UNIVERSITY OF AMSTERDAM

UvA-DARE (Digital Academic Repository)

A new politics of mobility: Commoning movement, meaning and practice in Amsterdam and Santiago

Nikolaeva, A.; Adey, P.; Cresswell, T.; Lee, J.Y.; Novoa, A.; Temenos, C.

Publication date
2017

Document Version
Final published version

Link to publication

Citation for published version (APA):
Nikolaeva, A., Adey, P., Cresswell, T., Lee, J. Y., Novoa, A., & Temenos, C. (2017). *A new politics of mobility: Commoning movement, meaning and practice in Amsterdam and Santiago*. (CUS Working Paper Series; No. 26). Centre for Urban Studies, University of Amsterdam. http://urbanstudies.uva.nl/content/working-paper-series/working-paper-series-no.26.html

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: https://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, P.O. Box 19185, 1000 GD Amsterdam, The Netherlands. You will be contacted as soon as possible.

UvA-DARE is a service provided by the library of the University of Amsterdam (https://dare.uva.nl)

Download date:16 Sep 2026

A new politics of mobility: Commoning movement, meaning and practice in Amsterdam and Santiago

Anna Nikolaeva, Peter Adey, Tim Cresswell, Jane Yeonjae Lee,
Andre Novoa, Cristina Temenos

Abstract:

Scholars have argued that transitions to more sustainable and just mobilities require moving beyond technocentrism and rethinking the very meaning of mobility in cities and societies. This paper demonstrates that such rethinking is inherently political and requires engagement with wider debates on the politics of transitions. In particular, we focus on recent theorisations of the commons and sharing practices that have gained traction in geographic and urban studies literatures. Drawing on our global comparative research on low-carbon mobility transitions, this paper argues that critical mobilities scholars can rethink and expand the understading of mobility through engagement with commons thinking, and develops a new concept, 'commoning mobility', that can help realise fairer and greener mobilities and more inclusive, collaboratively governed cities.

> "Like any true commons, the street itself was the result of people living there and making that space liveable. The dwellings that lined the roads were not private homes in the modern sense - garages for the overnight deposit of workers. The threshold still separated two living spaces, one intimate and one common.
>
> […] streets are no more for people. They are now roadways for automobiles, for buses, for taxis, cars, and trucks. People are barely tolerated on the streets unless they are on their way to a bus stop. If people now sat down or stopped on the street, they would become obstacles for traffic, and traffic would be dangerous to them. The road has been degraded from a commons to a simple resource for the circulation of vehicles. People can circulate no more on their own. Traffic has displaced their mobility. They can circulate only when they are strapped down and are moved" (Illich 1983, 3).

1. Introduction

There is a consensus that the movement of people and things continues to be one of the major contributors to greenhouse emissions, and thus any meaningful climate change policy should offer "cleaner" alternatives to high-carbon mobilities (Low 2013; Hickman and Bannister 2014). Road transport is accountable for the largest share of emissions from transportation, and sustainable mobility experts around the world propose a relatively standard recipe for transition: depending on the geography and the resources at hand, this usually involves increasing the share of "cleaner" energy provision for the transport (electricity, biofuels), investment into public transportation, promotion of active modes

(cycling and walking) and to a significantly lesser degree, the reduction of physical movement itself, sometimes by increasing urban density. The reluctance to question the value of mobility or hypermobility (Ferreira, Bertolini and Næss 2017; Cohen and Gössling) is sustained by the dominating belief in the priority of (national) economic growth and the dependence of that growth upon mobility of people and things (Givoni and Banister 2013). This narrative is supported by a cultural apparatus linking individual freedom, progress and modernity with physical mobility – an apparatus which is not exclusive to Western societies (Cresswell 2006). Furthermore, cities have been seen as the primary sites where the unequally distributed side-effects of high carbon mobility influence people's quality of life as well as key sites for small-scale experimentation that could eventually propel wider urban transitions to low-carbon living (Bulkeley et al 2011; McLaren and Agyeman 2015).

The infrastructural and cultural "lock-in" (Urry 2009) supporting high-carbon mobilities thus cannot be separated from wider debate on cultural political economies of transitions to sustainability, questioning what ideologies and corresponding forms of political and economic organisation are supporting the current high carbon living. Such discussion has started in the transition debate, broadly understood (Chatterton 2016), addressing the long-standing critiques of socio-technical transition theories as downplaying ideology, power and justice in favour of technologically determined innovations (Shove and Walker 2007; Smith and Stirling 2010). Yet, it unfolds separately from the field of mobilities research whose strength has been exactly in articulating how high carbon mobilities are part and parcel of contemporary way of living (Sheller and Urry 2016). Furthermore, the theorisation of the "politics of mobility", developed by Cresswell (2010, 2006a; see also Massey 1993), has the potential to offer a critique of the cultural political economies that shape high-carbon mobile living while offering new possibilities of conceptualising mobility transitions.

Bridging these two fields and drawing on a global comparative study of mobility transitions projects around the world, this paper proposes a new politics of mobility by developing a conceptualisation of *mobility as commons*. We argue that the commons lens can help in conceptualizing transition policies that are truly transformative, that aim to reconfigure the very relationship of humans with mobility and with each other. This relationship, which the opening epigraph demonstrates, has put us in literal and conceptual gridlock and therefore needs to be theoretically and materially rethought. Secondly, we argue that the new politics of mobility based on a logic of commons can critically interrogate mobility-related scarcities

on national and urban political agendas. Thirdly, a commons perspective enables nuanced criticism of emerging "sharing" practices whereby a narrative of community and participation disguises the highly uneven effects of new forms of organising movement, which is particularly prevalent in urban agglomerations through smart city policies and debates over ride-share and bike-share businesses, which are increasingly being regulated at the urban scale. Fourthly, it shifts attention to the profoundly contested nature of urban mobility transitions and the central role of the question of the "right to the city" (Lefebvre, 1996) in those transitions.

This paper brings together the results of a global comparative study analyzing key national mobility transition policies and a selected number of local projects in fourteen countries: Brazil, Canada, Chile, Kazakhstan, New Zealand, the Netherlands, Norway, Portugal, Singapore, South Africa, South Korea, Turkey, the United Arab Emirates, and the United Kingdom. A separate "case" covered international policy-making in the sphere of mobility transitions and included a study of the European Union policies and projects initiated by the United Nations and associated bodies. In total, the team has interviewed hundreds of stakeholders in the mobility transition arena, including representatives of transport companies, national, regional and local authorities, NGOs, think tanks, international organisations, activist groups and knowledge institutes.

One goal of the research was to identify the logics behind mobility transition projects as well as that of policies, initiatives and projects they are entangled with. We have thus looked at the broader context of mobility transition policies and projects, including policies in the sphere of transport, health, work, environment, trade, economy, urban and regional development. In the next three sections, we discuss logics that are central to understanding the rationales behind mobility transition policy – logics of scarcity and austerity – and pathways forward for rethinking such logics. In order to reflect on "transitions worth making" (Chatterton 2016, 406), we analyse a selection of cases from which we draw our conclusions to demonstrate the ideologies at play in the current mobility transition landscape and the rationales as well as potentially transformative logics behind transitions.

The paper unfolds as follows. First, we discuss the state of art on the subject, connecting the recent transition debates with mobilities research. We then briefly introduce the research that has led to the findings this paper builds on – a global survey of mobility transition policies and initiatives in fourteen countries. The argument then is structured around the discussion of the three logics behind mobility transition that the research has

identified: the logics of scarcity, the logics of austere mobilities and mobility commons thinking. We discuss the notion of commoning mobility as commoning movement, meaning and practice in more depth in two case study vignettes, focusing on envisioning fairer and greener mobility futures in Santiago and Amsterdam. In the conclusions we discuss how the conceptual toolkit of commoning mobility can advance the scholarship on mobility transition, paying particular attention to the politics of urban transitions and the right to the city as central in further research on fairer and more sustainable urban mobility.

