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# First Zipcar, Now Uber: Legal and Policy Issues Facing the Expanding “Shared Mobility” Sector in U.S. Cities

Joseph P. Schwieterman  
*DePaul University*

Mollie Pelon  
*DePaul University*

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# FIRST ZIPCAR, NOW UBER: LEGAL AND POLICY ISSUES FACING THE EXPANDING “SHARED MOBILITY” SECTOR IN U.S. CITIES

JOSEPH P. SCHWIETERMAN, PH.D.\* & MOLLIE PELON\*\*

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## INTRODUCTION

Innovations and technological disruptions in the “sharing economy” are shifting the contours of urban travel in the United States. Carsharing organizations such as car2go and Zipcar have grown

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\* Joseph P. Schwieterman is a Professor in the School of Public Service and the Director of the Chaddick Institute for Metropolitan Development at DePaul University.

\*\* Mollie Pelon is a Research Associate at the Chaddick Institute for Metropolitan Development at DePaul University.

exponentially over the past decade, expanding their memberships from 52,347 in 2004 to 1,181,087 in 2015.<sup>1</sup> Ridesourcing companies like Lyft and Uber, which were entirely absent from most U.S. cities as recently as 2010, are now global powerhouses, each reportedly worth billions of dollars.<sup>2</sup> Private investors, after avoiding investments in urban transit services for more than half a century, are now offering venture capital for Bridj, Chariot, and other companies.

This Article explores the dynamics of “shared mobility” and the policy issues facing the participants in that sector through a review of the evolution of four prominent types of shared mobility providers: (1) carsharing organizations; (2) transportation network companies such as Lyft and Uber; (3) privately operated “microtransit” operators; and (4) crowd-sourced intercity bus lines. The analytical portion of the study in Part I describes and critiques how these sectors have evolved and summarizes the notable legal and policy issues they face. Part II develops a typology that categorizes their services and shows how each has disrupted the transportation sector. The last section also offers conclusions and suggestions for further study.

All of these shared-mobility transportation providers are centerpieces of an app-based mobility revolution that is raising the profile of the sharing economy, which is defined here as “the peer-to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online service.”<sup>3</sup> All have spurred innovations to foster more efficient use of scarce resources and reduce transportation, particularly in densely-populated neighborhoods with populations seeking alternatives to private car ownership. Fueled by changing consumer values, economic and environmental pressures, and technological innovation, new options have emerged that allow consumers to engage in what is commonly called “collaborative consumption.”<sup>4</sup>

Collaborative consumption is characterized by a movement of consumers away from typical property market exchanges where consumers purchase and own goods outright. Instead, they move to a system aided by mobile apps in which purchases provide only temporary access to a good or

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1. Susan A. Shaheen & Adam Cohen, *Innovative Mobility Carsharing Outlook: Market Overview, Analysis, and Trends*, TRANSP. RES. CTR. U. CALIFORNIA-BERKELEY, Summer 2015, at 1.

2. *See From Zero to Seventy (Billion): The Accelerated Life and Times of the World's Most Valuable Startup*, ECONOMIST (Sept. 3, 2016), <http://www.economist.com/news/briefing/21706249-accelerated-life-and-times-worlds-most-valuable-startup-zero-seventy>.

3. Juho Hamari, Mimmi Sjöklint, & Antti Ukkonen, *The Sharing Economy: Why People Participate in Collaborative Consumption*, 67 J. ASS'N FOR INFO. SCI. & TECH., no. 9, 2016, at 2047, [https://www.researchgate.net/publication/255698095\\_The\\_Sharing\\_Economy\\_Why\\_People\\_Participate\\_in\\_Collaborative\\_Consumption](https://www.researchgate.net/publication/255698095_The_Sharing_Economy_Why_People_Participate_in_Collaborative_Consumption).

4. *Id.*

service.<sup>5</sup> The rise in this form of consumption, some argue, is not only the result of changing technologies and values, but is also spurring technological change and encouraging consumers to reassess their views on ownership, which has historically been, as Fleura Bardhi and Giana M. Eckhardt maintain, “the ultimate expression of consumer desire.”<sup>6</sup> As Koopman, Mitchell, and Thierer note, such “permissionless innovation” fosters greater consumer choice and more comfortable, inexpensive, and faster travel options.<sup>7</sup> In many places where travelers once had only a few alternatives to reach their destinations—such as taking a bus, train, or private car—they now have an entire range of alternatives.

