

The Scalar Politics of Mobility in Detroit

by

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Abstract

Over roughly the last decade, scholars and practitioners have recognized a so-called “new mobility” revolution associated with automated vehicle technologies, data-hungry platform firms (e.g., Uber), and international circuits of venture capital. Importantly, this period of evolution in the political economy of transportation is accompanied by, and in part reflects, a broader realignment in capitalist urbanization. Where industrial capital once fixed to regions of the global north in order to stoke systems of mass production, today the economic fortunes of these regions are tied to a knowledge economy in which urban space yields precious innovation and greases the wheels of consumption. This thesis explores questions of social and technological change in mobility and, by doing so, considers how movement figures in the concepts, frameworks, and theories scholars use to understand the spatial arrangement of capitalism. According to one perspective in the geography literature, spatial scales – the nested hierarchies of city, region, and nation that order the world – are an outcome of capital’s uneven development of space. An enduring task of human geographers is to understand how particular scales are constituted and transformed amid changes in sociospatial relations. I position the emerging new mobility ecosystem as one such sociospatial change that presents a productive point of entry into scalar thinking. Building upon a critique of the literature for its relatively thin conceptualization of transportation technologies and institutions within the production of spatial scale, I develop a scalar politics of mobility around an extended case study of Detroit. In doing so, I reveal the critical role of mobility in shaping scaling processes during the highway building era of the twentieth century and in the present new mobility moment.

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1 Introduction

Mobility has always been a key dynamic within processes of urbanization. Railroads, streetcars, and personal automobiles have mediated waves of socio-political, spatial and technological transformation for more than two centuries, radically augmenting the geographical arrangement of everyday life. Over roughly the last decade, scholars and practitioners have recognized a so-called “new mobility” revolution associated with automated vehicle technologies, data-hungry platform firms (e.g., Uber), and international circuits of venture capital.¹ The glut of speculative investments in mobility technology and the rollout of new services by self-styled disruptors comes amid renewed attention on transportation policy as a crucial domain within which to combat climate change and fight for a more just and equitable society.

Importantly, this period of evolution in the political economy of transportation is also accompanied by, and in part reflects, a broader realignment in capitalist urbanization. Since the twentieth century, the distinctively urban implosion of “knowledge economy” growth in sectors like financial services or information and communication technology has elevated an archipelago of globally competitive world cities (Brenner, 2019). Where industrial capital once fixed to urban regions of the global north in order to stoke systems of mass production, today the economic fortunes of these regions are tied to a knowledge economy in which urban space yields precious innovation and greases the wheels of consumption.

In the United States, facing flagging manufacturing prospects in the long wake of deindustrialization, all levels of government – from the federal to the municipal – have prioritized economic development efforts that bolster competitiveness in the knowledge economy. Among the

¹ For example: (Cervero et al., 2017; Sperling, 2018; WSP Global Inc., 2017; Zielinski, 2012).

many spatial aspects of these efforts, transportation features prominently as a tool of planning and policy intervention. Within popular media and policy discourse, urban space is imagined as a site of spontaneity and innovation – qualities prized by business, government, and a somewhat mythical class of “creative” worker. Transportation technologies and institutions are routinely leveraged in order to cultivate this particular kind of urban-ness, typified by the coastal tech and services superstars (e.g., Boston, New York, San Francisco). Examples of these approaches include executive offices of innovation in local government and pilots of new mobility technologies, often led by private firms but subsidized with the public purse. The Smart City Challenge, sponsored by the U.S. Department of Transportation (DOT) in 2016, provides an early national-level example of government using competitive grants to incentivize public-private mobility experimentation.

New mobility initiatives can be found in the former mill towns of New England and among the old warehousing districts of various Mid-Atlantic cities, but nowhere are their ambitions larger and their stakes more urgent than in the nation’s industrial heartland. Cities like Detroit, Buffalo, St. Louis, and their Rust Belt peers have vigorously pursued an economic development agenda keyed into knowledge economy growth. Surveying the mobility plans and programs developed by these regions over the last several years, the vision of urban space and the particular mobility technologies and forms of mobility animating that space begin to look familiar, shaded with the recognizable hues of a prosperous urban future (Figure 1.1). How did we get here?

This thesis explores questions of social and technological change in mobility and, by doing so, considers how movement figures in the concepts, frameworks, and theories scholars use to understand cities and urbanization. I position mobility as a fixture of the everyday, one that shapes the immediate social and spatial contexts in which people live and to which local planners and policymakers respond. But mobility is also a relation, a local-global link that scatters and reconstitutes the institutions that structure urbanization. As such, mobility – movement with meaning – ultimately casts light on a much

broader set of transformations in urbanization that have taken place over decades. From the vantage of a multiscalar, historical perspective on urbanization, I intend to reveal that not everything about “new” mobility is all that new. Through an empirical study of mobility politics in the Detroit region, I would like to suggest that previous sociospatial, technological, and political junctures in transportation provide a critical interpretative tool with which to parse the present moment and make sense of all that is uncertain about the future.



Figure 1.1: Renderings of a new mobility future across the Rust Belt.
Images compiled by the author.

1.1 Research Question

Why is transportation a site of concentrated socio-political and technological change in the knowledge economy transition?

In order to address this question, my theoretical and analytical lens considers broader processes that punctuate and sustain the geographical arrangement of the political economy, comparing and contrasting the role of mobility infrastructure in producing spaces of accumulation and economic

growth in both the urban knowledge economy and the Fordist manufacturing regions of an earlier capitalism. I ground my analysis, and look to stress-test my overall framework, through an empirical study of mobility within the shifting social, economic, and political geography of Southeast Michigan. Of analytical and empirical importance in my approach are the ways in which mobilities are physically constituted and embodied (i.e., in infrastructure and human practices of movement) as well as discursively constructed and represented in the form of narratives.

1.2 Justification

1.2.1 Why Mobility?

Focusing on mobility allows me to interrogate a set of rules, norms, and practices that link the production of space, and its particular social relations, to the broader arrangement of the political economy. As mobilities scholar Jonh Urry (2007, p. 18) helpfully summarizes, mobility allows us to theorize the social world as “a wide array of economic, social and political practices, infrastructures and ideologies that all involve, entail or curtail... the movement of people, or ideas, or information or objects.” Mobility is critical to understanding how cities themselves are “produced, rendered visible, and governed” – urban space is productive of and produced by social and technological constellations of mobility (Addie, 2015, p. 288). As the “institutional expression” of the state operating at multiple scales, and as a set of everyday practices and relations of power performed by individuals and organizations, mobility offers a key window into understanding how various actors shape and negotiate the urban institutional milieu (Enright, 2013, p. 801). Further, as political scientists have helpfully demonstrated, norms and practices around transportation shape and are shaped by a host of other social policy domains – public infrastructure conditions attitudes about redistribution policy, for example, and has also been shown to influence voting behavior (Nall, 2015; Weir et al., 2009).

1.2.2 *Why Detroit?*

There is perhaps nowhere else in the U.S. where issues of mobility and economic growth are so tightly interwoven with historical systems of racial and economic segregation as in the Detroit region (Hackworth, 2019). In the wake of the Great Recession, the city has served as a proving ground of sorts for varied government responses to the question of growth in a post-industrial economy. These efforts, including high-profile and hotly contested experiments in “degrowth” and “planned shrinkage,”² have been carefully documented in an extensive popular and academic discourse charting the city’s recovery.³ Importantly, the region’s orientation to knowledge economy growth differs from similar narratives promulgated in Cleveland, Milwaukee, or St. Louis in that this growth filters through the automotive sector in particular. “New mobility” is big business in Detroit, with incumbent firms and start-ups jockeying for position at the center of an expanding tech-inflected mobility ecosystem. At the same time, the immediate spectacle of manufacturing decline has opened space for business interests outside the auto industry (in insurance, finance, or real estate, for example) to pitch a more diversified foothold for the region in the global economy. Therefore, we encounter in Detroit a set of spatial interventions true to the knowledge economy growth paradigm, but distinctively patterned by the region’s legacy in automotive manufacturing as well as its inherited, highly racialized social and political geography.

² The oft-cited example here is *Detroit Future City*, a path-breaking (for better or worse) approach to planning in a post-industrial regional economy.

³ Rapson, R. (2021, May 10). Detroit Showed What ‘Build Back Better’ Can Look Like. *Bloomberg CityLab*. <https://www.bloomberg.com/news/articles/2021-05-10/detroit-has-a-lesson-on-building-back-better>

1.3 Research Design and Method

1.3.1 *A Conjunctural Approach to Urban Studies*

In pursuit of the above research question, I adopt a conjunctural approach to urban studies, working with and through a particular research site in order to position a specific case – the Detroit region – in relation to its broader structuring contexts. As opposed to bounded, site-specific studies of particular cities, conjunctural approaches to urban analysis place social processes within what are “invariably complex, leaky, and open social systems” (Leitner et al., 2019, p. 38). This orientation reflects a need to study “the city” as a “knot” entangled in “inter-urban networks” – a space of political urgency for conflicts, projects, and contradictions operating within and beyond the boundaries of any one particular territory at any one particular time (Leitner et al., 2019, p. 40). A primary strength of a conjunctural framework is that it encourages me to think through, stress-test, and revise more abstract concepts – such as those relating mobility to the *general* geographical arrangement of the political economy – in terms of their usefulness in *concrete* and *specific* applications. All told, conjunctural methods integrate an extended conceptualization of space (i.e., cities and spaces are relational and patterned), are rooted in history, and are thoroughgoing in their commitment to a multiscale analytic.⁴

A conjunctural approach presents an opportunity to fashion new concepts, make revisable theory claims, and build empirically tractable analytical frameworks. As will become clear in the substantive sections that follow, by studying mobility and the knowledge economy transition in Detroit through a conjunctural lens, I am interested in contributing to critical debates about the production of *spatial scale* – that is, the change in form of the geographic hierarchies (e.g., the neighborhood, city, region, nation) that order space. More than fixed features on a map, scales are the residue of sociospatial relations. The question of mobility in the production of scale has been relatively

⁴ For an excellent overview of conjunctural approaches to urban studies, see Leitner et al. (2019, p. 37-43).

under-explored – when mobility is taken into account in the existing scale literature, it tends to be viewed as an instrument of other scaling processes. My core contention is that greater theoretical, analytical, and empirical attention to mobility can facilitate deeper insights into the production of scale. I use a conjunctural approach to develop this argument, first through a critique and synthesis of existing literature, and then through application to the Detroit case. Critical social theory relies on a good deal of abstraction, but my goal in that follows is to remain tethered to a set of concrete, real-world processes.

1.3.2 Data Collection and Analysis

I accomplish the “thick theorization” at the heart of the conjunctural approach through largely qualitative methods, including a slate of interviews and documentary analysis of historical and contemporary plans, policies, maps, and media coverage. I personally conducted or analyzed over 25 semi-structured interviews with transport practitioners, transit providers, public officials (at the city, state, and federal level), philanthropic organizations, academics and researchers, transit advocates and organizers, and private businesses (see Table 1.1 for a complete list of organizations).⁵ I was fortunate to have had the opportunity to ride buses and conduct interviews in Detroit in December 2019, on the eve of a global pandemic that quickly undermined future trips to the field. Subsequent interviews and follow-up discussions were done virtually.

In addition to interviews, I collected and analyzed relevant policies, plans, budgets, legislation, visioning documents, and popular media articles produced by a range of stakeholders. The historical section relied on archival work, which was accomplished remotely using digital guides and scans of documents made available to me over email. An extensive literature review has allowed me to position

⁵ The interviews I conducted were supported by the MIT Task Force on the Work of the Future, and informed a white paper on mobility institutions in Southeast Michigan (Glynn et al., 2020). For interviews I did not attend, I am thankful to my colleagues for sharing notes and transcripts.

both the Detroit region and transportation infrastructure more generally against the backdrop of political-economic transformations since the height of Fordism in the mid-twentieth century.

Table 1.1: Organizations Interviewed by Sector.

<i>Public</i>	<i>Private & Philanthropy</i>	<i>Advocacy & Academia</i>
City of Detroit, Office of Mobility Innovation	Lyft	Transport Riders United
Southeast Michigan Council of Governments	BMW	Motor City Freedom Riders
Michigan Dept. of Transportation	Ford Mobility	University of Michigan
Suburban Mobility Authority for Regional Transportation	United Way of Southeast Michigan	Wayne State University
Detroit Dept. of Transportation	New Economy Initiative	Poverty Solutions, University of Michigan
Regional Transit Authority		
MoGo Bikeshare		

1.4 Structure of the Thesis

The structure of this thesis reflects its two intended contributions. The first, beginning in Chapter 2, synthesizes and critiques several themes in existing literature related to mobility, the production of space, and capitalism’s uneven geographical development. This analysis ultimately produces a framework through which to understand the role of mobilities in the social production of spatial scale. The second contribution is to the study of Detroit’s historical development and its ongoing efforts to stoke economic growth in the knowledge economy. Chapter 3 applies the analytical framework developed in the preceding chapter to the Detroit case, comparing and contrasting the scalar politics of mobility in the twentieth century to the present juncture, along the way testing the framework’s ability to explain concrete processes shaping the region’s mobility system and its historically uneven

development. A concluding chapter (Chapter 4) appraises the analytical framework in terms of what it clarifies or ignores about mobility and the production of spatial scale, and considers extensions that might enrich the theory, fill conceptual gaps, and strengthen its overall usefulness to the study of capitalist urbanization.

1.5 Working Definitions

1.5.1 *Mobility vs. Transportation*

Thus far, I have used “transportation” and “mobility” interchangeably in order to refer to the physical infrastructures and social institutions that enable the movement of people and goods. In the balance of the thesis, I will continue to use the two terms together, but it is important to recognize that mobility in particular is subject to a variety of definitions and conceptualizations. Scholars working in the new mobilities paradigm, for instance, often distinguish between mobility and movement – at a fundamental level, mobility is “movement with meaning” (Rana, 2018, p. 266). Mobility is both spatial and social movement; it is about the “displacement of something across, over and through space, a context of social, cultural meaning and significance which shapes the feeling, experience, and meaning of mobilities” (Adey, 2017, p. 15). Cresswell (2010, p. 19) has described physical movement as “the raw material for the production of mobility,” offering a three-pronged approach to the study of mobility that captures (1) the fact of physical movement, (2) representations of movement that produce a shared meaning, and (3) the embodied practice of movement. For Cresswell (2010, p. 21), the “politics of mobility” captures the ways in which mobilities produce and are produced by power that is socially distributed. Urry (2007, p. 8) and others have also connected mobility to *social* mobility, upward or downward movement across the hierarchies that organize our social strata. It is quite clear from these examples that mobility is a capacious concept, more abstract and encompassing than

kindred terms like “transportation” might suggest. In the analysis that follows, I am therefore sensitive to these differing “social, political, cultural and economic signatures” to mobility and look to leverage them in understanding the differentiation of mobility practices by race, ethnicity, nationality, technology, and geography (Adey, 2017, p. 15).

1.5.2 “New Mobility”

I use the term “new mobility” to refer to ridehailing platforms like Uber and Lyft, microtransit shuttles, automated vehicles, electric scooters, manual and electric bike sharing networks, and modern streetcars – technologies that can be found in regions large and small, serving downtown cores and the furthest stretches of exurban fringe. The “new” mobility is largely distinguished by technology: many new mobility services share a lineage in web-enabled smartphone applications, though the technological ambitions of some firms include advancements in artificial intelligence, automation, and machine learning.⁶ “Gig economy” business models also form a significant component of the new mobility phenotype, with app-mediated services relying on an army of algorithmically choreographed contract workers for day-to-day operations.

