

Title: Black Mobility Matters: An Exploratory Study of Uber, Hacking, and the Commons in Baltimore

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Spatial form and social process are different ways of thinking about the same thing.

David Harvey, *Social Justice and the City*

The motorcar provided this superior means of going outside to be alone. As a corollary, Americans have a great dislike for public transit because public transit is where you go outside to be with people.

Marshall McLuhan, *Marshall McLuhan Speaks Special Collection: Living in an Acoustic World*

City as Work/City as Movement

Questions about the city – its boundaries, fabric, size, scale, culture, economy, historical and political contributions – populate the expansive horizon of architectural theory. Its immediate denotation is elusive, but the city is frequently captured within images of living networks: complex organisms, ecosystems, hives, colonies, bundles of neurons. These images of “city as living being,” present it as possessing essential organs connected by an indispensable circulatory system, regulated by a metabolism. Thus, the vitality and relative scale of a city can be measured from its transportation infrastructure and flow of capital.¹ Many large-sized US cities survived the devastating effects of deindustrialization and white flight, maintaining adequate circulatory systems that connected urban residents to means of work. For the majority of medium-sized US cities – Baltimore, Cincinnati, Buffalo and Pittsburgh, to name a few – this was not the case.² These cities suffered large declines in employment, population, and infrastructure maintenance, as they transitioned from an industrial to a tourist and service (FIRE)³ based economy.⁴ While mobile network technologies supplement existing transit systems in

large-sized US cities,⁵ they exploit the hollowing out of medium-sized cities in the US post-industrial landscape. These technologies are attempting to both define urban labor and imagine how people connect to labor. In so doing they (re)imagine and (re)define the city itself, (re)organizing the way essential organs are connected and regulated. This article examines the economic and social practices of Uber and how it shapes, and is shaped by, the commons of medium-sized cities that revolutionizes traditional notions of urban work and mobility, but not necessarily for the better in the long run. Later, the article explores how this imagining impacts the commons through differentiating Uber from Hacking, a long-standing though illegal solution to urban immobility in Baltimore. Through their comparison, the article proposes a civic-minded, open-sourced on-demand car service that capitalizes on Baltimore's car centrality and strengthens the commons through cooperative and mobile networks.

Driving Forward Neoliberal Protocols

Neoliberalism is the doctrine of uncontrollable markets: it says that the best route to prosperity is individuals pursuing their own self-interest, and the market is the only way to express that self-interest. It says the state should be small (except for its riot squad and secret police); that financial speculation is good; that inequality is good; that the natural state of human kind is to be a bunch of ruthless individuals, competing with each other. (Mason 2016, xi)

A visit to Uber's website or a glimpse at any of Uber's increasingly frequent advertisements, and the message is clear: Uber drivers are self-empowered, self-employed, micro-entrepreneurs with the freedom and flexibility to generate as much revenue as desired. This \$70 billion⁶ monopolistic⁷ colossus pedals the American heroic narrative of pulling oneself up by the bootstraps through entrepreneurial success, affirmed by a multitude of international driver testimonies and ostentatious graphics. Uber's methods of representing corporate identity and economic promise should not only be understood as an issue of graphic design or auspicious marketing, but rather a purposeful form of neoliberal subjectification. Uber wants the proverbial (and individualized) "you" to feel empowered, free, and included in a digital revolution marketing itself as a leading innovative enterprise in the gig economy,⁸ a marked contrast to the stagnation and bureaucracy of archaic capitalism. Yet, Uber is pushing towards dangerous legislation that could (re)configure labor laws in the US and continue to erode the commons in the age of *Empire*.⁹ Uber's narrative plays an important symbolic role in (re)configuring the city as a network of atomized cells with door-to-door service, displacing the collective desire for public mass-transit and maintaining the commons.¹⁰

The ambiguous definition of contingent work is a critical obstacle in evaluating the economic practices of Uber. According to the US Department of

Labor, contingent work includes temporary and part-time employment, independent contracting, and self-employment. However, many social theorists¹¹ contest this broad definition in favor of a narrow one because unpacking these eclectic categories reveals a variety of factors that reflect serious discrepancies in class relation and power hierarchies. One example is the difference in social relations of labor between part-time employment and self-employment. A part-time employee receives a wage for their labor from an employer who regulates working operations and claims ownership of the profits produced. On the other hand, someone who is self-employed directly exploits his/her/their own labor and owns the entirety of profits produced. The eclectic definition of contingent work manifests as vast discrepancies in statistical measurements: from 7.8% to 40.4% of the US workforce.¹² Uber's own research shows that 61% of "Uber-Partners" have an additional full-time or part-time job, suggesting that their primary economic position is "underemployed laborer" who is in need of multiple sources of income to make ends meet.¹³

Like many "entrepreneur-creators" within the gig-economy, Uber capitalizes on the ambiguity of contingent work for their own economic benefit, insisting that service providers are self-employed and can make their own hours.¹⁴ Uber markets the positives of flexibility and entrepreneurial freedom, which masks the negative potentialities of contingent work. The flipside of Uber's flexibility is underemployment and financial uncertainty. Analogously, the flipside to its entrepreneurial freedom is a lack of Uber's commitment to labor, resulting in increased instability and a non-freedom: an increased dependence on welfare programs. In reality, Uber *is* autocratic management: Uber regulates ride fares determined by proprietary algorithmic technology; Uber dictates the classifications their "Uber-Partners" can drive under; Uber has the freedom to "deactivate" drivers based on an unverifiable rating system; all the while taking a 20–30%¹⁵ commission fee for their "services". Essentially, Uber constitutes the majority of labor conditions in this new market, which prompted two class action lawsuits in the states of California and Massachusetts, *O'Connor v. Uber* (2016) and *Yucesoy v. Uber* (2016), respectively, that had hopes of settling the ambiguity and power dynamics of these labor classifications within the gig economy.¹⁶ In tandem, the dehumanizing treatment by Uber has spurred mass protests throughout the US. In Dallas, Texas, "Uber-Partners" who drove for uber-BLACK picketed when realizing they lacked the *entrepreneurial freedom* to specialize only in Uber's luxury car service.¹⁷ "Uber-Partners" in New York City and San Francisco attempted to boycott fare cuts during the 2016 Super Bowl.¹⁸ These anti-Uber protests extended internationally to cities like Montevideo, Bangkok, and London where 8,000 cab drivers occupied Central London against Transport for London, "blurring the lines between traditional taxis and private hire" by licensing Uber.¹⁹ Furthermore, public safety and urban quality of life is being undermined because Uber does not regulate the number of cars they incentivize to be on the road.²⁰ Uber actively desires to put more cars on the road to increase their potential

for profit, regardless of traffic congestion, pollution, or the public's safety. Recently, Uber withdrew their ride-hailing services from Austin, Texas (and is threatening to withdraw from Houston) after city legislation was passed that requires "Uber-Partners" to be fingerprinted to better crosscheck driver's criminal records.²¹ While Uber does engage in marginal background checks of their "Uber-Partners," they abrogate all responsibility for driver negligence, to the point that they refuse to change safety policies or implement safety features on their mobile app., even in the wake of the Kalamazoo mass-shooting.²² These outcomes point to Uber's indifference with labor conditions, municipal authority, and the commons.

Mason points out the essential linkage between digital technology and emerging exploitative labor environments: "The most vital component of neoliberalism – the individualized worker and consumer, creating themselves anew as 'human capital' every morning and competing ferociously with each other – would have been impossible without network technology."²³ The neoliberal philosophy that empowers Uber, emerged in the 1980s as a reactionary economic theory to the Keynesian welfare state of the 1960s and 1970s.²⁴ Reagan and Thatcher returned their nations' economic policies to a nineteenth-century liberalist rhetoric which glorified individual self-interest, mediated by an unregulated-competitive market as the greatest producer of wealth and innovation. This era,²⁵ fostered by de-regulation, privatization, anti-union sentiment, and offshoring, primed the ground for the next capitalist expansion²⁶ that Uber embodies, while, supply-side tax cuts ensured state deficits that further eroded public infrastructure. This sets the backdrop of the current discourse around public transportation, or the lack thereof, in Baltimore, and is the desecrated ground Uber uses as its justification: its *raison d'être*.