2. Towards a politics of mobility transitions

Reducing greenhouse emissions in the transportation sector is a daunting task, yet necessary in the view of current knowledge about climate change. Transport is one of the few consumer areas where emissions continue to increase, contributing to over 20% of total emissions worldwide (World Bank 2014). The latest Fifth Assessment Report (AR5) of the Intergovernmental Panel for Climate Change (IPCC) estimates that greenhouse emissions from transportation "have more than doubled since 1970 to reach 7.0 Gt CO2eq by 2010 with about 80 % of this increase coming from road vehicles" (IPCC 2014, 606). If the demand for mobility increases, as it is currently projected to, and if no mitigation measures are taken "the current transport sector's GHG emissions could increase by up to 50% by 2035 at continued current rates of growth and almost double by 2050" (p. 648).

Transition studies, the examination of socio-technical transformations to low-carbon forms of energy, mobility, and lifestyles, has emerged as a dominant subfield addressing sustainable transport solutions to climate change in geography and beyond (Schwanen 2017; Temenos et al 2017). Technology-powered sustainable mobility solutions (from electric bicycles to drones used for deliveries) are abundant, however, transport scholars agree that focusing on technology is insufficient and can be counter-productive (Banister et al., 2016; Ferreira, Bertolini and Næss 2017; Hynes, 2016; Temenos et al 2017). Geographers have primarily engaged transition studies by drawing on analyses that use the Multi-Level Perspective (MLP) model of innovation-diffusion, a hierarchical framework that seeks to account for complex socio-economic and political processes that mediate sustainability innovation. It is based on three interdependent levels, the niche, the socio-technical regime, and the socio-technical landscape. MLP framework analyses posit that innovation begins at a 'niche' level, protected sites of experimentation. Innovative technologies are then mediated by the socio-technical regimes, complex constellations of

infrastructure and organizational standards, and bounded by the landscape, which encompasses wider societal values and governance structures (Geels 2002).

This approach to low-carbon innovation-diffusion however, fails to account for existing power dynamics and politics – but also the cultures, meanings and practices that frame and produce those power dynamics - what MLP scholars would see as part of socio-technical landscapes - which often prevent effective low-carbon transition on-the-ground (Affolderbach and Schultz 2015, Geels 2014; also see Sheller 2012). The lack of focus on power and politics, we argue, means that it also fails to address the potential that technological innovation has for more fundamental transformations governing how we think about sustainable mobility. Chatterton (2016, 403) observes that "there remains a reluctance to name and advocate for the more radical nature of transitions that society needs to embark on to address the huge challenges it faces." While thinking through the political implications of low-carbon transitions have begun in areas such as building standards (Affolderbach and Schultz 2017; O'Neil and Gibbs 2014), and energy (Bouzarovski and Simcock 2017; Petrova 2017), fundamental questions surrounding the politics of *mobility* transitions have yet to be explored. Mobility is a fundamental aspect of how places are constructed and experienced; it is both a crucial site and crucial process for consideration of socio-environmental and political transitions.

Cresswell (2006a, 2010) breaks down mobility into three interrelated elements: movement, meaning, and practice. Movement, the physical act of getting from point A to point B is the most basic element of mobility and inherently embodied and spatialized. Meaning, or representations of movement structure societal and individual perceptions of mobility that are relational, coding movement and its attendant mobile lives and resources within particular contexts. Take, for example, the case of Portuguese lorry drivers, whose mobile labour serves to connect European economies by delivering goods while the act of traveling across the continent serves to reinscribe their national identity (Nóvoa 2014). Finally, drawing on Bourdieu (1990), Cresswell (2010, 20) defines mobility practices as encompassing "both the everyday sense of particular practices such as walking or driving and also the more theoretical sense of the social as it is embodied and habitualised." First generation Korean immigrants returning to their country of birth to seek medical treatment, for example, entails both the seemingly mundane act of traveling to receive healthcare as well as a deliberate choice to move an ailing body across national borders,

consume more resources, and pay more money to receive a particular form of care (Lee et al 2010).

These elements of mobility – movement, meaning, and practice – are always circumscribed by existing governance structures, histories, power relations, and embodied experiences. Mobility is in and of itself relational. How and why mobility happens exerts its own force on the ways in which laws are constructed and politics plays out across spaces, affecting political and lived outcomes and spatial formations (Adey 2006, 2009; Aldred 2010, Cresswell 2006a; Temenos and McCann 2012). Mobility is always both spatial and political.

The question of mobility transition, which we define here as the transition to low- or no – carbon ways of moving, in particular, has undergone much debate over how to best achieve a transformation of movement and ways of doing it – the transformation of mobile practices. Debates over electronic road pricing and carbon taxes, electric vehicles, and cycling policy dominate (Aldred 2010; Han 2010; Holtsmark and Skonhoft 2014). Yet these debates most often leave out critical discussions over meanings and representations of mobility – thus neglecting the potential to rethink how mobility can be understood as a way not only to transform how people and things move (e.g. changing societal conceptions of mobility itself – such as the meaning of the petrol or diesel car as aspirational – may move demand and practices of certain kinds of automobility), but also how new forms of mobility can enable a more radical socio-political shift in spatial governance. We contend that any meaningful consideration of transition must also entail a consideration of the politics of mobility transitions, including questioning the relationship between an individualized 'right to move' (Cresswell, 2006b) and how collective social needs are mediated through mobilities.

One example of this kind of approach can perhaps be found in Sheller (2015), in the context of different transition policies within Philadelphia that work against a historically sedimented backdrop of highly segregated and racialised mobility infrastructure. For Sheller, the city's attempts to move its citizens to bike and car sharing schemes, increased walking and gleaming trains, are resisted by culturally embedded and affective grains of racism and inequality. To that end, some of the measures intended to transition Philadelphia are seen as projects of urban gentrification, thereby representing 'an eviction from their homes, leading some residents to refer to bike lanes as "white lanes." (Sheller 2015, 84). Whereas the patterns of inequality, poverty and segregation felt by the poor and ethnic minorities also produce particularly strong desires for car ownership as a signal of

security and status. For Sheller, achieving mobility transition requires attending to the cultural logics of racial justice simultaneously.

3. From contested scarcities to austere mobilities

The rhetoric of scarcity and discourses of saving resources such as time, money, space, and oil are ubiquitous in debates surrounding mobility and society in the twenty-first century. Scarcity is consistently naturalized and generalized, and taken out of specific historical and geographic contexts. Our research has come across appeals to several forms of scarcity. Scarcity becomes motivation to accelerate transition or as an excuse to hinder change in almost every case. Drawing on fourteen national contexts, a generic or common image of the ideal low-carbon mobility emerged which entails mobilities that cost less money, take up less space, use less or no oil or other form of carbon-based energy, and produce less emissions.

In the Netherlands, for example, the scarcity of road space and the relatively small territorial footprint of the country was evoked by many Dutch policy experts in our interviews. And despite its reputation as a leader in cycling policy, supported by high rates of cycling in cities and advanced cycling infrastructure, road congestion is presented as "*the* mobility problem" of the country (TFMM, n.d.). The national "Optimising Use" ("Beter Benutten") programme advocates for "mobility management" policies that reduce door-to-door travel time – a holy grail of transportation planning. Rather than investing heavily into infrastructure[1].The efficient management of existing infrastructure is widely considered best practice by Dutch transport planners, for example by encouraging commuters to avoid driving during rush hour. Behaviour change is encouraged via incentives to drive during alternate times, telecommute or work at home occasionally, use e-bikes, or carpool, among other strategies. In this instance, neither environmental impact nor the rationality of driving (or at least at low-congestion periods – driving during high congestion is absolutely constructed as irrational) itself is questioned: rather the logic forms around the need to manage time-space compression through reducing time spent on the road by minor adjustments to individual behaviour.

Similarly, in Singapore scarcity is an explicit policy rationale for its introduction of time-based electronic road pricing (ERP) and the Vehicle Quota System (VQS) (Government of Singapore 2013). Neither policy is new, with the first version of the ERP beginning in

[1] While this programme receives much publicity as the national approach to mobility management, the Dutch government is planning to invest 25 billion euro into building new roads till 2028.

