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How cities use regulation for innovation: the case of Uber, Lyft and Sidecar in San Francisco

Onesimo Flores ^a, Lisa Rayle ^b1

^a Harvard University Graduate School of Design, 48 Quincy St., Cambridge, MA 02138, USA
^b University of California, Berkeley, 230 Wurster Hall, Berkeley CA 94720, USA

Abstract

How do government actors facilitate or hinder private innovation in urban mobility, and how does local context mediate this relationship? In this paper we examine the regulatory response to on-demand ride services—or "ridesourcing"—through a case study of San Francisco, CA. The entry of Lyft, Sidecar, and UberX in San Francisco in 2012 raised serious questions about the legality of ridesourcing, and sparked significant conflict within regulatory agencies. After sustained debate, regulators decided to welcome the services provided by new companies and crafted a new regulatory framework that legalized the provision of forprofit, on-demand ride services using personal vehicles. We ask, given strong arguments on each side, what motivated public officials in each city to facilitate, rather than hinder, the new services? How did they achieve regulatory reform?

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1. Introduction

On-demand, app based ride services—which we label "ridesourcing"²—are quickly expanding mobility options in many cities. Ridesourcing companies, like Uber, Lyft and Sidecar, have made it possible for non-professional

^{*} Corresponding author. Tel.: +1 617-899-3379. *E-mail address*: lrayle@berkeley.edu

drivers of private vehicles to offer safe, reliable, affordable point-to-point rides, and enable the fare-paying public to efficiently summon a ride with a tap on a smartphone. This innovation has already disrupted the taxi industry in many cities (refer to articles about drop in taxi trips and medallion prices) and shows signs of altering travel behavior more widely (Rayle et al., 2015; Silver and Fischer-Baum, 2015). While the net impacts of ridesourcing are still largely unknown, ridesourcing is a notable innovation, as it "would, if widely implemented, significantly alter the performance characteristics of the urban transportation system" (Altshuler et al., 1979).

However, ridesourcing remains intensely controversial. In nearly every new market they have entered, Uber, Lyft and Sidecar have violated existing laws and have clashed with regulators. Moreover, the arrival of ridesourcing companies has raised legitimate public interest questions about liability, accountability, worker protections, social equity, and fair competition with taxis and limousines. In the U.S., most cities have regulated the supply and service characteristics of for-hire vehicles since the 1930s, laws which, with some exceptions (e.g., Teal and Berglund, 1987), have proven very resilient (Gilbert and Samuels, 1982). Not surprisingly, local regulators and established taxi interests in most cities have considered ridesourcing illegal and have fought to shut down the services or to seriously constrain their growth (Flegenheimer, 2015; Wallman, 2015). In some cities outside the U.S., such as Paris and Seoul, ridesourcing services have been entirely banned (Jolly and Scott, 2014; Kwaak, 2014; Regan and Irish, 2015).

How do ridesourcing companies overcome these initial regulatory and political obstacles? In this paper, we present a case study of the regulatory response to ridesourcing in San Francisco, California. We ask what motivated political actors in this city to tolerate and accommodate ridesourcing, what actions they took to do so, and how political and economic characteristics conditioned those decisions. To address these questions, we reviewed publicly available documents and conducted 27 interviews with regulators, elected politicians and their staff, policymakers, ridesourcing company leaders, and taxi industry representatives.

We focus on San Francisco because it was the first city in the world to embrace ridesourcing, and because the regulatory resolution found in this city has largely set the tone for ridesourcing's reception in other large U.S. cities. When companies first launched ridesourcing services here in 2012, city and state regulators immediately deemed them illegal, as they seemed to fit the definition of taxis or limos but did not meet the requirements for either. Following the existing taxi or limo requirements would have made it almost impossible for ridesourcing companies to be financially viable. Within less than a year, however, ridesourcing became both an established and legal transportation mode. By 2014, the San Francisco Municipal Transportation Agency (SFMTA) reported that 17% of San Francisco residents used ridesourcing services at least once a week, and 25% did so at least once a month. Ridesourcing now serves more trips in San Francisco than do taxis (SFMTA, 2014). Many other cities and state in the U.S. have followed San Francisco's and California's lead and have adopted similar regulations to enable ridesourcing.

Our research suggests the policy response to ridesourcing in San Francisco is largely attributable to the actions of two local political actors. San Francisco's mayor, Ed Lee, played a critical role when his office shielded ridesourcing from crackdowns by local regulators and shepherded the issue away from the local arena to the state level, where ridesourcing companies found a far more receptive regulatory environment. There, the President of the California Public Utilities Commission (CPUC), Michael Peevey, guided his agency to create a new regulatory category with rules that protected basic consumer safety but effectively legitimized the once rogue services. Both officials reacted to three specific factors that converged in San Francisco in 2012: (1) serious shortcomings of the existing taxi system, which showed little signs of improving despite sustained reform efforts, (2) the emergence of ridesourcing as a new travel mode that capitalized on new technologies and met a growing demand for taxi-like mobility, and (3) a growing consensus among the city's political class about the importance of forging a welcoming environment for new technology companies for San Francisco's prosperity and growth.