The challenges that the expansion of shared-mobility services pose for municipal governments has generated a sizeable body of legal and policy analysis.<sup>8</sup> Some of this analysis concludes that the sector’s rise is generating large social costs.<sup>9</sup> One analysis makes the argument that because transactions made in the sharing economy are motivated by economic gain, mediated by third parties, and take place among buyers and sellers that do not know each other, they are not really “sharing” at all.<sup>10</sup> Regardless, the rise of shared mobility creates a pressing need for additional consideration of the way this sector operates and the many disruptions now occurring in urban transportation.

## I. TYPES OF SHARED-MOBILITY SERVICES

Although the analysis below identifies four major types of shared-mobility providers prevalent in urban areas, it all shows that, despite all the variety, two distinct business models have emerged: peer-to-peer and business-to-consumer.

*Peer-to-Peer Business Model:* Firms using this model provide a technological platform on which a “membership community” shares access to other members’ properties. Pioneered by eBay, this model is typically coupled with rating systems for consumers and suppliers, thereby

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5. *Id.* at 2050.

6. Fleura Bardhi & Giana M. Eckhardt, *Access-Based Consumption: The Case of Car Sharing*, 39 J. CONSUMER RES. 881, 881 (2012).

7. Christopher Koopman, Matthew Mitchell, & Adam Thierer, *The Sharing Economy and Consumer Protection Regulation: The Case for Policy Change*, 8 J. BUS. ENTREPRENEURSHIP & L. 529, 540 (2015).

8. See Daniel E. Rauch & David Schleicher, *Like Uber, But for Local Government Policy: The Future of Local Regulation of the “Sharing Economy”*, 76 OHIO ST. L.J. 901, 903 (2015); see Koopman, Mitchell, & Thierer, *supra* note 7; see Andrew T. Bond, Note, *An App for That: Local Governments and the Rise of the Sharing Economy*, 90 NOTRE DAME L. REV. 77 (2015).

9. See Brishen Rogers, Note, *The Social Costs of Uber*, 82 U. CHI. L. REV. DIALOGUE 85 (2015).

10. See Giana M. Eckhardt & Fleura Bardhi, *The Sharing Economy Isn’t About Sharing at All*, HARVARD BUS. REV. ONLINE, (Jan. 28, 2015), <https://hbr.org/2015/01/the-sharing-economy-isnt-about-sharing-at-all>.

eliminating the so-called “lemon problem” that can be pervasive when buyers and sellers have asymmetric information about quality.<sup>11</sup> The efficiencies of having all transactions occur on one platform have allowed for extraordinarily fast expansion at some firms. Among the notable examples are carsharing companies Getaround and Turo and ridesourcing providers Lyft and Uber, all of which have sophisticated systems of using independent contracting for drivers.<sup>12</sup> Firms using this model avoid the cost of complexity in having to own and maintain vehicles, which dramatically reduces the capital outlays needed to expand.

*Business-to-Consumer Models:* This model generally involves providing both a communication platform and directly providing vehicles and other equipment needed for transportation, which in many cases is a vehicle that is temporarily turned over to a member. Firms in this category generally provide access to company-owned vehicles. Notable examples are the carsharing companies car2go and ZipCar, bikesharing programs, scooter rental firms like Scoot, and Microtransit providers such as Bridj and Chariot.

The analysis begins with consideration of carsharing, followed by an overview of transportation network companies, “microtransit” operations, and crowd-sourced intercity bus lines.

## A. Carsharing

Carsharing is a system of car rentals in which people can rent vehicles for short periods, often by the hour or mile. Firms in this sector generally operate on a membership-based model, which typically entails paying an annual fee that provides automatic insurance coverage to motorists. Several aspects of carsharing make it different from conventional car renting: cars are available only to members; members are required to return a clean vehicle by the agreed-upon time, lest they have their membership revoked; carsharers do not enter a separate contract every time with each use, but instead are billed by usage volume; and carsharers are generally required to fill up when the gasoline tank runs low—a burden generally eased by making a credit card available inside the car.

