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Rethinking the Regulatory Framework

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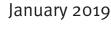
January 2019

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This research paper is one in a series published by the Ash Center for Democratic Governance and Innovation at Harvard University's John F. Kennedy School of Government. The views expressed in the Ash Center Policy Briefs Series are those of the author(s) and do not necessarily reflect those of the John F. Kennedy School of Government or of Harvard University. The papers in this series are intended to elicit feedback and to encourage debate on important public policy challenges.

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INTRODUCTION

More people than ever live in cities,[1] where the dominant mode of transportation continues to be single-occupant personal vehicles.[2] This has created unprecedented burdens on city infrastructure and increased congestion on roads in urban centers.[3] Increased congestion has resulted in greater greenhouse gas emissions, lower reliability of public transit systems, longer commutes, and an overall lower quality of living for citizens.[4] [5]

These challenges have created fertile ground for private-sector innovation within the mobility ecosystem. Thus far, the most significant private sector innovation in urban mobility has been ridesharing.[6] Conventional wisdom attributes the birth of rideshare to the proliferation of smartphones and improvements in wireless connectivity and location data in cities.[7] However, the ridesharing industry also relies on dependability and reliability of free public roads, which were a critical component in the development of the modern car-friendly city. Unfortunately, these same public roads lack the infrastructure to coordinate and interact with digital-first services as effectively as they coordinate the physical movement of people and goods.[8]

WHAT'S THE PROPER ROLE FOR CITIES TO PLAY IN THIS INCREASINGLY COMPLEX ECOSYSTEM?

If ridesharing were the terminal point in urban mobility innovation, there would be limited impetus for cities to find a solution to working with innovative, digital-first

1   https://www.un.org/development/desa/en/news/population/2018-world-urbanization-prospects.html
2   https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk
3   https://www.smartcitiesworld.net/special-reports/special-reports/cities-in-a-jam-reducing-urban-traffic-congestion
4   Barth, M., & Boriboonsomsin, K. (2009, Fall). Traffic Congestion and Greenhouse Gases – ACCESS Magazine. https://www.accessmagazine.org/fall-2009/traffic-congestion-greenhouse-gases/
5   AM, C. (2017, May 22). Here's the impact long commutes have on your health and productivity. https://www.businessinsider.com/long-commutes-have-an-impact-on-health-and-productivity-2017-5
6   https://www2.deloitte.com/insights/us/en/deloitte-review/issue-20/smart-transportation-technology-mobility-as-a-service.html
7   https://ops.fhwa.dot.gov/publications/fhwahop16023/fhwahop16023.pdf
8   http://www.govtech.com/budget-finance/Smart-City-Procurement-Making-the-100-Year-Decisions.html

mobility services because rideshare companies have been largely successful in limiting the degree to which they can be regulated at the local level.[9] But ridesharing was only the beginning of the evolution of private mobility services. Shared bikes and scooters have followed and are changing how people move around cities; but again, cities have struggled to coordinate these newer digital-first services that also rely upon physical city infrastructure. Cities urgently need to adapt and evolve their regulatory approaches to encourage mobility innovation for the following reasons:

1) Opportunities for Dramatic Improvements in Access and Efficiency

Local and state officials need to transition from thinking of their primary duties as providing transit or limiting market entry as a proxy and instead focus on regulating the safety of privately licensed commercial operators. In the new model, they must embrace a new role of planner, coordinator, and facilitator of a distributed system of integrated providers. This shift involves more planning, different revenue models, and adopting a user-centric and demand-driven approach that looks at mobility holistically, including private sector participants rather than as managing a set of isolated activities. Cities need to organize a regulatory approach where they control a platform that helps officials assemble information, quickly integrate new technologies, and manage their streets in real time on their own terms.