1975, and the VQS established in 1990, nor is the discursive emphasis on individual behaviour change. ERP and VQS policies have been successful in stemming road congestion from individual vehicles, yet neither questions the assumed 'right to mobility' (Cresswell 2006b). And like the Netherlands, Singapore's public transportation system focuses on efficiency in moving people around, a 2015 advertising campaign noting that increased services would reduce time spent in transit and get people home in time to put their kids to bed, highlighting the importance of spending one's time – a finite resource - with family, and not time spent in motion. Scarcities, so prominent in Dutch and Singaporean policy goals, are relative, considering that both countries have some of the densest road networks in the world (World Bank 2011). While both countries have a small territorial footprint, more asphalt does not mean less congestion, as these cases show (see also Goh 2002; Goodwin, 1996). The management of who moves and when, rather than increasing infrastructure, has worked to decrease congestion and air pollution from vehicle emissions. Under this way of thinking, it is clear that scarcity does not need to be resolved by adding "more", rather it can be solved by rethinking the very need for mobility and by examining emphases on certain scarcities while others remain neglected.

These examples demonstrate the constructed and contested nature of scarcities in mobility policy debates. More fundamentally, though, discourses on scarcity continue to shape thinking on mobility and possibilities to envisage fairer and cleaner mobile futures. A key feature of the majority of national, regional and urban policies and political debates we have looked at demonstrate that, despite the pressures of scarcity, the role of mobility has not been critically reassessed at a societal level.

In the context of scarcity, mobility is expressed in square meters of road space, kilometres of motorway network, millions of euro, limits of pollution, or minutes of saved travel time. These resources are traded for one another, often providing mobility in ways that may seem to defy reason: it is acceptable if a few minutes of saved travel time is paid for by billions of pounds via megaprojects, while financial scarcity is pushed to other domains.[2] The value of mobility itself not only largely remains unquestioned, but is mobilised to sustain systematic imbalances that visions of mobility transitions seek to fix. These paradoxes may have escaped national politics, yet they have not been left entirely unattended. There are resistances to dominant ways of thinking through transition, such as the Citta Slow and Transition Town Movements (Jarvis 2015; Smith 2011) and alternative

[2] Acknowledgments to Luca Bertolini for bringing in this point of discussion.

land tenure processes (Chatterton 2016; Turner 2016). However, in the majority of cases, the response of policymakers and politicians to managing the dual pressures of moving people and goods while also addressing environmental concerns has been to pare back state services rather than increase interventions managing sustainable mobile futures. The result is the creation of *austere mobilities*, whereby the conditions for mobility entail the creation of spaces where only the most basic level of infrastructure is provided, and previously existing services such as public transportation, are increasingly contracted out to private companies.

Austere mobilities are therefore underpinned by logics of austerity broadly understood; however, they are not necessarily linked to financial austerity policies and may in principle result in immobilities. For example, car-free Sundays, currently celebrated as an environmental awareness-raising tactic by entrepreneurial cities, were introduced in the Netherlands and Denmark in the wake of the 1970s oil crisis as a means to reduce petrol consumption. Similarly, telework initiatives have grown up around the attempt to reduce traffic congestion and emissions through encouraging people to avoid commuting altogether (England 2004). Another player in the austere mobilities field is the transition town movement – art of a determinedly localist movement, focussing on small-scale practices within defined areas (Mason and Whitehead 2012). These examples focus on curbing individual behaviour in response to large-scale societal crises. Even though they are not coupled with the politics of financial austerity, they may nevertheless follow dominant logics of neoliberalization that focus on reducing dependence on state services, and relying on individual momentum and ingenuity to provide within current socio-economic systems. Beyond these localised, small-scale attempts to collectively curb mobility which have not been overwhelmingly successful, our research has not identified any significant commitment to curbing mobility at national or international levels. Instead most forms of mobility reduction have occurred through the disenfranchisement of particular individuals and communities from mobility services (which have reduced in frequency, geographical extent, or become financially unviable for their users) as a by-product of neoliberal austerity.

Thinking about mobilities in the context of austerity draws attention to certain problems and paradoxes that these discourses and projects may entail. Like financial austerity, austere mobility discourses are deeply ideological, driven by "moral and political considerations" (Schui 2014, 6) and are fraught with contradictions. Recent scholarship has analysed

austerity as a "site of discursive struggle" and "both an economic policy and a complex ideological phenomenon" (Bramall 2013, 1,3). Austerity policies could be associated with anti-consumerist ideology, and historically have been (Bramall 2013; Schui 2014). Yet, contemporary austerity policies enacted in the EU and the US are driven by pro-growth and (individualized) consumption agendas. Contemporary austerity policies do not target individual consumption, which is seen as the primary driver of the economy. Instead, they are focused on government expenditure, most prominently on consumable services such as healthcare or public transportation, and the reduction of labour costs. The paradoxical logic of curbing spending on services which enable labour, like healthcare and transport, and simultaneously reducing the cost of labour by cutting wages and jobs in the public sector in order to stimulate the economy has proven disastrous for people and economies alike.

There is considerable evidence that stripping environments of social resources neither benefits populations, economies, nor places (cf Blyth 2013; Cenci 2017; Hall 2015; Peck 2012; Schui 2014). In mobility transition discourses, this also comes through. Globally, people are encouraged to 'burn fat and save carbon' while national governments implement policies that maintain and promote (auto)mobility consumption through road building, economic incentives for corporate policies that stimulate car use by employees, exporting oil, etc (see also Spinney 2016).Furthermore, like financial austerity measures that are infamous for distributing the responsibility of bearing the consequences of "debt" through "saving" on spending (Blyth, 2015), austere mobilities do not adequately reflect the party primarily responsible for creating the debt itself. 'Leapfrogging' is an illustration of the disjunction between the origins of the emissions and the sites where austerity logics may be applied. It is supposed to occur when countries in the global south transition to low-carbon mobility regimes, skipping the stage of political carelessness about carbon emissions that characterised many OECD countries' development. In this context guilt-free unlimited private car usage is envisaged as a thing of the past, even though this past was a reality primarily for those in countries of the global north. With ten percent of the world population accounting for eighty percent of car travel, mobility is still a scarce and restricted resource for many (IPCC 2014, 606).

Mobility thus remains a desired and legitimate act and calls for curbing mobility are not embedded in national or local policies. Yet, understanding mobility through a lens of austerity allows us to identify problematic distribution of responsibility for producing the

negative consequences of high-carbon mobility and existing inequalities in accessibility. Unlike 'zombie neoliberalism' which assumes a blind domination of ideology and political-economic practices across space (Peck 2010), austere mobilities are a *response* to scarcity discourses. We argue that such responses can and should be challenged and rethought as a way to approach sustainable mobility, which we explore in the following section.

4. Commoning mobility

Apart from the logics of austerity as a response to multiple scarcities and climate change, we have observed initiatives underpinned by a set of politics that question not only the sheer quantities of movement, emitted CO2 or amount of investment but the very value of mobility and the ways in which it is governed and practiced. Connecting our findings with the recent geographic debates on commons, we frame these initiatives as instances of *commoning mobility* and theorise *mobility as commons*, articulating a new politics of mobility.

Common property and commonwealth has been of interest to economists and philosophers from Hobbes (1966) to Marx (1977). In the 20th century the debate has been ignited by the Hardin's article (1968) on the "tragedy of the commons" arguing that commonly-held resources are subject to overuse and destruction. This thesis has had considerable impact on science and policy, yet also was criticized by Ostrom (1990) whose work on the design principles of common pool resources continues to inform research and policy in the spheres of environmental protection and resource management.

