

BREAKING THE IMPASSE

Recasting Five Key Issues Holding Up Legislation
on Transportation Network Companies

November 9, 2016

Word Count: 7,178

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ABSTRACT

Legislative efforts to decide how Transportation Network Companies (TNC) such as Uber and Lyft should be regulated reached an impasse this spring in a number of large states including Texas, Florida, New York and New Jersey. Five issues lay at the heart of disputes over legislation: whether creating fair competition between TNCs and taxis requires loosening regulations on taxis or expanding regulations on TNCs; requiring fingerprint-based background checks for TNC drivers; mandates for wheelchair-accessible vehicles; ensuring fair treatment of drivers; and whether state or local governments should regulate TNCs.

Resolving these issues is of growing importance as TNCs became an increasingly important transportation option, and decisions made today have implications for the introduction of self-driving vehicles in the next few years. This paper addresses each of the main legislative issues to achieve goals of public safety, customer service, equity for drivers and passengers with disabilities and innovation. The paper recommends practical policy options to achieve these objectives while blending the forces of competition and regulation and tailoring particular policies to local needs and circumstances.

INTRODUCTION

From 2012 to 2015, fast-growing ride service companies Uber and Lyft scored a series of impressive legislative victories as states and cities across the country set licensing requirements that were substantially less extensive and more flexible than for competing taxi and sedan services. Thirty states adopted legislation that allowed Uber and Lyft to operate legally, provided a large degree of autonomy in their day to day operations, and allowed them to avoid having to deal with a "patchwork" of often more extensive local regulations.

This spring, however, Uber and Lyft encountered resistance to their legislative proposals. Legislation for statewide regulation of "Transportation Network Companies" (TNCs) stalled in Texas, Florida, New York, New Jersey, and was adopted only after extensive debate in Massachusetts and Pennsylvania. In addition, voters in Austin, Texas, defeated a referendum proposal to roll-back new requirements for fingerprint criminal record checks, prompting Uber and Lyft to cease operations in that city.

As recent legislative impasses suggest, it has become elusive to find a way to satisfy the competing interests of TNCs, taxi operators and other stakeholders in large American cities. TNCs argue that traditional regulatory structures are not adapted to their business model, call for regulatory flexibility that facilitates innovation, new technology and new types of ride services, and strongly desire uniform, statewide regulations. The taxi industry, which has lost as much as 20 to 30 percent of its business to TNCs, calls for a level playing field on which to compete, and elimination of differences between taxi and TNC regulations for driver background checks, auto insurance, service to outlying areas and persons with disabilities.¹

TNC drivers and persons with disabilities also raise important issues. TNC driver issues include their classification as independent contractors, lack of voice in decisions that directly affect them, and lack of benefits that normally accrue to employees. Advocates for persons with disabilities have called for TNCs to provide wheelchair-accessible service.

TNC regulation is also important to municipal officials. Taxi and TNC services, which are highly popular and have grown quickly, are increasingly vital options in a growing menu of city transportation choices. They have enabled people to get around without a private motor vehicle and made urban living more attractive. Down the road, when combined with self-driving vehicle technology, ride services also promise a revolution in urban transportation, potentially eliminating traffic congestion and greatly reducing emissions and parking needs in urban centers. (1,2,3)

As state and local officials grapple with how to respond to these competing interests, it is a good time to assess the most effective way to reach the core public policy goals at stake. This paper discusses and recommends solutions for five key issues that have stymied resolution of taxi/TNC regulatory issues this spring:

- Should regulations on taxis be relaxed, in particular those governing market entry, fleet size and fares, to give taxis a fair chance to compete with TNCs on a "level playing field"? Or should regulations on TNCs be expanded?

¹ This review of recent legislative activity is based on a review of state and city-specific news reports. Citations available from author on request.

- Should TNC drivers be fingerprinted as part of driver criminal record reviews to ensure public safety?
- Should TNCs be required to operate wheelchair-accessible vehicles to assure service to wheelchair users and level the playing field on this issue for taxis and TNCs?
- Should TNC drivers be independent contractors or employees to meet their needs for flexibility and independence as well as worker protections and benefits?
- Should TNCs be regulated by state or local governments?