Baltimore, Race, and Devastating *Urban* Immobility

Properties, prisons, borders: it is through the prevention of motion that space enters history... with the prevention of motion, force – in the most literal sense, of applying physical pressure to bodies – assumes a special kind of necessity. Quite simply, being in a place is something you do with your *body* – nothing else – and therefore, to prevent your motion from one place to another, your body must be affected. The history of the prevention of motion is therefore a history of force upon bodies: a history of violence (Netz 2009, xi–xii)

At the turn of the twentieth century, Baltimore was a model city for public transit,²⁷ embedded with an extensive streetcar infrastructure spanning over 400 miles of rail that connected the city far beyond its urban limits (see Fig. 1). Local industries supported public infrastructure because it improved access between work and home for their employees.²⁸ Despite Baltimore's fervent history of segregationist urban policies,²⁹ its streetcars were inadvertently integrated due to a mixture of finance and "Separate

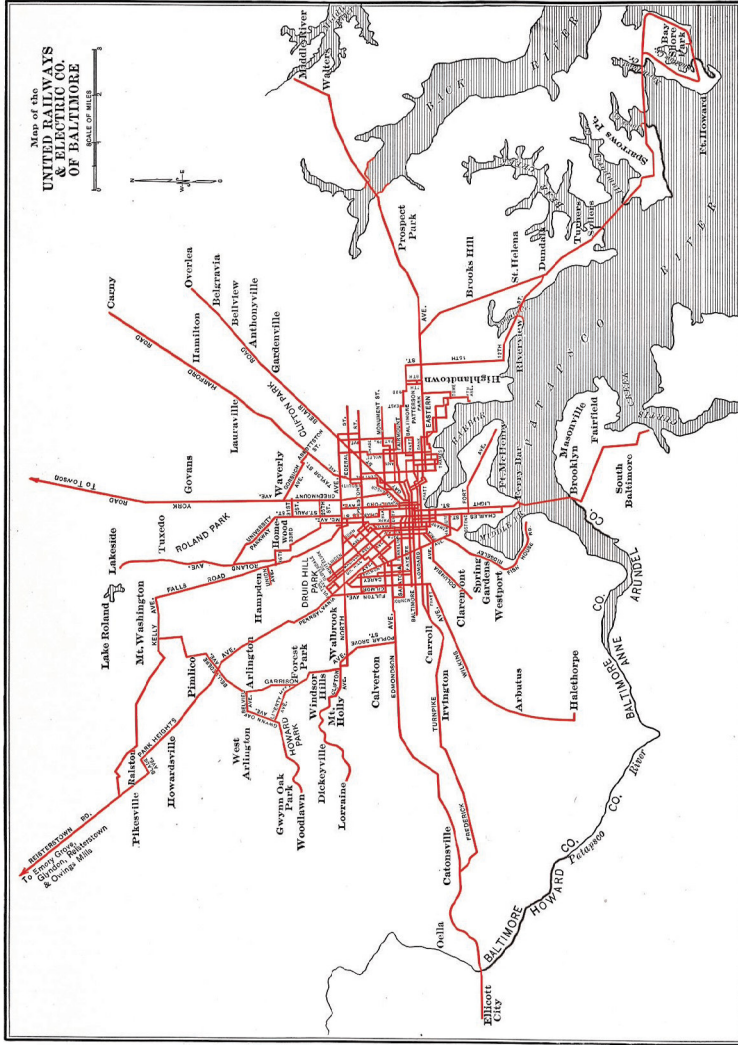


Figure 1. *Map of the United Railways & Electric Co. of Baltimore, MD.* McGraw Publishing Company, Inc., New York, New York, 1913. From: The University of Texas at Austin, University of Texas Libraries, accessed August 11, 2016, http://www.lib.utexas.edu/maps/mcgraw_electric.html
 * Color correction done by author for legibility.

but equal.”³⁰ As a result, Baltimore’s streetcars also helped marginalized communities better connect to their spaces of labor. The commitment to public transit infrastructure that enabled more egalitarian mobility began to erode in 1948 when the automotive cartel, National City Lines (NCL), purchased Baltimore’s streetcar system. Stoerkel and Tamminen point out that under the governance of General Motors, Firestone Tires, Standard Oil, and other automotive corporations, NCL swiftly uprooted the city’s streetcar infrastructure in a deliberate attempt to monopolize the sale of buses.³¹ The turn away from integrated mass transit intensified with the Great Migration of African-Americans from the South, which further spurred white flight, suburbanization, and automobile dependence. By the 1950s, “malls were beginning to develop in the suburbs and some of the department stores in downtown Baltimore began to open branches in the suburbs near the beltway ... [adding] to the already existing exodus to the suburbs.”³² Inevitably, the city’s infrastructure shifted under the direction of Philip Darling to reflect suburban political interests mediated by pre-existing racial tensions. One of Darling’s “radials,”³³ the Jones Falls Expressway (I-83), embodies these historical racial tensions to this day and continues to serve as infrastructural bypass,³⁴ connecting white neighborhoods to the FIRE services and tourism of Baltimore’s Inner Harbor, while dividing black low-income households into two prominent “wings” that flank both sides of the expressway (see Figs. 2 and 3). Darling’s expressway initiatives imagined a different Baltimore, one premised from the viewpoint of the automobile owner³⁵ and not the urban resident (see Fig. 4), priming the city for the ruthless individualism of neoliberal economics that would lead to Baltimore’s systemic failure in public transit.

Most of Baltimore’s original streetcar network exists today as a bus system, however these transit veins are antiquated, bloated and ineffective. “The buses only come once an hour, sometimes less if they break down, or they won’t stop to pick up any more people if they are full. Basically you are just waiting around for hours trying to get where you need to go,” states urban resident Zeke Kelly who is reliant on public transit.³⁶ An initiative to develop a transit system that would connect disenfranchised communities of low-income African-American workers (see Figs. 5 and 6) to their service-sector jobs stagnated after Republican Governor Larry Hogan thwarted Baltimore’s recent attempt to address urban immobility via a proposed Redline to the light rail system (see Fig. 7). The transit proposal was widely favored by city residents and local businesses, which invested tens of millions of dollars in planning and designing the fourteen-mile East–West connector.³⁷ The rejection shocked many of Baltimore’s residents, notably Baltimore’s mayor, Stephanie Rawlings-Blake, who claimed the project “would have expanded economic development, created thousands of jobs, increased access to thousands more, and offered residents better health care, child care and education opportunities.”³⁸ Governor Hogan’s decision even upset former Secretary of State and democratic presidential

candidate, Hillary Clinton, who stated in a campaign visit to Baltimore, that the proposed Red Line “should have been completed.”³⁹ However, Hogan has defended his decision, claiming his administration is “not opposed to public transportation” but is “opposed to wasteful boondoggles,”⁴⁰ reminding Baltimore of the millions of dollars the state recently sent to help the city recover from its 2015 uprising.⁴¹ Many urban residents speculate that the Red Line’s blindsided rejection is rooted in the historical racial tensions that influenced the transit planning of Darling. Resident Paul Schlitz Jr. points out in an opinion piece to *The Baltimore Sun* the bipolar popularity of Baltimore’s light rail with suburban residents, being widely favored and used during cultural events like Artscape, Ravens and Orioles games, and highly unpopular, mixed with social-taboo, at other times. He states, “... The historic problem in Baltimore with [the] light rail was always who would use it rather than who wouldn’t. By that I mean white suburbanites don’t want inner city black people to travel into their neighborhoods ... Certainly getting to work is more important [than] seeing a lot of underpaid artists and overpriced food.”⁴²