1.6 Positionality

In thinking and writing about Detroit, it is important to recognize the various privileges afforded by my position as white male researcher operating *within* many of the systems of racial injustice – such as urban planning – that I study. I am especially sensitive to the impact of the representations of mobility

⁶ Ridehailing firms Uber and Lyft, for example, once marketed advancements in automated vehicle technology as the linchpin for their overall profitability. However, the two platforms recently jettisoned their self-driving vehicle programs: Bellon, Tina and Eimi Yamamitsu. (2021, Apr. 17). “Toyota to buy Lyft unit in boost to self-driving plans.” *Reuters*. <https://www.reuters.com/business/autos-transportation/lyft-sells-self-driving-tech-unit-toyota-550-mln-moves-up-profit-timeline-2021-04-26/>.

in Detroit I develop here, and take seriously the occasionally blurred boundary between analysis and reification (Bonnett, 1996; cited in Stehlin, 2019). In particular, to represent the mobilities of Black and Brown Detroiters as one-dimensional and subjugated is to neglect the agency mobile subjects wield in meaningful, often subversive ways. In studying mobility in Detroit and elsewhere, we not only encounter deeply entrenched institutions of oppression, we also see mobile practices of care, compassion and solidarity that are critical to any project that might subvert the unjust status quo.

2 Uneven Development, Mobility and the Production of Scale

2.1 Introduction

How do we explain the spatial arrangement of capitalism and the mobilities it produces and is produced by?

The transition to a knowledge economy in the advanced capitalist countries animates a wide range of social scientific research. Of interest to geographers is the morphology of urbanization amid evolving spatial arrangements of production, particularly in the global north where nationally integrated systems of industrial manufacturing have been replaced by technology and service firms that share a distinctively urban character. Following the “spatial turn” in social science and the humanities of the mid-to-late-twentieth century, a “rebirth” of geography following the urban crises of the 60s and macroeconomic turbulence of the 70s that spawned a rise in spatial scholarship across several disciplines, these dynamics of globalization have become central targets of geographic exploration (Warf & Arias, 2009). Countering a liberal tradition in economic location theory that saw the evolving spatial arrangement of production as the result of “rational” decisions made by firms and workers, critical geographic theory instead viewed the spaces of globalization as an outcome of evolving *social*

relations under capitalism (Lefebvre, 1992). This heterodox explanation of capital's spatial metabolism required scholars to interrogate and revise a set of concepts, analytic tools, and theories inherited from an earlier geography (Smith, 2008). Spatial scale is one such concept subject to critical ontological and epistemological debate over this period. At the same time, as the tangled spatial knots of globalization challenged the "methodological cityism" of urban studies, scholars searched for less static empirical windows into the contingent and co-evolutionary processes that pattern capitalist urbanization (Angelo & Wachsmuth, 2015). Among the fruits born by these efforts is the "new mobilities" paradigm, which, in its commitment to *mobilizing* urban theory, recentered movement as a site of dynamic sociospatial inquiry (Sheller & Urry, 2006).

In this chapter, I turn to these projects within the critical geography and mobilities literature in order to develop a set of analytical frames that might enrich our understanding of the ongoing social and technological transformations in transportation. These literatures are wide and deep, encompassing a rich variety of research interests and sporting a diverse lineage of liberal, Marxist, poststructuralist, and postmodern thought. As I am unable to account for every theoretical treatment of space and mobility, my approach in what follows is relatively targeted. In particular, I focus on two relationships identified by the geographical political economy and mobilities literatures that, in their theoretical and analytical affinities, suggest a prime opportunity for critique and synthesis. The first, development/under-development, forms the basis of geographer Neil Smith's (2008) influential theory of *uneven development* and captures the internal tensions that generate capitalism's signature "see-saw" urban form. The second is the mobility/immobility dialectic, which provides the new mobilities paradigm its guiding theoretical orientation, one that sees the world as an unevenly distributed matrix of movements and non-movements.

Although these relationships and the wider projects to which they are tethered can often be found in close conversation, there have been few attempts to develop a unified analytical framework

that draws on both traditions systemically, starting from their theoretical roots and building outward toward empirical application (Miller & Ponto, 2016). My attempt in the following is to accomplish this by taking up development/under-development and mobility/immobility together in order to place mobility explicitly within uneven development and vice versa. As I will demonstrate, an added benefit of this approach is its ability to integrate both structure and agency into the analysis, possibly easing the Marxist-poststructuralist tensions found throughout geographic theory. Inevitably this task expands to include relationships beyond the two I have specified here at the outset – from these guiding insights derives an assorted kit of related theories, tools, and frameworks. I proceed by stepping through mobility and uneven development in order to ultimately arrive at a discussion of spatial scale. I consider the theoretical, analytic, and empirical implications of a mobility-attuned approach to understanding the production of scale within capitalism’s uneven development.

Having previewed the general order of operations, the rest of the chapter is divided into three sections. The first provides a more detailed account of the “new mobilities” paradigm in general and the mobility/immobility dialectic in particular. In this section, I flesh out Neil Smith’s theory of uneven development built around the development/under-development dialectic, consider the liberal agglomeration economics he was arguing against, and infer some relationships between uneven development and mobility/immobility. As just mentioned, discussion of uneven development introduces a number of related concepts and theories, most productive for present purposes being spatial scale. Accordingly, the second section focuses specifically on the theory of scale embedded in Smith’s work and develops a conceptual link to mobility within the processes of scale production. Along the way, I borrow and extend critiques from relevant debates within the scale literature in order to argue that movement is a discursive and material practice embedded in processes of scale construction, though one rarely taken into account in existing approaches to scale. I suggest that this limitation stems in part from an instrumental treatment of mobility, and propose an alternative

conceptualization of mobility practices that may reveal additional discursive and material relations molding the politics of scale. A concluding section summarizes an analytical framework with which to interrogate the scalar politics of mobility.

2.2 Uneven Development and the Mobility/Immobility Dialectic

2.2.1 The “New Mobilities” Paradigm

To the study of governance, inequality, crisis and social struggle, the new mobilities paradigm articulates a relational lens through which to connect grounded daily practices of movement to diffuse networks of power. In a most basic sense, the mobility/immobility dialectic at the core of the mobilities approach expresses how one individual’s movement fundamentally exists in relation to another’s non-movement. As Mimi Sheller (2018, p. 1) concisely summarizes: “mobility and immobility are always connected, relational, and co-dependent.” Mobility and immobility are therefore not presented as opposites, they exist as “dynamic constellations.” This conceptualization of the movements and non-movements that undergird globalized capitalism builds upon Doreen Massey’s influential critique of the Marxist concept of “space-time compression.” While the concept itself is less relevant for present purposes, in pointing to the socially differentiated “flows and interconnections” that constitute movement in a hyperconnected modern age, Massey (1993, p. 62) sowed the seeds of a relational approach to understanding mobility. It was the mobilities paradigm that germinated from these seeds. Mobilities and immobilities, always in dialectical relation, became the base analytical units with which to parse a dense network of movements and non-movements under globalization, differentiated by race, ethnicity, nationality, class, sexuality, and gender. Indeed, the mobilities paradigm casts these “striated” identities as themselves produced “through the effects of uneven mobility” (Sheller, 2018, p. 10).

Stabilizing, extending, and reproducing experiences of differentiated mobility is what Massey called a “power-geometry” (Massey, 1993). By this, Massey was referring to the interdependent and multi-scaled networks of power that pattern mobilities and immobilities. Sheller (2018, p. 11) termed the governable sociotechnical systems to which these power relations adhere “mobility assemblages.” It is power in relation to movement, therefore, which animates the contradiction between mobility and immobility. By positioning mobility as a reciprocal relationship of power, the dialectic lends a powerful analytic tool with which to survey and disentangle the extreme differences in mobility we encounter in the world. In this sense, crucially, the mobility/immobility relation is not some “natural” universal abstraction: it is concrete and historical.

Over the course of her critique, Massey (1993, p. 64) encourages us to interrogate this historical contingency, “to ask whether our relative mobility and power over mobility and communication entrenches the spatial imprisonment of other groups.” This particular prompt contains a subtle distinction. If we equate “spatial imprisonment” with immobility, the answer to Massey’s question is quite clearly yes. Mobilities and immobilities are always spatial – spatial imprisonment is perhaps the essential experience of immobility. Yet connecting mobility to “spatial imprisonment” raises further questions about *spatiality* specifically. For instance, using Massey’s concept, we might consider toward what ends the power geometries of mobility and immobility are cultivated and exploited. What function do patterns of mobilities and immobilities serve under capitalist urbanization? A theory that can provide a basis for differentiated spaces of freedom and confinement may aid in answering these questions.

2.2.2 *Uneven Development: Tensions Between Equalization and Differentiation*

The “mobility turn” sought to connect “the analysis of different forms of travel, transport and communications with the multiple ways in which social and economic life is... organized through time

and across various spaces” (Urry, 2007, p. 6). Surveying the flux and flows of twenty-first-century globalization, John Urry (2007, p. 13) saw “an accumulation of movement that is analogous to the accumulation of capital – repetitive movement or circulation made possible by diverse, interdependent mobility-systems.” Urry helpfully orients us toward a potential material logic underlying the uneven spatial distribution of mobilities and immobilities by branching the rhythms of human movement to the circulation of capital. It is this crucial link to capital that may help us understand *why* (im)mobilities are arranged in distinctive spatial patterns that render some groups stuck and others on the move. We can use the theory of uneven development in order to understand the humming capital circuits of the space-economy, and to tease out the (im)mobilities on which the accumulation process depends.

The most complete theory of uneven development was articulated by geographer Neil Smith (2008).⁷ Following Marx and under the mentorship of David Harvey, Smith derived the theory by tracing a historical-material basis for capitalism’s signature pattern of concentrated development in one space and relative under-development in another. Smith’s argument challenged two prevalent approaches to understanding society and space. The first was the common dualism within the geographical tradition that separated “space” from “society” – in this ahistorical, positivist view, human activity does not *produce* space, it simply rearranges objects within an ontologically given and *external* space (Smith 2008, 2). Smith effectively dismantles this dualism through a rigorous account of the social production of nature, charting how the form of nature (as external) and humanity’s relationship to it (one of mastery) changed with the rise of capitalism. The other target threaded throughout his critique is “bourgeois location theory,” which according to Smith sees change in the location of production as the result of economic competition and the decisions of individual capitalists, not as the contingent result of historical accumulation regimes (Smith, 2008, pp. 60, 104).

⁷ Smith’s definition of uneven development refers specifically to the uneven “geographical expression” of capitalism, described in “levels” of spatial development – he notes that capitalism’s unevenness is also expressed in other processes, such as the rate of profit.

The liberal theories Smith was arguing against, with their steadfast reliance on ahistorical assumptions about rational economic behavior, are still very much with us. Indeed, the shifting locational decisions of firms within the knowledge economy transition have been analyzed using the same location theory and agglomeration economics that the theory of uneven development fundamentally challenges (Glaeser et al., 1992; Iversen & Soskice, 2019; Porter, 1998).

According to Smith then, the development/under-development dialectic arises out of a contradictory drive in the accumulation process toward an “equalization” of space on the one hand and its “differentiation” on the other. Although this tension can be felt in all factors of production, its manifestation in the international division of labor allows us to illustrate the role of mobility and immobility most clearly.⁸ Central to the drive toward capitalism’s equalization is the universalization of the wage-labor relation. It is only once the wage-labor relation is universal in its geographic extent that the territorial division of labor can proceed to form the “basis of the spatial differentiation of the levels and conditions of development” (Smith 20008, 135). The universalization and subsequent spatial differentiation of a pool of global labor in the abstract provides the motive force behind capitalism’s uneven development. We can use this mechanism of uneven development to explore, more concretely, one potential material rationale embedded within the mobility/immobility relation.

2.2.3 Mobility/Immobility in Capitalism’s Uneven Development

Understanding uneven development as the residue of capitalism’s tendency to flatten and order space clarifies several aspects of its geographical arrangement. One fundamental consequence of equalization, for instance, is the complete subsumption of labor into the wage relation and its

⁸The way that individual capitals attempt to resolve the tension between spatial equalization and differentiation carries some interesting implications for mobility and transport infrastructure as well, in that the latter – at the urban scale especially – interacts with the value of labor and, thus, the rate of profit. An earlier critique by Feldman (1977) recognized this relationship between transport, the reproduction of labor power, and the rate of profit.

transformation into value in the abstract. “The universalization of the wage-labor relation,” Smith (2008, 154) writes, “portends for the laborer a freedom given with one hand – the freedom to buy and sell his or her labor power – but taken away with the other.” Following the global domination of the wage-labor relation, the “main axis of geographical differentiation” therefore crystalizes in the “differential determination of the value of labor power, and the geographical pattern of wages thus effected” (Smith 2008, 187). It follows that, across this geography of universal but patterned wages, capital accumulation becomes “not just the accumulation of the proletariat...but the accumulation of the proletariat in *certain places of production*” (Smith 2008, 166, emphasis added). While I have here only loosely summarized Smith’s characterization of this process, it is ultimately this result which leads us back to Massey’s question of spatial imprisonment.

To capture fleeting profit and to stave off crisis, footloose capital depends on the production of differentiated spatial containers for labor value across territories of production. The production of differentiated space – ordered and reordered in part on the basis of human labor value – fundamentally implies a *production of differentiated mobilities and immobilities*. The rationale for this implication is relatively straightforward. The territorial reservoirs of differentiated labor value can only exist through particular mobility/immobility relations – through control over the movement of workers. Mobility may therefore produce, maintain, and ultimately transform the spatial arrangement of labor and, with it, capitalism’s uneven geography. Physical movement emerges as a fundamental means of controlling the production of space. Like space, mobility is also selectively equalized and differentiated, as some are privileged with uniformly high capacities for movement (e.g., the white American businessman) while others are systematically stuck (e.g., the assembly plant worker in Mexico City).

2.2.4 *Uneven Development and the Mobility/Immobility Dialectic*

The discussion thus far has considered one way in which the see-saw of uneven development produces and *is produced by* a corresponding see-saw of mobilities/immobilities. That is, particular forms of mobility are embedded with different social relations which correspond to historically specific accumulation regimes (i.e., different points along the uneven see-saw) (Henderson, 2004). Staying with Smith's Marxist framework, I have centered a materialist reading of the uneven patterns of mobility and spatial development that constitute the capitalist mode of production. However, issues of power and control that hinge in particular on citizenship, social identity, culture, and meaning are of critical concern in further disentangling the role of movement in the production of space. Similarly important are the contingencies that can temporarily fix patterns of territorial organization in the levels of development as well as in Massey's "spatial imprisonment" of immobile groups. We see this fixity play out in the enduring *spatial scales* – whether it be the city, nation, region or globe – capital relies upon to arrange production processes through multiple rounds of uneven development. Where do scales come from? How does the relationship between mobility/immobility and development/underdevelopment influence the production of scale? Smith saw the production of spatial scale as one outcome of capital's attempt to resolve the tension between equalization and differentiation – providing a seemingly natural and coherent spatial order that can be used to systematically exploit differentiated levels of development. The rest of this chapter focuses generally on the question of scale production, and identifies mobilities as one suitable empirical and theoretical window through which to expand, with help from critiques in the literature, Smith's theorization.

2.3 Mobilities and the Production of Scale

In human geography, rather than accepting a “preordained hierarchical framework for ordering the world,” geographic scale is instead viewed as the “contingent outcome of the tensions that exist between structural forces and the practices of human agents” (Marston, 2000, p. 220). The everyday scales around which we organize our lives are not bestowed by nature, they are the result of human practices. According to Eric Swyngedouw (1997; quoted in Marston, 2000, p. 221), in the constructionist tradition, scales are “the embodiment of social relations of empowerment and disempowerment and the arena through and in which they operate.” By examining the social construction of scale through the strategies of various actors, movements, and organizations, critical geographic research overturned traditional conceptions of scale as fixed and external to social processes (MacKinnon, 2011). By studying the patterns of spatial development characteristic of capitalist globalization, an enduring task is to understand how particular scales become constituted and transformed (Marston, 2000, p. 221).