This paper identifies best practices and lessons learned from the taxi and TNC; discusses how current issues are posed; defines a broader and more productive set of options on wheelchair accessible service, fingerprinting drivers and drivers' employment status; and makes recommendations for effective regulatory policy that will provide a foundation for continued expansion of ride services to include shared trip services such as UberPool and LyftLine, services that "fill empty seats" of commuters such as UberCommute, and "microtransit" services that combine demand-response and fixed route operations.

In discussing taxi and TNC regulatory policies, it is important to recognize that one size does not fit all. This paper thus offers both a broad set of approaches to key issues, and options that can be tailored to local circumstances at city, county or state levels.

1. REMOVE REGULATIONS ON TAXIS GOVERNING MARKET ENTRY, FLEET SIZE AND FARES?

Few industries are as heavily regulated as taxicabs in major American cities. To stem the loss of customers to TNCs, taxi owners across the country have called for repeal of regulatory constraints and the opportunity to compete with TNCs on a "level playing field." Many public officials are open to the argument that if TNCs and sedan services provide attractive and responsible ride services without a heavy regulatory framework, why not taxis as well? At the same time, officials worry that relaxing taxi regulations would weaken customer service in a "race to the bottom," with negative effects for both local residents and the tourism industry. (4,5,6)

The discussion of "deregulation" focuses most acutely on limits on entry and fare-setting. Should existing taxi companies be allowed to expand their fleets and set their own fares including surcharges during peak times? Should new companies be able to freely set up business? Should taxis be able to pick up passengers outside the city or county where they are licensed?

The regulatory options are usually framed in TNC versus taxi terms: should taxi regulation look more like TNC regulation? Or should some aspects of taxi regulation be expanded to TNCs, such as caps on the number of vehicles to mitigate traffic impacts from a proliferation of TNC vehicles?

For purposes of effective policy, however, this is the wrong framing and leads to the wrong set of policy choices. Instead of drawing a line between taxis and TNCs, a much more useful and productive approach is to distinguish between *dispatch service* in which customers request a trip via telephone reservation or smartphone app, and *"flag" service* in which customers hail a cab or walk up to a taxi stand. This distinction is critical because it governs whether consumers can choose among service providers, and thus whether competition operates effectively, or whether regulation needs to step in to compensate for market failures.

Both sedan services (which include black cars and car services) and TNCs dispatch trips through a central dispatch center. Because they request service from a company, consumers are able to choose among competing companies based on their own experience and company reputation. As with most goods and services, the dynamics of competition and consumer choice act powerfully as a force for attractive service, competitive prices, innovation and new services targeted to different market segments. (7,8,9,10) There has been very little need to limit entry into the sedan business or regulate fleet size or fares. The same is true for TNCs and also for the dispatched taxis.

The situation is quite different, however, for taxi flag trips that are obtained through street hail and at taxi stands. Consumer choice and feedback mechanisms are weak or non-existent for flag trips. Customers usually take the first cab with little opportunity to comparison shop and essentially no opportunity to patronize a company or driver that provided good service the last time around. (7,11)

Economists call this a "market failure" because competition fails to produce optimal social and economic outcomes on pricing, quality and selection. (7,8,9,10,12) Flag markets have historically been beset with an oversupply of drivers, particularly at cab stands, and problems

ranging from lack of insurance to price gouging and even extortion and curbside fistfights among drivers competing for fares. Oversupply is most apparent at airports, where there may be several hundred drivers waiting in the taxi hold and getting only a handful of trips a day. Other areas of high demand, such as downtown hotels, transportation hubs and shopping and convention centers, also tend to be oversupplied, taking up valuable street space and sometimes sanitary and police services. (11,12,13).

