and power.* New York, NY: Routledge

Legacy C. 2017 Is there a crisis of participatory planning? *Planning Theory,* 16(4), pp.425-442.

Levinson, D. 2010. Equity effects of road pricing: A review. *Transport Reviews,* 30, pp. 33-57.

Levinson, D. M., King, D.A. 2019. *A Political Economy of Access: Infrastructure, Networks, Cities, and Institutions.* Network Design Lab.

Linebaugh, P. 2007. *Magna Carta Manifesto: Liberties and Commons for All*. Berkeley, CA: University of California Press.

Litman, T. 2002. Evaluating transportation equity. *World Transport Policy & Practice,* 8(2), pp. 50-65.

Litman, T. & Brenman, M. 2012. A new social equity agenda for sustainable transportation. Paper 12-3916, *Transportation Research Board Annual Meeting*,Available at: http://www.vtpi.org/equityagenda.pdf (accessed 10.03.2020)

Lucas, K. 2012. Transport and social exclusion: Where are we now? *Transport Policy*, 20, pp. 105-113.

Lucas, K. and Jones P. 2012. Social impacts and equity issues in transport: An introduction. *Journal of Transport Geography,* 21, pp. 142-154.

Lucas, K., Mattioli, G., Verlinghieri, E., & Guzman, A. 2016. Transport poverty and its adverse social consequences. P*roceedings of the institution of civil engineers -Transport,* 169(6), pp. 353-365.

Manderscheid, K. 2014. Criticising the solitary mobile subject: Researching relational mobilities and reflecting on mobile methods, *Mobilities, 9*(2), pp. 188-219.

Martens, K. 2012. Justice in transport as justice in accessibility: applying Walzer's 'Spheres of Justice' to the transport sector. *Transportation*, 39, pp. 1035-1053.

Martnes, K., Golub, A. & Robinson, G. 2012. A justice-theoretic approach to the distribution of transportation benefits: Implications for transportation planning practice in the United States. *Transportation Research Part A: Policy and Practice*, 46, pp. 684-695.

Martens, K., Golub, A., & Robinson, G. 2012. A justice-theoretic approach to the distribution of transportation benefits: Implications for transportation planning practice in the United States. *Transportation Research Part A: Policy and Practice*, *46*(4), pp. 684-695.

Mattioli, G., Roberts, C., Steinberger, J. K., & Brown, A. 2020. The political economy of car dependence: A systems of provision approach. *Energy Research & Social Science*, 66, pp. 1-18.

McCloskey, D. N. 1990. *If You're So Smart. The Narrative of Economic Expertise.* Chicago: University of Chicago Press.

Mercier, J. 2009. Equity, social justice, and sustainable urban transportation in the twenty first century. *Administrative Theory & Praxis,* 31(2), pp. 145-163.

Merrifield, A. 2013. *The Politics of the Encounter. Urban Theory and Protest under Planetary Urbanization*, University of Georgia Press.

Miljøløftet, 2020. *Bybanefakta.* [Available at: https://xn--miljlftet-o8ab.no/detteerMiljoloftet/Bompenger/ofte-stilte-sporsmal-og-svar/] [accessed 04.11.2020]

Moehler, M. 2018. The Rawls-Harsanyi Dispute: A Moral Point of View. *Pacific Philosophical Quarterly.* 99(1) pp. 82-89.

Morton, C., J. Anable, G. Yeboah, and C. Cottrill. 2018. The spatial pattern of demand in the early market for electric vehicles: Evidence from the United Kingdom. *Journal of Transport Geography,* 72, pp. 119–30.

Mouffe, Chantal. 2005. *On the Political*. Abingdon: Routledge.

Mullen, C. & Marsden, G. 2016. Mobility justice in low carbon energy transitions. *Energy Research & Social Science*, 18, pp. 109-117.

Mullen C., Hughes D., Vincent-Jones P. 2011. The democratic potential of public participation: healthcare governance in england. *Soc. Legal Stud*., 20 (1), pp. 21-38

Mullings B. 1999. Insider or outsider, both or neither: some dilemmas of interviewing in a cross-cultural setting. *Geoforum* 30, pp. 337-350.

Müller, J. W. 2016. *What Is Populism?* Philadelphia, PA: University of Philadelphia Press.

Nightingale, A. J. 2019. Commoning for inclusion? commons, exclusion, property and socio-natural becomings. *International Journal of the Commons*, *13*(1), pp. 16–35.