My core contention in this section is that movement offers a critical empirical and theoretical window into the production of scale, one relatively under-explored in the existing literature. We can use work within the new mobilities paradigm in order to demonstrate both the concrete empirical relevance and theoretical richness of a mobility-attuned approach to scale. Mobility offers a productive point of entry into scalar thinking for at least two reasons. First, as I have already shown through the discussion of uneven development, movement is an essential dynamic within the social production of uneven space – as institutionalized practices and technological artifacts, mobilities are etched into spatial discourse and into the very geographical landscapes of urbanization. Second, from a disciplinary perspective, the mobilities field may help to further integrate and extend a series of critical debates

within the scale literature between the poststructuralist perspectives I centered in the paragraph above and the structural Marxist framework at the heart of Smith's theory of uneven development.

2.3.1 Political-Economic Approaches to Scale and the Poststructural Critique

As discussed above, Smith's (2008) theorization of uneven development identified the root of this spatial quality in capitalism's contradictory drive toward the equalization and differentiation of the levels production. One of Smith's core insights, hinted at previously, can be found in his ability to derive the "actual spatial scales produced by capital" from the equalization-differentiation dialectic (Smith, 2008, p. 180). For Smith, the everyday qualities of scale are an outcome of uneven development. The production of an urban scale, according to Smith, is largely the result of capital's tendency to differentiate space, while the global scale reflects its drive toward totalizing spatial equalization (Marston, 2000). Crucially, as the production of scale sits within a constantly churning global capitalist system, the crystallization of particular scales across time and space is only ever temporary. Capital can "fix" scales toward the aims of accumulation at a particular conjuncture, but these fixes can weaken and dissipate as the search for surplus value marches on. This conceptualization of scale laid the foundation for both theoretical and empirical explorations of "rescaling" processes under globalization. Following in this political-economic strand of argumentation, for example, is a body of work that considers the role of specific actors, particularly the state, in formulating and implementing differentially scaled "spatial strategies" (Brenner, 2004, 2019).

While my summary of Smith's scale does not capture the full breadth of the theory, his material justification for scale's social production – building upon Peter Taylor's earlier adaptation of Immanuel Wallerstein's division of the world economy into three realms – was both generative and thoroughly debated (Marston, 2000, p. 228). I would like to emphasize two general lines of critique in order to set up later consideration of mobilities within the production of scale: (1) the theory is overly

economistic, and (2) it is somewhat empirically intractable. The first line of critique responds most directly to the theory's weaknesses in "recognizing political processes that exceed capitalism," such as power and identity (Jones et al., 2017). Of course, the charge of economism is somewhat expected given that Smith's initial formulation of scale, and his exposition of the theory, was derived from a material reading of uneven development. Indeed, in later work, Smith sought to address these shortcomings (for example: Smith, 1992). Nevertheless, Smith's approach was further critiqued for its neglect of discourse, particularly by poststructuralist thinkers who insisted that the existence of material scales cannot be taken as an ontological "given," else they be reified within the theory itself (Marston, 2000). Although the discursive dimensions of scale production are important and can produce fruitful insights, the "flat ontology" resulting from this particular line of critique itself suffers from limitations. For one, an ontological orientation that refuses any preexisting scalar categories neglects the historical processes that produced those categories – specific geographic scales that crystallize and endure, however briefly, can condition and may "lock-in" subsequent scaling processes. Further, to rid geographic theory entirely of any pre-given categories of spatial organization may allow such categories to persist uncritically in the world, in this case risking an inadvertent "returning of scale to the natural" (MacKinnon, 2012). On threading the needle of agency and structure, as I will suggest below, mobilities thinking may prove useful.

More mechanical than ontological, a second line of critique responds to the theory's incompatibilities with empirical application. Smith himself made only one attempt at an empirical demonstration of scale and uneven geographic development and was ultimately constrained by the available data. Relying on the rigid geographic categories at which the U.S. census is conducted, Smith essentially reproduced the spatial nesting his theory sought to challenge (Jones et al., 2017). While there is little hope of completely avoiding neatly nested hierarchies of space when conducting research in the "real world," shedding a sedentary view of what are fundamentally processual questions may

aid in avoiding the uncritical reproduction of scale. Here, I would like to suggest that mobility is a prime candidate for empirical explorations of scale. In the tradition of the mobilities paradigm, instead of measuring the outcomes of urban processes at static snapshots in space, a focus on mobilities may reveal the active practices of scale making and remaking.

2.3.2 *Moving Toward a Scalar Politics*

Although healthy theoretical debate about the production of scale remains across the geography literature, recent attempts to integrate the insights from poststructuralist critique into a more “open” political-economic framework have consolidated under the concept of a “scalar politics.” A scalar politics intends to bridge the material and discursive dimensions of scale construction, while seeking to identify how actors and groups tie specific scalar categories to specific material relations. According to MacKinnon (2012), within a scalar politics, “it is often not scale *per se* that is the prime object of contestation between social actors, but rather specific processes and institutionalized practices that are themselves differentially scaled.” (MacKinnon, 2012, p. 22). The scalar politics approach therefore prevents “imposing scale as a conceptual given upon particular research problems,” instead “letting it emerge as a dimension of contentious politics according to its empirical significance” (MacKinnon, 2012, p. 29). Mobility offers a concrete case for studying scale in this way. The scales that organize the spatial extent of public transit service or structure the inter-governmental arrangements that fund the highway system are not imposed ‘from above’ – they emerge as a result of socio-political conflict.

2.3.3 *Mobility in the Production of Scale*

Like his mentor David Harvey, Neil Smith recognized the development of transportation and communication infrastructure as a fundamental requirement for capital circulation and as a conduit for uneven development (Harvey, 2009; Smith, 2008, p. 140). However, Smith’s thinking about the

role of transportation in the production of scale specifically is relatively imprecise. We see, for instance, that sociotechnical infrastructures like transport partly enable the “annihilation of space by time” and are therefore essential to the production of a universal, equalizing global scale (Harvey, 1990). The production of an urban scale, according to Smith, essentially stems from commuting behavior – the geographic extent of Smith’s (2008, p. 182) urban scale is effectively delimited by the journey to work (Jones et al., 2017). These relatively thin accounts of the role of mobility in the production of scale, while perhaps reflecting a matter of personal interest, may also result from two related aspects of Smith’s theorization. The first is an instrumentalist view of transportation and mobility that is inherently limiting.⁹ As a consequence of this instrumentalist view and as discussed above, the second is Smith’s neglect of discourse in processes of scale production. If we consider both the material and discursive dimensions of mobility within the production of scale, I believe it is possible to draw deeper insights into the fundamental relationship between mobilities and spatial scale.

Given its own poststructural bend and its emphasis on relational theorization, the mobilities paradigm allows us to move beyond an instrumental view of mobility (Cresswell, 2010; Urry, 2007). More than an instrument for unifying the geographic extent of labor at the urban scale or creating a globe-spanning sphere of exchange, mobility conveys meaning, produces subjectivities, and mediates relations of power (Kotef & Amir, 2011; Massey, 1993). Interrogating the patterns, practices, and representations of movement that form Cresswell’s (2010, p. 18) “constellations of mobility” ultimately reveals a host of material and discursive scaling processes. For one thing, “mobility assemblages” include the physical technological artifacts through which the production of scale takes on a concrete material form (Sheller, 2018). It is in this sense, as enduring practices and patterns of movement through which spatial scales crystallize, that transportation infrastructure contributes to

⁹Hodge (1990) makes a similar critique along these lines, though one directed at the transport geography subfield in particular. According to Hodge, mainstream work in that field too often lapses into technological determinism – he suggests transportation would benefit from an infusion of critical social theory.

Harvey and Smith's "scalar fix." The co-constitutive materialization of mobility assemblages and spatial scales is therefore "employed and manipulated to impose – if only temporarily – a sedentary order," but one that may also "enable the mobile practices that counter such an order" (Miller & Ponto, 2016, p. 272). Crucially then, mobility's material infrastructure is not simply a neutral instrument of scaling processes external to movement, it actively produces, extends, and contracts those processes. That differentiated mobilities simultaneously affect various scales – the region, the corridor or neighborhood, the global city – further complicates an instrumental reading of mobility in scale construction.

From the physical infrastructure of movement emerges a representational and discursive scalar politics in which issues of power are threaded throughout. Discourses of (im)mobilities become inextricably linked to the processes of scale construction: geographic scale comes to represent and be represented by different forms of mobility. The notion of the "walkable downtown," as a basic example, accomplishes this discursive link between specific mobility practices and the crystallization of a particular scale (i.e., downtown). The question of who figures in these representational and discursive dynamics of mobility illustrates the power relations and identities embedded in particular scaling processes and at particular scales. For example, representations of the well-educated, white male cyclist may dominate in the discursive production of an "innovation district," which has become a routine spatial strategy undertaken by urban governments in the knowledge economy (as will be discussed in Chapter 3). This discursive emphasis on particular mobile identities can also be analyzed materially in terms of the allocation of infrastructure. In both cases, pushed outside the boundaries of this particular material-discursive scale in the innovation district is the Black bus rider, whose mobility and subjective position within space may otherwise challenge its production. The "innovation district" scale is therefore rendered legible – to real estate capital in search of growth or "creative class"

urbanites¹⁰ – in part by the differentiated mobilities that produce it and are, at the same time, produced by it.

2.4 Conclusion: Uneven Development and the Scalar Politics of Mobility

In this section, I developed an analytical framework for understanding the scalar politics of mobility and immobility, extending the theoretical and conceptual connections between development/underdevelopment and mobility/immobility with an eye toward empirical application in the knowledge economy transition. To briefly summarize the distinct but overlapping and mutually reinforcing analytic frames I have introduced: space and mobilities are both the product of specific social relations under capitalism – relations of production, consumption, and social reproduction (Lefebvre, 1992; Massey 1993). Under capitalist urbanization, the development of space and the distribution of mobility is constitutively uneven – this is reflected in the distinctive patterns of development/underdevelopment and mobility/immobility across space (Smith 2008; Massey 1993). One implication of capitalism’s uneven spatial development is the production of discrete scales that organize social relations in space; scale construction is accomplished through politically and socially contested material and discursive practices (Smith 2008; Marston 2000; MacKinnon 2012). I argued that movement is itself a discursive and material practice that contains an embedded scalar politics, though one that remains relatively under-explored in the existing scale literature, in part because of its instrumental treatment of mobility. I proposed that a scalar politics of mobility which conceptualizes mobility practices not as an instrument, but as a relation of power, identity, and affective meaning may reveal further insights into the relationship between transportation infrastructures, institutions, and the production of scale.

¹⁰To borrow Florida’s (2003) influential but often criticized term.

A scalar politics of mobility is especially well-suited to understand capitalist urbanization at the knowledge economy juncture. The rise of “new mobility” technologies within the knowledge economy transition – with its particular brand of urban space – suggests the relevance of mobility to processes of scale production. Indeed, complete streets, bikeshare networks, and modern streetcar lines are now routinely implicated in framing and bringing to life the scales of an urban innovation ecology (Stehlin, 2019). These physical artifacts produce scale not only by laying the foundation for particular kinds of movement now associated with the urban innovation economy, in the process of scale production and identification, they may also mediate, attenuate, and transform existing mobility discourses and practices that had previously taken place.

3 Toward a Scalar Politics of Mobility: Detroit Case Study

3.1 Introduction

The economic dislocation wrought by the transition from nationally integrated industrial systems based on mass production and consumption – the so-called Fordist era – to a global knowledge economy is particularly acute in the American Midwest (Amin, 1994). Once the heartland of American industrial might, Detroit is a prominent casualty of the shifting geography of American manufacturing; its blighted neighborhoods the result of a now familiar formula of white and capital flight reproduced by persistent systems of racialized exclusion. One system of exclusion immediate to many of the sociospatial inequities found in Detroit and throughout the Rust Belt is transportation. Although a site of social, spatial, and political-economic contestation everywhere, transportation carries a certain significance in the Motor City. It is the evolution of this significance – how it tracks to broader conjunctures in the global political economy, aligns with efforts to bolster regional economic growth,

and produces the very spaces of accumulation – that I look to explore in this chapter. My core contention in what follows is that we can use the historical-institutional arc of transportation planning in Detroit in order to understand the relationship between social and technological change in mobility and the uneven development of capitalist urbanization.

Although the physicality of transportation infrastructure suggests a certain permanence, the everyday norms and practices of mobility result from fundamentally political decisions. Tangled networks of iron and concrete and quotidian technologies like the car reflect the contingent outcome of a structuring political-economic context that goes at once “all the way out and all the way up” (Leitner et al., 2019, p. 38). Therefore, in Detroit today, amid a wider recovery narrative that has recast mobility infrastructure as a competitive imperative, multi-scaled forces of economic realignment confront a history of planning decisions in the form of sprawling land use patterns and a car-dependent network (Grengs, 2015), entrenched systems of racialized poverty (Farley et al., 2000; Hackworth, 2019), a fractured political landscape underpinned by militant localism (Sugrue, 1996), and a top-down governance structure dominated by well-connected private and philanthropic interests (Berglund, 2020). In what follows, my analysis centers the local-global relation at the heart of mobility practices, positioning the case of mobility in Detroit as one manifestation of conflicts, projects, and contradictions operating within and beyond the city.

In order to elucidate this more-than-local dynamic of mobility within the production of space, I focus on two periods in the political economy characterized by intensified social and technological change in mobility. The first is the ongoing “new mobility” moment associated with automated vehicles, ridehailing platforms and micromobility firms, as well as modern incarnations of legacy transit infrastructure like streetcars. In order to firmly ground this latest sociotechnical juncture in history, I introduce the mobility politics of the twentieth century as a point of comparison. This comparison is productive because the twentieth century created many of the norms, rules, and

practices that continue to guide transportation planning in Detroit today. My interest in the twentieth century extends to the structuring political-economic context within which transportation planning sits – one that supported an integrated network of specialized industrial regions in a national manufacturing economy. It therefore offers a potentially generative contrast to the ongoing transformations surrounding the global knowledge economy transition and its implications for mobility and the production of urban space (Brenner, 2019). By bringing these two periods of evolution in mobility and the wider political economy into conversation, I intend to elaborate how mobility produces and is produced by particular urban spaces, each keyed into the historical accumulation regimes of their day.

Unique to Detroit in both cases is the extent to which economic growth hinges on developments in the automotive sector. In the highway building era – which I take to mean the several decades of rising automobility beginning in the 1920s and culminating with the Federal Aid Highway Act of 1956 – the political and economic geography of Southeast Michigan was dominated by the big automotive firms. As I will discuss, these firms secured an enduring influence on the regional planning apparatus as well as the national transportation policy discourse in order to advance a social and spatial vision built upon the car. In Southeast Michigan today, after decades of waning economic fortunes in the automotive sector, opportunity is on the horizon. “New mobility” is big business in Detroit, with incumbent firms and start-ups fighting for position at the center of an expanding ecosystem worth upwards of \$80 billion by some estimates.¹¹ At the same time, the emphasis on mobility *technology* has opened space for business interests outside the auto industry to pitch a more diversified foothold for the region in the knowledge economy, usually through growth in insurance, finance, and other

¹¹ Estimates vary considerably, particularly around AVs. See Efrati, Amir. “Money Pit: Self-Driving Cars’ \$16 Billion Cash Burn”. *The Information*. Feb. 5, 2020; “18 charts to illustrate US VC in 2018.” *Pitchbook*. January 28, 2019; “The top VC investors in autonomous vehicle tech.” *Pitchbook*. August 27, 2019; Kerry, Cameron F., Jack Karsten. “Gauging investment in self-driving cars.” Brookings. October 16, 2017.

services. Among business boosters of all stripes then, mobility interventions bring economic revitalization and the production of a particular kind of urban space seductively into view.