Oversupply is evident today in Las Vegas, which lifted limits on fleet sizes in late 2015. In the first six months of 2016, trips per cab were down 42 percent from a year earlier as overall ridership dropped and the number of cabs increased by 48 percent. (14)

The regulatory structure established by virtually all major U.S. cities in the 1920s and 1930s in response to these problems was extended to radio-dispatched trips after World War II with the advent of two-way radio technology. Applied to the dispatch market, these regulations have often been quite harmful. Caps on the number of cabs led drivers to concentrate in downtown areas and airports where trip demand was heavy, leaving too few cabs to serve neighborhood telephone orders. In San Francisco, for example, where Uber got its start, only 56 percent of residents were picked up within 15 minutes of calling for a cab on weekdays, and 33 percent on weekends. (15) In Boston, telephone requests for service were answered within 15 minutes just 70 percent to 80 percent of the time in central areas of the city and less than 60 percent of the time in outlying neighborhoods. Moreover, 22 percent of requests were not fulfilled at all. (16) In Austin, Texas, average response times were 20 minutes or greater outside downtown neighborhoods. (17)

The lesson from this history is that regulations on entry, the number of taxis and fares are important for flag trips but unnecessary and in fact counterproductive when applied to dispatch service. (11) They are now one obstacle to a taxi industry that needs to better focus on customer needs and compete with TNCs. These regulations should be relaxed or removed for dispatched taxi service and put on par with TNC regulatory requirements. (10,12,18)

Implementing different levels of regulation for dispatch and flag markets is not necessarily a simple step. Fortunately, there are a number of approaches, each illustrated in different places around the United States and suitable in different situations.

One approach is to have a separate set of vehicles for each market. The more extensive regulations needed for flag trips can be applied to cabs serving those trips. Less extensive regulations, mainly for public safety, can be applied to cabs dedicated to dispatch trips. New York City is the best known example of this approach. Yellow medallion cabs are dedicated to flag trips while sedans (including TNCs) are limited to dispatch service. In locales in which nearly all flag trips originate at the airport, there may be a separate fleet authorized for airport pick-ups and less-regulated companies serving the rest of the city (primarily via telephone orders). (19)

Separate licensing schemes can work well where flag trips are geographically concentrated. But this approach is likely unworkable where flag trips are geographically dispersed and drivers need to pick up both dispatch and flag trips to avoid excessive deadheading to their next passenger. This situation can be addressed by designating a subset of cabs to pick up flag trips. These cabs are subject to stricter controls on service quantity, quality and fares. All other cabs are not subject to those controls but are limited to picking up dispatch trips. New York City's "green cabs," which can pick up flag trips outside the Manhattan core as well as answer dispatch

calls, are one example. The larger number of car service vehicles are legally restricted to dispatch calls. London's black cabs and mini-cabs operate similarly.

Another notable example is in Orange County, California, where the number of cabs licensed to work the hotels and Disney theme park in Anaheim is set by city regulation. But the number of cabs in Orange County outside Anaheim, serving a predominantly dispatch market, is not controlled. (20)

Appropriately for an industry being upended by technological change, there is also a technology-based way to control the volume of flag service while relaxing or removing controls on dispatch service. At least two cities (New York and Boston) mandate in-vehicle location tracking technology that records details of each trip, as well as provide credit card payment capability. Using this technology, regulators can replace traditional caps on the number of licensed taxicab vehicles with regulation of how much time cabs spend serving flag trips. Regulators would adjust the "street hail service hour" cap as passenger demand changes, ensuring sufficient supply without flooding the streets with empty cabs.

With this change, taxi drivers would still be free to serve as many trips dispatched by app or telephone order as their fleet can attract through creative marketing and high quality service. Taxi owners whose cabs attract more customers could readily add to their fleet, creating a market-driven virtuous circle toward good customer service.

2. FINGERPRINT-BASED BACKGROUND REVIEWS FOR TNC DRIVERS

In recent public debates, the broad question of managing driver-related risks to public safety has been narrowed to questions about mandating fingerprint-based criminal record reviews. Are fingerprint-based checks necessary, or do name-based checks suffice? How can accuracy and fairness be assured in using state and federal databases?