Baltimore has a long-standing failure to provide solutions to urban immobility for its low-income carless residents. As a response, the marginalized formulated their own solution: *Hacking*. This insurgent-network of black mobility through underground alternatives “envelope[s] a particular neo-liberal preoccupation of residents in conditions of subalternity, a state of spatial, social and political marginality where the absence or retreat of macro-level service galvanizes the provisions of resources by individuals and communities.”⁴³ Hacking, unlike Uber and other illegal taxi operations, is based on community-reciprocity and spontaneity. “Any driver at any time can start or stop as a hack provider,”⁴⁴ requiring its users and providers to know Baltimore’s local culture – it is an *insider* service, not a global enterprise. However, also unlike Uber, local authorities prosecute this community-minded service as high as a felony.⁴⁵ The vehement and “hyper-visible illegality”⁴⁶ of Hacking occasions its invisibility and that in turn occasions its vulnerability to predatory and abusive impersonators, further marginalizing this essential and economical service for carless residents who need a way to connect to supermarkets, health care services, education, and employment. Numerous supermarkets that serve Baltimore’s low-income communities acknowledge the importance of low-fare rideshare services for their customers and have attempted to make Hacking more visible by sponsoring drivers who submit to background checks. Even so, the Baltimore City Police Department denies the viability of a community-generated alternative, stating “[we] don’t care if the grocery store gives you a red badge, you’re operating an illegal cab.”⁴⁷ Thus, Hacking’s *invisibility* could benefit from the *visibility* of crowd-sourcing and mobile network technologies, alluding to a civic-minded car service that operates on a parallel network structure to Uber and other emerging ride-hailing services.

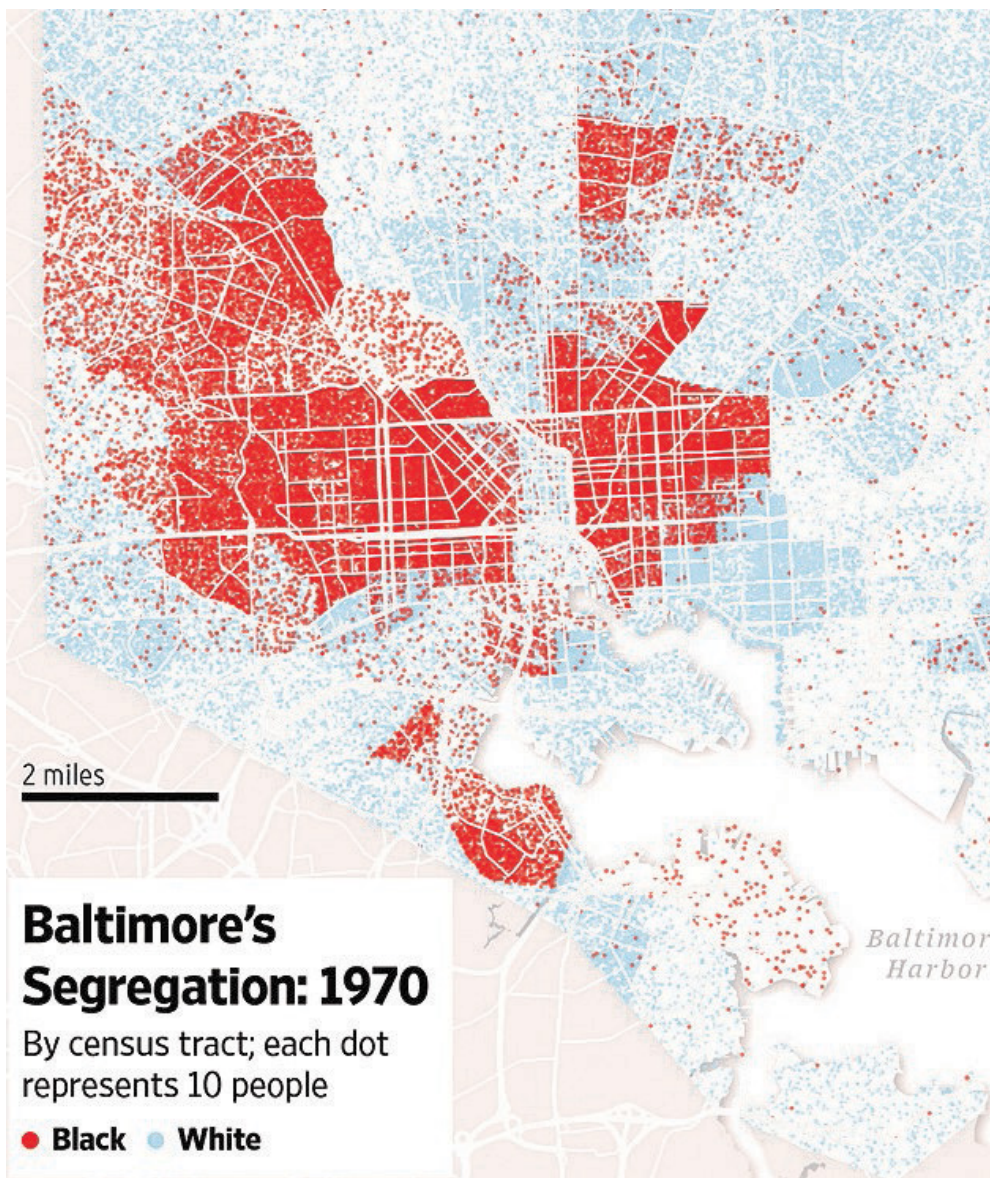


Figure 2. *Race and ethnicity: Baltimore, 1970.* (Noticeable racial division split by 1–83). Randy Yeip, “Baltimore’s Demographic Divide,” *The Wall Street Journal*. May 1, 2015. Accessed August 11, 2016. <http://graphics.wsj.com/baltimore-demographics/>