² Lyft and Uber call their services "ridesharing," but the term is inaccurate. Unlike ridesourcing, ridesharing is not conducted for profit and trips are incidental to the driver's other trips, like carpooling. In ridesourcing, in contrast, drivers operate for profit, irrespective of their own destinations. The popular press often uses the term "ride-hailing," but this could also apply to apps used to summon traditional taxis. We prefer "ridesourcing," which we define as smartphone app-based ride services, offered for profit, not incidental to the driver's trips, using personal vehicles.

Popular accounts of ridesourcing's emergence and expansion have often focused on private sector initiative, emphasizing individual entrepreneurship as well as the companies' strategy of political lobbying and rallying passengers and drivers (Helderman, 2014). These accounts, while largely correct, present only a partial picture. In the case of San Francisco, we find that government authorities also play a critical, and still largely unexplored, role—operating largely behind the scenes. By exploring the motivations and strategies of state actors, we aim to obtain a deeper understanding of how to foster private innovation in the realm of urban transportation.

We begin this paper with background on ridesourcing's emergence in San Francisco. Next, we describe how ridesourcing companies became enmeshed in a regulatory battle and how political leaders intervened to resolve that battle. We conclude with discussion of lessons from this case study.

2. Change on the streets of San Francisco

2.1. The emergence of ridesourcing

While ridesourcing shares characteristics of many of its precedents, it is demonstrably distinct from other services in terms of the business model and the passenger and driver experience. Ridesourcing companies—notably Uber, Lyft, and Sidecar—do more than just connect available private vehicle owners with travelers. Their smartphone apps also provide real-time location and navigation information, reducing chances non-professional drivers will take circuitous routes or become lost, and informing travelers exactly when and where to expect their ride. Customers choose the quality and size of the vehicle, and whether or not to share their ride with other travelers. Ridesourcing companies can pair travelers with overlapping routes into the same ride, and can suggest pick up points, dramatically cutting service cost, reducing wait times and increasing vehicle occupancy. Variable pricing ensures vehicles remain available late at night or in bad weather and automatic payment eliminates the need for passengers to carry cash or negotiate tips. The personal details of both passengers and drivers, as well as the history of their encounter, are recorded, reducing the likelihood of crime and facilitating resolution of disputes. Passengers and drivers rate each other, and these ratings affect the ability of both to access future rides, creating an incentive system designed to reward civil interactions. This combination of features sets ridesourcing apart from traditional taxis and limos, and from not-for-profit ridesharing.

Many of the concepts underlying ridesourcing had been "in the air" for a long time. Private vehicle owners have many times sought to offer rides for profit, whether as jitneys in the early twentieth century U.S. or as informal taxis in other countries, but doing so in U.S. cities has been illegal since the 1930s (Eckert and Hilton, 1972). Demandresponsive transit (i.e. dial-a-ride services) and private ridesharing (i.e. employer-based vanpooling and carpooling) had been promoted and even subsidized by government authorities in the U.S. and elsewhere since the 1970s. However, drivers offering rideshares were not authorized to profit from the interaction, a barrier to widespread adoption. Further, the technology wasn't ready: telephone-based systems were cumbersome and expensive to operate (Altshuler et al., 1979; Brake et al., 2007; Cervero, 1997; Chan and Shaheen, 2012). Even as mobile phones became ubiquitous in the 2000s, on-demand rideshare system could only muster response times of only about 45 minutes (Amey et al., 2011; Deakin et al., 2011). Carsharing had proven popular in the late 1990s in Europe, and began to grow in the U.S. through the 2000s (Shaheen and Cohen, 2007). However, carsharing organizations were slow to scale. They required significant capital investment to grow, as they owned their own vehicle fleets and paid rent for parking spots.

By the time GPS-enabled smartphones arrived in 2007, the future founders of Sidecar and Lyft were already making names for themselves in carsharing and ridesharing. With smartphone technology, though, came the possibility for vastly more efficient system of on-demand ridesharing. Recognizing this, Sunil Paul abandoned his plans to launch a peer-to-peer carsharing company and joined Jahan Khanna to found Sidecar in 2011. Similarly,

³ Uber offers several options, which differ in each city. UberX, UberPop and UberPool, which rely on non-professional drivers and allow drivers to use their own vehicle, fit the definition of ridesourcing, while UberBlack and UberTaxi are not technically ridesourcing because they use professional drivers and dedicated vehicles.

Logan Green and John Zimmer branched out of the closed-network ridesharing business. The pair had founded Zimride in 2007, a company that paired commuters sharing the same Facebook social networks. Their service was offered for free to users, and the company made a profit by charging employers or universities. By summer 2012, Green and Zimmer opened their platform to anyone that downloaded the iPhone app, enabling passengers to pay a "donation" to drivers. They branded the new service as Lyft.