The narrow framing of this very important public safety issue has created standoffs between TNCs that have ceased operations in Austin, San Antonio, Houston and Kansas and cities' very legitimate desire to carry out their public safety responsibilities. This standoff, and a doubling-down by both sides in the midst of the controversy, impedes development of effective, flexible and adaptive public safety protocols.

A good way to understand the circumscribed nature of the current debate is to look at successful practices in fleet safety management programs. The goals are comparable: minimizing personal injuries, property damage and disruption of day-to-day operations. Sophisticated fleet management practices include review of driving records to use patterns of past behavior to predict (and thus head off) troublesome potential future behavior, analogous to the role of criminal record reviews. But best practices in fleet management recognize that while these backward-looking protocols have value, they are not sufficient to achieve safety goals. Fleets spend far more time monitoring current driver behavior, providing training and feedback and taking follow-up action. They use advanced in-vehicle technology to monitor drivers, with assurances that the monitoring is for safety purposes and does not violate their employees' legitimate privacy interests. They are also very data-oriented. Fleet managers check on progress and make adjustments based on crash rates, economic costs, lost productivity and so forth. These programs are quite successful, with documented reductions in motor vehicle collisions ranging from 30 to 53 percent and a return on investment of 3.0 or more. (21,22)

TNCs and taxi fleets have to an extent developed similar techniques. They monitor driving records, use customer feedback to identify drivers with patterns of complaints and re-train or counsel drivers who have pattern of traffic crashes, violations or customer complaints. Companies can quickly spot patterns that point to higher risk of unsafe or abusive behavior. (*Author interviews with TNC and taxi representatives*)

Regulations should combine backward-looking criminal and driving record checks with ongoing monitoring, training and driver feedback. Taxi and TNC companies that exercise strong management oversight of drivers are closest to day to day operations and best positioned to implement effective safety management programs. (Where independent drivers are involved, regulatory agencies will need to take the lead.)

While this approach is easy to sketch in concept, implementation will need significant attention. It is much easier to carry out the traditional process-oriented programs of background checks, vehicle inspections, logbook requirements and so forth than to develop evidence-based safety management systems. For regulators, the key challenge is putting in place good oversight of TNC and taxi company programs, getting the right data for evaluation, and dealing with companies that show poor results.

The place to start is developing data systems to track motor vehicle collisions, bad behavior and serious customer complaints. These systems should be developed by each company, with

periodic reporting and audits. Regulators should focus on reducing the incidence of problems, the effectiveness of company systems to manage driver-related risks and development of best practices.

The traditional background reviews should be continued as the data and safety management systems are developed. Although TNCs have argued strenuously against them, fingerprint-based reviews are recommended by law enforcement agencies and TNCs have not shown that their systems produce equivalent or better outcomes. (23,24) The issues that TNCs raise about delays and accuracy of fingerprint-based checks should be addressed, as they affect taxi drivers just as much as TNC drivers. There appear to be ways to speed up the process and make it more convenient for drivers, such as the "Thumbs Up!" program being developed by the City of Austin this spring. (23) (It should be noted that in some states, state legislation may be needed to enable private entities to access criminal record information through the systems used by taxi regulators and other government agencies.)

Alternatively, both TNC and taxi companies could be given opportunities to get drivers on the road based on name checks while full fingerprint-based reviews are completed, as has been suggested in Seattle (25) and was also done in New York among companies that maintained close oversight of the drivers.

Over time, regulators can use results from the safety management systems to establish outcome-based standards that would apply consistently across the ride-services industry. Companies would have flexibility in designing their safety management programs while being held accountable for what truly matters -- how well the public is protected from unsafe actions. Underperforming companies would be subject to additional requirements and sanctions in the more egregious cases.

The approach recommended here strengthens processes to protect public safety. It benefits TNCs as well as taxis by focusing effort and resources on producing the safest possible outcomes, saving lives, money and time. It allows companies to take into consideration costs as well as benefits, adapt to their own unique circumstances and experience, and innovate with new technologies that strengthen their safety management protocols.