The translation of the noun "common" into the verb in "commoning" was introduced by Linebaugh (2008) to highlight the active and collective process of making commons (see also Bresnihan 2013). Recent geographic literatures engaged with the notion of commoning primarily through spatializing and often 'urbanizing' two debates, the discussion of the management of common pool resources (CPR) beyond the state and the market, and the interrogation of the notions of commons and commoning as tools to envision and enact alternative post-capitalist politics (Huron 2017). While often still focusing on the actual physical properties of commons, geographers have been pushing towards understanding commons as "as complex social and political ecologies which articulate particular socio-spatial practices, social relationships and forms of governance that underpin them to produce and reproduce them" (Chatterton 2010, 626). As such the processual, the spatial and the relational dimensions of commons come forward as the focus shifts towards *commoning* (Chatterton 2010; Williams 2017) and to strategies and

practices which can work to 'assemble more inclusive, just and sustainable spaces' (Jeffrey, McFarlane and Vasudevan 2012, 2), and as we will suggest, mobilities.

Moreover, if commoning describes a set of processual relations through which something becomes common, it should be understood in relation to the processes of enclosure or enclosing that wrestle something from the commons. As Jeffrey, McFarlane and Vasudevan (2012, 2) write, 'the seizure of the commons is actively assembled through porous, sociomaterial and distanciated forms of enclosure—through relations of stability and flux, fixity and movement' (2). Those very practices are also dialectically related to practices of commoning, which might seek to subvert, undermine or reuse those enclosures through different spatialities, at different scales, and even through the production of different forms of subjectivity. We could therefore consider the forms of mobility austerity examined above as examples of processes of mobility enclosure, as the right to mobility as an idea, sets of meanings and practices, have been drawn away from many peoples.

In urban studies literatures the theme of urban commons and the city as a commons has been explored by scholars and activists seeking both to capture emerging commoning initiatives from community gardens and housing cooperatives to libraries and universities (Eizenberg 2012; Huron 2015; Pusey and Chatterton 2017; Williams 2017) and to sketch contours of possible urban futures (Chatterton 2017; Iaione 2009). According to Huron (2015), urban commons are a distinct form of commons and may be more challenging to enact for two reasons: firstly, becaus urban space a "saturated space" which is "already densely packed with people, competing uses, and capitalist investment" (963) and, second, because the urban commons is "constituted by the coming together of strangers" (ibid). Drawing on this argument, we propose that mobility in general, and urban mobility in particular shares these features as it is performed by strangers in a saturated space of movement, meaning and practice. Urban mobility is constituted by interactions on the move of pedestrians, cyclists and vehicles (Jensen 2010). Being on the move in the city firstly can be seen as the means of accessing multiple urban commons or participating in their production (cf the debate on the "right to mobility", Verlinghieri and Venturini 2017). Secondly, moving through the city can be viewed as in itself a potential venue for commoning as urbanites seek space and speed, comfort or safety unequally accessible to different mobile subjects: think of a politician crossing the city with a motorcade versus a cycling courier navigating dangerously narrow "leftovers" of space on the road. Thirdly, the very act of moving "together alone and alone together" (te Brömmelstroet et al 2017)

offers opportunities for engaging with others, recognising the common, the shared, the collective in the experience of dwelling in the city as we are "linked-through-motion" (Jensen 2010) and can constitute a "mobile publics" (Sheller 2004).

In mobilities literature the notion of commons and commoning is surprisingly absent. This is particularly surprising as the connection between the commons and mobilities is longstanding. The British romantic poet, John Clare, famously recorded, in poetic form, the enclosure of the commons around his home of Helpston in his poems. Right at the center of his concern was the limitation placed on his right to roam – his motility. Consider these lines from "The Mores"

> *Unbounded freedom ruled the wandering scene*
> *Nor fence of ownership crept in between*
> *To hide the prospect of the following eye*
> *Its only bondage was the circling sky*
> *One mighty flat undwarfed by bush and tree*
> *Spread its faint shadow of immensity*
> *And lost itself, which seemed to eke its bounds*
> *In the blue mist the horizon's edge surrounds.*

This poetic evocation of a roaming spirit in a mobile world of the commons is confronted with the acts of enclosure that presented "fences of ownership" preventing the mobilities of those who lived and worked on the land. The end of the commons was experienced as an end to certain mobile practices associated with "unbounded freedom."

While there is no literature on commoning mobility[3] there are a few engagements with the notion of the commons as it relates to transport and to migration. For instance, in commons literatures road infrastructure has been repeatedly framed as commons. According to Iaone, "congestion represents the perfect showcase for the tragedy of the commons, a collective action problem in which a resource held in common— urban streets and roads—is subject to overuse and degradation" (2009, 891). Similarly, Frischmann (2012) focuses, as Illich above, on the roads as a form of "infrastructure commons" and proposes solutions to tackle congestion and pollution as a form of "tragedy of the commons". A slightly broader approach is taken by O'Boyle who builds on Frischmann (2012), but shifts focus to mobility that he views as a "form of infrastructure commons" and defines "mobility commons" as "the availability of means to move safely and freely about the community with minimal impediment or inconvenience" (2010, 59). This

[3] In transport geography Verlinghieri and Venturini (2017) mention a possibility of thinking of mobility as a common in the context of discussing the right to mobility, yet do not elaborate what that might entail.

definition transcends transport-related built infrastructure alone as it includes "the built infrastructures, the socioeconomic nodes of a community, and the connections between them" (2010, 59), combining elements of accessibility or even sustainable accessibility (Bertolini, le Clercq and Kapoen 2005), motility (Kaufmann, Bergman and Joye 2004) and the notion of the city as commons (Foster and Iaione 2016). Yet, this discussion remains focused on the infrastructure and the pathways towards more participatory and environmentally conscious management of physical movement and mobility practices.

A more thorough engagement with the concept of "mobility commons" approaches small scale, localized endeavours such as community-owned transport, or social enterprises running transportation services, as common infrastructure that can potentially be integrated into larger transport systems (Glover 2016). Developing insights on transport services and transport infrastructure as a common pool resource (Frischmann 2012;, Glover 2011, 2012; Künneke and Finger 2009; Wills-Johnson 2010), Glover puts forward an approach that is broader than traditional notions of the commons as a bordered territory, as it urges a reconsideration of the use of material infrastructures but also asks questions of participation in mobility governance. This vision however still relies on scarcity discourses and does not engage with the potential of curbing movement or reconsidering its value. The underlying presumption still fetishizes unrestrained movement on the one hand, and considers such freedom impossible without "exhausting" resources on the other.

Another discussion of "mobile commons" is emerging in migration and citizenship studies. Papadopoulos and Tsianos (2013) have introduced the concept of "mobile commons" that has been expanded upon by scholars working on precarious mobilities and migrant activism (Nordling, Sager and Söderman 2017; Nyers 2015; Stierl 2016; Trimikliniotis, Parsanoglou and Tsianos 2015, 2016). Focusing on everyday tactics of survival and contestation of border regimes by migrants in Athens, Istanbul and Nicosia, they define "mobile commons" as "the world of knowledge, of information, of tricks for survival, of mutual care, of social relations, of services exchange, of solidarity and sociability that can be shared, used and where people contribute to sustain and expand it" (Papadopoulos and Tsianos 2013, 190). While these literatures engage with mobilities research, their main takeaway is the notion of mobile socialities – knowledges, ethics and practices - that become the fabric of mobile commoning (Elliott and Urry 2010). The meaning of mobility and the intersections of multiple mobilities that produce and are produced by the politics of mobility is, however, absent from this discussion.

Hardt and Negri (2009, 350), push beyond the notion of property as commons, and think through intellectual and cultural resources. They define the notion of cultural commons as "dynamic, involving both the product of labor and the means of future production. This common is not only the earth we share but also the languages we create, the social practices we establish, the modes of sociality that define our relationships, and so forth." Our notion of *mobility as commons* follows this broader definition, embracing forms of thinking about and organising mobility that draw on the logics of commons such as communal decision-making practices, openness to new forms of perceiving the right to mobility as well as the right to immobility (the right not to be displaced), the awareness of the social production of mobility and the power relations inherent in it, as well as a commitment to creating equity and working in the interest of the public good, contested as it may be.