With the new ridesourcing model pioneered by Sidecar and Lyft, both supply and demand could scale rapidly. Drivers were attracted by the promise of revenue with no additional investment. Passengers flocked to the service, attracted by its low price and reliability in relation to taxis, and by its convenience for many trips in relation to transit. The more passengers and drivers used the service, the lower the waiting times, attracting more of both. Since drivers used their own personal vehicles, entrepreneurs could minimize their investment and insurance costs. Smartphones and a smart matching algorithm could efficiently guide drivers to waiting passengers, minimizing drivers' down time. A key innovation was in convincing passengers to ride with drivers who lacked formal for-hire licenses, and in convincing non-professional drivers to pick up strangers. Lyft and Sidecar allowed passengers and drivers to "see" with whom they were matched, and revealed to each the other's ratings from previous rides. By doing this, the ridesourcing companies enhanced the safety (or at least the perception of safety) of the rides, and made available a previously untapped supply of drivers. Avoiding licensing enabled the services to keep costs low and scale quickly.

Uber hit on this model later than Lyft and Sidecar. Travis Kalanick and Garrett Camp, both already successful entrepreneurs but new to transportation, had founded UberCab in 2009 as an app-based, on-demand limo service. UberCab launched in San Francicso in June 2010, providing service exclusively through limos licensed by the California Public Utilities Commission (CPUC). (In California, limos are regulated by the state's CPUC, while local jurisdictions like the SFMTA hold authority over taxis. Unlike taxis, limos may not accept street hails and pickups must be prearranged.)

Uber's app-hailed limos proved popular, attracting the attention of taxi interests, who viewed a limo summoned through a smartphone app as practically indistinguishable from street hails. If UberCab was accepting street hails, that made it a taxi service and not a limo, and would subject it to the city's taxi regulations. In response to complaints from taxi drivers, in October 2010 both the SFMTA and the CPUC issued cease and desist orders against UberCab. SFMTA's notice pointed out "the name UberCab indicates that you are a taxicab company and as such you are under the jurisdiction of the SFMTA." Uber simply reacted by dropping "cab" from its name. The CPUC's notice faulted the company for not obtaining a "charter carrier permit" (TCP) from the CPUC—even though its drivers and vehicle were properly licensed, the CPUC judged the company itself lacked the appropriate permit. We found no evidence the CPUC moved to enforce its 2010 cease and desist order, most likely because the footprint of Uber's limo service remained small, because the agency had more pressing priorities, and because a strong argument could be made about Uber's legality. After all, the vehicles used by Uber at the time were fully licensed and rides were "prearranged," even if only minutes ahead of service. From 2010 until 2012, Uber continued to operate its limo service in San Francisco without interference.

2.2. Ridesourcing as a rogue operation

Ridesourcing services first launched without legal authorization. Sidecar began testing its ridesourcing app in February 2012 and Zimride (later known as Lyft) began testing its app in May 2012 (Lawler, 2012). While developing their ridesourcing platforms, Lyft and Sidecar executives reviewed existing regulations and consulted regulators at both the SFMTA and the CPUC, but it was increasingly obvious to them that their business model—based on utilizing vehicle owner's assets (vehicle, labor, insurance) to reduce the cost of their service—could not be authorized under the existing rules. They saw that the California Public Utilities Code and the City Charter defined limos and taxis rather narrowly, and concluded that compliance with those regulations would doom their business model from the start. Complying with taxi regulations would be particularly problematic, since San Francisco's long-standing and impermeable medallion system strictly limited the number of taxi vehicles. So neither company obtained a permit to operate. Sidecar launched publicly in June 2012, and Lyft in August (Gustin, 2012).

Threatened by the new competition, Uber demanded that the CPUC shut down the unlicensed services. When enforcement action did not immediately materialize, joined the game. In July 2012 the company quietly added an

UberX button to their app in San Francisco in order to compete head-to-head with Uber and Lyft. According to its website, the button would summon new, hybrid electric vehicles "at a lower price point than our standard black car service" (Uber, 2012).

Ridesourcing companies faced several regulatory risks. In San Francisco, the SFMTA could choose to treat ridesourcing vehicles as taxis without medallions, and enforce existing regulations against them, in which case ridesourcing's business model would simply be non-viable. At the state level, the CPUC could decide to treat ridesourcing providers as charter-party carriers, in which case onerous licensing requirements would deter most casual or part-time drivers. As Emily Castor, Director of Transportation Policy and one of the first employees at Lyft put it, "ultimately, the vision of Lyft was to have everyone be a driver but to be participating on a very part-time basis, making themselves available when they're going somewhere that they already intend to go. And so, if you have a category that starts out by saying, 'You can only have a few hundred people [providing service],' there's no pathway that you can get to that vision" (Castor, 2015)

The California Public Utilities Code explicitly provided an exemption from regulation for ridesharing, which the founders of Lyft and Sidecar interpreted in an extremely loose way to justify their actions. According to California law, ridesharing does not require a permit from the CPUC *if* the ridesharing is used for work-related trips, *if* it "is incidental to another purpose of the driver" and *if* the primary purpose of the activity is not to make a profit (California Public Utilities Code, Section 5353, H). Knowing it was a stretch, Lyft and Sidecar executives extended the term "ridesharing" to their ridesourcing services. The Taxi Commission Director at the SFMTA, Christiane Hayashi, recalled discussing this issue with John Zimmer, "I remember him admitting to me that it was not ridesharing, but that it was important for him to get a supply of vehicles on the streets in order to make the system work" (Hayashi, 2015). Sunil Paul had similar encounters. As he put it, "our hope initially was that they would just accept our argument that this was a gray area and not in their jurisdiction" (Paul, 2015).