3. WHEELCHAIR-ACCESSIBLE VEHICLE REQUIREMENTS

Legislators and taxi regulators have made considerable effort toward responsive and reliable wheelchair-accessible taxi services in their communities. Regulations range from prohibiting discrimination against persons with disabilities to requiring a certain number of accessible vehicles, providing discounted medallion licenses, reducing licensing fees, extending vehicle replacement cycles for accessible vehicles and requiring driver training. (26,27,28)

Realizing that cost is a major obstacle, New York, Seattle, Austin, Chicago, Minneapolis and Montgomery County, Maryland have established surcharges on all taxi trips to be used to subsidize vehicle purchase and maintenance and the drivers' extra time and effort for each pick-up. (3,27) To address the problem of low and dispersed trip volumes, Washington DC, New York and Chicago are establishing centralized dispatch operations for accessible cabs. (27) For their part, TNCs have recently formed partnerships with organizations that own or dispatch accessible vehicles. They also train drivers to help with persons who can ride in non-accessible vehicles. (29)

Despite these efforts, available data on the results are not encouraging. Even with 10 percent of the taxi fleet in Los Angeles being accessible, 31 percent of requested trips are not serviced at all and the average time to arrive is 19 minutes. (30) In Portland, the average wait is 25 minutes for wheelchair users compared with 8 minutes for other customers. (31) A survey of transit agencies and taxi companies in which cabs were used in paratransit programs mandated under the Americans for Disabilities Act (ADA) found that there was "large variation in service quality among drivers and inability to control independent contractors, with ADA riders not being picked up if a 'better ride' is available." (26)

Shortcomings in service persist because policy has focused on the individual elements for accessible service: non-discrimination clauses, vehicle mandates, dispatch services, subsidies and so forth. This "kit of parts" approach assumes that mandates and subsidies will come together effectively. Experience has shown the limits of this assumption.

To rectify these problems, a good place to start is by recognizing the importance of "soft" factors for both companies and drivers. Reports reviewing accessible taxi services across the country found that the key to good service is fleet operators and drivers' having "commitment to serving people with disabilities and older adults," a desire to grow their business by serving this market, and effective incentives so that drivers view these trips as "good trips" that make financial sense. (26,28,32)

Public policy should be structured around involving companies and drivers who display the necessary commitment and resources (vehicles, maintenance facilities and dispatching systems), and also creating a funding stream to underwrite the added vehicle-related costs and to make these "good" trips for drivers. To overcome cumbersome procurement processes, companies should be qualified through an application process, with no limit on the number of companies than may be qualified over time. This is likely a faster process, keeps the door open to entry of new companies, and avoids dependence on a single provider. Participants could be traditional taxi fleets, taxi dispatch companies with affiliated owner-drivers, TNCs or sedan companies.

Customer choice and competition can be introduced to this equation by including several companies in the program and structuring payment through user-side subsidies, in which participants pay a set amount of the fare and the program covers the balance. Wheelchair users can then select which company to call, thus creating a customer-driven financial incentive for

service quality. San Francisco and Denver have user-side subsidy programs with consumer choice. The programs also address specific concerns of drivers, for example, by paying for both completed trips and no shows. (32)

Program costs should be funded through trip fees that apply to all ride service operators, TNCs as well as taxis, as Seattle and counties in Maryland have done (33), to maintain equity across industry sectors.

Another key step is to aggregate trips from the variety of agencies, programs and funding sources that need accessible ride services of some type. Aggregation of trips addresses one of the major obstacles to providing accessible service, which is that their geographic dispersion can create extensive "deadheading" to the passenger pick-up. San Francisco provides an example of consolidating a variety of ADA and non-ADA programs as well as different service providers. (32)

The approach outlined here is a major departure from current mandates for vehicles, dispatchers, drivers and so forth. It will take some time to show the merits of this approach and win support from advocates for people with disabilities who fought hard to obtain targeted mandates. A good way to move forward is to implement the approach outlined here as targeted pilot programs to be tested, refined and then expanded as success is demonstrated.