New modes of transportation, and especially shared modes, have the potential to dramatically increase access to and availability of urban mobility options and to improve the ecosystem's overall efficiency.[10] Cities should create room for innovative mobility services because some of the most significant challenges of travelling in increasingly dense cities can be addressed by new modes of transportation, especially shared modes that increase access and efficiency.[11] Pooled rideshare services like uberPOOL and Lyft Line offer the convenience of on-demand transportation while increasing the number of occupants per vehicle. These services complement the traditional mix of personal vehicles, fixed-route public transit, and supply-constrained,

9   https://mobilitylab.org/2018/07/24/uber-and-lyft-are-lobbying-states-to-prohibit-local-regulation/

10 https://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf key findings section

11 https://www.mckinsey.com/business-functions/sustainability-and-resource-productivity/our-insights/the-futures-of-mobility-how-cities-can-benefit

for-hire cars.[12] And integrating these options into a system that provides more mobility and efficiency is difficult and requires coordination and consistency across municipal boundaries. As a result regionally-organized public organizations will be important and must take an active role in the creation of rules to consistently manage the new market.

2) Absence of a Flexible, Innovation-Forward Regulatory Approach Will Result in Unnecessary Costs and Negative Externalities Imposed on Cities

The unexpected entry of private-sector innovators onto public streets and sidewalks imposes political and administrative costs on city governments.

In addition to the benefits of incorporating new mobility services, cities that create a regulatory "entry path" for new mobility services will avoid administrative and political costs associated with creating vendor- or mode-specific rules every time a new service launches on city streets. Rideshare entry into cities provides a valuable case study into the political costs encountered by cities when regulators are not adequately prepared for the onslaught of new technologies, and when they focus too much on the mode and not on the users' needs. The reaction in some cities of attempting to severely restrict the introduction of e-scooters, rather than advancing a more balanced and dynamic approach, runs the risk of user backlash or of accidentally following a regulatory approach modelled on the failing system of taxi medallions. Cities have experienced the effects of the extreme ends of obsolete regulations and now must find the proper resting point where they can play the role of coordinator rather than bystander or gatekeeper.

3) Sustainability Goals Require Careful Attention

Cities can accelerate their progress towards reducing congestion and lowering emissions by incorporating certain services into their mobility ecosystems. Dockless bike-shares and e-scooters offer zero-emissions and small-footprint replacements for short car trips, which contribute substantially to the number of vehicle miles travelled in cities each year.[13] This provides a flexible and responsive way to move more people

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12 https://www.its.dot.gov/presentations/2017/MOD_Combined.pdf slides 12-13, 18; Uber slides

13 https://www.energy.gov/eere/vehicles/articles/fotw-1042-august-13-2018-2017-nearly-60-all-vehicle-trips-were-less-six-miles

with fewer cars and, consequently, reduce the total level of emissions. These benefits have already begun to manifest themselves in markets where dockless scooters have been deployed.[14]

What Are the Characteristics of a Policy That Can Properly Position Cities as Coordinators of Their Mobility Ecosystems?

In order to serve as effective coordinators of an increasingly fragmented and disjointed ecosystem, cities must adopt a regulatory posture that makes it advantageous for all participants in the ecosystem to act in ways that increase the benefits and reduce the negative externalities caused by the integration of new modes and services. The optimal regulatory approach has the following characteristics:

Market-Based: Rather than recreating the failure of a top-down access-centric system like taxi medallions as the regulatory mechanism for new and existing modes of mobility,[15] cities should focus on creating systems that primarily use transparent reputational and locational information and fees to guide company and traveler behavior. This light-touch regulatory framework creates cost structures that will naturally reflect user preferences while allowing the city to use prices to align behavior to public policy goals. This requirement implies that cities should avoid vehicle caps and unduly burdensome licensure requirements that restrict access to city streets. In this model, the city would emphasize planning and procuring, not just the provision of services, and would require the sharing of certain data in order to create a platform that would provide clarity on pricing and availability to all permitted suppliers of mobility services. And it would do so in a way that defrays some of the city's costs associated with maintaining the curb space and related roadway.

Proportional to Public-Asset Utilization: The increased private-sector deployment of connected mobility services brings with it increased competition for space on public streets.[16] Therefore, fees should be imposed on activities in proportion to the degree

14 https://www.portlandoregon.gov/transportation/article/700916
15 https://priceonomics.com/post/47636506327/the-tyranny-of-the-taxi-medallions
16 https://nyc.streetsblog.org/2018/07/25/uber-and-lyft-are-overwhelming-urban-streets-and-cities-need-to-act-fast/

to which those activities use scarce public space, impose costs, or add negative externalities to those public spaces. This implies that there should be two considerations in choosing which activities to regulate through fees: 1) how efficiently a behavior utilizes public space, and 2) the scarcity of the specific public asset that is being used. This requirement also counsels against fixed annual license fees, preferring a model that creates a marginal cost structure such that its impact on behavior is adjusted on a per-trip basis.