As Carol Brown, Chief of Staff to the CPUC President put it, "it wasn't disregard of current rules. They were cleverer than that. Every word they put on any page made sure it said what they were doing did not [violate] any regulation." Sidecar's app indeed forced its users to input their destination into the app, which enabled the company to claim its drivers knew ahead of time whether prospective riders were truly making trips "incidental to another purpose of the driver" (Gorenflo, 2012a). To go around the requirement that the transport be not for profit, Lyft and Sidecar asked passengers for "suggested donations." As Paul explained in 2012, "payment is completely voluntary, and we never use the word fare" (Mitroff, 2012). Ensuring that the trips be work-related was trickier, but executives from these companies argued their apps simply facilitated ridesharing, and that they could not be held responsible if users and drivers used it for other purposes.

Neither SFMTA nor CPUC regulators bought the argument. According to Hayashi, "it was obvious from the get-go that that the driver was not going to the place where the passenger was going and that it was the biggest lie in the world to call them ridesharing" (Hayashi, 2015). At the CPUC, the Director of the Safety and Enforcement Division, Jack Hagan, called the ridesharing argument "just flat bullshit." He explained, "a car goes from point A to point B and money is exchanged, period" (Hagan, 2015).

2.3. The city where "you couldn't get a cab"

Ridesourcing's immediate popularity was due in no small part to the city's dysfunctional taxi system. Before ridesourcing services became available, it was a widely accepted by San Franciscans that theirs was a city where "you couldn't get a cab." One could expect to hail a taxi on the street only in the city's busiest central neighborhoods. In other areas, and off-peak times, one had to call a dispatcher. According to a 2001 report, passengers telephoning for a cab had only a 40% chance of actually getting a ride (Nelson/Nygaard, 2001). A study four years later concluded that 46% of the taxis dispatched by phone took more than 30 minutes to arrive (Q2 Research Group, 2006). Another report in 2012 showed the situation had not improved (Hara Associates, 2013). Despite this, San Francisco taxi fares ranked among the highest in the country (Lam et al., 2006). Jordanna Thigpen, who served as Executive Director of the city's Taxi Commission in 2008-2009, recalled, "We did studies that showed taxis never went out to Bayview," a neighborhood in San Francisco's far southeastern corner that houses the city's largest black population. "These communities didn't have a voice. Elderly and disabled people who couldn't get a cab—they [also] didn't have much of a voice" (Thigpen, 2015).

The poor performance of the taxi system in San Francisco was tied to its medallion system, widely blamed for the scarcity and low quality of service. Medallion systems in the U.S. date back to the Great Depression, when most American cities capped taxi supply so as to protect existing drivers from the sudden flood of new competitors (Gilbert and Samuels, 1982). San Francisco's particular version owed to a 1978 ballot initiative, Proposition K, which contained several terms that favored drivers over taxi companies. Only drivers could hold a taxi medallion in San Francisco. Unlike in other cities, medallions could not be sold or traded. When a medallion-holding driver retired, the medallion reverted back to the city. In turn, the city could only award it for a nominal fee to another eligible driver. Although drivers (both medallion holders and non-holders) celebrated Prop K, the system had unintended consequences. The waitlist to obtain a medallion reached 12 to 15 years, and medallion holders became an aging group. Most problematically, because medallion holders wielded significant power in the regulatory apparatus, and the interests of users were hardly represented, it became exceedingly difficult to increase the supply of taxis. Moreover, the Prop K system proved resilient against reform, surviving two legal suits and five ballot initiatives between 1979 and 1996. It was only in 2007-2010 that a protracted, consensus-building reform process, led by Christiane Hayashi, held hope of gradually increasing the system's flexibility. But by then Uber, Lyft and Sidecar were already on the horizon.

2.4. A regulatory vacuum

As soon as ridesourcing services were detected in volume by the taxi industry, complaints started pouring in to both the SFMTA and the CPUC. Charles Rathbone, the manager of a taxi company, recalled, "We were in a terrible state of shock. We just could not believe that what was happening would continue. It's so obviously illegal. Not in the gray area, but clearly illegal" (Rathbone, 2015).

The CPUC was not only responsible for regulating limo services, but also heavy rail, light rail, municipal rail and ferries, and the transmission and distribution of electricity, natural gas and propane throughout the state. Its resources were spread very thin. Furthermore, a gas pipeline explosion in 2010 had prompted a media firestorm and brought intense scrutiny of the agency's enforcement practices. In the midst of the public relations crisis, Jack Hagan, a retired Brigadier General, was appointed to run the CPUC's enforcement arm, the Safety and Enforcement Division. The Division's mandate, he maintained, was abundantly clear: "The mission is safety" (Hagan, 2015).