4. INDEPENDENT CONTRACTOR OR EMPLOYEE?

The debate over whether drivers should be treated as employees or independent contractors is another example where a narrow and in this case overly legalistic framing of the issue thwarts development of workable and productive solutions. Posing the issue in either/or terms diverts attention from the legitimate and often shared interests of drivers, companies and the communities they serve. It also inspires misleading claims about the implications of treating drivers more like employees, suggesting that drivers' needs for flexibility and independence as well as workplace protections and benefits are necessarily irreconcilable.

Rather than approaching the issue as a stark choice between independent contractor or employee status, policy-makers should focus on the legitimate interests at stake for drivers, companies and the communities they serve:

- For drivers, this means fair treatment, job security, decent wages, a social safety net and a voice in key decisions that affect them, instead of being "subjected to all of the downsides of 'entrepreneurship' with few of the upsides" (34) and feeling "squeezed and at times dehumanized by a business structure that promises independence but often leaves them at the mercy of increasingly powerful companies." (35)
- TNCs (and taxi companies, assuming the same rules are applied to them) have a vital interest in managing their operations to ensure safe drivers and vehicles and reliable and responsible service provided consistently and equitably for all customers.
- Communities in which TNCs and taxis operate have important interests in integrating and connecting ride services (TNC and taxi) with a variety of transportation needs such as contracted social service, disabled transportation services and feeder services for public transportation. (32)

While TNCs and driver groups suing them appear to have antagonistic goals, the two sides have also acted constructively to advance the core interests of both parties. In a legal settlement (later rejected by the judge in the case), Uber would have recognized drivers associations as a vehicle to hear and address drivers' concerns. Both Uber and Lyft have also agreed to arbitration procedures for disputes with drivers and agreed not to deactivate drivers without showing cause. (36,37,38)

Despite sometimes claiming to be simply peer-to-peer technology platforms, TNCs in fact exercise substantial control over drivers toward the quite legitimate end of offering consistent and attractive service. TNCs set fares, determine the types and ages of cars that drivers use, respond to passenger complaints, refund overcharges and counsel drivers with a pattern of complaints. They also alert drivers to "hot spots" of customer demand and provide financial incentives for drivers to work in those areas. TNCs deactivate drivers whose ratings fall below pre-determined levels, and prohibit drivers from marketing other businesses to passengers. (34,35,39) These actions go far beyond the arms-length relationship that is sometimes portrayed.

State and federal policy could recognize that drivers need at least some of the protections and benefits of traditional employees. In fact, city and state legislative bodies have already done so to a limited extent. Seattle adopted an ordinance giving TNC drivers the right to collectively negotiate on pay and working conditions. (37) A similar bill has been introduced in California. (40) States have also provided drivers with direct benefits that typically accrue only to

employees. Arkansas law provides drivers with whistleblower protections already afforded employees. New York State has for many years mandated that taxi and black car drivers (now including TNC drivers) be covered by workers compensation.

Additional worker protections and benefits could be extended to drivers in a number of ways. Harris and Krueger (41), in a widely discussed Brookings Institution paper, explore opportunities to give gig economy workers greater opportunity to "participate in the social compact" and address imbalances in bargaining power between these workers and the companies they work for. While these authors propose to do so by creating a third category of "independent worker," legislation could provide individual protections and benefits without having to resolve whether a third category is needed or appropriate. (42) Additional protections and benefits could include civil rights protections, workers compensation and unemployment insurance, collective bargaining rights (which would necessitate changes to federal anti-trust law), and making payments into the Affordable Care Act so that companies are not free riders. (41,42) Protections and benefits such as these could be integrated into the types of laws that have been adopted in several states declaring that TNC drivers are independent contractors provided that TNCs meet certain tests (e.g., degree of control over when and where drivers work).