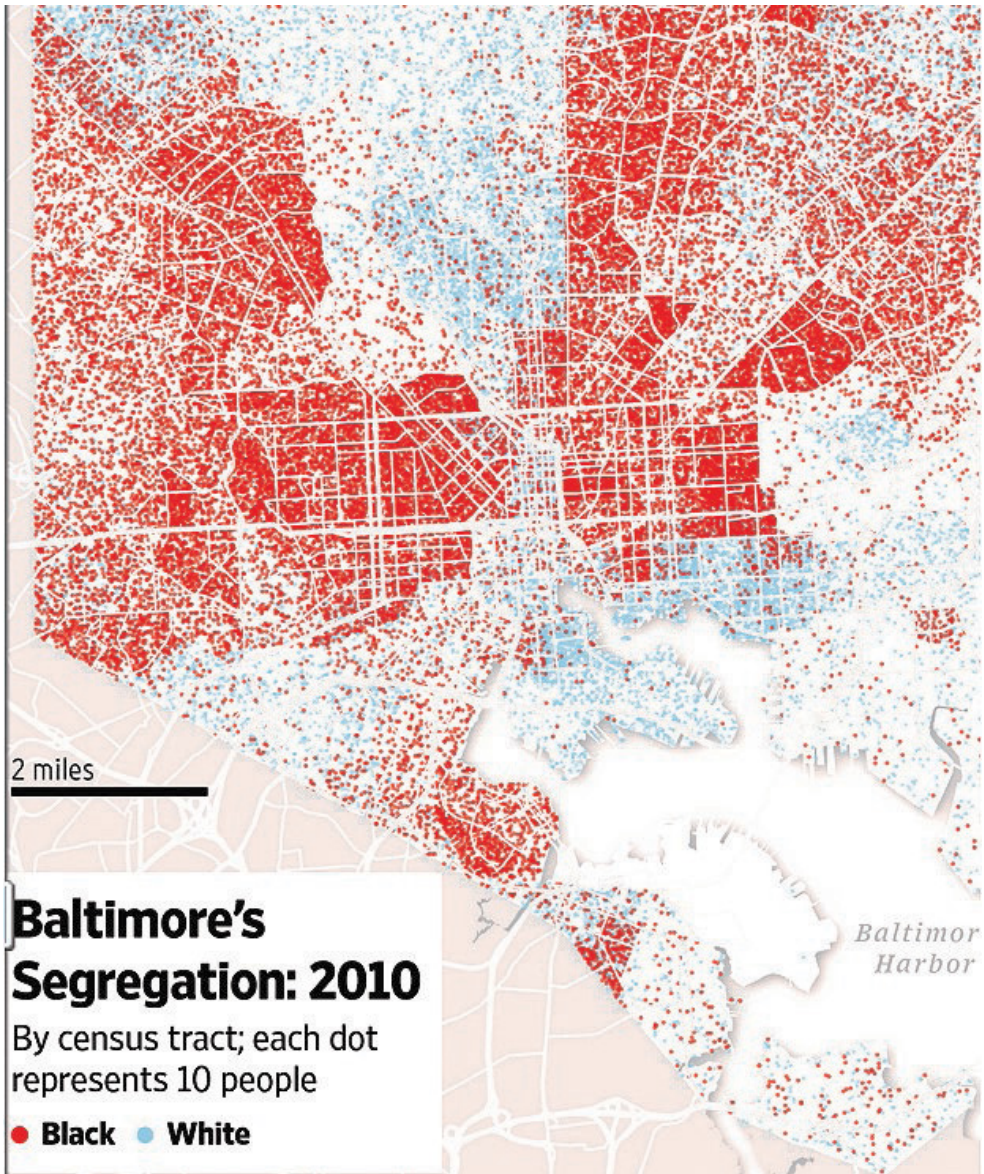


Figure 3. *Race and ethnicity: Baltimore, 2010.* (Same noticeable racial division split by 1–83 40 years later). Randy Yeip, “Baltimore’s Demographic Divide,” *The Wall Street Journal*. May 1, 2015, accessed August 11, 2016. <http://graphics.wsj.com/baltimore-demographics/>



Figure 4. Baltimore, MD & Vicinity Map: "Inside the Beltway." ADC, Baltimore, MD & Vicinity Map: "Inside the Beltway". ADC, Alexandria, VA, 1985. Obtained from: Ellen Lupton, Maryland Institute College of Art

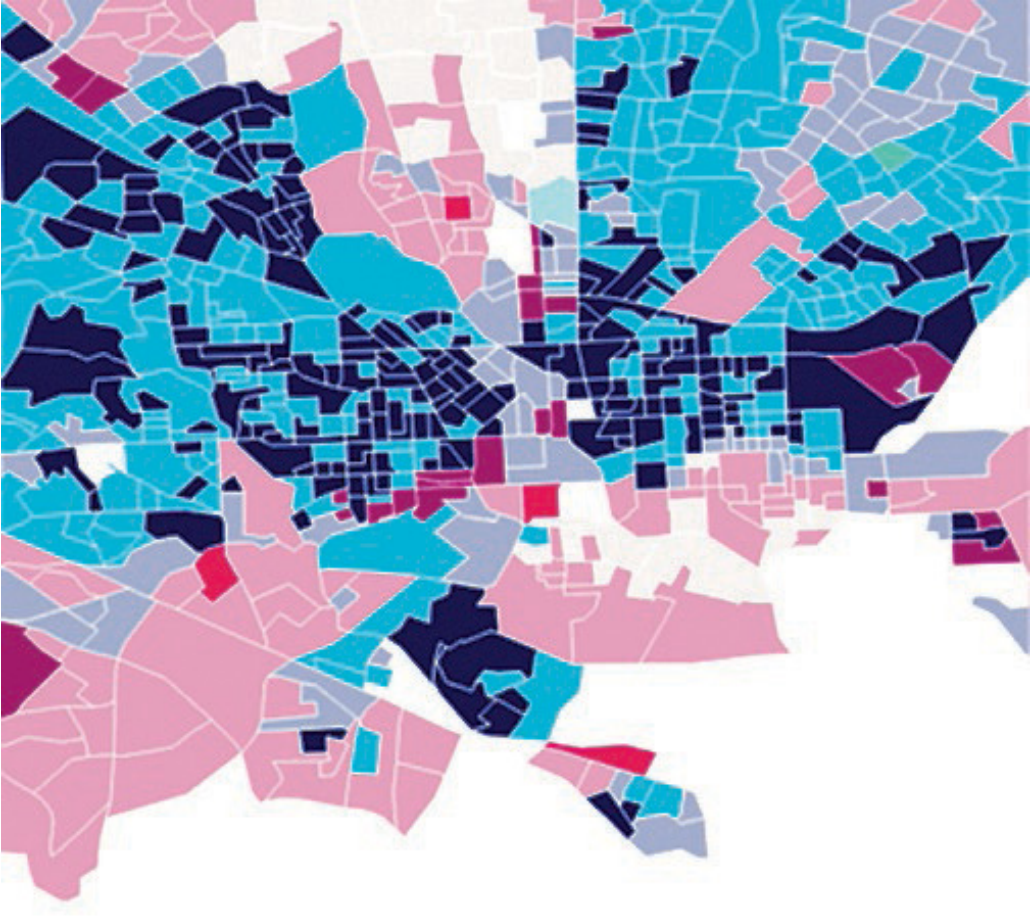
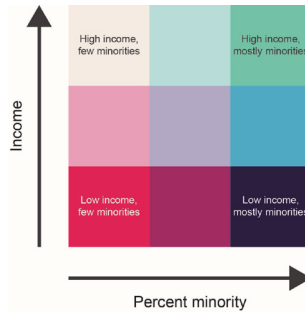


Figure 5. *Income and racial inequality: Baltimore, 2009–2013.* Andy Kiersz, “The Economic and Racial Inequality Problem in Baltimore Exists in Many US Cities,” *Business Insider*, May 3, 2015, accessed August 8, 2016.