Hagan believed that existing ridesourcing services, lacking any insurance requirements, posed a threat to public safety. On August 23, 2012, in consequence, his Division issued cease and desist notices to Sidecar and Lyft, carrying penalties of "a fine of up to \$5,000 or by imprisonment in the county jail for up to three months, or both" for every day of continued violations (CPUC, 2012a). Consistent with their strategy, Sidecar and Lyft disregarded the order and continued to operate, claiming the CPUC had no jurisdiction, even as they raised capital from investors and planned their expansion beyond San Francisco. In response, Uber continued to roll out its ridesourcing service, UberX.

In November, Hagan, having been ignored by all three companies, issued US\$20,000 citations to each for operating as a passenger carrier without evidence of public carrier insurance coverage, for engaging employeedrivers without evidence of workers' compensation insurance, for failing to enroll drivers in a state program that notifies employers of driving offenses, and for failing to test and enroll drivers in the Controlled Substance and Alcohol Testing Certification Program (CPUC, 2012b). Hagan's orders sent an unambiguous message: ridesourcing would no longer be able to slip between the cracks of existing regulatory boxes.

With regulation coming to seem inevitable, the companies shifted their strategy. If they couldn't simply evade regulation, they would seek to change the regulations. But nothing was risk-free. Licensing and insurance requirements that were costly might force them to raise rates, and it was not yet clear how much passengers were willing to pay for their services. Moreover, if the licensing procedure were onerous or costly, driver recruitment would become more difficult. As aspiring national and international companies, the firms also wanted to avoid a situation in which each local jurisdiction imposed different requirements. Securing favorable regulations, they judged, would require active rather than merely tacit approval from the political supervisors of the career regulators. Those political supervisors would be Mayor Lee and CPUC President Peevey.

3. Change in the political arena

3.1. The "sharing economy" and its political allies

Regulators' stern response contrasted markedly with the generally positive attitude displayed by elected authorities in San Francisco toward the so-called "sharing economy." The city's Mayor, Ed Lee, and the legislative arm, the Board of Supervisors (BOS), had recently established an important precedent. In early 2012, after much controversy, Lee and most members of the BOS announced their intention to pursue new regulations that would allow the accommodation rental company, Airbnb, to continue providing services that then violated existing city laws. In March 2012, Mayor Lee and BOS President David Chiu announced the formation of a "Sharing Economy Working Group." Lee praised companies like Airbnb for "leveraging technology and innovation to generate new jobs and income for San Franciscans in every neighborhood and at every income level," and pledged to place San Francisco "at the forefront of nurturing its growth, modernizing our laws, and confronting emerging policy issues and concerns" (Gorenflo, 2012b). While the immediate focus was on Airbnb, Lyft and Sidecar—as "ridesharing" companies—were also considered part of the sharing economy umbrella.

To understand Lee's inclination to support sharing economy startups, some context is needed. Lee had arrived in office in January 2011, when San Francisco Mayor Gavin Newsom left office to become California's Lieutenant Governor, and a deeply divided BOS struggled to agree on a replacement. The board eventually settled on Lee, a career bureaucrat with 21 years of experience in the city government, who was seen as a neutral, consensus-building choice. Lee had pledged that if appointed he would not to run in the forthcoming November 2011 election; however, under pressure from his supporters, he ultimately withdrew his pledge. He put himself forward as a pragmatic candidate able to bridge the city's two traditional political factions: "progressives"—who held a narrow majority on the BOS—and "moderates"—who had prevailed in most recent mayoral elections. He prevailed, winning 60% of the vote (Carson, 2015).

Lee's election came at a unique moment of political consensus created by the short- and long-term economic shifts. Since at least the 1980s the San Francisco Bay Area has led the world in computer-based high tech development. Most such companies have chosen to locate in Silicon Valley, an expansive area roughly 50 miles south of San Francisco and outside the purview of San Francisco city government. However, many employees of these companies reside in the city of San Francisco, intensifying its longstanding trends of rising rents and gentrification. San Francisco's political progressives have been focused on preserving both the character of the city and the interests of existing residents (especially tenants, who were to be protected mainly by rent control rather than by housing supply expansion). In contrast, political moderates were more eager to attract development, seeking to take advantage of the Bay Area's tech boom to boost the city's prosperity and global relevance. Amidst growing development pressure in the 1990s and 2000s, progressives clashed intensely with moderates. Progressives defended existing regulations to prevent high-rise development and to protect existing residents from both rent increases and displacement, while moderates sought to facilitate the development of new housing and office space (DeLeon, 1992).

After 2008, however, an economic recession caused unemployment to surge, and the factions temporarily set aside their ideological differences to focus on job creation and balancing the city's budget. As of 2011 San Francisco's unemployment rate was still stubbornly high at 8.9% (U.S. Bureau of Labor Statistics) and the city projected a budget shortfall of US\$263 million for fiscal year 2012 (Office of the Mayor, 2011). Lee quickly concluded that nurturing technology companies, including "sharing economy" startups, represented the best possible strategy for his administration. The timing seemed ripe. The technology industry's center of gravity was gradually shifting northward, from Silicon Valley toward San Francisco, as more and more companies opted for locations

⁴ The term "sharing economy" refers to a business model in which participants borrow or rent assets owned by someone else, typically when those assets are expensive to buy and underutilized. "Sharing" in this sense is in effect no different from simply borrowing or renting. However, the idea of a "sharing economy" drew keen interest from entrepreneurs as advances in information technology lowered transaction costs that previously made such renting uneconomical, opening previously unexploited rental markets for spare bedrooms, cars, tools, and parking spaces.

within the city. In his January 2012 inauguration address, Mayor Lee declared San Francisco "the Innovation Capital of the World," promising to facilitate development while also advancing traditionally progressive causes. "Whether it's parks, health care, the arts, public safety, the environment or schools – our ability to make progress is directly connected to giving every family the dignity of a paycheck and our willingness to embrace innovation" (Lee, 2012).