The balance of this chapter proceeds as follows. First, I briefly describe the theoretical and conceptual framework that guides my analysis, focusing on the role of mobilities within capitalism's uneven development and the social production of spatial scale. The heart of the section develops a historical grounding of Southeast Michigan's mobility politics in the twentieth century in order to interpret the new mobility moment. Working between past and present, I consider how mobilities are both a tool and outcome of the production of space within two distinct political-economic conjunctures. Throughout both periods, spatial transformations are shaped by the particularities of the Detroit context – racial conflict between city and region, reliance on automotive manufacturing, a fractured municipal landscape – but conditioned by structuring political-economic trends that impact on urbanization.

3.2 Analytical Framework

In developing my analysis of each period, I view mobility as a prism through which a set of multiscalar institutional arrangements that shape the production of space are refracted in Southeast Michigan's local planning context. Based on interview data and documentary analysis of policies, plans, and programs, I trace the articulation of mobility infrastructure and differentially (im)mobile groups to spatially uneven patterns of economic development within and beyond the region. In pursuit of a scalar politics of mobility, I highlight how scale frames and mobilities are mutually constructed, deployed, and enacted in order to advance specific sociospatial projects within each period of interest. These projects reflect the strategic maneuvers of the state, working in concert with firms, to transform space and by doing so obtain the evolving territorialization of capital over time. I position

3.3 Constructing the City and Region: Mobility Politics in the Long 20th Century

Over the course of the 20th century, Southeast Michigan and regions throughout the U.S. were buffeted by a series of unprecedented social, political, economic, and spatial transformations. Negotiating economic crises, multiple World Wars, and a since-unequaled demographic shift stemming from the Great Migration of freed slaves northward, a national political economy of industrial regions oriented toward rapidly expanding domestic consumption and a growing global export business began to crystalize (Berlin, 2010; Sugrue, 1996). Central to integration at home and abroad were developments in transportation and communication technologies, at first the railroad and later the internal combustion engine. Coalescing along the way was what many have since deemed the apex of the American liberal order and its Keynesian growth regime (P. A. Hall, 2020). By midcentury, as Southeast Michigan retooled its burgeoning automotive industry to support the war effort, Detroit had been christened the “Arsenal of Democracy” (Sugrue, 1996).

The social contract embedded in the New Deal coalition and deployed in Keynesian fiscal policy, robust if measured against the rising ranks of a mostly white and male middle class, was nevertheless fragile (Streeck, 2014). As early as the 1910s, its social and spatial contradictions – of integration and segregation, concentration and expansion – planted the seeds of instability and recurrent crisis in Detroit and elsewhere (Farley et al., 2000). Amid this turbulence in Southeast Michigan especially, mobility became a primary terrain upon which to resolve, delay or redirect the pernicious effects of an unsettled social and political-economic order. In these attempts to smooth over the jagged edges of economic growth, uphold race-based hierarchies of social class, and facilitate consumption, policy at all scales of government embedded a set of rules, norms, and practices that continue to shape how transportation decisions are made today. These strategies, harnessed by capital and embraced by political administrations of both parties, begin to reveal the oscillating patterns of

development and under-development affected by mobility assemblages and the social production of space within and beyond Southeast Michigan.

3.3.1 Dispersion Before Highways: Regional Rail and Home Rule

The sociospatial cleavages so clearly demarcated by the Detroit region's freeways may lead one to place the origin of a city-regional divide in 1950 or thereabout, but the production of a fractured regional geography can be traced back several decades earlier. Indeed, the dynamics of regional expansion and spatial differentiation was first affected by two means that predate highways: (1) a regional streetcar network and (2) annexation and municipal incorporation.

In the 1920s, Detroit boasted one of the largest regionally integrated networks of streetcars and inter-urban rail, with service across Southeast Michigan between Flint and Ann Arbor, and extending as far as Toledo, Ohio (Pfaff, 2015). As the city's population swelled, expansion of the streetcar network continued apace. Supported by a recently ratified state constitution that laid out robust powers for Michigan's cities and townships, Detroit vigorously pursued annexation along its borders, following the twin march of streetcar service and residential development into the surrounding hinterlands. The state's 1909 Home Rule Cities Act further emboldened local governments. With progressive enthusiasm crystallizing around transit issues and following a series of amendments to the city's charter, calls for the municipalization of the then-private Detroit United Railways (DUR) found receptive ears in city hall. Exercising its newly minted bond-issuing authority, the city ultimately bought out the majority of DUR's trackage in 1922 and inaugurated the Department of Street Railways (DSR). As an institution for the provision and management of public transit services, DSR was well ahead of its time – Detroit was the first city in the country to create a municipal transit authority that owned and operated streetcar service (Figure 3.2).

While Detroit continued to grow, maturing into a teeming industrial metropolis and placing among the largest cities in country on the eve of the Great Depression, the formula of expansion that coupled streetcar extensions with annexation at the city's fringe ceased almost as quickly as it began. By 1926, the city had reached its current extent of 139 square miles. The reason for this sudden halt to Detroit's seemingly inexorable territorial growth can be found in the very same Home Rule provisions that enabled annexation in the first place.



Figure 3.2: Street scene in Detroit, circa 1920.
Courtesy of the Burton Historical Collection, Detroit Public Library.

3.3.2 *A Fracturing Social and Industrial Geography*

Although Detroit proper was home to the vast majority of the region's new arrivals in the early twentieth century, beginning in 1910 and over the next two decades, a growing number of residents found work beyond the municipal boundary. The impetus for this early churning in the region's

industrial geography – at least according to Ford, Dodge, and the scores of automotive manufacturers and parts suppliers who followed them to new municipalities – was rising taxes and steep land prices in Detroit’s congested core. Businesses were able to pad their bottom line by swallowing up cheap, undeveloped land and stringing together municipal governments that, owing their existence to one or two automotive firms, extended appreciation in the form of significantly lower tax rates. Spinning Michigan’s home rule laws decisively toward municipalization instead of annexation allowed the first social and political-geographic fault lines to be drawn. And although the sober business case for industrial suburbanization was often trotted out, auto executives like Henry Ford in particular were wont to weave more encompassing narratives about their firms’ decision to leave Detroit. Early iterations of the suburbanization narrative pointed to, among other things, a business environment “tainted” by Detroit’s “big city corruption” (J. D. Hall, 2013, p. 185). Over the years, the corruption line would morph to accommodate a range of anti-city narratives, couching the racist vision of what was to Henry Ford a much wider project of social engineering (Grandin, 2010).

The early moves by these firms prefigured suburbanization as it would come to be known in the proceeding decades. But initial ventures into the “countryside” relied on a geographic separation that was largely superficial – enclaves carved with the Home Rule Act and otherwise completely surrounded by the city of Detroit (Figure 3.3). The strategy of creating differentiated islands within Detroit reflects the extent to which automotive manufacturers were still deeply reliant on the city. The mobility of the industrial workforce was a particularly stubborn constraint. Factory relocations to Highland Park and Hamtramck were only successful because they remained a stone’s throw from Detroit’s public streetcar lines. The automakers made sure of this, wielding their political influence to pressure DSR into establishing new lines and padding peak service to meet the demand generated by their employees (J. D. Hall, 2013). The central logic of this approach – producing spaces where business can avoid taxes, skirt democratic oversight, and obviate any responsibility for the essential

public services on which they still depended – sowed the seeds of a profound social and economic instability in Detroit.

While Hamtramck and Highland Park may have offered a proving ground for firms' experiments in gaming a political geography favorable to their profit margins, Henry Ford's westward crusade to Dearborn was propelled by a vision more ambitious and undoubtedly more nefarious. Much larger in geographic extent than either of the other two early industrial enclaves, Dearborn imagined a space molded by social relations that extended far beyond the factory and its clusters of worker housing. Although immediately bordering Detroit and the River Rouge to the east, Ford purchased tens of thousands of acres to the north and west of its massive factory complex on the river. With annexation firmly halted by the mid-1920s thanks to a budding regional consensus around Home Rule, the Dearborn municipal government successfully resisted attempts to incorporate Ford's River Rouge plant into Detroit. As the situation in the city began to deteriorate and the effects of lost tax revenues came to bear on basic public services, Dearborn advertised an escape to "neatly kept homes, close-clipped lawns" in a "staid, upright community... supported by the huge Ford Rouge industrial complex in the southeast corner of town but untainted by it" (J. D. Hall, 2013, p. 185).



Figure 3.3: Map of Detroit with Highland Park and Hamtramck, 1923.
From *Unrivaled Atlas of the World* by George F. Cram Company, 1923, University of Alabama Map Library.

Echoes of Dearborn’s pitch would eventually be heard across the region as rising automobility and the construction of regional expressways – pursued at the time by a state and local coalition operating with their own funding – chipped away at the constraints posed by transportation (Biles, 2014). As the economic crises of the 1930s dug in, the rhythm of uneven development pulsed ever louder across the region. Crucially, the emerging pattern of growth in Southeast Michigan dovetailed with the full mobilization of the federal government to claw the country out of depression. Federal dollars flowing from the New Deal coalition supercharged growth deeper into the region, codifying in the process institutions deliberately designed to exclude Black people (Thomas, 2013). An increasingly suburban white industrial middle class was further buoyed by the passage of the National Labor Relations Act of 1937, which guaranteed a right to collective bargaining. The foundation had therefore been set for a racialized growth machine that would hum loudly over the following decades: federal funding (directed at housing development initially) subsidized growth at the urban fringe while

an invigorated labor movement, led by the United Auto Workers, won higher pay and benefits for a manufacturing workforce that systematically excluded Black people from the best-remunerated positions. The waves of federal dollars to follow – first in support of the war effort and later as part of Lyndon Johnson’s “Great Society” – would further exacerbate the uneven nature of development and cement a mobility planning and policymaking apparatus that invokes the city and regional scales in order to frame problems, imagine solutions, and produce space in line with the vision of a suburban-industrial accumulation regime.

3.3.3 Instituting the City-Region Divide

The heightened period of highway building and suburbanization that dominated in the post-war era, while noteworthy in terms of its overall intensity, was relatively consistent in form and function with the dynamics of uneven development that took root significantly earlier. Spaces of exception from property taxes, political accountability, and a growing subset of the population in Black Detroiters were prototyped in Highland Park, Hamtramck, and Dearborn. Full-throttled regionalization refined this pattern of sociospatial development and allowed its geographic extent to stretch further and further away from the city. The “fix” was in as constant geographic expansion and differentiation allowed industrial capitals, and with them the national political economy, to stave off internal crises. In the heyday of the highway building era, this model of growth and the institutions to support it – pursued by all scales of government working together with a set of interlocking spatial strategies – congealed definitively around highways and the car.

Given earlier forays in regional expansion by Ford and the city’s other large industrial employers, just as DSR’s streetcar service levels peaked in 1941, Detroit was uniquely primed for car-based suburbanization. Beginning in 1940, the city elected a series of mayors eager to implement the growth vision pitched by the automotive industry that matched dispersed suburban manufacturing

with centralized corporate services downtown. The eagerness of Mayors Jeffries and Cobo stemmed not only from a desire to accommodate a demonstrably footloose business class: the selective separation of city and suburb was also hugely popular among a rising constituency of white middle-class car owners. Before the series of federal acts that would officially inaugurate a highway building era, Detroit and the Michigan government worked together to plan an extensive network of expressways. Early examples include the Willow Run Freeway, built in 1941, extended in 1945 to support the war effort and later renamed to honor Edsel Ford (Biles, 2014). In regional transportation planning efforts that preserved the downtown core's centrality by ensuring high access, the state and city identified a series of radial routes to be constructed over a period of decades using gas tax revenues. The routes, linking regional automotive plants and homes with major corporate properties downtown (Figure 3.4), would go on to be constructed much faster with the help of generous federal matching funds legislated in the Federal Aid Highway Acts of 1944 and 1956. The former established for the first time a dollar-for-dollar federal match for state and local spending on national highways and secondary feeder roads. Detroit Mayor Albert Cobo was a high-profile supporter of both bills and testified on Capitol Hill in support of the latter, which increased the federal match to an unprecedented nine dollars for every one dollar spent by state and local governments. By the end of the 1950s, just as DSR sold off the last of its streetcars, many of Detroit's Black enclaves – such as Paradise Valley and Black Bottom, to name two of the largest – were unilaterally leveled under the guise of slum clearance for highway construction.

(SEMTA) shifted the political center of gravity away from the city and toward municipal governments that derived their power from a mobile class of suburban voters. Michigan's Public Act 51 bolstered already-powerful municipalities and elevated the profile of new county-level institutions, such as county road commissions, affirming their bond-issuing rights and providing a fiscal foothold for the expansion of services like roads and schools in the suburbs (Biles, 2014).

3.3.4 Amid Crisis, Decline, and Redevelopment: The City Scale and its Exceptions

Reeling from deindustrialization, the destruction of entire neighborhoods, and facing rapidly deteriorating public services, Detroit was placed in a precarious position. As civil unrest spilled out into the streets of cities across the country, whether in Watts in 1965 or Detroit in 1967, an invigorated civil rights movement made forceful demands for better urban policy. In Detroit, Black activist groups flexed a newfound political strength – the fortunes of reform-minded white candidates depended on a now critical Black vote, and Black politicians themselves were eager to fill municipal positions vacated as the previous political establishment built a new kind of power in the suburbs. By the 1970s, Black people made up a majority of the city's residents, as the overall population began a steady decline from its peak in 1950 (Table 3.1). As Black people and urban space became increasingly linked in the national consciousness – one of the lasting sociospatial outcomes of the stream of Black people northward that had by this point reached a trickle – Detroit's Blackness limned the boundary between city and region like never before (Berlin, 2010). With the flowering local tradition of radical Black organizing, the city scale was actively constructed around the Black community and the equation of Black people with Detroit embraced as a means of emancipation and self-determination (Figure 3.5).

**THE BLACK COMMUNITY
IS A CITY !**

WE ARE OVER 500,000 STRONG

- **BIGGER THAN TOLEDO,
NEWARK OR MINNEAPOLIS**
- **THE 21ST LARGEST
CITY IN AMERICA!**

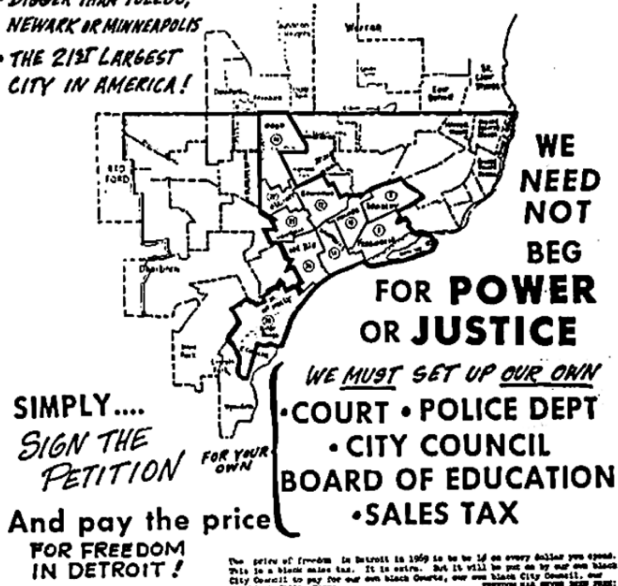


Figure 3.5: Map of Detroit from Provisional Government–Republic of New Afrika, 1969.

Reprinted from Subjugated Territory: The New Afrikan Independence Movement and the Space of Black Power by Paul Karolczyk, 2014, p. 287.

Table 3.1: Detroit Population and Black Population, 1920-1980.

Data from U.S. Census Bureau.