Commoning mobility can therefore be understood as a process that encompasses governance shifts to more communal and democratic forms while also seeking to move beyond small-scale, niche interventions and projects. It is important to remember that 'the commons' are always contested, as is the ideology behind it (Harvey 2011). Therefore, in thinking through the notion of mobility as commons, it is essential to think through the commoning practices that will allow a new politics of mobility to break through in instances, while also being able to 'scale up' experimentations and ideological shifts that seem to emerge globally, shifts that sometimes resonate and at other times conflict (Martin 2016, see also McLaren and Agyeman 2015). Therefore, while Glover (2016) describes mobility commons as a regime of ownership and Iaione (2009) and Frischmann (2012) pursue a similar perspective, our emphasis is on rethinking the value, the meaning and practice of mobility as a potential step towards reconfiguring societal mobility regimes in more equitable and environmentally sustainable ways: a new politics of mobility.

The movements, meanings, and practices that make up mobility are often the site of formal political debate in questions of budgets spent on infrastructure, and how climate justice can be achieved through managing mobility. In order to shift how mobility as commons can be conceptualized, it is essential to think through the commoning practices alongside the various elements of mobility. What does commoning movement, commoning meaning, and commoning mobility practices look like on the ground? Our research has found openings and instances of each, and in the next section, we explore these practices and possibilities across cities in the global north and global south.

5. Towards a new politics of mobility

In this section, we outline the ways to think about commoning mobility – commoning movement, commoning meaning, and commoning practice – drawing on two case studies from our research. Commoning movement refers to collective engagement with the amount of movement across space; commoning meaning is defined here as collective reconsidering of the societal value of mobility and commoning practice as collective rethinking of ways in which mobility is performed and governed. Since the three elements of mobility are entangled with each other (Cresswell 2010), so are the elements of commoning mobility. As physical movement is "the raw material for the production of mobility" (19), commoning movement is more often then not takes places in conjunction with commoning meaning and practice, which, we argue, are the harder elements of commoning mobility that unfolds across spatial scales and levels of governance. For example, in our case study on telework in New Zealand working away from a designated workspace is advocated by its proponents as a way to common movement amongst the people who 'share' the traffic every morning: it draws attention to the sheer amount of movement across space that can be avoided by some people on particular days and others on other days. It also has elements of commoning meaning as telework advocates question the role of mobility in supporting particular lifestyles and mobility cultures that commuters accept uncritically; practice is likewise a key component as without performing this new low carbon lifestyle and devising corporate, local and national policies that support such change telework movement cannot achieve a transition.

In the two vignettes below we discuss commoning practice and commoning meaning in more depth. These two cases are representative of openings that we found throughout our fourteen case studies.

Commoning Practice: Transformative mobility governance in Santiago de Chile

Commoning mobility practices are a key step in transforming attitudes and expectations of how mobility is conceived and managed. In order to reconfigure societal mobility regimes in more equitable and environmentally sustainable ways, this needs to be done from the planning phase forward. While mobility practices are most commonly defined as instances of movement (Cresswell 2010), such as driving a car, we argue that they also encompass practices of how mobility is governed. *Commoning* mobility practices are actions that can bring about a shift in the ways mobility is performed and governed, focusing on more participatory decision-making models whereby the impacts of mobility practices are collectively managed. The activism surrounding the construction of concession highways in

Santiago, Chile's capital city, is an example of this kind of transformative politics. In this case, it is possible to draw out the potential for radical democratic decision-making structures and activism that effected change in formal governance practices.

In 1996, the Chilean Ministry of Transportation and Telecommunications announced the introduction of concession (toll) highways to be built in the metropolitan Santiago region to combat world-record levels of air pollution. The first highway, the Costanera Norte, was the subject of sustained multi-stakeholder protests which ultimately transformed the role of citizen participation in governance and planning, establishing a new set of mobility governance practices that have increased the role of participatory democracy within the country (Sagaris 2012, 2014). The highways were intended to increase the speed and ease of people commuting into the city while maintaining current levels of traffic congestion (Sagaris 2012). The highway included a 33km road cutting through the largest metropolitan park, Cerro San Cristobal, and several historical neighborhoods in the city center. In essence, the highways were mobility infrastructures that hijacked once common space. Their building was an enclosure intended for the freedom of circulation of the car and its inhabitants.

The original plan affected ten historic neighbourhoods in northern Santiago. In 1997, four socioeconomically and culturally diverse neighbourhoods came together in opposition to form Coordinadora No a la Costanera Norte (Coalition against the Costanera Norte hereafter: Coordinadora) comprised of 25 organizations and a handful of individuals. This coalition maintained a strong focus on social as well as environmental sustainability, and it was noted for its radically democratic governance structure that included consensus based decision-making and a non-hierarchical organizational structure (Sagaris 2012, 2014; Ducci 2000, 2004a, 2004b.) The coalition was successful in holding officials responsible for consulting with communities, and worked to reframe how governments engaged civil society organizations and communities so that they would have more equal footing with business lobbyists. The Coordinadora was successful in creating enough oversight and opposition that, coupled with uncertain profit margins for the concessionaire, the project was put on temporary hold in 1999.

The success of the Coordinadora highlights the need to focus on democratic forms of politics from below when considering how commoning mobility practices can effect successful shifts in governance and practice. Commoning decision-making practices about key articulations of mobility - such as how to build new road infrastructure - were able to

achieve a political stronghold in the decision-making process. The cross-class alignment, and local focus of the Coordinadora achieved a level of formal political recognition so as to meaningfully insert itself into future urban planning initiatives. Thinking through the potential of commoning practices does not end with organizational decision-making however.

In 2003 the project was put back out for public tender (Engel et al 1999). The Coordinadora was again faced with opposing a pro-business government, who found a consortium of businesses ready to build the Costanera Norte. Chile's recent history of dictatorship meant that, although its government is centralized, planning decisions were split between various ministries and implemented by regional offices, making them increasingly opaque and clientalistic (Huerta 2000, Posner 2009, Sagaris 2012). Despite the lack of transparency, the Coordinadora persisted in demanding meetings with government and businesses stakeholders. Their non-hierarchical structure also meant that the coalition defied expectations, sometimes bringing up to thirty members of the Coordinadora to government offices, and taking over public consultations while community members spoke in turn, lasting, according to our interviews, up to three hours before everyone had had their say (Sagaris 2012, 2014; Interview activists 2015). This persistence shaped how citizens understood their role in the future of Santiago's mobility infrastructure.

Spatially, the four affected neighbourhoods are today seen as catalysts for the relatively young civil society within Chile and many such organizations in Santiago are located in these four neighbourhoods. Furthermore, many of the Coordinadora members have gone on to work in civil society, become planners and remain community activists with a specific emphasis on mobility transitions focusing on issues such as cycling and public transit (Sagaris 2014). The construction of the Costanera Norte was intended as a measure to mitigate environmental externalities such as air pollution without altering broader ideological visions of modernity through its focus on increasing automobility and by a process of infrastructural enclosure. This backfired, sparking a significant battle over fundamental views on citizenship and belonging, having lasting effects on planning throughout Chile.

The effect of their action was material, a significant rerouting of the highway saved three of the four neighborhoods at risk, costing the companies $500 million Chilean pesos, including compensation for those displaced. However, Chile faces challenges to achieving a sustainable mobility transition, especially if the visions of how it should look are at odds

with capitalist logics. The success of the Coordinadora shows that even in the face of challenges, there is space for reimagining how commoning mobility practices can be structured through collective governance processes. Its success is not only the achievement of re-routing of the highway - a success some have argued is relatively minor - but rather in establishing a precedent for citizen involvement in urban planning and discussions about mobility futures. Maintaining a cross-class opposition to the highway and a commitment to non-hierarchical leadership, the Coordinadora engendered a precedence for increased democratic decision-making. The ways of commoning that we have identified thus far are not straightforward. It is important to remember that they need to be sought within current political assemblages in order to think through future possibilities and applications.