Lee built on former Mayor Newsom's agenda of supporting business and inherited many of Newsom's supporters, including tech sector leaders (CitiReport, 2012), but his close public alliance with community activists and his comparatively understated style shielded him from attracting the level of criticism that followed his predecessors. In contrast to previous mayors, Lee seldom took divisive positions in public. While many highly vocal groups in the city resented the tech industry, moreover, the balance of power at the BOS had tilted to the right. As a result, Lee was able to implement pro-tech, pro-business policies that would have been unthinkable under the previous two administrations.

It was in this context that city authorities acted to support "sharing economy" startups that clashed with existing regulations. When established taxi interests denounced the rogue operation of ride services in San Francisco, they were unable to rally more than a minority of BOS members to their cause. Similarly, the efforts of taxi regulators, like Hayashi at the SFMTA, received little support from the Mayor's office. To Mayor Lee, and to most members of the BOS, Uber, Lyft and Sidecar were contributors to the city's tech-driven economic recovery.

3.2. How did local political authorities support ridesourcing?

Support for ridesourcing aligned with Mayor Lee's political agenda, but carried increasing risk. By mid-2012, employment levels and city finances were recovering from the recession, and the temporary détente between moderates and progressives was beginning to fray. Fears of gentrification and displacement were on the rise. Many residents blamed the influx of tech workers for skyrocketing housing costs and objected to the city's accommodation (e.g., bus stops on public streets) of private shuttle buses run by Google and other Silicon Valley tech companies for their employees resident in the city (Streitfeld and Wollan, 2014). Transportation officials, like Hayashi, charged that ridesourcing created a two-tier transportation system in which the wealthy travel in private, exclusive vehicles, leaving public mass transit for the poor. Uber and Lyft were indeed more expensive than public transit, required a smartphone and credit card, and their marketing targeted a young, educated population. They also tended to concentrate their services in areas of highest traffic demand, where affluent potential patrons are most highly concentrated. And Uber's variable "surge" pricing was frequently criticized as unfair. More generally, as the economy revived, the brief San Francisco consensus in favor of development-oriented policies dissolved, along with progressives' support for Mayor Lee. Even his closest community supporters distanced themselves from him (Coté, 2015; Redmond, 2015).

Despite the controversies, ridesourcing was attracting more and more users and drivers, some of whom could be counted on to contact their elected officials when asked, and ridesourcing seemed an effective approach to solving the city's problem of taxi scarcity. Further, the Mayor and a majority at the BOS continued to see ridesourcing as the kind of innovation for which they wanted the city to be known. For Mayor Lee, the popularity of Uber, Lyft and Sidecar reflected the success of San Francisco, and perhaps even the success of his mayoral administration. Other start-ups were already beginning to imitate Uber's on-demand model, with services like "Uber for lawn mowing" or "Uber for groceries" (Magee, 2015).

Neither Lee nor other city government officials involved have spoken publicly about events taking place in this period behind the scenes. Three things are clear, however. First, Lee actively blocked city regulators at the SFMTA from enforcing existing laws against ridesourcing. Second, he kept the SFMTA and the Board of Supervisors from pursuing regulatory change at the city level. Third, he urged the CPUC to step in and quickly create a new set of statewide regulations. While the Mayor and the Supervisors were much less public in their support for ridesourcing than they had been for Airbnb and other "sharing economy" ventures, their support was widely felt.

Lee's first order of business was to prevent the SFMTA from claiming jurisdiction over ridesourcing. This decision was critical, because it allowed the companies to continue operating, expanding, and building public support from their customers and drivers while new regulations were in process. Fortuitously, since the Taxi Division had become part of SFMTA in 2009, the Mayor had full control, and the SFMTA's Director Ed Reiskin reported directly to him.

Next, Lee urged the CPUC leadership to claim jurisdiction, thereby superseding local authority over ridesourcing services. The CPUC was known to be extremely business-friendly and supportive of innovation. As a state agency, it had little history, moreover, of protecting, or indeed substantially interacting with, the taxi industry, which involved itself mainly in local politics. When asked why the SFMTA didn't make a stronger effort to claim regulatory authority, SFMTA director Ed Reiskin explained, "It... was fairly clear that City Hall didn't want us to step in and do so." The CPUC's Marzia Zafar observed that SFMTA officials "were pretty vocal in saying that (ridesourcing companies) should be taxis, that their operations disrupted traffic in the city, and [that they] were also reducing city revenue. But then the mayor said something different" (Zafar, 2015) According to Sunil Paul, Mayor Lee made sure that the "SFMTA allowed (this issue) to go to CPUC. This was very, very important" (Paul, 2015). It was not at all obvious that the state and not the city should take regulatory responsibility over this new service, but the city never fought to retain jurisdiction. The Mayor's preference certainly influenced the outcome. The CPUC, and not the SFMTA, assumed responsibility for developing rules to govern ridesourcing.