Year	Total Population	Black Population	% Black	White Population	% White
1920	993,678	40,838	4.11	952,065	95.81
1930	1,568,662	120,066	7.65	1,446,656	92.22
1940	1,623,452	149,119	9.19	1,472,662	90.71
1950	1,849,568	300,506	16.25	1,545,847	83.58
1960	1,670,144	482,223	28.87	1,182,970	70.83
1970	1,511,482	660,428	43.69	838,877	55.50
1980	1,203,339	758,939	63.07	413,730	34.38

During this period, Detroit also emerged as an important case in the national political discourse on urban problems. The dire state of the nation's cities in the 1950s and 60s motivated policymakers at the federal level to act. The transit issue in particular – raised by a nascent mobilization of big city mayors, all of whom witnessed the deleterious effects of rising car ownership – garnered the attention of the Kennedy administration. Importantly, although groups like the American Municipal Association raised the specter of crippling congestion, their message pointed to municipal debt as the most immediate crisis (American Municipal Association, 1960). The vision, in its limited scope, did little to decouple the nation's economic development strategy from subsidized, car-oriented sprawl. Transit was largely subsumed into a relatively narrow redevelopment narrative in which success was measured in terms of downtown property values. Fruits of these development-oriented transit efforts include the Urban Mass Transportation Act of 1964 and later, under the umbrella of a newly minted federal Department of Transportation, the creation of the Urban Mass Transit Administration in 1968.

Refracted through the entrenched institutions of Southeast Michigan, the upswell of federal attention to transit spawned tedious local progress. Transit stakeholders in Detroit, with critical allies in the Michigan statehouse, recognized a rare opportunity. In order to provide an institutional conduit for new federal funds, the state created the Southeast Michigan Council of Governments (SEMCOG) which, along with SEMTA, became a designated recipient for regional planning dollars. Working together with Detroit's public transit agency, freshly rebranded the Detroit Department of Transportation (DDOT), the city-state coalition sought to leverage the new funding in order to upgrade old buses and integrate city routes into the fragmented regional network. As productive regional integration began to crystalize, SEMCOG and SEMTA encountered a familiar barrier in the state's Home Rule Act, which ultimately allowed individual municipalities to opt-out of shared services brokered by the regional agencies. Outstate municipalities in Oakland and Macomb Counties exercised

their power in order to prevent local tax dollars from flowing into what was reflexively depicted as a giveaway for Black Detroiters. The region's institutional environment, which encouraged municipal competition over cooperation, undermined the cross-jurisdictional alliance and left DDOT's city bus service fully separated from SEMTA's regional routes in funding, planning, and operations.

This initial attempt to integrate DDOT and SEMTA bus service established the general tenor of debate about transit issues for the decades that followed – militant localism honed at the municipal level filtered upward to county leadership and was then reflected on the boards of a growing number of regional policymaking organizations like SEMTA. With the election of Coleman A. Young as Detroit's first Black mayor in 1973, the city became further isolated from the region. Young, negotiating a policymaking context suffused for decades with an anti-city rhetoric that now took on an overtly racist form, sought partnership primarily with the state and federal government. Unable to tap into the reservoirs of tax revenue that lapped up against Detroit's borders, Young's 1975 *Moving Detroit Forward* plan targeted a slate of federal grants that promised an 80% match for transit investments by local governments (City of Detroit, 1975). Working with Michigan Governor William Milliken to source the requisite state and local dollars, Young and the city were continually delayed by regional backlash.

As the country slipped into recession in 1980, still without the regional consensus necessary to compete for the federal grants, SEMTA and the Young administration slimmed down its transit vision considerably. Salvaged from the plan was the Detroit People Mover, a low-speed, low-capacity automated shuttle that navigated on a fixed-guideway strung between corporate properties in the central business district. Constructed entirely using federal funds and inaugurated in 1987, the People Mover concretized the scalar politics of mobility in Southeast Michigan that had developed over the course of the 20th century. At the local scale for instance, the People Mover was conditioned by the state's Home Rule law, which undercut attempts by the city to raise tax revenue in pursuit of a more

robust transit program. Nationally, the investment was consistent with the federal government’s limited vision of transit as a targeted redevelopment tool. Amid global cycles of uneven development, the People Mover marked the return of capital in its search for surplus value amid the wreckage of a by this point decades-long period of deindustrialization. The People Mover therefore underlines the ways in which mobilities both *produce* strategic sites of accumulation across capitalism’s urban fabric and are *produced by* a multiscalar ensemble of institutions. In design, form, and operation, the People Mover and the highways that predate it embodied relations of power and sociospatial separation through mobility and immobility. This separation fixes and endures through the production of discrete spatial scales, including the region, city, and central business district – arenas within which social relations of space attempt to resolve the contradictions of a racialized, historically situated accumulation regime.

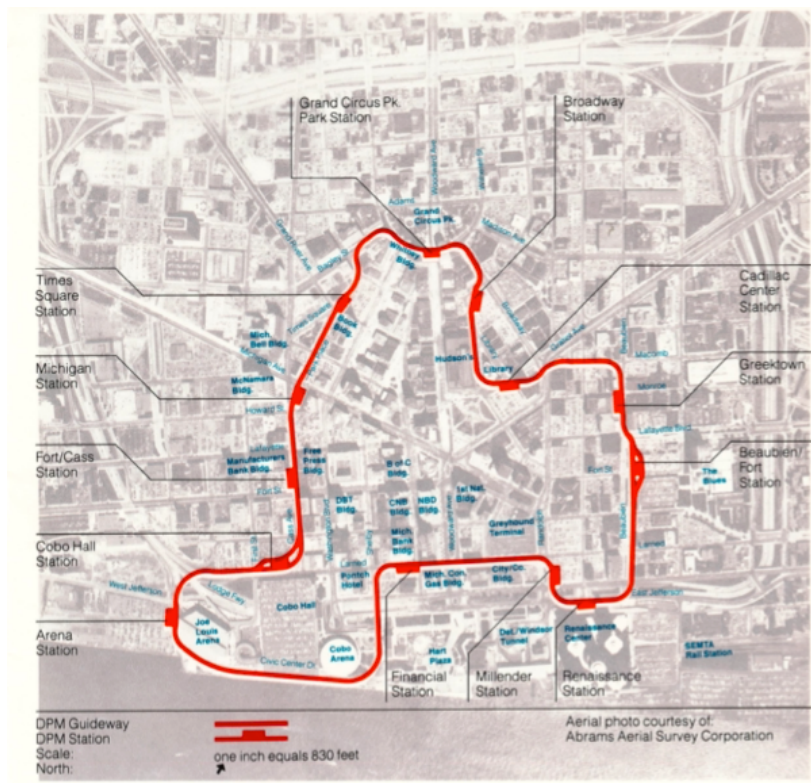


Figure 3.6: Proposed map of the Detroit People Mover.
 From *The People Mover: A report on SEMTA’s Downtown People Mover* by Southeastern Michigan Transportation Authority, 1979, courtesy of the Detroit Historical Society.

3.3.5 Grounding the Scalar Politics of Mobility in its History

While the march of industrial capital from Detroit eventually continued onward to the American South and West before heading overseas, its initial stopover in the industrial enclaves of Highland Park and Hamtramck and the sprawling suburbs surrounding the city can be understood through a scalar politics of mobility that relied on demarcating the city and region. The see-saw of development, as indicated, was not permanently pitched toward suburbanization and regional expansion. Over the course of this period, even as the suburbs were elevated as preserves of prosperity, capital tilted again downward toward the city, finding new sources of growth and wielding new tools of spatial differentiation in order to carve out sites of accumulation. However inexorable outward growth may have appeared in the 1960s and 1970s, the deliberately depressed land values downtown were always destined to once more catch the attention of capital. With this attention, connectivity and access to an island of renewed strategic importance amid a sea of manufactured decline led to the development of particular forms of mobility – radial highways centered on office buildings, a downtown circulator that allowed a scale of cohesive economic activity and social relations to crystalize. Transportation interventions and the arenas of spatial relations they produce, keyed into the growth vision of elites, became sites of capital domination as well as resistance.

Ultimately, the politics of mobility entrenched in the twentieth century in Southeast Michigan relied on a multi-scaled conjuncture: a state constitution, multiple world wars, a series of a national economic crises and recovery efforts, and a simmering racial strife that occasionally boiled over. It was the highway that imprinted the differentiated and racialized power relations of this period into the regional consciousness and into its physical infrastructure. While alternative futures were explored, their failure reflected a commitment to “separate but unequal” that relied in such large measure on mobility infrastructure and the social production of space.

3.4 Region, District, Corridor: Mobilities and the Scales of Knowledge Economy Growth

Detroit's decline, although the result of layered political decisions made throughout the twentieth century, was once more elevated to national spectacle in the aftermath of the 2007-2008 financial crisis. The recession strained an already flagging automotive industry to a point of near total collapse. The city of Detroit, facing an unsustainable debt burden with renewed urgency, was forced into municipal bankruptcy in 2013 – the culmination of an urban fiscal crisis endemic to the region's economic geography, as elaborated in the previous section, and further exacerbated by the relentless state and federal retrenchment of the new millennium.

However, bolstered by a series of high-profile public and private investments, the decline narrative has since been reworked into one of renaissance and growth. This reinvention – however disjointed, contradictory, and flawed – readily reveals the multiscalar ensemble of public sector institutions, philanthropies, and large businesses dedicated to re-embedding Detroit in the capital circuits of a new economy. Attempts to manipulate the uneven engine at the heart of capitalist urbanization, spurring development after a generation of capital withdrawal, now attribute a competitive legacy in “advanced manufacturing, invention, and culture” specifically to the city of Detroit.¹² This representation of local economic heritage, smoothing over jagged differences between city and region, fastens in particular on new growth in emerging mobility technologies. Led by a familiar set of power brokers in the automakers, many of which have diversified their businesses to include bets on automated and electric vehicle development and new platform technologies, the

¹² “A Vision for the Future,” Detroit Moves the World, accessed May 11, 2021, <https://www.detroitmovestheworld.com/#vision>.

current approach looks to reinvigorate the region's automotive edge, while shoring up vulnerabilities exposed by the decline of manufacturing.¹³

With an emphasis on technology and innovation, the coalition of manufacturing interests are now also joined by financial services firms and real estate developers looking to profit from the distinctively urban bend to Detroit's renaissance narrative. Co-founder of Quicken Loans and local real estate magnate Dan Gilbert, for instance, is emblematic of the new political and economic settlement. The owner of over 100 properties in the Downtown and Midtown neighborhoods of Detroit, many of them harvested on the cheap in the throes of recession, Gilbert notably rallied the region's economic development apparatus in support of a bid for Amazon's second headquarters in 2017.¹⁴ Gilbert's Amazon pitch, with its sleek renderings and appeals to the city's urban character (Figure 3.7), is paradigmatic of economic development efforts in the globally competitive knowledge economy (Purcell, 2002, p. 100). Through the material and discursive production of particular kinds of urban spaces, the visions of Detroit disseminated by the Gilbert coalition position the city's spatial form as a competitive economic asset to be appropriated by global firms like Amazon.



Figure 3.7: Stills from promotional video for Detroit's Amazon bid featuring the QLine streetcar and May Mobility automated shuttle.

From Detroit. Move here. Move the world. by Detroit Moves HQ, October 19, 2017, https://www.youtube.com/watch?v=DO4J_PC1b5M.

¹³ The automotive industry's shifting sentiment around future growth strategy is apparent in recent corporate messaging and branding efforts: Ford declared itself a "mobility company" in 2018, reflecting its ambitions to be viewed as "more than an automaker" (Keonig, 2018).

¹⁴ Although the full bid has not been publicly released, excerpts can be found here: <https://www.craigslist.com/assets/PDF/CD1136541220.PDF>.

Mobility issues have featured significantly throughout efforts to attract and retain firms and workers, especially those in expansive knowledge sectors like information and communications technologies and financial services. Diagnosing the challenges to cultivating a new strand of economic growth in Detroit, real estate developers, entrepreneurs, public officials and advocates alike have pointed to the auto-dominated transportation network as a competitive liability. The Amazon bid, for example, called directly for improvements to the regional transit network alongside a host of other “creative city” strategies – the bid’s failure signaled more work to be done. Reflecting on the outcome in a letter disseminated to the Amazon bid committee, Gilbert highlighted the transport system as a stubborn issue.¹⁵ For their part, responding to pressure from business, the city and regional governments – one hobbled by austerity and the other reticent to call for coordinated regional spending after decades of unyielding political backlash – have leaned on new mobility technologies and private mobility companies to affect change. As part of an initiative led by Boston Consulting Group, for example, Mayor Mike Duggan appointed the city’s inaugural Director of Mobility Innovation in 2016 and created a relatively “over-resourced” office with the sole mandate to facilitate public-private partnerships and pilot experimental mobility programs.¹⁶

New mobility technologies therefore play two intertwined roles in Detroit’s political economy. For one, new mobility is a strategic imperative for an automotive industry attempting to reinvent itself while fending off challenges to its core business from tech-fluent competitors like Google or Tesla.¹⁷ New mobility technology is also a tool of sociospatial transformation. Consistent with the historical perspective, we see transportation interventions invoked not only to relieve the negative externalities

¹⁵ He did, however, lean heavily on what he called the “reputational fallout” of the city’s decades of crisis. The letter can be viewed here: <http://1md1ifcdgpn3hahxo212bzt6.wpengine.netdna-cdn.com/wp-content/uploads/2018/01/The-Elephant-in-the-Room.pdf>

¹⁶ This characterization of the Office of Mobility Innovation is based on several interviews.

¹⁷ In 2016 for instance, former Governor Rick Snyder created PlanetM, a mobility industry marketing effort managed by the Michigan Economic Development Corporation. More recently, Governor Gretchen Whitmer inaugurated the Office of Future Mobility and Electrification.

of urban agglomeration – issues such as congestion, that we might think of as the functional rationale at the root of transportation investment – but to qualitatively alter space and the social relations that produce it.

This section analyzes and expands upon that second role of new mobility interventions – facilitating economic development efforts by generating differentially mobile groups and affecting the production of different kinds of urban space. By interrogating the scalar politics to new transportation policies, plans, and interventions in Detroit today, I once more look to reveal how mobility institutions accent strategic spatial scales within the rhythm of uneven development. The knowledge economy accumulation regime, while situated within a specific political-economic conjuncture, negotiates space that is fundamentally contingent, patterned and molded by history. Focusing on transportation allows us to concretize that contingency through a focus on institutions and infrastructures, the historical foundations of which I established in the previous section across local, state, national, and global contexts.

Moving forward, I ground my analysis in the evolving material and discursive role of three spatial scales that frame Detroit's new mobility politics. The first is the shifting *regional* scale, constructed and contested over the course of the twentieth century and once again taking on an important role in the social production of space. The second and third, prefigured by the People Mover, create zones and mobilities of exception within and across Detroit's municipal boundary through the construction of discrete *district* and *corridor* scales. All three scales, I will argue, reflect the shifting territories of accumulation as well as the disenfranchising tendencies of political decisions that appropriate new mobility technologies in order to further an elite vision of urban space. Part of the disenfranchising tendency that I will emphasize in a concluding discussion is the selective visibility of the city scale in framing the relevant spaces and constituencies in Detroit's mobility politics. However,

before proceeding to the analysis, I begin first by providing some context, summarizing recent demographic trends and outlining the present state of the mobility system.

3.4.1 The State of Mobility in Detroit

In the years since the People Mover's inaugural journey in 1987, mobility in Southeast Michigan has for the most part remained bifurcated along recognizable lines – city and region, white and Black, fragmented bus system and sprawling highway network. SEMTA's regional vision was more or less extinguished in the 1990s as Detroit grew increasingly Black while continuing to shrink in overall population. Domestic spending on transportation infrastructure dried up at the federal level, removing an incentive for cooperation that had previously underwritten the unsteady alliance between Detroit's Mayor Young and Michigan's Governor Milliken. Militant local governments, in their further embrace of the state's Home Rule, continued to compete with one another to attract business and secure limited state and federal grants. SEMTA's existing bus service, rebranded and consolidated under a new agency called the Suburban Mobility Authority for Regional Transportation (SMART), continued to operate separately from the city's DDOT routes.