Commoning meaning in Amsterdam: keeping communities connected through cycling

Commoning the meaning of mobility happens when a social actor or actors actively push for rethinking the social impact of movement, its representations or the meaning of relationships on the move. One example is a Dutch social enterprise Ring-Ring® that started in the Ijburg area in Amsterdam as a bottom-up neighbourhood civic initiative in 2011 and now works across the country. Ring-Ring® uses smartphone application to encourage more people to cycle, but it works differently from other nudging application of such type. If you use this application, your cycling kilometres and routes are recorded and can be exchanged into discounts in local shops. The core distinguishing feature of this application is, however, its focus on the meaning of mobility and a possibility to "mobilise mobility"[4] for a social goal. E.g., a public authority, a private company or a group of citizens can start a "group", set a cycling target (e.g. to cycle 10 000 kilometres in total), allocate an amount of money and decide on a social goal. The money can be transferred to Ring-Ring, and when the target is achieved, Ring-Ring® will transfer the money to a particular local initiative chosen by the group. This way such projects were (co-)financed as a local library, art works alongside a local cycling route, a monument in the neighbourhood, trips to a pony farm for handicapped children, purchasing bikes for handicapped people, planting trees etc.

Here mobility is rethought as a *common* contribution to society. The vision behind the application is that cycling contributes to neighbourhoods and cities as an environment-friendly mobility but also as activity which, when undertaken collectively, supports

[4] The term is coined by Aradau, Huysmans and Squire 2010 and originally means political mobilisation of mobile and usually marginalised groups (e.g. Roma, mobile sex workers) to demands rights and advance causes that no local or national authority raises.

liveability, sociality and prosperity of places since cyclists are considered to be encouraging small businesses, and to be engaging deeper with the community and place around them due to their slower speeds and openness (see also te Brömmelstroet et al 2017). Movement and meaning are commoned through the interface of the application which not only shows the users the number of kilometres cycled by them but also the total amount all users of Ring-Ring@ has cycled (as well as "saved" CO2), and the number of kilometres cycled by their group towards a local goal.

While the key objective of Ring-Ring® is to increase cycling rates, preferably encouraging people to switch from driving to cycling, its broader societal goal is to reassess mobility beyond its utilitarian value, and do it in a democratic fashion facilitating bottom-up initiatives and investment into local communal projects. On the surface, the idea resonates with the current bikenomics thinking, that effectively monetises the effects of cycling in order to advocate for investment into cycling as multiple societal returns can be expected (Blue, 2013). Yet, according to the Ring-Ring® founder, the idea here is not so much about monetising cycling as it is about decentralising and democratising the process of ascribing value in society. Through the use of cryptocurrency (Fkm), the value of cycling can be captured in a "smart contract", e.g. between an employer and employee, and a particular number of Fkm can be converted into certain benefits. Ideally, this would lead to a decentralised bottom-up process of value creation outside of the realm of state. Additionally, the founder of the initiative is currently considering ways in which the use of data collected through the application could be "democratized", e.g. be shared with scholars or policy-makers on the basis of a subscription (given users agree to that, the data is anonymised etc). Thus, at the core of Ring-Ring® mission is commoning the meaning of mobility, yet it also advances commoning movement and commoning practice, offering a version a bottom-up transition driven by reconsidering the value of mobility, raising awareness of it collective impact and mobilising networks of local actors for a bottom up social change.

6. Discussion and conclusion

Commoning mobility refers to projects that highlight the shared responsibility for what mobility does to societies: whether in the form of shared bikes or rides as projects that may drive sustainability and accessibility agendas, or projects that develop collective mobility governance arrangements driven by communities sharing a vision of sustainable living. The notion of commoning mobility does not only capture the logics of a number of low carbon

transition initiatives, as well as the dialectically related processes which enclose mobilities, it engages with a number of debates in geography and the social sciences, drawing links between mobility, space and political economy.

Firstly, commoning mobility proposes to reconsider the *value* of mobility and its collective repercussions in addition to communal management of transport. This means rethinking the role of mobility as what keeps communities both connected and diverse. Mobilities may be the means through which we interact with each other and with the environment around us (te Brömmelstroet et al., 2017), something we share and can collectively govern rather than something we value only as it is converted into financial equivalent, square kilometres and minutes of commute. This emphasis on the societal meaning of mobility has been missing from earlier scholarly engagements with the notion of commons as applied to mobility, and it brings together the call for mobility transitions beyond technofixes and the grounded prefigurative politics that commoning can help realise.

Secondly, the new politics of mobility based on the logics of commons invites us to interrogate mobility-related scarcities, and their enclosures, and as such connects to broader questioning of the key postulates behind much of the political economic thinking today. The logics of "commoning" undermine the very presumption of scarcity, which, according to Xenos "is not a universal condition of the human species" but instead is a "modern invention" that took place in affluent Anglo-European societies (1989, 2-3). Commons theorists historicize the idea of scarcity as a constructed one and key to the dominant "economic ideology of nature" which envisions the competition for scarce resources as the basic law of nature and economy alike (Weber 2012). Yet, according to Weber (ibid), in nature scarcity does not necessarily lead to competition or displacement but to diversification. If we translate this idea to thinking about mobility, we can propose that mobility transitions need not to be animated by trade-offs between scarcities through different acts of enclosure, but can be approached from other positions – that of sufficiency or even abundance – and imagined as a set of responses affording diverse low-carbon mobilities to be commoned. Austere mobilities can be critically scrutinised through the commons perspective as a set of enclosing mobilities, meanings and practices.

Thirdly, sharing practices can be critically reassessed using "commoning" as heuristics. Take bike-sharing. Although lauded as harbingers of sustainable and equitable mobility, the politics of developing bikeshares have stirred some controversies. Studies have shown that larger share of docking stations are built in more affluent areas (Clark and Curl 2016; Gavin

et al 2016), and thus are prioritising particular users over others, strengthening, rather than eliminating transport inequalities. The issue of participation has been equally important: from San Francisco to Amsterdam bike share bikes have been vandalised by local inhabitants claiming their right to decision-making.

Fourthly, and related: globally cities are becoming key sites of reclaiming the commons, and such claims are increasingly focusing on mobility and the use of urban public space. The idea of "the tragedy of the commons" has been evoked to interpret the use of public space by Uber in São Paulo (Flint 2017) and bikeshares in Washington (Rushe 2017), yet we argue there is more than over-use of a shared space that is at stake. These debates point to the profoundly contested nature of urban mobility transitions and the central role of the question of the "right to the city" (Lefebvre, 1996) in those transitions. Commoning mobility as commoning meaning, movement and practice shifts attention from a narrow understanding of urban mobility commons as infrastructure towards exploring a range of possibilities of reconfiguring the political debate on planning fairer and liveable cities. Those possibilities begin with questioning the decision-making processes behind urban mobility policies and embeddedness of those decisions in broader ideological regimes that allocate scarcities in ways that have produced detrimental societal and environmental effects across the globe.

Finally, we are not making a normative claim that commoning mobility is the sole way towards equitable and sustainable mobility, yet we do believe that the idea of commoning can be a fruitful heuristic for criticizing current high carbon mobility regimes, neoliberal logics of investment into large infrastructure projects and pushing the responsibility for movement to individuals as well as sharing practices that reinforce inequality and exclusion.

References

Adey P 2006 If mobility is everything then it is nothing: towards a relational politics of (im)mobilities *Mobilities* 1 75-94

Adey P 2009 Facing airport security: affect, biopolitics, and the preemptive securitisation of the mobile body *Environment and Planning D: Society and Space* 27 274-295

Affolderbach J and Schulz C 2016 Mobile transitions: Exploring synergies for urban sustainability research *Urban Studies* 53 1942-1957

Aldred R 2010 'On the outside': Constructing cycling citizenship *Social & Cultural Geography* 11 35-52.