Scalable and Neutral: It should be clear how to apply fees to both existing and future modes of transportation. This creates a predictable regulatory entry path for innovators to deploy services to improve the quality of mobility systems and avoids the kinds of conflicts that have imposed political and administrative costs on cities. It also ensures that the regulatory system is not unduly prejudicial or favorable to any individual company or mode of transportation. This requirement necessitates that cities regulate behaviors that are common across all mobility systems.

Politically Feasible: Too often, the story behind regulation has been dictated by the funder or provider of the service and not by the city itself. Taxi wars have been fought about control of supply. Bus transit often has been driven by outdated federal acquisition and labor practices. Instead, the city should set the new narrative of fair access and pricing that allows more service to those previously ignored with a practical transition roadmap from the current to the future state.

Curbside Pricing Creates a Market-Based Usage Pricing Model That Is Scalable, Neutral, and Feasible

A regulatory system modeled on paid parking provides a path to meeting these requirements. The critical elements of such a system include curbside pricing that generates customized fees based on location, time of day, and the amount of time vehicles spend stopped at the curb that are applied across all modes of transportation.

Curbside pricing satisfies the requirement to incentivize rather than circumscribe behavior. Granular, demand-based pricing decisions can affect origin and destination decisions by drivers and riders to the benefit of city mobility systems. This approach to

pricing can be used to achieve a variety of public policy goals by affecting driver and rider incentives. For instance, cities could lower "parking" prices in underserved areas to incentivize e-scooter companies to allocate more vehicles to those areas each day. Demand-based parking pricing can reduce cruising and reduce peak-time traffic, as can curbside pricing associated with a mechanism for encouraging or requiring ride-share drop-offs at curbside—and not in the middle of the street—and in less congested proximate areas. This approach provides the flexibility to influence behavior in real time on a trip-by-trip basis, whereas licensure and medallion systems have limited ability to shape behavior once access has been granted.

By charging for curbside usage, whether for parking or drop-offs and dependent on the place and time, this system imposes fees on the least efficient use of the scarcest road space, satisfying the requirement to impose fees proportional to public-asset utilization. Vehicles in motion are relatively efficient users of public space in contrast to "parked" vehicles. Additionally, cities have less curbside space to allocate to stopped vehicles than road space to allocate to vehicles in motion. As a result, competition at the curb is intense and can spill into lanes dedicated to moving traffic, increasing congestion and decreasing total system efficiency. By charging for time stopped at the curb, the system incentivizes quick turnover and efficient pickups to avoid the negative effects of vehicles lingering at curbside.

Importantly, because a parking-based regulatory approach charges for a behavior that is common to every form of transportation—stopping to onboard or offload riders or drivers—it is assured that this approach will meet the requirements of scalability, neutrality, and political feasibility. Future modes of transportation should share this feature of pricing curbside usage with the current modes. Flexibly charging for the use of a city asset such as its curb space makes such an approach scalable to all foreseeable future mobility services. And, this approach can be applied neutrally to both personal and shared commercial forms of mobility. Individual drivers already pay for the time they spend stopped at the curb, whereas shared mobility companies have thus far enjoyed free access to this valuable space. Because these fees would apply equally, it would be difficult for shared mobility providers to argue that the fees are disproportionately burdensome, unfair, or punitive, and that they favor inefficient single-occupant car trips.

Alternative Approaches Have Disqualifying Weaknesses

Permit-Based Systems: These frameworks replicate the failed taxi medallion system. They include fixed annual license fees that do not incentivize behavior effectively post-approval. They attempt to accomplish policy goals by constricting the supply of mobility options for citizens and start a perpetual cycle of mode-specific rulemaking processes.

Per-Ride Fees on Shared Mobility Modes: These approaches meet the requirement of being market-based, however they impose fees for the relatively productive activity of moving people rather than for the inefficient time spent stopped at the curb. They also do not reward quicker or shorter routes since the fees are fixed rather than variable. As a result, per-ride fees fail to incentivize public policy goals. Furthermore, they unfairly punish shared modes by imposing fees on activities that are free for individual drivers.