TNC objections to employee status stem in part from the cost of employee benefits. Yet the cost of providing civil rights protections is negligible, and the cost of key benefits, particularly if targeted to full-time drivers who make the most compelling case for them, appears to be manageable. Fortune magazine calculated the cost to Uber of a package that includes unemployment compensation, workers compensation, health insurance, 401k contributions and vacation and sick leave for full-time drivers at about 9 percent of total fare revenues. Adding in the employer share of FICA and Medicaid contributions would bring costs to 15 percent of revenues. (43 and author's calculations) These sums are on the order of recent Uber fare cuts and on the low end compared with other employers that realize a 20-40 percent savings from making their workers independent contractors. (42)

5. STATE OR LOCAL REGULATION?

When Sidecar, Uber, Lyft and other TNCs began to offer exclusive-ride, on-demand ride services in 2012, controversy erupted over who if anyone had regulatory authority over them. TNCs claimed to be simply peer-to-peer technology platforms and thus not subject to regulation. When that argument was rebuffed, they asked for state-level regulation under a new and more flexible Transportation Network Company category.

A number of states followed Colorado and California's lead in adopting statewide TNC legislation. But several states with the largest taxi and limousine industries did not. Thus, TNCs continued to be regulated by municipalities in New York, Texas, Illinois and New Jersey and by counties in Florida. Focusing on states with large ride services industries, statewide TNC regulations apply in California, Pennsylvania, Massachusetts, Virginia and Maryland.²

In states with both state and local regulation, jurisdictional issues continue to be hotly contested. TNCs argue that they need consistent, statewide regulations for their services to avoid a “patchwork” of city laws. Cities, counties and often taxi representatives argue that TNCs and taxis should be subject to the same regulations as cabs, and that local governments are best positioned to make regulatory decisions that best meet local needs.

As with many aspects of taxi and TNC regulation, one size does not fit all on this issue. The most important factor in determining a regulatory structure is the composition and complexity of ride service operations in a given jurisdiction. The central lesson from taxi regulatory experience is that more extensive regulations are needed in cities with substantial flag business particularly if they have a substantial contingent of independent taxi owners. Regulators must play a more active role because drivers are able to make a living on flag trips and thus lack effective oversight that is built into dispatch operations. In addition, the sheer size and complexity of cities such as New York, Chicago, Miami, Boston and San Francisco raises a wider variety of issues, adds complexity, and requires more resources and more formal processes.

Because of these needs, virtually all large U.S. cities have a locally-based regulatory agency in charge of taxi regulation, with the capacity to license driver and owner applicants, inspect vehicles, conduct street enforcement, coordinate with street, airport and policing agencies and meet with elected officials and industry and consumer stakeholders.

By contrast, cities with primarily dispatch operations tend to have far less complex industries and less intensive regulatory needs. The taxi industry in these cities is organized around a few fleet operators who exercise generally strong day-to-day oversight on their drivers and vehicles. Regulatory responsibilities may be relatively perfunctory and require little on-street presence or interagency coordination. While most often still locally regulated (often by the traffic, permits or police department), state regulation can also work satisfactorily. As examples, taxis are regulated by state agencies in Pennsylvania (with the exception of Philadelphia) and Maryland (with the exception of Baltimore and several populous counties in suburban Washington D.C.

² The states with the largest ride services industries are (in rank order): New York, California, Texas, Florida, Illinois, New Jersey, Virginia, Pennsylvania, Nevada and Massachusetts. Together they account for 68% of the industry nationally. (*Author's calculation using American Community Survey data on the number of hours worked by taxi and limousine drivers, 2012-14*)

More intensive, hands-on regulation is generally needed for cabs at airport taxi stands, however. As a result, airport authorities usually exercise a strong regulatory role to prevent oversupply, ensure vehicle and driver quality and protect against abuses such as overcharging for cabs authorized to pick-up on their premises. (19)

In considering who to appoint as the regulatory agency, it is also important to ensure regulatory consistency and a level playing field for taxi, TNC and sedan services. Achieving consistency has proven to be a challenging task even where one agency regulates all ride services, as regulators have to reconcile historically extensive taxi regulations with much less intensive TNC regulations. The difficulties are greatly compounded once regulatory authority is split across different agencies and different levels of government.