As the recession recovery narrative gathered steam, tapping new pools of funding and leveraging previously scarce political capital, the central mobility issues remain relatively unchanged. Although some of Detroit's inner-ring suburbs have become more integrated in recent years, mostly due to a middle-class Black population that has grown increasingly suburban (Figure 3.8), segregation by race and travel behavior continues to follow the city boundary. Absent significant investments in transit since the 1980s, the car remains the primary means of getting around. The sprawling highway network shuttles high-wage workers between Downtown Detroit and a number of affluent suburban job centers. Low- and middle-wage employment, particularly in the service sector, is concentrated in suburban communities that are, by design, difficult to reach via transit (Figure 3.10). As a result,

particularly among low-income people, accessibility to jobs and social resources is disproportionately low in Detroit where 25% of households lack access to a vehicle (Foster & Newell, 2019). This figure, remarkably, remains relatively unchanged since the 28% estimated in Mayor Young’s 1975 *Moving Detroit Forward* plan (City of Detroit, 1975). The cost of auto insurance is an especially acute barrier to car ownership in Michigan generally and in Detroit in particular (Poverty Solutions, 2020). Many Detroiters drive illegally without insurance, risking exposure to a policing and court apparatus that disproportionately targets Black and low-income drivers. A system of misdemeanors and civil infractions effectively criminalizes driving while poor, leading the already vulnerable into an extractive criminal justice system that can easily generate cycles of job loss, arrest, and incarceration.

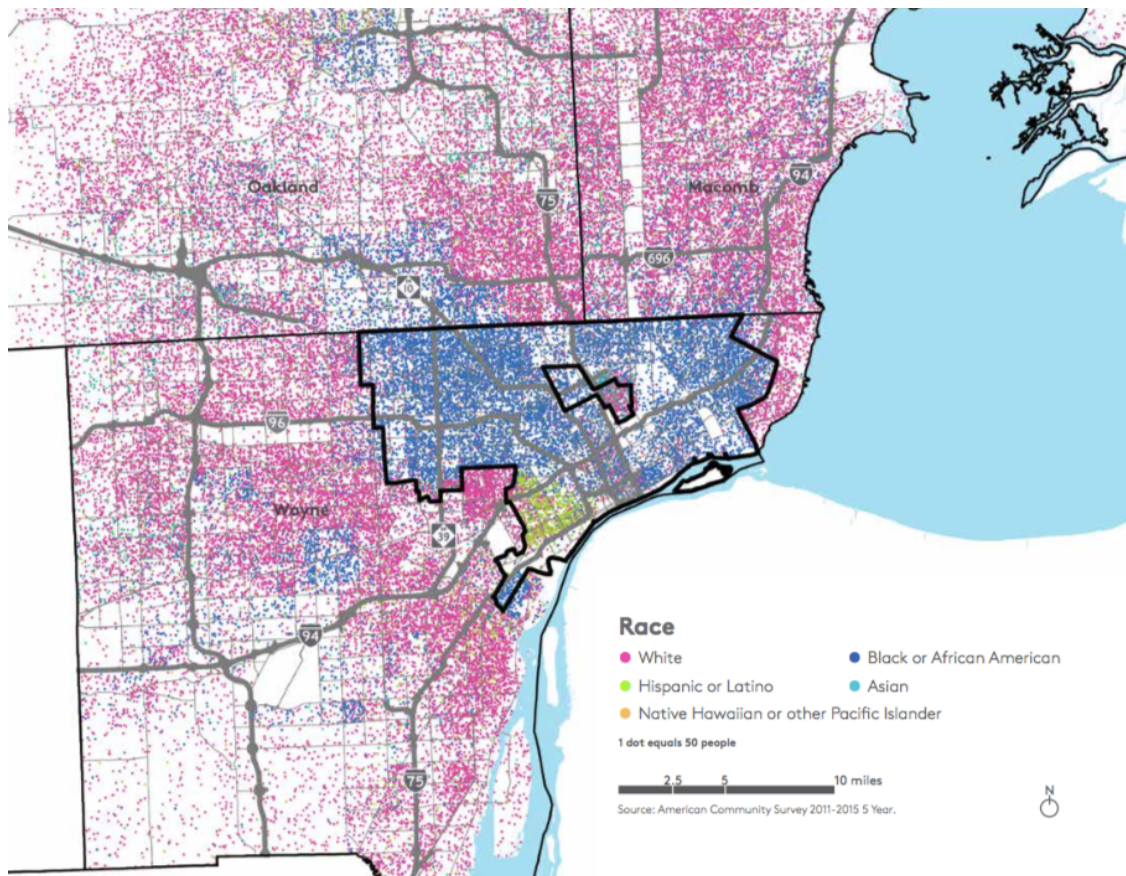


Figure 3.8: Metropolitan Population by Race.
Reprinted from “139 Square Miles” by Detroit Future City, July 2017.

Detroiters without access to a car must depend on a fractured bus network that provides lower service levels compared to similarly sized cities. Per-capita transit spending in Southeast Michigan is among the lowest of major metropolitan areas throughout the country (Figure 3.11). Neither DDOT nor SMART has yet to return to pre-recession spending on transit operations and capital investment, although the latter successfully increased its funding through a 2014 tax hike (Figure 3.9). Absent firm commitments to a larger share of regional tax revenues, efforts to improve bus service have relied on inexpensive operational tweaks, such as route consolidations and redesigns. In 2016, planners from SMART and DDOT, supported by congestion mitigation and air quality (CMAQ) funding through the federal DOT, collaboratively piloted a limited-stop express bus service along two primary city-suburb corridors. The service, first known as *refleX*, was deemed a success and ultimately consolidated into SMART’s operations in 2018 under the *FAST* moniker, with designated funding from the transit agencies, state government, and philanthropy. Fare integration across SMART and DDOT service in 2019 marked another significant milestone in creating a more coordinated regional network, facilitating transfers between the two systems.¹⁸

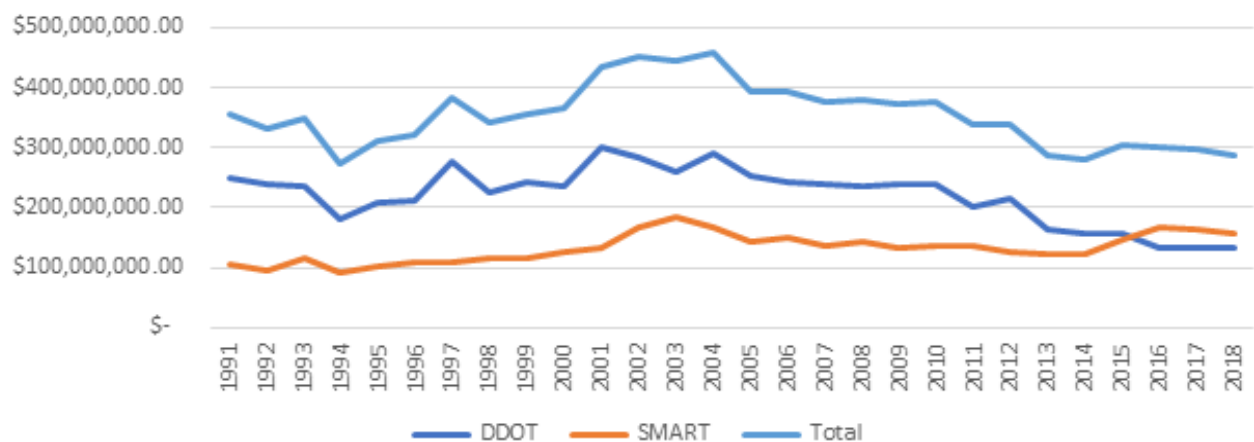


Figure 3.9: Operational and Capital Spending Over Time in 2018-adjusted dollars.
 Data from Federal Transit Authority National Transit Database. Reprinted from Glynn et al., 2020.

¹⁸For a comprehensive summary of recent improvements to the regional bus network, as well as details on operational partnerships with private mobility providers, see (Glynn et al., 2020).

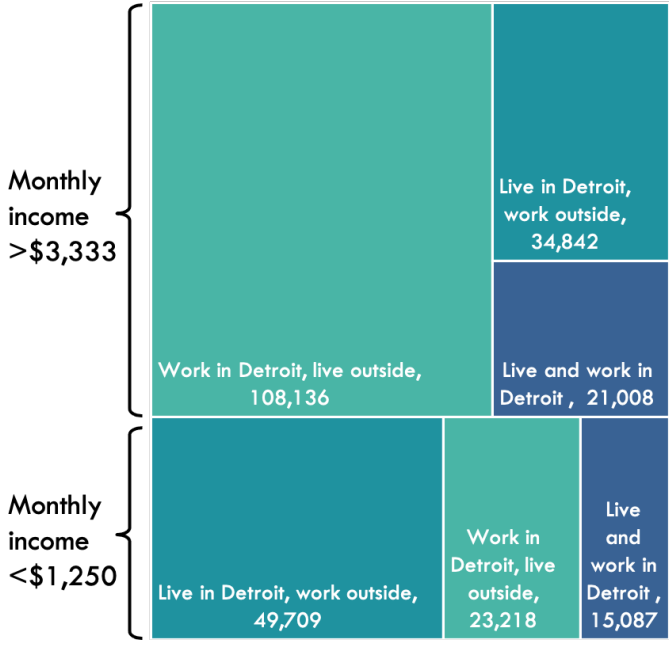


Figure 3.10: Inflow/outflow of workers in the Detroit-Warren-Dearborn MSA, 2018.
 Data from U.S. Census Bureau OnTheMap. Reprinted from Glynn et al., 2020.

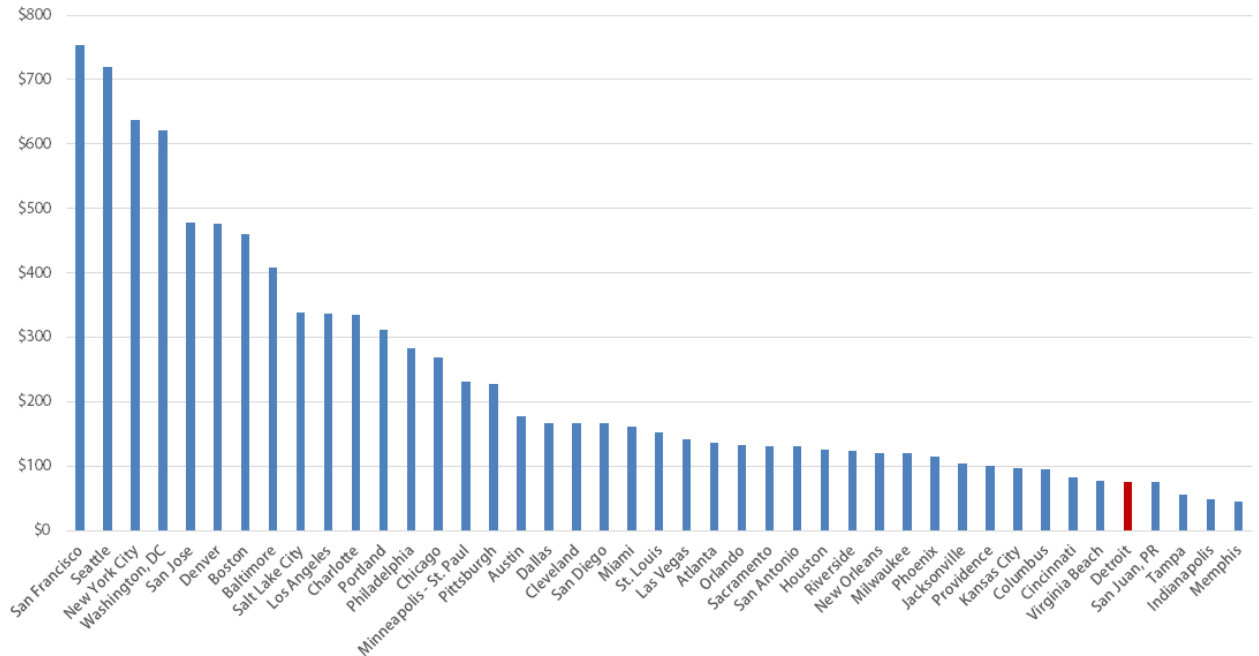


Figure 3.11: 2016 Per Capita Public Transit Spending by U.S. Metropolitan Area >1 M Population.
 By Transit Riders United, n.d., <https://www.detroittransit.org/support-regional-transit-investment/per-capita-transit-spending-in-regional-1-million/>.

Throughout 2020 and into 2021, the COVID-19 pandemic has introduced unprecedented challenges to everyday mobility and transit operations throughout the country and the world. Through the lens of the pandemic in Southeast Michigan, the precarious wellbeing of Black and low-income bus riders in Detroit has been accentuated by the unequal toll of the virus.¹⁹ Over the first year of the pandemic, both DDOT and SMART saw bus ridership numbers decline by as much as 80% compared to pre-pandemic levels.²⁰ Both systems have struggled to maintain scheduled service, with driver shortages resulting in a series of unplanned service gaps. With fare collection completely suspended from March 2020 into the spring of 2021, the agencies have relied on federal recovery funds to maintain reduced service across the network and support existing capital projects. Advocates have called attention to the unsafe, crowded conditions that resulted from dramatic service cuts along essential routes – safety issues on DDOT’s bus system garnered national attention following the death of bus operator Jason Hargrove who, prior to succumbing to the virus, raised concerns about unsafe working conditions in a widely shared video. Protesting the lack of adequate safety measures, DDOT drivers staged a three-day wildcat strike in October 2020.²¹

3.4.2 *The Integrated Region as Economic Asset*

Although transit service has benefited from a series of incremental but meaningful operational improvements, travel behavior and land use trends in Southeast Michigan continue to adhere to the twentieth century’s car-oriented mobility institutions (e.g., the widespread availability of parking). Increasingly clear, however, is the extent to which these obdurate infrastructures and entrenched

¹⁹ Wallace-Wells, Benjamin, “Inequality Intensifies the Coronavirus in Detroit,” *New Yorker*, Apr. 7, 2020; Chapman, Mary M., Julie Bosman, John Eligon, “Coronavirus Sweeps Through Detroit, a City That Has Seen Crisis Before,” *New York Times*, Mar. 30, 2020.

²⁰ Oglesby, M. and Robert Cramer, (2021, Jan, 28), *State of Transit 2021: Reimagining Transit Post-COVID-19* [Video recording], Transport Riders United, <https://www.youtube.com/watch?v=nAUPcVo2Vwk>.

²¹ Khan, Nisa, “Duggan says DDOT bus driver strike violates Michigan law,” *Detroit Free Press*, Oct. 3, 2020.

institutions sit in tension with a now fluid policy discourse around mobility issues. One noteworthy if familiar development within the evolving mobility discourse, hinted at above, is the reemergence of regional coordination as a guiding target of spatial policy and economic development. Although echoed in the episodic attempts to facilitate cross-jurisdictional cooperation over the course of history from SEMTA to SEMCOG, the economic imperative of an integrated regional system today reflects a shift in the broader political economy through which transit-friendly, infrastructure-rich regions are elevated as *globally* strategic sites of development. Tracing the evolving emphasis on regional connectivity through the plans and policy proposals of the last several years, we see the interconnected regional scale articulated as a competitive asset.

The latest round of efforts to fund and operate transit on a regional scale began under the banner of recession recovery in the immediate wake of the financial crisis. At that time, state and local officials, alongside a coalition of development boosters and philanthropies, were directly negotiating with the DOT in Washington in order to secure federal funds for a new streetcar line – a technology then becoming popular as one approach to development-oriented transit investment (King & Fischer, 2016). The Department, though eager to use the power of the federal purse to aid the anemic economy, pressured the allied Southeast Michigan representatives to create a new coordinating authority with the ability to fund and plan infrastructure on a regional scale (Lowe & Grengs, 2020). The federal push was ultimately successful and through state legislative action in 2012, the Regional Transit Authority (RTA) was born. Although the RTA’s mandate nominally resembled some of the core functions of the Regional Transit Coordinating Council under SEMCOG, the new agency was granted long-sought authority to raise transit funds by directly withholding local taxes sourced across the four-county region. The ability of the RTA to raise revenue on a regional scale may have bolstered its funding leverage compared to its predecessors, but the process to actually use this tool still deferred to the power of local governments – raising revenue through a targeted tax hike requires both

unanimous approval by a suburb-dominated board and majority public support through a ballot measure.