Vehicle-Mile Taxes and City-Center Tolling: These systems meet the requirements of being market based and proportional to the usage of public space. They can also neutrally be applied across transportation modes, and of course could augment a curb pricing system thus spreading the cost of using city infrastructure. However, these tolling systems are unpopular with the public because they impose a new tax on all drivers for driving on roads, an activity that has traditionally been free as contrasted to curbside pricing, which users are more familiar with in commercial areas.

Can a Curbside Pricing-Based Regulatory System Incorporate Strengths of Other Modes?

The focus on a usage-based fee regime does not preclude cities' ability to provide a responsible gatekeeping function. However, cities should be wary of creating entry paths that feature subjective requirements, exclusivity, or high administrative burdens for entry. While such requirements are commonly found in city regulatory regimes, they are ill-suited for creating an environment that fosters innovation and instead rewards good behavior through a system of arm's length rules and fees. Permitting should be focused on safety and user experience, and resist co-option by those who want to limit market entry. A strong gatekeeping process is more likely to slow innovation

and decrease competition than to yield a dynamic, competitive mobility ecosystem. Instead, cities should focus on playing a more limited gatekeeper role by ensuring that any company or service operating on city streets meets a set of objective minimum requirements, which may include insurance coverage requirements, agreement to a minimal set of non-negotiable contractual terms, and data-sharing requirements. This latter emphasis is particularly relevant when the right to provide services is augmented with reputational information sourced through social media; once safety minimums are met, then the presence of substantial social media about driver and vehicle quality will augment the licensing much more effectively than inspectors can. There will naturally be more users than inspectors available, and users will generate much more information, which will in turn allow the market to work better.

CASE STUDY: E-SCOOTERS

Dockless e-scooters hold great promise as a clean and convenient complement to our existing mobility ecosystem. If they replace short car trips, they have the potential to reduce congestion and emissions. They're also extremely popular and see high usage levels. However, when scooters are not in use, they create negative externalities. Too often, they are parked in the public right-of-way, blocking handicap street ramps or in other prohibited or inconvenient places, or even encroaching on licensed sidewalk uses. Scooters thus provide both a great service by contributing sustainable mobility but also present a set of problematic externalities.

Cities have approached the regulation of e-scooters in a variety of ways, from light-touch to heavy-handed control through a permitting process and a system of annual fixed fees. These permitting processes often include caps that limit the supply of scooters in a city. These vehicle caps make it easier for cities to manage and limit the negative externalities imposed by scooter fleets, but they also artificially restrict supply below the level of public demand.

Curbside pricing would empower cities to create a market-balancing mechanism to replace the centrally planned vehicle cap. By charging "parked" scooters for the time they spend stopped at the curbside (priced to discourage bad locations, and

perhaps for free in designated scooter parking zones), cities create significant financial incentives for vendors to deploy the right number of scooters utilized in the right manner. In the process, the cities could generate a revenue stream to support the public space allocated to scooter parking. This provides market mechanisms that will reward the most popular scooter companies and effectively balance revenue against fleet utilization levels.

Curbside pricing also creates a set of levers that cities can use to incentivize or discourage certain behaviors. By increasing the price for scooter parking in a thoroughfare, cities create incentives for scooter companies to reward users who leave vehicles in less congested areas. Or by decreasing the price of scooter parking in underserved neighborhoods, cities can make it profitable to allocate more scooters to those areas, even if they do not generate as many rides as scooters allocated to city centers.

CONCLUSION

City transportation options have changed dramatically and will continue to do so. From the advent of transportation network companies and scooters, and the burgeoning realities of autonomous vehicles and flying autonomous vehicles, the modes will change. These changes, driven by both technological innovation and a market ripe for disruption due to legacy providers using political muscle instead of customer-oriented innovation, demand new forms of regulation. And cities, no longer able to rely on per-gallon gas taxes, need new revenues to maintain critical infrastructure. The same technological breakthroughs that provide the new modes of transportation can also inspire new approaches to pricing with the potential to shape behaviors, improving urban mobility and safety and mitigating impact on the environment while improving user experience.

A publication of the

Ash Center for Democratic Governance and Innovation
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