Ostrom, E. 1990. *Governing the Commons. The Evolution of Institutions for Collective Action*. Cambridge: Cambridge University Press.

Ostrom E. 2008. *Tragedy of the Commons*. In: Palgrave Macmillan (eds) The New Palgrave Dictionary of Economics. London: Palgrave Macmillan.

Patel, R. 2009. *The Value of Nothing.* London: Portobello Books.

Patton, P. 2013. Foucault's 'Critique' of Neoliberalism: Rawls and the Genealogy of Public Reason. *New formations*, 80(80), pp.39–51.

Pereira, R., Schwanen, T., & Banister, D. 2017. Distributive justice and equity in transportation. *Transport reviews*, 37(2), pp. 170-191.

Peters, A. & Dutsche, E. 2014. How do Consumers Perceive Electric Vehicles? A Comparison of German Consumer Groups. *Journal of Environmental Policy & Planning*, 16(3), pp. 359-377.

Rambøll .2017. Transporteffekter av ny kommuneplan. ref. 1350021791 (22.11.2017). Bergen: Bergen municipality

Rawls, J., 1971. *A Theory of Justice*, London: Harvard University Press.

Ribot, J., & N. L. Peluso. 2003. A theory of access. *Rural Sociology,* 68 (2), pp. 153–181.

Rock, S. Ahern, A., & Caulfield, B. 2014. Equity and fairness in transport planning: The state of play. In 93rd Annual Meeting of the Transportation Research Board of the National Academies, Washington DC. Available at: https://trid.trb.org/view/1288701 (accessed 10.03.2020).

Rodrigue, J. 2020. *The Geography of Transport Systems.* 5th edition. New York: Routledge.

Rudinger, G., Donaghy, K. & Poppelreuter, S. 2004. Societal trends, mobility behaviour and sustainable transport in Europe and North America. *Transport Reviews*, 24(6), pp. 679-690.

Rutherford. J. 2020. *Redeploying Urban Infrastructure: The Politics of Urban Socio-Technical Futures.* London: Palgrave Macmillan

Sager, Tore, 2009. Planners' Role: Torn between Dialogical Ideals and Neo-liberal Realities. *European planning studies*, 17(1), pp.65–84.

Sager, T. 1999. Rhetoric of economic rationality: The foundation of Norwegian transport planning. *European Planning Studies*, 7, pp. 501-518.

Schwanen, T. 2019. Transport geography, climate change and space: opportunity for new thinking. *Journal of Transport Geography*, 81, 102530.

Sheller, M. & Urry, J, 2000. The City and the Car. *International journal of urban and regional research*, 24(4), pp. 737–757.

Sheller, M. & Urry, J. 2006 The new mobilities paradigm. *Environment and Planning A,* 38(2), pp. 207-226.

Sheller, M. 2018. *Mobility justice: The politics of movement in an age of extremes*. Brooklyn, NY: Verso.

Singh, N. M. 2017. Becoming a Commoner: The Commons as Sites for Affective Socio-Nature Encounters and Co-Becomings. *Ephemera: Theory and Politics in Organisation* 17(4), pp. 751–776.

Skilbrei, M. 2019. Kvalitative metoder. Planlegging, gjennomføring og etisk refleksjon. *Tidsskrift for samfunnsforskning*, (4), pp.414–416.

Smith, A., Stirling, A. & Berkhout, F. 2005. The Governance Of Sustainable Socio-Technical Transitions. *Research Policy*, 34, pp. 1491-1510.

Solecki, W., Rosenzweig, C., Dhakal, S., Roberts, D., Barau, A. S., Schultz, S., & Ürge-Vorsatz, D. 2018. City transformations in a 1.5 C warmer world. *Nature Climate Change*, 8(3), pp. 177-181.

Sovacool, B. K. 2021. Who are the victims of low-carbon transitions? Towards a political ecology of climate change mitigation. *Energy Research & Social Science*, 73(1), p. 101916.

Sovacool, B. K., Kester, J., Noel, L., & de Rubens, G. Z. 2019. Energy injustice and Nordic electric mobility: Inequality, elitism, and externalities in the electrification of vehicle-to-grid (V2G) transport. *Ecological Economics*, *157*, pp. 205-217.

Stavrides, S. 2016. *Common Space, The city as commons.* London: Zed Books.

Steg, L., & Forward, S. 2010. Explaining differences in acceptability before and acceptance after the implementation of a congestion charge in Stockholm. *Transportation Research Part A: Policy and Practice*, 44(2), pp. 99-109.