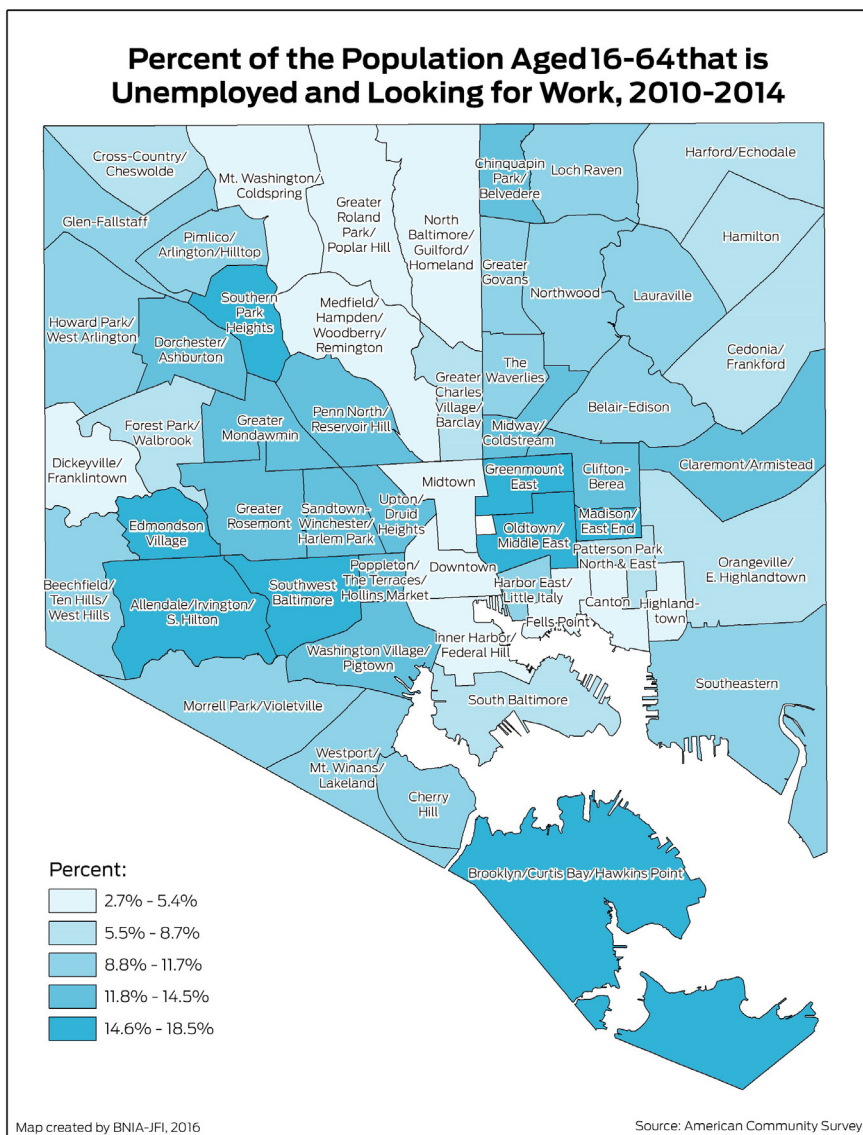


Figure 6. *Population aged 16–64 unemployed and looking for work, 2010–2014.* Jacob France Institute, “Percent Population 16–64 Unemployed and Looking for Work,” *Baltimore Neighborhood Indicators Alliance*. June 20, 2014, accessed August 8, 2016. <http://bniajfi.org/wp-content/uploads/2016/04/Unempl14map.jpg>

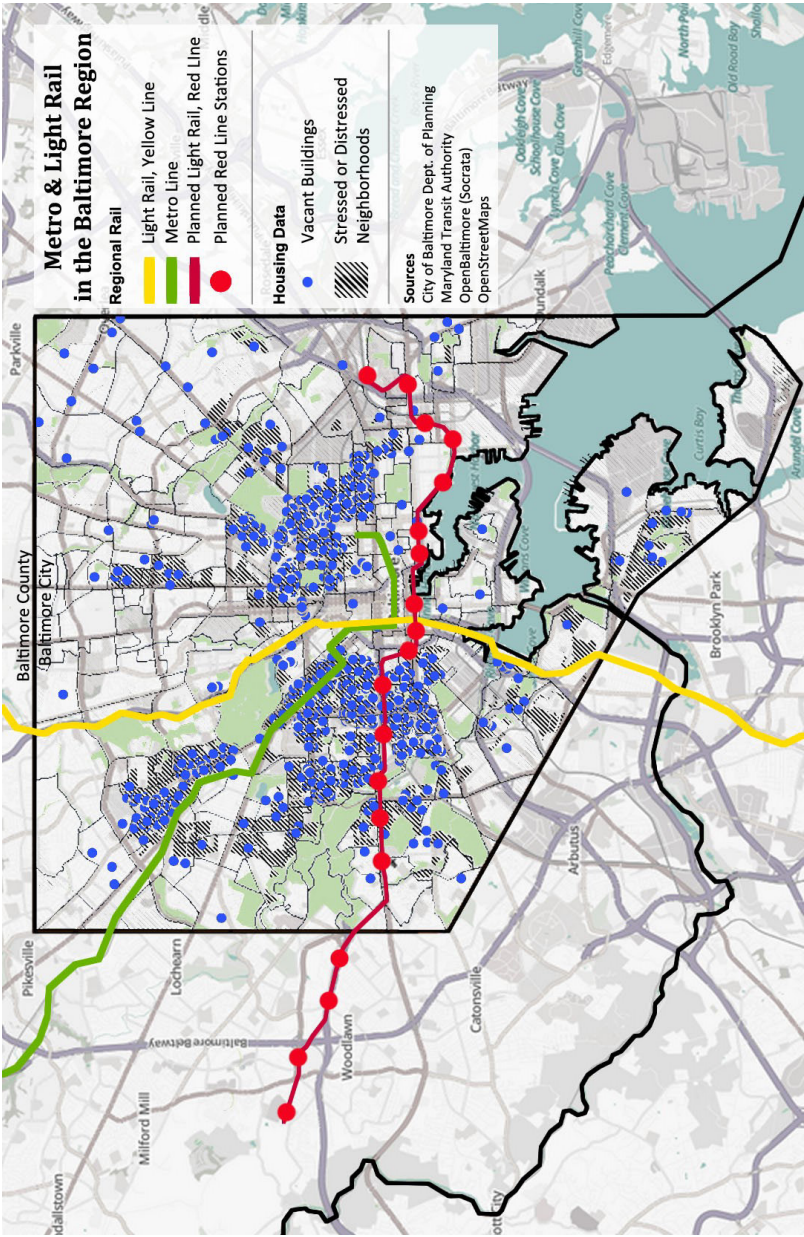


Figure 7. Baltimore's proposed Redline rail system. Tod Railfan. "Redline Map 4," *Railfan Guides*. July 12, 2015, accessed August 8, 2016. <http://www.railfanguides.us/md/redline/>

Transit Alternatives through P2P Networks

The rapid advancements of computer processing power and automated technology are unimpeachably revolutionizing the nature of urban transit and human life. Although this digital revolution engenders serious concerns for exploitative labor practices and social imbalances, like those embodied in the operations of Uber, the response should not be the destruction and panic of Luddism. Similar to the mechanization of the nineteenth century, emerging technologies are increasing global productivity, retiring menial forms of labor, and providing access to new societal possibilities that were previously unattainable. The networks of peer-to-peer connections digital technology allows provide new possibilities in transit infrastructure that old media could not, which US Secretary of Transportation Anthony Foxx, has recently recognized. Under his leadership, the US Department of Transportation (DOT) has initiated several national programs that explore the intersections of network technologies and transit infrastructure.⁴⁸ One of DOT's major tech-transit initiative, the Smart City Challenge, works with seven medium-sized⁴⁹ cities—Austin, Denver, Pittsburg, San Francisco, Columbus, Kansas City and Portland—to develop new municipal transit systems that “[begin] to think anew about how transportation can once again be a driving force of the American economy” through the use of digital networks and sensors.⁵⁰ In particular, the Kansas City Area Transportation Authority (KCATA) has partnered with Bridj in a one-year on-demand bus service pilot that concentrates on connecting residents with major employers for \$1.50. “Like Uber, it’s a service you request and pay for through a cellphone app. Instead of a car, Bridj sends a 14-seat Ford van with a KCATA-hired driver behind the wheel. And because other people can also call for the van, you might have to walk a block or two to get to a common pick-up location. Same for the drop-off. The stops change according to who is riding.”⁵¹ San Francisco has implemented a similar pilot, called FLEX. Instead of traveling on fixed routes or time schedules, networks are generated live based on aggregated requests.⁵² All seven finalists will receive \$100,000 in funding and partner with Sidewalk Labs⁵³ “to develop a data platform called Flow, that will ingest traffic data from multiple sources to help city leaders get information in real-time while also bringing tools for citizen engagement to underserved neighborhoods through special kiosks.”⁵⁴ Through Flow, city planners and mobility-providers hope to better design transit routes, stop locations, and target methods to increase ridership. The DOT also hopes to create its own version of Flow, a National Transit Map, through aggregating General Transit Feed Specification (GTFS) data, which would be unmanageable and swiftly out of date without peer-to-peer networks: “For the first time, it is possible for the DOT to collect schedule data from large numbers of agencies. By combining this data into a National Transit Map, we will be able to better understand and illustrate the role of transit in America, understand where gaps in service exist, and help connect more Americans to opportunity.”⁵⁵