Aradau C, Huysmans J and Squire V 2010 Acts of European Citizenship: A Political Sociology of Mobility *JCMS: Journal of Common Market Studies* 48 945–965

Azócar G, Sanhueza R, Aguayo M, Romero H and Muñoz M D 2005 Conflicts for control of Mapuche-Pehuenche land and natural resources in the Biobío highlands, Chile *Journal of Latin American Geography* 4 57-76

Banister D, Givoni M, Macmillen J and Schwanen T 2013 Thinking change and changing thinking in Givoni M and Banister D eds *Moving Towards Low Carbon Mobility* Edward Elgar Publishing, Cheltenham 267-284

Bertolini L, le Clercq F and Kapoen L 2005 Sustainable accessibility: a conceptual framework to integrate transport and land use plan-making. Two test-applications in the Netherlands and a reflection on the way forward. *Transport Policy* 12 207–220

Blue E 2013 *Bikenomics: How Bicycling Can Save the Economy* Portland. Microcosm Publishing

Bourdieu P 1990 *The Logic of Practice* Stanford University Press, Palo Alto

Bouzarovski S and Simcock N 2017 Spatializing energy justice *Energy Policy* 107 640–8

Bramall R 2013 *The Cultural Politics of Austerity: Past and Present in Austere Times* Palgrave Macmillan, Basingstoke

Bresnihan P 2013 John Clare and the manifold commons *Environmental Humanities* 3 71-91

Bulkeley H, Broto V C, Hodson M and Marvin S eds 2011 *Cities and Low Carbon Transitions* Routledge, London

Cenci A 2017 A qualitative viewpoint on the Southern eurozone highly skilled labour mobility in the metropolitan area of Copenhagen in times of crisis and austerity *Mobilities* 1-18

Chatterton P 2016 Building transitions to post-capitalist urban commons *Transactions of the Institute of British Geographers* 41 403-415

Chatterton P 2010 Seeking the urban common: furthering the debate on spatial justice. *City* 14 625–628

Chatterton P, Featherstone D and Routledge P 2012 Articulating climate justice in Copenhagen: antagonism, the commons, and solidarity. *Antipode* 45 602–620

Clark and Curl A 2016 Bicycle and car share schemes as inclusive modes of travel? A socio-spatial Analysis in Glasgow, UK. *Social Inclusion* 4 83–99

Cohen S A and Gössling S 2015 A darker side of hypermobility. *Environment and Planning A* 47 166–1679

Cresswell T 2010 Towards a politics of mobility. *Environment and planning D: society and space* 28 17-31

Cresswell T 2006a *On the Move: Mobility in the Modern Western World* Taylor & Francis, New York

Cresswell T 2006b The right to mobility: the production of mobility in the courtroom *Antipode* 38 735-754

Ducci M E 2000 Governance, Urban Environment, and the Growing Role of Civil Society, Project on Urbanization, Population, Environment and Security Woodrow Wilson International Center for Scholars, Washington, DC

Ducci M E 2004a *Las Batallas Urbanas De Principios Del Tercer Milenio [Urban Battles at the Start of the Third Millennium]* Wilson Institute, Washington, DC

Ducci M E 2004b Un caso paradigma´tico un norte muy distinto al de la Costanera ı´dem, [A Paradigmatic Case: A Very Different North from the Costanera's] *Revista Universitaria* 84 60–63

Eizenberg E 2012 Actually Existing Commons: Three Moments of Space of Community Gardens in New York City *Antipode* 44 764–782

Elliott and Urry J 2010 *Mobile Lives* Routledge, Oxon/New York

Engel E, Fischer R D and Galetovic A 1999 *The Chilean infrastructure concessions program: evaluation, lessons and prospects for the future* (Vol. 60) Centro de Economía Aplicada, Universidad de Chile, Santiago, Chile

England B 2004 *Teleworking: Work from afar* in Spoonley P, Dupuis A and de Bruin A eds *Work and Working in Twenty-first century New Zealand* Dunmore Press, Palmerston North 275 – 278

Ferreira A, Bertolini L and Næss P 2017 Immotility as resilience? A key consideration for transport policy and research *Applied Mobilities* 2 16-31

Flint D 2017 Uber and Lyft Should Pay for the Streets *Citylab* 28 November 2017 (https://www.citylab.com/transportation/2017/11/uber-and-lyft-should-pay-for-the-streets/546851/) Accessed 28 November 2017

Foster S and Iaione C 2016 The City as a Commons *Yale Law & Policy Review* 34 282-349

Frischmann B 2012 *Infrastructure: The Social Value of Shared Resources* Oxford University Press Kindle Edition

Gavin K, Bennett A, Auchincloss A H and Katenta A 2016 A brief study exploring social equity within bicycle share programs. *Transportation Letters* 8 177–180.

Geels F W 2002 Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study *Research Policy* 31 1257-1274

Geels F W 2014 Regime resistance against low-carbon transitions: Introducing politics and power into the multi-level perspective *Theory, Culture & Society* 31 21-40

Givoni M and Banister D 2013 Mobility, transport and carbon in Givoni M and Banister D eds *Moving Towards Low Carbon Mobility* Edward Elgar Publishing, Cheltenham 1-15

Goh M 200. Congestion management and electronic road pricing in Singapore. *Journal of Transport Geography* 10 29–38

Goodwin P 1996 Empirical evidence on induced traffic: A review and synthesis. *Transportation* 23 35–54

Government of Singapore 2013 *Land Transport Master* Plan Land Transportation Authority.

Glover L 2011 Public transport as a common pool resource *Australasian Transport Research Forum 2011* Adelaide, Australia, 28– 30 September

Glover L 2012 Public policy options for the problem of public transport as a common pool resource *Australasian Transport Research Forum* 2012 Adelaide, Australia, 26– 28 September

Glover L 2016 *Community-Owned Transport* Taylor and Francis, Kindle Edition.

Iaione C 2009 The Tragedy of Urban Roads: Saving Cities from Choking, Calling on Citizens to Combat Climate Change *Fordham Urban Law Journal* 37 889-951

Huerta M A 2000 *Descentralización, Municipio Y Participación Ciudadana: Chile, Colombia Y Guatemala* [*Decentralization, Municipal Government and Citizen Participation: Chile, Colombia and Guatemala*] CEJA, Bogotá

Jeffrey A, McFarlane C and Vasudevan A 2012 Rethinking enclosure: space, subjectivity and the commons *Antipode* 44 1247–1267

Jensen O B 2010 Negotiation in motion: Unpacking a geography of mobility. *Space and Culture* 13 389–402

Kaufmann V, Bergman M M and Joye D 2004 Motility: mobility as capital. *International Journal of Urban and Regional Research* 28 745–756`

Künneke R and Finger M 2009 The governance of infrastructures as common pool resources Fourth Workshop on the Workshop, Bloomington, IN, June 2– 7

Hall S M 2015 Everyday family experiences of the financial crisis: getting by in the recent economic recession *Journal of Economic Geography* 16 305-330

Han S S 2010 Managing motorization in sustainable transport planning: the Singapore experience *Journal of Transport Geography* 18 314-321

Hardin G 1968 The Tragedy of the Commons *Science* 162 1243–48

Hardt M and Negri A 2009 Commonwealth Harvard University Press, *Cambridge*

Harvey D 2011 The future of the commons *Radical history review* 109 101-107

Hickman R and Banister D 2014 *Transport, Climate Change and the City* Routledge, London

Hobbes T 1960 *Leviathan: Or the Matter, Forme and Power of a Commonwealth Ecclesiasticall and Civil* Blackwell, Oxford

Holtsmark B and Skonhoft A 2014 The Norwegian support and subsidy policy of electric cars. Should it be adopted by other countries? *Environmental science & policy* 42 160-168

Huron A 2015 Working with strangers in saturated space: reclaiming and maintaining the urban commons *Antipode* 47 963–979

Hynes M 2016 Developing (tele)work? A multi-level sociotechnical perspective of telework in Ireland *Research in Transportation Economics* 57 21-31

Illich I 1983 Silence is a Commons. *The CoEvolution Quarterly* Winter 1983

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. (Ottmar Edenhofer, Ramón Pichs-Madruga, Youba Sokona, E. Farahani, S. Kadner, K. Seyboth, … J.C. Minx, Eds.). Cambridge University Press.