Swilling, M. & Annecke, E. 2012. *Just Transitions: Exploring Sustainability in an Unfair World.* Claremont: UCT Press.

Taylor, B. D. & Kalauskas, R. 2010. Addressing Equity in Political Debates over Road Pricing: Lessons from Recent Projects. *Transportation Research Record*, 2187(1), pp. 44–52.

Taylor, B. D. & Kalauskas, R. 2010. Addressing equity in political debates over road pricing: Lessons from recent projects. *Transportation Research Record,* 2187(1), pp. 44–52.

Temelkuran, E. 2019. *How to Lose a Country: The 7 Steps from Democracy to Dictatorship.* Notting hill: Fourth Estate Ltd

Tillberg, K. 2002. Children's (in)dependent mobility and parents' chauffeuring in the town and the countryside. *Tijdschrift voor economische en sociale geografie*, 93(4), pp.443–453.

Tormey, S. 2018. Populism: Democracy's Pharmakon?. *Policy Studies,* 39(3) pp. 260–273.

Tvinnereim, E., Haarstad, H., Rødeseike, A. & Bugnion, V. 2020. Explaining public acceptance of congestion charging: The role of geographical variation in the Bergen case. *Case Studies on Transport Policy,* 8, pp. 992-1001.

Tønnesen, A., Knapskog, M., Uteng, T. P. & Øksenholt, K. V. 2020. The integration of active travel and public transport in Norwegian policy packages: A study on 'access, egress and transfer' and their positioning in two multilevel contractual agreements. *Research in Transportation Business & Management*, 100546.

Urbanet. 2020a. Reisevaner og utviklingstrekk i de fire største byområdene [Travel habits and development trends in the four largest urban areas]. Bergen: Urbanet.

Urbanet. 2020b. Fordelingsvirkninger av bompenger - Bergen. [Distribution effects of tolls - Bergen]. Notat 15/2020.Bergen: Urbanet.

Urry, J. 2000. *Sociology Beyond Societies*. London: Routledge.

Urry, J. 2004. The 'system' of automobility. *Theory, Culture & Society*, 21(4-5), pp. 25-39.

Uteng, T. P. 2009. Gender, Ethnicity, and Constrained Mobility: Insights into the Resultant Social Exclusion, *Environment and Planning A,* 41(5), pp. 1055-1071.

Van Wee, G.P & Geurs, K.T. 2011. Discussing Equity and Social Exclusion in Accessibility Evaluations. *European journal of transport and infrastructure research*, 11(4), pp. 350-367.

Verlinghieri, E., & Schwanen, T. 2020. Transport and mobility justice: Evolving discussions. *Journal of Transport Geography*, 87, 102798.

Viegas, J. 2001. Making Urban Road Pricing Acceptable and Effective: Searching for Quality and Equity in Urban Mobility. *Transport Policy,* 8, pp. 289-294.

Viens, A M, 2019. Neo-Liberalism, Austerity and the Political Determinants of Health. *Health care analysis*, 27(3), pp.147–152.

Vollset, M., Schønfelder, T. & Mo, S., 2007. *På sporet av Bybanen*, Bergen: Bodoni forl

Waitt, G. & Harada, T. 2012. Driving, Cities and Changing Climates. *Urban Studies*, 49, pp. 3307-3325.

Wanvik, T. & Haarstad, H. 2021. Populism, instability and rupture in sustainability transformations. *Annals of the American Association of Geographers*. 0(0), pp. 1-16.

Wee, B. and Geurs, K. 2011. Discussing equity and social exclusion in accessibility evaluations. *European Journal of Transport and Infrastructure Research,* 11(4). 350 - 367.

Welde, M., Tveter, E. & Mork, A. G. 2020. *Lokale virkninger av vegprosjekter.* Trondheim: Concept

Westskog, H., Amundsen, H., Christiansen, P. & Tønnesen, A. 2020. Urban contractual agreements as an adaptive governance strategy: under what conditions do they work in multi-level cooperation? *Journal of Environmental Policy & Planning*, *22*(4), pp. 554-567.

White Paper No. 26 (2012-2013) Nasjonal transportplan 2014-2023. Ministry of Transport and Communication, Norway.

Wolff, R. P. 1977. *Understanding Rawls: A Reconstruction and Critique of A Theory of Justice.* Princeton, New Jersey: Princeton University Press.

Wågsæther, K., Remme, D., Haarstad, H., Sareen, S. *Forthcoming*. The justice pitfalls of a sustainable mobility transition. *Transport policy.*