However, data collection and analysis is only a small step forward to addressing the issues of transit infrastructure many medium-sized US cities face. Art Guzzetti, Vice President-Policy for the American Public Transportation Association (APTA), points out the lasting issue of neoliberalism: funding public programs. “Knowing where the gaps are is somewhat meaningless if you don’t make the investment to fill them... We’re not going to meet our goals until we increase funding.”⁵⁶ This was the overarching issue that led to the termination of Helsinki’s Kutsuplus, a municipal service of on-demand minibuses that operated through peer-to-peer networks via smartphones.⁵⁷ Throughout its pilot phase, Kutsuplus experienced a healthy increase in ridership and capacity, but the heavily subsidized fare could not warrant municipal support. Kutsuplus’ project manager, Kari Rissanen, is hopeful the service could be revived if privately sponsored. Numerous privately owned startups in India – Shuttl, Ola, Citflo, Zipgo – have built networks of commuters through their own versions of bus-aggregating apps, and “because the aggregators mostly work with private shuttle operators that are already in business, capital costs are low for expanding the network.”⁵⁸ However, many find these public-private partnerships to be “a pact with the devil... shuffling off a core duty to private enterprise, where the mission isn’t to ensure equal access, but to make money.”⁵⁹ Funding is not the only remnant of neoliberalism cities face when addressing ways to revitalize their transit systems. Another reason why the broad reach of digital-technology’s prosperous effects remains unrealized is neoliberal’s longstanding doctrine of proprietorship. Uber, Lyft and many other private mobility providers refuse to share data, making it difficult to fully comprehend how their services affect cities and public services, “despite having huge troves of data that could be extremely valuable in city planning.”⁶⁰

Conclusion: “Hacking” Proprietary Technology to Open-Source the Commons

We need to find ways to “hack” emerging technologies. “Hacking” embodies a creative will to (re)configure and (re)appropriate readily available systems and structures that “promote[s] the idea that anyone is capable of performing a variety of tasks rather than relying on paid experts of specialists.”⁶¹ Like Hacking in Baltimore, the act of hacking subverts oppressive structures by “finding ways to actively shape one’s surroundings through the clever and playful appropriation of technology.”⁶² Given Baltimore’s recent non-commitment to mass public transit, Uber and the alternative ride-hailing bus services that are rapidly emerging across the world, provide an example of the scale, power, and success of peer-to-peer networks for on-demand transit services. Yet, the neoliberal practices of Uber, Lyft and other private ride-hailing providers, fail to embody the “hacker ethic” that “rejects the typical capitalist mode of corporate innovation through competition based on controlling information.”⁶³ A hybrid of Hacking’s reciprocity and spontaneity

with Uber's on-demand and location-based technology could provide a viable solution to urban immobility, capitalizing on Governor Hogan's current reinvestment in road and highway infrastructure and lack of mass-transit initiatives. This theoretical marriage does not suggest the displacement of independent public mass transit, but rather marks an initial shift in Baltimore's collective consciousness (among other medium-sized cities) away from the ruthless individualism embodied in networks of single-occupancy vehicles, non-transparent partnerships, and dependence on corporate funding, towards community-driven support systems.

Further, due to digital-technologies' hyper-visibility, the social and urban benefits peer-to-peer networks allow stem beyond transit infrastructure. It is not hard to imagine medium-sized cities crowdsourcing local services and demands that would otherwise remain invisible. The hyper-visibility of digital technologies materializes new communities, making urban needs more easily visible and harder to ignore, spawning new markets in answer to the demands of its locale. Conversely, existing services become more visible, diminishing the ignorance and isolation embedded in old forms of media and urban resources. This visibility could give rise to a true "sharing-economy" different from the *mercenary* one championed by gig-economy corporations like Uber, Lyft, GrubHub, and TaskRabbit. "The production of open source software could be seen as an endeavor to develop a communal resource in which various participants contribute their knowledge and time to construct a tool that's available for the community at large."⁶⁴

As digital technologies increase their centrality to the operations of urban life, it is important to recognize how they (re)imagine and (re)define its citizens, structures, and policies. Companies like Uber exploit the hollowing of urban infrastructure, especially in medium-sized cities where public transit is absent or inefficient, for their own atomized economic interests. However, Uber demonstrates the potential peer-to-peer networks possess in revolutionizing traditional notions of urban work and mobility due to their scale, easy access, and hyper-visibility. Insurgent movements of subaltern communities can capitalize on these technologies, giving "rise [to] a 'participation society' in which it's no longer [just] the welfare state that takes care of all kinds of social provisions, but citizens [who also] organize themselves, [by] helping each other."⁶⁵ This new model of civic engagement, through the tactical integration of digital technologies and social networks, (re)imagines the particles that constitute the city's body, from its individual cells, the metabolism that regulates them, to the systems that connect vital organs, and possibly what those organs are: "The structuring of space grows more and more important to the process of living. To put it in Marx's terminology, created space comes to dominate effective space as a consequence of the changing in organic composition of capital."⁶⁶ In doing so, we do not only (re)imagine the cities we live in, but also (re)envision the dialectical techno-social apparatuses, techniques, and organizations that shape human experience.

Notes

- 1 Santa Fe Institute, *Cities, Scaling, and Sustainability*, lead investigators, Luis Bettencourt and Geoffrey West. (September 20, 2011), accessed August 7, 2016. <http://www.santafe.edu/research/cities-scaling-and-sustainability/>
- 2 Baltimore: Antero Pietila, *Not in My Neighborhood: How Bigotry Shaped A Great American City*. (Chicago: Ivan R. Dee, 2010).
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 Buffalo: Edward Glaser, "Can Buffalo Ever Come Back?" *City Journal* (Autumn 2007). Accessed August 7, 2016. <http://www.city-journal.org/html/can-buffalo-ever-come-back-13050.html>
 Pittsburgh: Jen Kinney, "7 Midsized Cities Selected for DOT Smart City Challenge," *Next City*. Accessed August , 2016. <https://nextcity.org/daily/entry/cities-win-finalists-dot-smart-cities-challenge>
- 3 "Service" is an umbrella term that includes Finance, Insurance, and Real Estate (FIRE) as well as support services for tourism like restaurants and hotels.
- 4 Antero Pietila, *Not in My Neighborhood*, 10–16. Jay Young, "Infrastructure: Mass Transit."
- 5 A report by Shared-Use Mobility Center indicates that ride-hailing services do not compete with, but complement existing transit systems in seven large-sized cities: Austin, Boston, Chicago, Los Angeles, San Francisco, Seattle and Washington, DC.
 Colin Murphy, *Shared Mobility and the Transformation of Public Transit*. (Chicago: Shared-Use Mobility Center, March 2016).
- 6 In May 2015, CNNMoney reported that Uber's worth was estimated at \$50 billion, a \$40 billion increase in under a one-year period. Within the span of writing this paper, CNNMoney estimated Uber's current worth as towards \$70 billion, reflective of the massive success and rate of profit Uber continues to accumulate.
 Paul R. La Monica, "Uber May Now Be Worth \$50 Billion. Really?" *Cable News Network*. May 11, 2015, accessed August 7, 2016, <http://money.cnn.com/2015/05/11/investing/uber-50-billion-valuation/>
 Robert McLean. "Uber Will Pay up to \$100 Million to Settle Labor Suits," *CNNMoney*. Accessed August 7, 2016. <http://money.cnn.com/2016/04/22/technology/uber-drivers-labor-settlement/>
- 7 Monopolistic competition, or high concentration of monopoly power is a common outcome in the tech economy. "... in Silicon Valley, it's not at all uncommon for one company to dominate a particular field. Google is the runaway leader in online search. Facebook is the largest social network in the world by a wide margin. Amazon is far and away the biggest e-commerce site." The article focuses on de facto monopolies in the gig economy.
 Mike Isaac and David Gelles, "Challenging Uber, Lyft Bets on a Road Wide Enough for Two." *The New York Times*, January 9, 2016, accessed August 7, 2016, <http://nyti.ms/1OTRa2W>