Beginning in 2016, three successive attempts by the RTA to fund a regional transit vision have failed. The first of these failures came despite the endorsement of powerful downtown development interests, including Dan Gilbert’s influential network of service firms and urban development outfits who lobbied voters and local officials through an extensive public messaging campaign. For the firms as well as the RTA board, the development case for a world-class transit system was clear. The articulation of an interconnected regional vision to a broader growth prerogative was especially pronounced in the 2016 ballot measure, which would have supported a 20-year, \$4.6 billion master plan that featured investments in regional commuter rail and bus rapid transit.²² The ballot measure’s narrow defeat was attributed, in part, to routine opposition from the exurban municipalities of Oakland and Macomb Counties.²³ Some voters balked at investing large sums of public dollars into transit infrastructure that appeared outmoded by the techno-optimist vision around automated vehicles and ridehailing services rapidly infiltrating the policy discourse (Glynn et al., 2020).²⁴

Two subsequent proposals since the ill-fated 2016 referendum were nixed by municipal opposition before reaching the public vote. In 2018, despite an 85% local spending requirement for funds raised through a revised version of the plan, outstate officials withheld their approval on the RTA board citing a lack of benefits to their constituents. Backed up by the state’s Home Rule, the Oakland and Macomb County representatives suggested an opt-in/opt-out model – similar to the one that governs SMART – that would have permanently fractured the RTA’s four-county mandate. Enthusiasm for a 2020 referendum following new executive leadership in Oakland County was quickly

²² Witsil, F., and Eric Lawrence, “RTA millage rejected by metro Detroit voters,” *Detroit Free Press*, Nov. 9, 2016.

²³ Motor City Freedom Riders, “Mapping the RTA vote,” Dec. 6, 2016, <https://motorcityfreedomriders.org/2016/12/06/mapping-the-rta-vote/>.

²⁴ This sentiment was raised by multiple practitioners in interviews.

dashed by resistance from the Oakland County Association of Township Supervisors, as well as from the Republican House and Senate in Lansing. The bill was ultimately shelved, facing well-organized internal opposition and fading in legislative priority amid the onset of the COVID-19 pandemic.

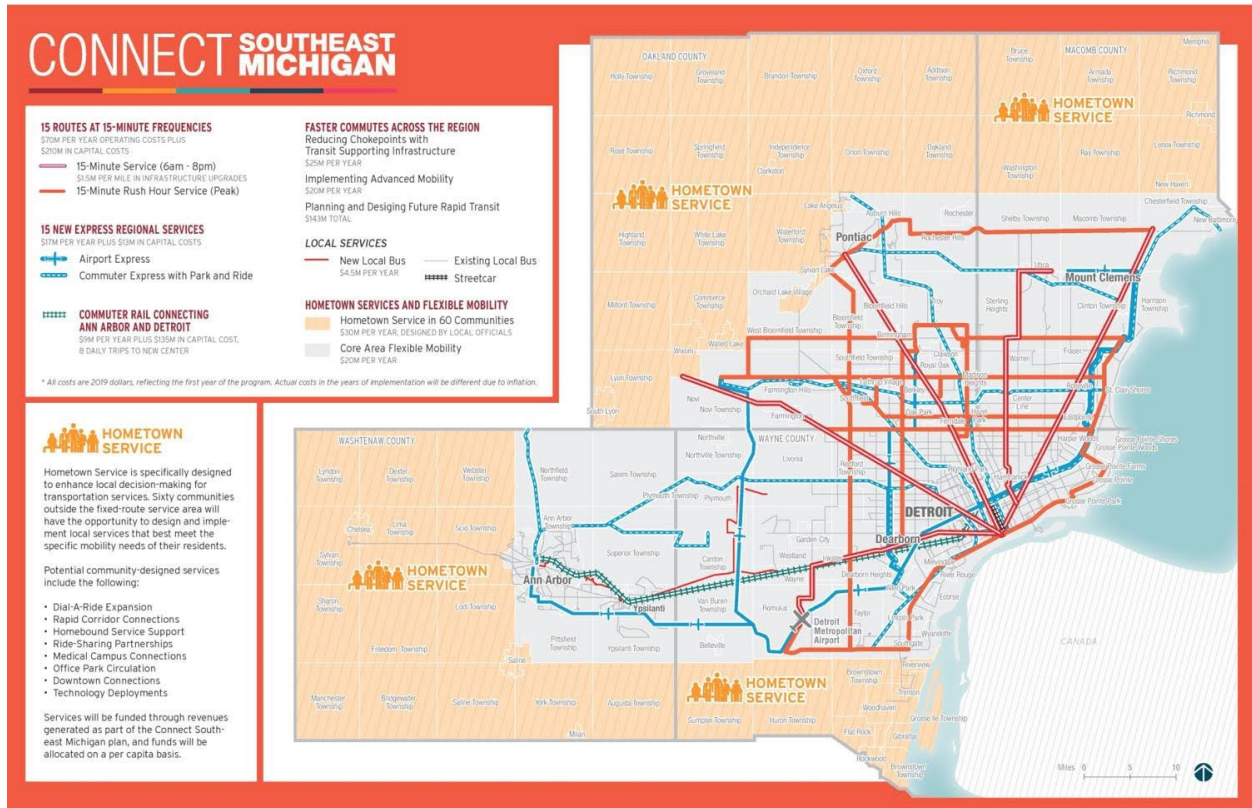


Figure 3.12: Map of the connected region distinguishing a “core” and “hometown” service area. Connect Southeast Michigan by Regional Transit Authority reprinted from Ikonomova, V., “You can weigh in on southeast Michigan's latest regional transit plan starting tonight,” *Detroit Metro Times*, April 15, 2018.

In Southeast Michigan, through attempts to fund a regional transit ballot measure, mobility infrastructures are enlisted in producing an integrated regional scale of political power and economic growth. The contested nature of these spatial and institutional interventions reflects, once more, the contentious politics of scale construction in both its material and discursive forms. The use of particular mobility infrastructures and policies to affect regional connectivity provides a window into the evolution of a scalar politics over time. Whereas, in the twentieth century, transportation

interventions were used as a means of *spatial differentiation* within and across the unevenly developing region, today they impress a functional territorial whole within a wider global patchwork of competitive urban regions. However, the legacy of militant localism, codified through a particular set of power relations within the regional scale, has thus far hampered this integrated vision framed around mobility, connectivity, and global economic competitiveness. In order to ameliorate these contingencies, there are now efforts to in some sense *reconstruct* the region by amending the state’s Municipal Partnership Act – excluding parts of Oakland and Macomb Counties from the referendum process in order to defang their inherited veto power.

3.4.3 *Elevating the District*

Beyond efforts to construct an integrated regional scale of economic activity through transit investments, mobility interventions have also served to demarcate strategic zones of knowledge economy accumulation within the city itself. One such zone, in a sense taking after the early-twentieth century industrial enclaves of Highland Park and Hamtramck, is the Detroit Innovation District (DID). The DID was created in 2014 on a wave of national enthusiasm to “supercharge the innovation economy” through geographically targeted “place-making” efforts – true to the longstanding federal paradigm of enterprise or empowerment zones, continued through the more recent Opportunity Zone legislation codified in the Tax Cuts and Jobs Act of 2017.²⁵ Innovation districts looked to hardwire regional economic growth by incentivizing clusters of large institutions (e.g., hospitals, universities) with entrepreneurial ventures. As part of a broader program sponsored by the Brookings Institution, Mayor Mike Duggan appointed a 17-person advisory committee to oversee Detroit’s 4.3-square-mile district (less than 3% of the city’s total land area), stretching from the downtown core north along the

²⁵ Cwiek, S. (2014, June 13). Detroit joins national “innovation districts” initiative. *Michigan Radio*.
<https://www.michiganradio.org/post/detroit-joins-national-innovation-districts-initiative>

Woodward Avenue to the city's TechTown business incubator in midtown. The advisory committee, with the financial support of local philanthropy and business development groups, commissioned a series of studies and plans in order to identify and prioritize spatial interventions in the district.

Mobility infrastructures were positioned as a primary means of spatial transformation with which to distinguish the district since its inception. Indeed, the inauguration of the DID coincided with the green-lighting of the QLine streetcar in late 2013. As mentioned above, having met the U.S. DOT's stipulation by creating a new regional authority in the RTA in 2012, the QLine was built using a mix of federal grants and private money sourced from local business and philanthropy, including the Penske Corporation, Dan Gilbert of Quicken Loans and Bedrock Management Services, the Ilitch Family, and the Kresge Foundation (Lowe & Grengs, 2020). First known as the M1 rail and later renamed with a nod to Gilbert's financial support, plans for the DID envisioned the \$144 million QLine as the spine of the Woodward corridor, connecting the 3-mile north-south stretch of innovation economy assets (Figure 3.13). The QLine's inefficient routing reflects the priorities of an emerging urban growth coalition fixed along the corridor. Planners were pressured to make the streetcar curb-running which, while enhancing visibility and accessibility to adjacent properties, introduces significant delays compared to median-running alternatives. Coupled with congestion and competition with existing DDOT and SMART service along Woodward Avenue, the QLine moves fewer people more slowly and at a higher cost compared to buses.²⁶

Although anchored by the QLine – which, when it opened in 2017, marked thirty years since the inauguration of the People Mover – the DID includes other new mobility interventions that help render legible a discrete spatial scale of technological innovation and organic urban spontaneity. After years in development, the city's hub-based bikeshare system, MoGo, launched alongside the QLine in

²⁶ Based on analysis of operating data from the FTA National Transit Database, operating expenses per passenger mile are more than 400% more expensive on the QLine (\$4.87 per mile) compared to DDOT bus routes (\$1.07 per mile). Source: NTD Transit Agency Profiles, Region 5, <https://cms7.fta.dot.gov/ntd/transit-agency-profiles>.

the summer of 2017. Advocating for the system was a familiar set of urban boosters organized under the Downtown Detroit Partnership, including General Motors, Quicken, and the Kresge Foundation (Stehlin, 2019). Although the network serves activity centers north of downtown along the municipal border with dense suburban municipalities like Royal Oak and Ferndale, the primary MoGo service area in Detroit forms a “T” shape concentrated around Woodward Avenue (Figure 3.14).

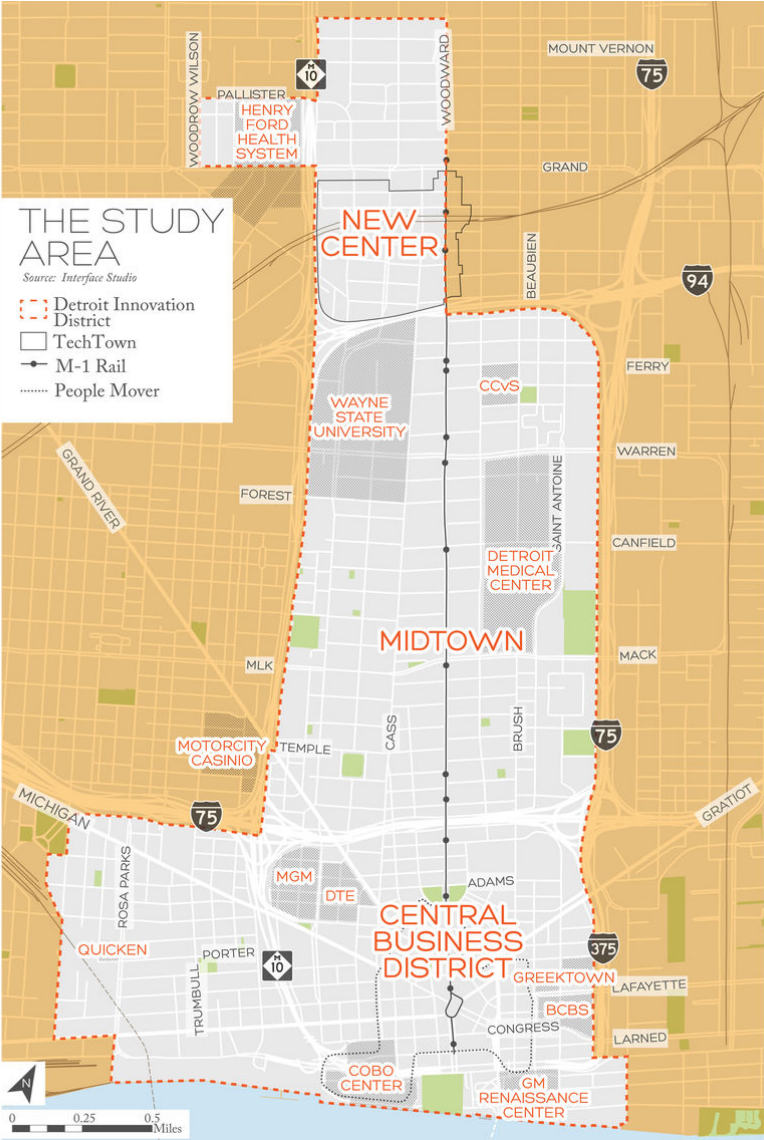


Figure 3.13: Map of the Detroit Innovation District with the QLine streetcar.
 By Interface Studios, n.d., <http://interface-studio.com/projects/detroit-innovation-district/>.



Figure 3.14: Map of the MoGo bikeshare network in Detroit.
 System Map by MoGo, n.d., <https://mogodetroit.org/maps/system-map/>.

In addition to the MoGo bikeshare service, the mobilities within the district scale also include public demonstrations of the latest automated vehicle technologies. One such pilot, developed through a partnership between May Mobility and Bedrock, Dan Gilbert’s local real estate development venture, creates a shuttle link between a parking garage and two downtown office buildings using a six-seat automated electric vehicle (Figure 3.7). The one-mile loop is exclusively for use by the roughly 18,000 employees of the Quicken family of companies that work between the buildings (Bedrock, 2018). Like the QLine and the MoGo bikeshare network, the May Mobility shuttle bolsters the city’s appeal to a roaming class of disproportionately white knowledge economy workers through the production of specific mobilities (i.e., innovative, flexible) and specific kinds of urban space (i.e., creative, vibrant) (Hashimoto, 2020). As geographically discrete reservoirs of political power and financial resources, mobility infrastructures and practices within the DID elevate the district’s profile before a global audience of tech and service firms. This depends above all on the differentiation of space, carving out an island of privileged mobilities and social relations within the city and regional territory.

3.4.4 *Constructing the Corridor*

Transportation investments are also used to forge sociospatial links between dispersed sites of growth across the wider region. Among the most recent attempts to create connective tissue among the state's strategic knowledge economy assets is the Michigan Mobility Corridor, an initiative announced by Governor Gretchen Whitmer in 2020 that aims to join the University of Michigan in Ann Arbor with Ford's Corktown innovation campus on the western edge of the DID. The production of a knowledge economy corridor hinges on a first-of-its-kind connected and automated vehicle highway (Figure 3.15), to be developed and operated by Cavnu, a subsidiary of Google's Sidewalk Infrastructure Partners. According to the pitch, the route would run parallel to I-94 between Ann Arbor and Detroit, enhancing connectivity to Wayne County Airport and passing through nearly a dozen established Opportunity Zones along the way. Although the most speculative of the visions and plans now shaping Southeast Michigan's new mobility politics, the effort has the backing of an extensive state-level apparatus tasked with fostering growth in emerging transportation technologies, including the newly created Office of Future Mobility and Electrification.