3.3. How did state political authorities support ridesourcing?

Unlike local officials in San Francisco, CPUC President Peevey was eager to take on the challenge of legalizing ridesourcing. A former entrepreneur himself, Peevey believed that "a proper role for agencies like the Public Utilities Commission is to foster and promote change—positive change—in a variety of technologies" (Peevey, 2015). Since being appointed to the CPUC by the Governor in 2002, he had earned praise for crafting state regulations to promote green energy technology. Although he had little experience with transportation, he was interested in ridesourcing. He recalled thinking, after trying Uber for the first time, "my God, here we have an application of a new but modest technology... We ought to be in favor of competition and opening up markets and [encouraging] exactly the thing that you say people need, which is more mobility (Peevey, 2015)." His staff recalled his clear instruction: "Let's not stifle it, but regulate it" (Brown, 2015).

Just as Mayor Lee had blocked Hayashi's efforts to crack down on ridesourcing, Peevey whisked the issue away from the uncompromising Jack Hagan. Instead of Hagan, Peevey's choice to oversee the upcoming rulemaking process was Director of Policy and Planning Maria Zafar, who had once driven a cab in San Francisco and had since become severely critical of the taxi industry. Zafar shared Peevey's view that the CPUC should enable ridesourcing and move rapidly to promulgate regulations.

The ridesourcing companies, during all this time, actively courted political support. Because all ridesourcing users and drivers have to register for the service using an email address or Facebook profile, each company has a direct channel of communication to its user base. This access gives them a distinct advantage over taxis, whose users are essentially anonymous. Through email and social media, the companies mobilized their users and drivers in San Francisco to sign petitions, contact elected officials, and attend public meetings (Castor, 2015; Paul, 2013; Tang, 2012). The ridesourcing companies also hired lobbyists, including several with former ties to regulatory agencies, to press their cause with CPUC commissioners and with key elected state officials.

In December 2012, all five CPUC commissioners voted to open a "Rulemaking on Regulations Relating to Passenger Carriers, Ridesharing, and New Online-Enabled Transportation Services." In its order the Commission stated:

"We initiate this proceeding to protect public safety and encourage innovators to use technology to improve the lives of Californians. The purpose of this rulemaking is not to stifle innovation and the provision of new services that consumers want, but rather to assess public safety risks, and to ensure that the safety of the public is not compromised in the operation of these business models" (CPUC, 2012c).

Officially, the CPUC was to consider three definitions of ridesourcing services: as taxis, as limos, or as a distinct service type requiring rules of its own (or perhaps exempt from regulation entirely). Unofficially, though, several sources confirm that the CPUC's key players, Peevey and Zafar, from the outset favored treating ridesourcing as a distinct service—with minimal regulation. The proceeding's main public event, a workshop in April 2013, made it clear that the CPUC was committed to making ridesourcing legal, and that the purpose of the rulemaking was to hammer out the details of issues like insurance and licensing. For instance, at the workshop Hayashi urged the CPUC to ensure ridesourcing services did not have regulatory advantages over taxis, but she felt her attempts to defend taxi drivers fell on deaf ears. "The questions were friendly to [the ridesourcing company representatives],

and they were hostile to the drivers," she explained. "And actually, at a certain point, [CPUC moderators] stopped letting people hold the microphones; they held the microphone themselves, and when they were tired of hearing that person speak, they would walk away" (Hayashi, 2015).

On September 19, 2013, the CPUC unanimously adopted its final decision (CPUC, 2013). The process had been unusually rapid, roughly half of the length of a typical CPUC rulemaking proceeding (Zafar, 2015). The decision created a new regulatory category, Transportation Network Company (TNC). Companies would need to obtain a permit from the CPUC and comply with rules governing background checks, vehicle safety, liability insurance, and data provision. The decision, notably, upheld the CPUC's authority to regulate ridesourcing in the interest of public safety, but also largely upheld the ridesourcing business model. While admitting that the regulations were far from perfect, Peevey expressed pride in what had been achieved in California, telling us, "it was an exciting thing to do and to be the first" (Peevey, 2015).

4. Discussion: San Francisco and California as precedent

As of this writing, ridesourcing appears to be spreading rapidly as a new mode of urban transportation, and the regulatory precedents set in California (mainly around the San Francisco case) appear to be ascendant, at least in most large cities in the United States. In each new U.S. city they have entered, ridesourcing companies have replicated the same strategy. They enter the market, rapidly grow their user base, and then, once regulators file lawsuits, issue fines, or initiate regulatory proceedings, they mobilize the support of passengers and drivers to help lobby elected authorities. In the end, political authorities, most often from the state level, have tended to intervene in their favor. As of September 2015, 22 states have adopted laws or regulations designed to authorize ridesourcing services, and the legislatures of several others have bills pending (Property Casualty Insurers, n.d.). Many have been explicitly modeled after California's TNC rules.