- 8 The gig economy is expanding rapidly: “Consumers and workers alike now use online technology and apps to contract for specific, on-demand services such as cleaning, handiwork, shopping, cooking, driving, and landscaping. These developments constitute what has been referred to as the ‘online gig’ or ‘on-demand’ economy, where work is taking place in a series of one-off gigs, rather than in an ongoing relationship with a single employer.”

Jane Dokko et. al., “Workers and the Online Gig Economy.” *The Hamilton Project* (December 2015), accessed August 7, 2016, http://www.hamiltonproject.org/assets/files/workers_and_the_online_gig_economy.pdf

- 9 Empire is seen as the late stage of capitalist development and (re)configuration of capital on a global scale, where the most important commodity is not tangible product produced in a factory, but is the production of signs, symbols and representation. Michael Hardt and Antonio Negri, *Empire*. (Cambridge: Harvard University Press 2000).
- 10 Alissa Walker, “Things Uber CEO Travis Kalanick May Have Said in His TED Talk Today,” Gizmodo, accessed August 7, 2016, <http://gizmodo.com/things-uber-ceo-travis-kalanick-may-have-said-in-his-te-1759524261>
- 11 J. K. Gibson-Graham theorize in *Postcapitalist Politics* that the economy is comprised of a multiplicity of class and non-class processes, including slave, feudal, capitalist, independent commodity production (self-employment), communal, and non-class wage labor. Their work builds off the Marxian class analytical framework of Resnick and Wolff, laid out in *Knowledge and Class*, and further developed by the Association of Economic and Social Analysis (AESAs) and associated with the Journal, *Rethinking Marxism*.

J.K. Gibson-Graham. *Postcapitalist Politics*. (Minneapolis: University of Minnesota, 2006) 53–78.

Stephen A. Resnick and Richard Wolff, *Knowledge and Class: A Marxian Critique of Political Economy*. (Chicago: University of Chicago Press, 1987).

J. K. Gibson-Graham, Stephen A. Resnick, and Richard Wolff, *Class and Its Others*. (Minneapolis: University of Minnesota, 2000).

From a non-Marxian perspective, Hall and Krueger also note the difficulties their analysis faced due to the ambiguity of contingent labor: “One of the problems with this debate, however, is that analysts, interest groups, and social commentators have employed multiple definitions of contingent work, ranging from the self-employed to temporary workers to part-time workers to on-call workers. Contingent workers can be defined broadly or narrowly, and magnitudes and trends vary depending on the particular definition.”

Jonathan V. Hall and Alan B. Krueger, “An Analysis of the Labor Market for Uber’s Drive-Partners in the United States.” Working Paper, *Industrial Relations Section* (Princeton: Princeton University, 2015), 3–4.

- 12 The narrowest definition of contingent work is referred to as “core” contingent work, and only considers “agency temps, on-call workers, and contract company workers,”

Elaine Pofeldt: “Shocker: 40% of Workers Now Have ‘Contingent’ Jobs, Says U.S. Government.” *Forbes Magazine*, accessed August 7, 2016, <http://www.forbes>.

com/sites/elainepofeldt/2015/05/25/shocker-40-of-workers-now-have-contingent-jobs-says-u-s-government/#1c928be62532

- 13 According to Jonathan Hall, Head of Economic Research, Policy and Legal at Uber, and economist Alan Krueger, “Uber’s driver-partners fall into three roughly equal-sized groups: driver-partners who are partnering with Uber and have no other job (38 percent), driver-partners who work fulltime on another job and partner with Uber (31 percent), and driver-partners who have a part-time job apart from Uber and partner with Uber (30 percent).” Jonathan V. Hall and Alan B. Krueger. “An Analysis of the Labor Market.”
- 14 The US Department of Labor states, “Unfortunately, current tax, labor and employment law gives employers and employees incentives to create contingent relationships not for the sake of flexibility or efficiency but in order to evade their legal obligations. For example, an employer and a worker may see advantages wholly unrelated to efficiency or flexibility in treating the worker as an independent contractor rather than an employee. The employer will not have to make contributions to Social Security, unemployment insurance, workers’ compensation, and health insurance, will save the administrative expense of withholding, and will be relieved of responsibility to the worker under labor and employment laws. The worker will lose the protection of those laws and benefits and the employer’s contribution to Social Security, but may accept the arrangement nonetheless because it gives him or her an opportunity for immediate and even illegitimate financial gains through underpayment of taxes. Many low-wage workers have no practical choice in the matter. The federal government loses billions of dollars to underpayment of taxes by workers misclassified as independent contractors.” “Contingent Workers.” *US Department of Labor*, accessed August 7, 2016, http://www.dol.gov/_sec/media/reports/dunlop/section5.htm
- 15 uberBLACK is Uber’s luxury-end car service. Uber’s commission fees vary per city from 20%-30% Ellen Huet. “Uber Raises UberX Commission To 25 Percent In Five More Markets.” *Forbes*, accessed August 6, 2016, <http://www.forbes.com/sites/ellenhuet/2015/09/11/uber-raises-uberx-commission-to-25-percent-in-five-more-markets/#7a043f7364b5>
- 16 In April 2016, Uber agreed to settle the class action lawsuits (O’Connor v. Uber Technologies, Inc., and, Yucosoy v. Uber Technologies, Inc.) brought against them in the states of California and Massachusetts (respectively). Pending court approval, Uber will pay \$100 million to 385,000 Uber-Partner drivers (roughly \$8,000 per Uber-Partner who has driven more than 25,000 miles under Uber’s services). The settlement allow Uber to continue to classify their Uber-Partners under the same employment status, but Uber promises to improve transparency in their termination process, issuing more warnings to Uber-Partners prior to deactivation as well as instituting an appeals process for Uber-Partners who wish to contest their termination.

Robert McLean. “Uber Will Pay up to \$100 Million to Settle Labor Suits,” *CNNMoney*, accessed August 8, 2016. <http://money.cnn.com/2016/04/22/technology/uber-drivers-labor-settlement/>