Much like the district scale in Detroit proper, the corridor scale advances specific material and discursive goals – such as connectivity, innovation, economic viability – by creating spaces and mobilities of exception, outside the formal mechanisms for democratic decision-making and accountability. The corridor adds yet another piece to the complex scalar mosaic of Southeast Michigan's mobility politics, further splintering the region's infrastructural publics through the privileged use of technology.



Figure 3.15: Conceptual Rendering of the Michigan Mobility Corridor.

Image by Cavnue, Sidewalk Infrastructure Partners, reprinted from “Michigan to develop corridor for connected and autonomous vehicles” by Micha Wanek-Libman, August 19, 2020, Mass Transit Magazine.

3.4.5 Resisting Mobilities of Exception and Claiming the City Scale

The three mobility interventions analyzed above demonstrate how mobilities – assemblages of infrastructure and embodied capacities for movement, differentiated by technology, race and class – are implicated in producing strategic spatial scales within the knowledge economy transition. Whether through the integrated region, the concentrated district, or the connected corridor, there is a clear and contested scalar politics to mobility in Southeast Michigan. This scalar politics is constituted not only by the discursive and material processes of scale construction advanced by transportation planning decisions – those that create the affective experience of “actually existing” spatial scales. In a slightly different sense, the scalar politics reflects the multi-scaled ensemble of actors, agents, and power relations implicated in rendering landing zones for knowledge economy capital as it crisscrosses the unevenly developed – and unevenly mobile – urban fabric.

In addition to revealing the specific spatial scales valorized and elevated through the social and technological transformations around mobility, the scalar analytic also points us toward arenas of

social relations that fall out of scalar discourse. For instance, across the three cases above, the city as a discrete scale is approached with trepidation. Detroit is used selectively to broadly frame the decidedly urban vision of elites, while being kept at such a distance as to dodge full political accountability. The region, district, and corridor, allow the social relations embedded in new mobility investments to go unchallenged, silencing the political voice of Black Detroiters or bus riders whose enfranchisement at other scales (e.g., as citizens of Michigan) might otherwise challenge the priorities of Michigan’s elite (Purcell, 2002). Activists have mobilized to counter this tendency of a post-political planning that uses technology and boosterist language to “orient the city away from its complexly racialized local politics” (Berglund, 2020, p. 227; Safransky, 2020). We see the city scale appropriated by groups like the Detroit People’s Platform, that, following their radical forebearers from the 1960s, claim the right to the city (Figure 3.16) while drawing attention to the exclusive mobilities increasingly privileged in the social production of space (Figure 3.17).



Figure 3.16: Highway billboard in Detroit.

From “About Us” by Detroit People’s Platform, n.d., <https://www.detroitpeoplesplatform.org/about/>.

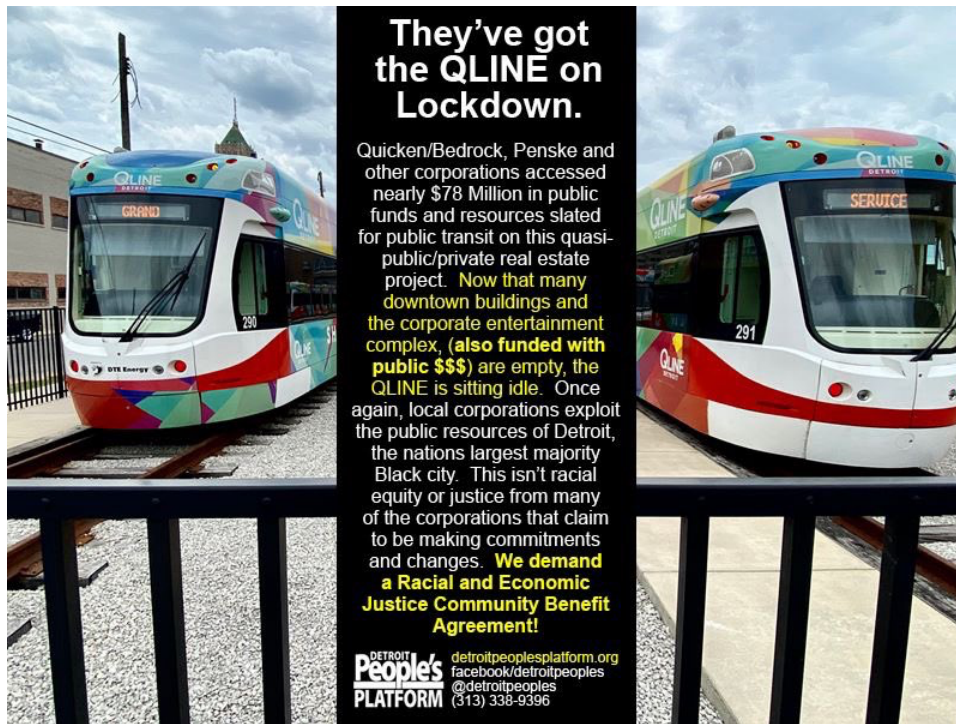


Figure 3.17: Pandemic-era organizing around QLine closure.
 Reprinted from “They’ve Got the QLine on Lockdown” by Detroit People’s Platform, June 28, 2020,
<https://www.detroitpeoplesplatform.org/transit-justice/619-2/>.

4 Conclusion

This thesis sought to make two primary contributions. The first, developed through a critique and synthesis of existing literature, is an analytical framework with which to understand the relationship between mobility and the production of spatial scale. I proposed that such a framework may be useful for understanding the uneven mobilities and processes of uneven development that together animate capitalist urbanization. Compared to existing analyses of scale, the framework centers a richer conceptualization of movement in understanding the material and discursive construction of spatial scales, viewing mobility not as an instrument but as a relation of power and identity in space. I argued that mobility infrastructure, in its representational and concrete forms, is not a neutral tool of scaling processes that exist “outside” movement. Instead, mobility assemblages actively produce, challenge, extend and contract the social relations around which geographic scales crystalize, endure, and evolve.

The second contribution demonstrates the usefulness of a scalar analytic built around mobility by applying the framework empirically to the sociospatial transformations associated with the knowledge economy transition. Through an admittedly narrow cross-historical study of mobility in Southeast Michigan, I suggested that in the knowledge economy as well as in the Fordist accumulation regimes of the twentieth century, mobility technologies and institutions produce and are produced by strategic scales. Contained within these scales and mobilities are a set of social relations that together impose a legible geographic order to patterns of uneven development, advancing a historically specific vision of economic growth. Through this historical lens – tracing a common thread from early industrial enclaves of Highland Park and Dearborn to the downtown People Mover and, later, the Detroit Innovation District and Michigan Mobility Corridor – we see scale track the see-saw of uneven development through various modes of production and consumption, assuming a different spatial form and taking up distinct mobilities. The shifting scalar politics to mobility in Southeast Michigan is therefore not merely the natural residue of urban agglomeration, nor does it depend entirely on new capabilities unlocked by technological innovation. The production of scale and the production of differentiated, scale-attuned mobilities is instead fully contingent upon sociospatial relations of power and identity, rooted in history and shaped by structuring multiscaled processes of political, economic, and technological change.

My argument, while at its core based in a materialist reading of capitalism's uneven development, looked to incorporate processes beyond the economic that impact on the production of space. For example, amid the wide-ranging economic transformations I documented, the production of the city scale within Southeast Michigan's social geography sustains as a means of rendering difference, diagnosing problems, and framing political constituencies, particularly along racial lines. The production of the "local" more generally, whether it be in the city of Detroit or in its many surrounding municipalities, has played a significant role in shaping the region's spatially and

socially differentiated relations of power. In this broader sense, transportation planning practice and patterns of everyday mobility are one such way that differentiated power relations become instituted and embodied across the geographical landscape. Controversial and contested, within the scalar politics of mobility we routinely encounter reactionary measures of control and domination over space, resources, and people – this manifested time and again, for instance, in the stance taken by outlying suburban interests, backed by the state’s Home Rule Act, against regional transportation planning and policy. Conversely, mobility and place are also sites of crucial resistance to interlocking systems of oppression. Laying claim to their right to movement and space, Black activists in Detroit directly confront the embedded institutional logics that disenfranchise their communities. By organizing in opposition to the proposed expansion of the QLine streetcar, or by amending the city’s charter to recognize a right to mobility and access, groups like the Detroit People’s Platform and Black Lives Matter Detroit seek to expel from the policy discourse transportation interventions that put capital accumulation over the needs of people.²⁷

4.1 Limitations and Extensions

The analytical framework developed here has, for the most part, looked to clarify one relatively narrow dimension of the social and technological transformations surrounding mobility in the knowledge economy transition. That is, the ways in which mobility assemblages construct and are constructed by a set of spatial scales that (re)order social and economic relations. A driver of this scalar politics over time, I suggested, is capital’s attempt to resolve, if only temporarily, contradictory tendencies toward equalization and differentiation. A significant limitation of this approach is the extent to which it relies

²⁷ Rahman, N. (2020, Jul. 29) Bill of Rights for Detroiters could be first change to city charter in 8 years. *Detroit Free Press*; Detroit People’s Platform (2020, May 14). We Don’t Need Another QLine. <https://www.detroitpeoplesplatform.org/transit-justice/we-dont-need-another-qline/>.

on a structural understanding of power within processes of capitalist urbanization. Informed by existing debate within the literature, I aimed to anticipate this line of critique by paying particular attention to socially differentiated relations of power and identity (i.e., by race or class). However, applying the framework to the Detroit case, my analysis to some extent privileged structural economic forces and coalitions of elite actors. Positioning a classic “growth machine” at the heart of the overall narrative may have led me to disregard dispersed forms of agency and overlook a wider pool of actors with meaningful motivations.²⁸

Along similar lines, my relatively limited theoretical treatment of race within the processes of uneven development and the production of space could be expanded. Although race figures throughout my concrete historical analysis, further engagement at the level of a *theory* of uneven spatial development and uneven mobilities would likely provoke deeper insights. In particular, borrowing from critical scholarship on Black geographies, there is an apparent need to integrate processes of *racialization* within the social construction of particular spatial scales and the production of differentiated forms of mobility (McKittrick & Woods, 2007). To this task, George Lipsitz’s (2011) notion of “racialized spatial imaginaries” may provide a helpful theoretical orientation. Lipsitz offers a way to think about social order as an outcome of competing spatial imaginaries: a white spatial imaginary that “views space primarily as a locus for the generation of exchange value” (p. 30), and a Black spatial imaginary that appropriates the use values of shared space and in doing so “promotes solidarities within, between, and across spaces” (p. 69). The racialization of space furnishes additional ways of understanding particular modes and experiences of travel, and uncovers additional logics operating within transportation planning practice. On the latter, for instance, Summers and Howell’s (2019) formulation of planning as “fear management” adds yet another theoretical and analytical frame

²⁸ For a critique of the neutral positioning of growth machines along these lines, see Hackworth’s (2019) discussion of growth machines and racial threat.

through with which to view mobility interventions. Racialized spatial imaginaries are also reflected in the provision of infrastructure, and therefore condition the affective dimension of movement. The modern streetcar, for example, may evoke a white space of “carefree travel” (Dwyer & Jones, 2000; quoted in Summers, 2019, p. 152). The city bus, coded as a Black space in Southeast Michigan and throughout much of American transportation planning discourse, affects travel as labor, not leisure (Summers, 2019).

In addition to embracing a more robust theoretical treatment of race, my framework and analysis may be productively extended and refined through closer consideration of technology specifically. The new mobility ecosystem that I studied is, after all, an historically situated assemblage of technological artifacts, each imbued with a political valence (Winner, 2009). Although my approach accounted for the role of transportation planning and policy discourse in the production of spatial scale, incorporating a theory of technology within discursive practices of world-making would likely yield additional insights. Given the speculative nature of new mobility technologies and the institutional currency of shared beliefs about the future, *visions* of how technologies might be incorporated into the social fabric have an outsized impact in current policy and decision-making processes. Shelia Jasanoff’s concept of the “sociotechnical imaginary” may be useful here – she uses the term to refer to “collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order” (Jasanoff, 2015, p. 6). Jasanoff’s perspective fruitfully couples collective beliefs about how society functions to performative practices of technological experimentation and demonstration, presenting another optic on the many high-tech mobility pilot programs I encountered.

4.2 Moving Forward: Alternative Visions of Mobility and Space

Mobility offers a critical empirical and theoretical window into a dense array of spatial processes – the multiplicity of issues that converge on transportation is what motivated me to study mobility in the first place. Everyday practices and discourses of movement are a prism, bending and refracting global dynamics of urbanization in distinctive patterns. In this thesis, I have abstracted from those patterns in order to probe aspects of capitalism’s geography that are comprehensible only in theory. By thinking through these abstract concepts – such as the production of spatial scale, or the mobility-immobility dialectic – in terms of their concrete and specific applications, my hope is to have at least made the case that mobility is both fertile terrain for geographical inquiry and a foundational site of political possibility.

At the present social and technological juncture, the stakes of mobility politics are incredibly high. In the United States in particular, buffeted by a global pandemic, the accelerating perils of climate change, and layered crises of housing affordability and racial violence, realizing the emancipatory potential of socially and ecologically just mobility is of urgent importance. Among the many tools we might wield in order to enact an alternative vision of mobility and with it, an alternative vision of the production of space, our democratic institutions currently offer little in the way of hope. Ostensibly democratic systems of collective decision-making, formalized through various planning processes across government, have been distorted over decades in service of elites big and small. The narrative of a technological revolution in transportation gathering steam in all corners of government, coaxed along by large tech companies most of all, will, without intervention, further advance austerity politics and hasten the private enclosure of public space. What can be done to resist this fate?

The most important path of resistance is laid through a broad-based working-class movement. The recurring waves of crisis crashing upon our cities – particularly in Black, Indigenous and other

communities of color – have spawned revolutionary organizing for mobility justice, figured within a wider framework for urban spatial justice. Activist groups like The Untokening collective, for example, have defined principles of mobility justice that center the experiences of people whose identities are too often marginalized in both advocacy work around planning issues, and in the formal channels of community engagement codified in planning institutions.²⁹ While the struggle for a more just and equitable world no doubt extends onto campus and into the urban theory seminar, in contemplating the goals of a social movement, it is crucial to center the perspective of organizers, many of whom bear directly the pain and injustice produced by the systems we seek to dismantle.

As an academic discipline in some sense removed from the daily struggles playing out on city streets, geography can serve a critical role in unearthing hidden sites of power and seeding radical visions of an alternative future. One such vision, articulated by Mimi Sheller, is that of a “mobility commons.” Sheller (2018, p. 162), drawing directly on the organizing work of activist groups, encourages us to move beyond the notion of an “individualized right to move,” asking instead “how collective social needs are mediated through movement.” For Sheller (2018, p. 169), we must work to construct “mobile constellations of shared life” by actively “commoning” mobility, engaging movement as a profound site of encounter that inevitably “deterritorializes” collective social action and shatters arbitrary political geographic distinctions (such as those between citizen and non-citizen, for example). The implication for inherited forms of political representation is perhaps the most provocative feature of Sheller’s vision. As I argued above using the case of Southeast Michigan, elites appropriate mobility infrastructure in part because it reorders space, producing scales of exception that by design stifle democratic accountability. We see here in yet another form the potentially disenfranchising tendencies of the production of space, an outcome articulated most forcefully by

²⁹ Untokening Collective. (2017, Nov. 17). Untokening 1.0 – Principles of Mobility Justice. <http://www.untokening.org/updates/2017/11/11/untokening-10-principles-of-mobility-justice/>.

Lefebvre half a century ago (Purcell, 2002). It is therefore critical that the response – whether in pursuit of a mobility commons, the right to the city, or some other radical vision – attend first and foremost to systems of political representation and social voice that are fundamentally broken. Indeed, as Neil Smith reminds us, geographic scholarship points not only to the urgent need to restructure capital, but with it the entire “political basis of society, in order to produce a genuinely social geography” (Smith, 2008, p. 211). In solidarity with that vision, it is my hope that this contribution, however modest, might grease the gears of progress.

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