It is no surprise San Francisco was the first to legalize ridesourcing. Several factors made it a uniquely favorable entry point for ridesourcing and for a favorable policy response.

First, San Francisco was part of the world's leading urban region for computer-based innovation, a fact central to the self-image of its key decision makers (and presumably large sectors of its population), who were disposed to remove rather than impose regulatory obstacles to technological innovation.

Second, San Francisco had a cadre of motivated and skilled entrepreneurs, with easy access to well-connected and highly capitalized investors willing to take big risks, and accustomed to challenging the status quo.

Third, the leading ridesourcing companies originated and were headquartered in San Francisco. This was anything but coincidental, of course, but it gave them particular leverage in San Francisco and California politics.

Importantly, the city had a highly dysfunctional taxi system which had long been a source of public dissatisfaction, and which had few local defenders.

Additionally, San Francisco was one of the nation's densest travel markets, with an unusually large proportion of relatively affluent smartphone users.

Finally, it had a governmental arrangement favorable to acceptance of ridesourcing. As in many other U.S. states, taxis in California are regulated by local agencies, but limousines (and cars) for hire are regulated by a state agency. Ridesourcing fell somewhere in a gray area between the two, with a few unique characteristics of its own. The uncertainty about who should regulate it, and how, provided an opportunity for ridesourcing companies to build a support base of customers and drivers as the public sector sorted out its options. More generally, it bears emphasis that taxi medallion owners are frequently important players in local politics, because their interests are clear (above all, limiting competition) and because no other interests are typically mobilized to address taxi issues. They are insignificant players in state politics, however.

5. Conclusions

In virtually all cities of the developed world, transportation services are highly regulated and new entrants face intense resistance. In the particular instance of ridesourcing, the business most threatened is the taxicab industry, and it is highly influential – seeking to limit competition and preserve the value of medallions – in most major American cities. Uber, Lyft and Sidecar originated and first achieved legal acceptance in San Francisco. In this paper we have

explained how and why it came to be accepted in its locale of origin, San Francisco, in the face of intense resistance from the taxi lobby and career regulators. As we have shown, Mayor Ed Lee blocked local regulators from enforcing existing rules or pushing for new ones, and shuttled the issue to the state level. At the CPUC, President Peevey sidelined his own Safety and Enforcement Division, and promoted the creation of a new legal framework. This occurred within a political context amenable to change, when, following the recession of 2008-2009, prodevelopment forces were ascendant in San Francisco and California politics.

Lee exercised his executive power in a way that often goes unrecognized. Seeking to avoid a contentious fight at the local level, he quietly blocked regulators under his authority and moved the issue outside of his own domain. A more attention-seeking mayor might have attempted to champion his own regulations at the city level, as Lee did with Airbnb. Legally, the city could have claimed authority over ridesourcing and enacted regulations to legitimize it. But Lee likely observed the growing unease among many San Franciscans toward the tech industry's growing influence, and recognized state and the CPUC would offer a less controversial political environment. Indeed, in 2013, protests would erupt in San Francisco over the allocation of street space for private bus stops and over the record numbers of residential evictions (Streitfeld and Wollan, 2014). To legitimize ridesourcing, Lee acted by appearing not to act, and in doing so increased the chances of an outcome favorable to ridesourcing startups.

As the head of the state's regulatory agency, Peevey held an unusually proactive stance toward technological innovation. He acted quickly to sideline staff members who did not share his position, and pushed for a rapid adoption of new regulations.

Although Lee and Peevey recognized ridesourcing as a potentially transformative mode of travel, their primary motivations were not necessarily about transportation. For Lee, enabling ridesourcing was a means of supporting San Francisco's technology industry and its potential for job creation and economic growth, consistent with his promise to make San Francisco "the innovation capital of the world." He likely also responded to the fact that ridesourcing was also popular, of course, and it was popular because it improved accessibility for users without requiring significant public investment. Peevey did clearly recognize ridesourcing as a convenient and efficient mode of transport, but he knew little about transportation. For him, the salient issue was making California a leader in innovation.

Explanations of the rapid diffusion of ridesourcing have often fixated on the brazen approach of the private entrepreneurs leading these companies. The founders of Uber, Lyft, and Sidecar clearly deserve credit for making ridesourcing possible. This case, however, suggests that the success of these companies and the viability of ridesourcing can't be simply attributed to the individual agency of its founders.

The regulatory changes put in motion in California cleared the path for the expansion of ridesourcing to other cities in the U.S. and the world. While intense controversies are ongoing, the operation of these companies in San Francisco suggests ridesourcing can be effectively integrated into a city's mobility menu. The rules put in place by the CPUC have continued to evolve to better protect the public interest, even as San Francisco has retained its place as laboratory for increasingly ambitious transportation innovations, such as the real-time, on demand carpooling services UberPool and LyftLine, which are being gradually rolled out elsewhere. Many more tech-enabled, privately driven urban transport innovations are sure to follow.

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