The need for intensive regulatory effort and regulatory consistency lead to the conclusion that regulatory responsibilities in large urban areas need to be assigned to a local (e.g., city or county) agency. Local agencies are best positioned to set and administer an effective set of regulations that cover the different sectors (taxi, TNC, sedans, etc.), take account of local circumstances and needs, coordinate with sister agencies on issues ranging from traffic and management of street space to traffic and personal safety, and connect with other transportation services. (25)

By contrast, separation of regulatory responsibility for taxis and TNCs has the effect of institutionalizing disparities in regulation of companies, drivers and vehicles and in the level of enforcement, as currently seen in California, undermining efforts to create a level playing field and fair competition between taxis and TNCs.

At the same time, there can be useful opportunities to address the legitimate concerns of TNCs about patchwork regulation. Seattle, for example, is considering a plan in which all licensing functions would be carried out at the metropolitan level (King County), while cities would allocate the public right of way for pickup and dropoff space, parking and the like. (25)

Orange County, California presents another model of how to combine regional and local roles. The county transit agency is responsible for licensing functions while the City of Anaheim -- which has extensive flag business at hotels and Disneyland -- controls the number of cabs and which companies can pick up passengers in Anaheim. The other major source of flag trips, John Wayne Airport, controls the number of cabs that pick up at its taxi stand. Thus, while the county regulatory scheme allows free entry of companies and changes in fleet sizes, the two major generators of flag trips retain the tools to prevent oversupply of those markets and strengthen accountability for service issues. (20)

CONCLUSION

Albert Kahn, who as a leading academic economist and head of the Civil Aeronautics Board in the 1970s is viewed as the father of airline deregulation, wrote that the "proper object" of any regulatory structure is to "find the best possible mix" of competition and direct regulation. (8) Regulatory issues surrounding nascent TNCs such as Uber and Lyft and the long-standing taxi industry can easily appear at first glance to be a tangle of contradictions and tensions, pulling between the desire to rely on market competition to produce quality, price and innovation and the recognition that public safety, industry accountability and management of the public right of way can necessitate regulatory intervention.

Yet a proper framing can untangle issues that have stymied resolution of controversies over TNC regulation this year in state capitols from Massachusetts to Texas. The first key is to recognize that the needed scope of regulation differs not by industry sector (TNC versus taxi) but by how the service is obtained -- by dispatch or at taxi stand or street hail (flag). Due to the effectiveness of market competition and consumer choice in producing attractive dispatch service, regulation of dispatch trips should focus on public safety and accountability. Regulation of flag services, where market competition is ineffective, should also address issues of oversupply, fare gouging and other problems with service quality.

The path to resolving other key issues also is illuminated by recasting them in more productive ways. Regarding both driver background checks and wheelchair accessible service, officials should focus on outcomes rather than processes. Management of driver-related risks should include both backward-looking criminal record checks and forward-looking fleet safety management practices. Policies for wheelchair accessible service should start with finding operators and drivers who show the commitment and have the physical and management resources to provide quality service rather than the "kit of parts" mandates that apply separate requirements for dispatchers, vehicle owners and drivers.

As a linchpin of service, close attention should be given to the role of drivers in both the TNC and taxi industries. State and federal policy can extend traditional worker protections and benefits to drivers in ways that balance drivers' needs for fair treatment and job security with their desire for flexibility and independence, while also serving TNCs' important interest in having sufficient controls over day-to-day operations to provide consistent and reliable service.

Finally, regulatory authority should be structured in large urban areas to meet the need for locally-focused regulation and ensure fair competition between TNCs and taxis. This will generally mean that regulation in large urban areas should be done by city or county agencies that have an effective local presence and can take account of local circumstances, coordinate with other local agencies and connect ride services with other transportation services.

It is well worth the time and effort required to work through these issues and get it right. TNCs and taxicabs have been and will likely continue to be the fastest-growing mode of motorized urban transportation in the country. (12) Their importance for urban mobility will continue to grow, supporting economic development, dense and energy-efficient residential and commercial land use, and enhancing the livability and attractiveness of urban places. Achieving the right blend of regulation and market competition is critical to realizing the potential of these services.

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