- 17 In September 2015, Uber announced in an email that uberBLACK, Uber's luxury car service, driver-partners in the Dallas-area would have to start picking up passengers under uberX, Uber's economical option with substantially lower fares. Many drivers reported taking out loans to afford the necessary luxury vehicles Uber requires for uberBLACK, which the low-cost fares of uberX would not cover. Noam Scheiber. "Uber Drivers and Others in the Gig Economy Take a Stand," *New York Times*, accessed August 8, 2016, <http://nyti.ms/23HRrKU>
- 18 Emma Whitford, "Some Uber Drivers Planning City-Wide Post-Super Bowl Shutdown," *Gothamist, LLC*, accessed August 8, 2016, http://gothamist.com/2016/02/07/uber_drivers_planning_city-wide_pos.php
- 19 Gwyn Topham, "Black-Cab Drivers' Uber Protest Brings London Traffic to a Standstill," *The Guardian*, accessed August 8, 2016, <http://www.theguardian.com/technology/2016/feb/10/black-cab-drivers-uber-protest-london-traffic-standstill>
- 20 Jon Liss, "Uber and the Degradation of Working Class Jobs," *Open Society Foundations*, accessed November 29, 2015, <http://static.opensocietyfoundations.org/misc/future-of-work/taxi-drivers-uber-and-modernizing-the-taxi-industry.pdf>
- 21 Uber and Lyft invested approximately \$8-9 million to campaign against the city's bill requiring drivers to be fingerprinted.
Chris Woodyard and Greg Toppo, "Uber, Lyft Halt Austin Service After Losing Vote," *USA Today*, accessed August 8, 2016, <http://www.usatoday.com/story/money/cars/2016/05/08/uber-lyft-halt-austin-service-after-losing-vote/84119554/>
- 22 On February 20, 2016, an Uber driver shot and killed six people within the span of twenty minutes in Kalamazoo, Michigan. In several news articles following the tragedy, Uber rejected suggestions that it should improve driver background checks or add security features to their mobile app, stating "No background check would have flagged and anticipated this situation."
Tribune news services. "Uber Defends Safety Procedures After Kalamazoo Shootings," *The Chicago Tribune*, accessed August 8, 2016, <http://www.chicagotribune.com/business/ct-kalamazoo-shooting-uber-20160222-story.html>
- 23 Paul Mason, *Postcapitalism*, 1st American Edition (New York: Allen Lane, 2016), 26.
- 24 David Harvey, *A Brief History of Neoliberalism* (Oxford: Oxford University Press, 2005).
- 25 Ibid.
- 26 Paul Mason, *Postcapitalism*, 109–45.
- 27 Pietila, *Not in My Neighborhood*, 16; Robert C. Post, *Urban Mass Transit: The Life Story of a Technology* (Baltimore: Johns Hopkins University Press, 2010), 8, 41.
- 28 Antero Pietila, *Not in My Neighborhood*. Monument City. "Branches of Baltimore History A Brief History of Baltimore's Electric Streetcars." *Monument City*. Accessed July 21, 2016. <http://monumentcity.net/2012/02/15/a-brief-history-of-baltimores-electric-streetcars/>
- 29 Antero Pietila, *Not in My Neighborhood*, 10–16.
- 30 While Plessey v. Ferguson (1896) enforced racial segregation and Jim Crow laws, it required "equal" accommodations for Blacks, making it financially unreasonable

to have White-only streetcars. The financial costs for racially segregated streetcars of the same line were too high, and this led to Baltimore's streetcar network becoming racially integrated.

- 31 Sophie Stoerkel, "Hacking Baltimore: Survival of the Stranded" (Baltimore: Maryland Institute College of Art, 2015), 27; Terry Tamminen. *Lives Per Gallon: The True Cost of Our Oil Addiction* (Washington, DC: Shearwater Books, 2008), 109–114.
- 32 Garrett Power, "The Baltimore City Interstate Highway System" (Baltimore: University of Maryland, 2000), 4.
- 33 Philip Darling was appointed head of Baltimore's Department of Planning (DOP) in 1958. He proposed connecting Baltimore to the beltway through a radial system in order to "allow people from the suburbs to have easy access to downtown Baltimore, as the automotive became more and more popular." Garrett Power, "The Baltimore City Interstate Highway System," 4.
- 34 "The direct physical development of a parallel infrastructure network for consumers who can afford services, thus bypassing the non-valued users/areas in a city" "Restructuring Local Government," *Cornell University*, accessed August 8, 2016, <http://cms.mildredwarner.org/summaries/grahammarvin2001-4>
- 35 *Reyner Banham Loves Los Angeles*. Film. Directed by Reyner Banham. Produced by BBC. Performed by Reyner Banham, 1972.
- 36 Sophie Stoerkel. "Hacking Baltimore," 8.
- 37 Michael Dresser and Luke Broadwater, "Hogan Says No to Red Line, Yes to Purple," *The Baltimore Sun*, accessed August 8, 2016. <http://www.baltimoresun.com/news/opinion/editorial/bs-md-hogan-transportation-20150624-story.html>
- 38 Dresser and Broadwater, "Hogan Says No."
- 39 Daniel J. McGraw, "Will Next U.S. President Be All Aboard for Public Transit?" *Next City*, accessed August 8, 2016. <https://nextcity.org/daily/entry/2016-president-race-winner-invest-public-transit>
- 40 Dresser and Broadwater. "Hogan Says No."
- 41 Many local residents prefer using the term "uprising" to "riot," emphasizing that the events that grabbed national attention for a short while were reflective of long-standing and deep-rooted frustrations with Baltimore's structural inequality and racism.
- 42 Paul R. Schlitz, "Red Line Racism?" *The Baltimore Sun*, accessed August 8, 2016 www.baltimoresun.com/news/opinion/readersrespond/bs-ed-red-line-letter-20150417-story.html
- 43 Kristen Johnson, "Hacking: The Informal Transportation System in Baltimore." University of California, Berkeley, College of Environmental Design, accessed August 8, 2015, <http://ced.berkeley.edu/bpj/2013/03/hacking-the-informal-transportation-system-in-baltimore/>
- 44 Johnson, "Hacking."
- 45 Johnson, "Hacking."
- 46 Johnson, "Hacking."
- 47 Laura Vozzella, "Hail At Own Risk," *The Baltimore Sun*, accessed August 8, 2015, http://articles.baltimoresun.com/2009-09-15/news/0909150013_1_hack-cabs-guglielmi

- 48 Josh Cohen, "New National Transit Map Will Highlight America's Commuting Gaps," *Next City*, accessed August 8, 2016, <https://nextcity.org/daily/entry/us-dot-mapping-america-public-transit-commuting>
- Jen Kinney, "7 Midsized Cities Selected for DOT Smart City Challenge," *Next City*, accessed August 8, 2016, <https://nextcity.org/daily/entry/cities-win-finalists-dot-smart-cities-challenge>
- 49 Smart City Challenge chose cities they considered midsize cities, which ranges between 200,000 and 850,000 people. The Seven Finalists Were Selected out of a Pool of Seventy-Eight Applicants. Jen Kinney, "7 Midsized Cities."
- 50 Jen Kinney, "7 Midsized Cities".
- 51 Roxie Hammill, "Uber-Alternative Adds Mass Transit Options for Getting Around," *The Kansas City Star*, accessed August 8, 2016, <http://www.kansascity.com/news/local/community/joco-913/northeast-joco/article70045232.html>
- 52 Gary Richards, "Roadshow: VTA's FLEX Offers On-Demand Rides," *The Mercury News*, accessed August 8, 2016. <http://www.mercurynews.com/2016/04/22/roadshow-vtas-flex-offers-on-demand-rides/>
- 53 Sidewalk Labs is a subsidiary Alphabet.
- 54 Jen Kinney. "7 Midsized Cities".
- 55 Quote from Chief data officer Daniel Morgan. Josh Cohen, "New National Transit Map."
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- 57 Mark Odom, "Growing Pains: Helsinki's Web-Based Transit 'Revolution'," *Yleisradio Oy*. Accessed August 8, 2016. http://yle.fi/uutiset/growing_pains_helsinkis_web-based_transit_revolution/8244684
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- 61 Cristina Ampatzidou et al., "The Hackable City: A Research Manifesto and Design Toolkit," *Issuu*, accessed August 8, 2016, https://issuu.com/instituteofnetworkcultures/docs/hva_hackablecities_def_paginas_cove
- 62 Cristina Ampatzidou et al., "The Hackable City," 20.
- 63 Ibid., 24.
- 64 Ibid., 25.
- 65 Ibid., 26.
- 66 Harvey, *Social Justice and the City* (Oxford: Basil Blackwell), 310.

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