Instituto Nacional de Estadísticas 2012 PARQUE DE VEHÍCULOS EN CIRCULACIÓN Santiago, Chile

Jarvis H 2015 Community-led Housing and 'Slow' Opposition to Corporate Development: Citizen Participation as Common Ground? *Geography Compass* 9 202-213

Jirón P 2010 Mobile borders in urban daily mobility practices in Santiago de Chile. *International Political Sociology* 4 66-79

Lee J Y, Kearns R A and Friesen W 2010 Seeking affective health care: Korean immigrants' use of homeland medical services *Health & Place 16*(1) 108-115

Linebaugh P 2008 *The Magna Carta Manifesto* University of California Press, Berkeley CA

Low N ed 2013 *Transforming Urban Transport: The Ethics, Politics and Practices of Sustainable Mobility* Routledge, London

Lefebvre H 1996 *Writings on Cities* Blackwell, Oxford

Martin C J 2016 The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism? *Ecological Economics* 121 149-159

Marx K 1977 *Capital: Volume One* Vintage New York

Mason K and Whitehead M 2012 Transition Urbanism and the Contested Politics of Ethical Place Making *Antipode* 44 493-516

Massey D 1993 Power-geometry and a progressive sense of place in Bird J, Curtis B, Putnam T, Robertson G and Tuckner L eds *Mapping the Futures: Local Cultures, Global Chance* Routledge, London 59 – 69.

McLaren D and Agyeman J 2015 *Sharing Cities: A Case for Truly Smart and Sustainable Cities* MIT Press, Cambridge MA

Nordling V, Sager M and Söderman E 2017 From citizenship to mobile commons: reflections on the local struggles of undocumented migrants in the city of Malmö, Sweden. *Citizenship Studies* 21 710–726

Nóvoa A 2014 'A country on wheels': a mobile ethnography of Portuguese lorry drivers *Environment and Planning A* 46 2834-2847

Nyers P 2015 Migrant Citizenships and Autonomous *Mobilities Migration, Mobility, & Displacement* 1 23-39

O'Boyle T 2010 The mobility commons: an application of network neutrality to the common pool resource of mobility *New Visions for Public Affairs* 2 23-48

ONeill K J and Gibbs D 2014 Towards a sustainable economy? Socio-technical transitions in the green building sector *Local Environment* 19 572-590

Ostrom E 1990 *Governing the Commons: The evolution of Institutions for Collective Action* Cambridge University Press, New York

Papadopoulos D and Tsianos V 2013 After citizenship: Autonomy of migration and the mobile commons *Citizenship Studies* 17 42–73

Papadopolous D 2012 Worlding Justice/Commoning Matter *Occasion: Interdisciplinary Studies in the Humanities* 3 1-25

Peck J 2010 Zombie neoliberalism and the ambidextrous state *Theoretical Criminology 14* 104-110

Peck J 2012 Austerity urbanism: American cities under extreme economy *City* 16 626-655

Petrova S 2017 Encountering energy precarity: geographies of fuel poverty among young adults in the UK *Transactions of the Institute of British Geographers*

Posner P W 2009 Local democracy and popular participation in Chile and Brazil in Silva P and Cleuren H eds *CEDLA Latin America Studies* 97 Brill, Leiden, Boston 47-74

Pusey A and Chatterton P 2017 Commons. In Jayne M and Ward K eds *Urban Theory: New critical perspectives* Taylor and Francis, Kindle Edition

Rushe D 2017 Why we can't have nice things: dockless bikes and the tragedy of the commons *Guardian* 5 November 2017 (https://www.theguardian.com/politics/2017/nov/05/why-we-cant-have-nice-things-dockless-bikes-and-the-tragedy-of-the-commons) Accessed 5 November 2017

Sagaris L 2012 'Citizens, Complexity and the City, Lessons from Citizen Participation in Urban (Transport) Planning in Santiago, Chile, 1997–2012' Unpublished PhD thesis Department of Planning and Geography, University of Toronto, Canada

Sagaris L 2014 Citizens' Anti-highway Revolt in Post-Pinochet Chile: Catalyzing Innovation in Transport Planning *Planning Practice and Research* 29 268-286

Schui F 2014 *Austerity: The great failure* Yale University Press, New Haven

Schwanen T 2017 Thinking complex interconnections: transition, nexus and Geography *Transactions of the Institute of British Geographers*

Sheller M 2004 Mobile publics: beyond the network perspective. *Environment and Planning D: Society and Space* 22 39–52

Sheller M 2012 The emergence of new cultures of mobility: stability, openings and prospects in Geels F, Kemp R, Dudley G and Lyons G eds *Automobility in Transition? A Socio-Technical Analysis of Sustainable Transport* Routledge, New York 180–202

Sheller M 2015 Racialized mobility transitions in Philadelphia: connecting urban sustainability and transport Justice *City & Society* 27 70-91.

Sheller M and Urry J 2016 Mobilizing the New Mobilties Paradigm *Applied Mobilities* 1 10-25

Shove E and Walker G 2007 CAUTION! Transitions ahead: politics, practice and sustainable socio-technical transitions *Environment and Planning A* 39 763-770

Smith A 2011 Community-led urban transitions and resilience: performing transition towns in a city in Bulkeley H, Broto V C, Hodson M and Marvin S eds Cities and Low Carbon Transitions Routledge, London 159-177

Smith A and Stirling A 2010 The Politics of Social-Ecological resilience and sustainable socio-technical transitions *Ecology and Society* 15/1

(https://www.ecologyandsociety.org/vol15/iss1/art11/main.html) Accessed 5 May 2017

Spinney J 2016 Fixing mobility in the neoliberal city: cycling policy and practice in London as a mode of political–economic and biopolitical governance *Annals of the American Association of Geographers* 106 450–458

Stierl M 2016 A sea of struggle – activist border interventions in the Mediterranean Sea *Citizenship Studies* 20 561–578

te Brömmelstroet M, Nikolaeva A, Glaser M, Nicolaisen M and & Chan C 2017 Travelling together alone and alone together: mobility and potential exposure to diversity *Applied Mobilities* 2 1–15

TFMM (n.d.) Mobiliteitsprobleem in Nederland (http://www.tfmm.nl/mobiliteitsprobleem-in-nederland/) Accessed 4 May 2015

Temenos C, Nikolaeva A, Schwanen T, Cresswell T, Sengers F, Watson M and Sheller M 2017 Theorizing Mobility Transitions: An Interdisciplinary Conversation *Transfers 7* 113-129

Temenos C and McCann E 2012 The local politics of policy mobility: learning, persuasion, and the production of a municipal sustainability fix *Environment and Planning A* 44 1389-1406

Trimikliniotis N, Parsanoglou D and Tsianos V S 2016 Mobile commons and/in precarious spaces: mapping migrant struggles and social resistance. *Critical Sociology* 42 1035–1049

Trimikliniotis N, Parsanoglou D and Tsianos S V 2015 *Mobile Commons, Migrant Digitalities and the Right to the City* Palgrave Macmillan, London

Turner M D 2016 Political ecology III: The commons and commoning *Progress in Human Geography* 41 795-802

Verlinghieri E and Venturini F 2017 Exploring the right to mobility through the 2013 mobilizations in Rio de Janeiro *Journal of Transport Geography*

Weber A 2012 The Economy of Wastefulness: The Biology of the Commons in Bollier D and Helfrich S eds *The Wealth of the Commons: A World Beyond Market and State* Levellers Press, Kindle Edition.

Wills-Johnson N 2010 Railway dreaming: Lessons for economic regulators from Aboriginal resource management lore *Review of Policy Research* 27 47– 58.

Williams M J 2017 Urban commons are more-than-property *Geographical Research*

World Bank 2014 Low-Emission Transport. Brief (http://www.worldbank.org/en/topic/transport/brief/low-emission-transport) Accessed 13 April 2015

Xenos N 1989 *Scarcity and Modernity* Routledge, London