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11. See Xiang Hui et al., *Reputation & Regulations: Evidence from eBay*, 62 MGMT. SCI., no. 12, December 2016, <http://pubsonline.informs.org/doi/pdf/10.1287/mnsc.2015.2323>; see generally George A. Akerlof, *The Market for “Lemons”: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970).

12. See Benjamin G. Edelman & Damien Geradin, *Efficiencies and Regulatory Shortcuts: How Should We Regulate Companies Like Airbnb and Uber*, 19 STAN. TECH. L. REV. 293 (2016).

## 1. Evolution and Expansion.

Carsharing has enjoyed remarkable expansion since it first attracted significant policymaker attention in the late 1990s. Although informal forms of carsharing have been around for at least a half-century, Car Sharing Portland is widely regarded as the country's first large-scale program, establishing a strong presence in Oregon's largest city starting in 1998.<sup>13</sup> Drawing upon the lessons of carsharing in Canada and Europe, this pioneering nonprofit, like most early entrants, emphasized a "neighborhood residential model" with pods largely concentrated in densely-populated housing areas as well as having cars available in a city's downtown district.<sup>14</sup> As this operator gained a loyal following in the Portland market, many others came onto the scene in other U.S. cities, often with nonprofit charters.<sup>15</sup> With local governments actively working to promote carsharing, many specialty locations emerged, including pods at government facilities, airports, and universities, giving this sector even greater visibility.<sup>16</sup> By 2008, carsharing had a foothold in dozens of smaller cities and suburbs across the country.<sup>17</sup>

During their formative years, carsharing organizations conducted extensive research to underscore their unique value to the community. Many sought to meet the formal definitions for "carsharing organizations," which required them to document their commitment to civic-minded goals and neighborhood improvements—requirements that only some were able to meet.<sup>18</sup> Those meeting this definition were often rewarded with a heightened ability to negotiate with local governments for much-needed resources, such as vacant property and on-street spots for vehicle parking, as well as technical assistance. Some organizations received grants from philanthropic organizations to fund expansion into low-income neighborhoods and other poorly-served areas.

Gradually, however, this sector acquired a more "big business" character dominated by a few large national or global players.<sup>19</sup> The supply of cars became increasingly dominated by private sector providers, including Zipcar, which grew into the country's largest for-profit provider

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13. Richard Katzev, *Carsharing: A New Approach to Urban Transportation Problems*, 3 ANALYSES OF SOC. ISSUES AND PUB. POL'Y 65, 68 (2003).

14. Alice Biesczat & Joseph B. Schwieterman, *Are Taxes On Carsharing Too High: A Review of the Public Benefits and Tax Burden of an Expanding Transportation Sector*, CHADDICK INST. FOR METROPOLITAN DEV. DEPAUL U., June 28, 2011, at 4.

15. *Id.*

16. *Id.*

17. *Id.*

18. Adam Millard-Ball et al., *Carsharing: Where and How It Succeeds*, TRANSIT COOPERATIVE RES. PROGRAM, REP. 108, 2005, at 2-3.

19. See Chris Brown, *CarSharing: State of the Market and Growth Potential*, AUTORENTAL NEWS (Mar./Apr. 2015), <http://www.autorentalnews.com/channel/rental-operations/article/story/2015/03/carsharing-state-of-the-market-and-growth-potential.aspx>.

and became known for its aggressive advertising and expansion. The Boston-based company went public in 2011 before being acquired by Avis Budget Group in 2013.<sup>20</sup> As a subsidiary of the larger Avis Budget Group, Zipcar provides vehicles for hourly or daily use in over thirty major metro markets and at over 500 college campuses worldwide.<sup>21</sup> Zipcar now reports having more than 10,000 vehicles in its worldwide fleet.<sup>22</sup> The company's website, symbolic of most car sharing companies, touts the slogan "Own the trip, not the car."<sup>23</sup>

Zipcar has also worked to push the technological frontier, providing members access to its vehicles using a sensor-embedded card that unlocks the vehicle's doors.<sup>24</sup> "Zipsters" are able to select among several insurance options and have access to vehicles ranging from Mini Coopers to cargo vans.<sup>25</sup> Mileage is restricted to 180 miles per day with fuel included.<sup>26</sup> Originally, Zipcar required members to travel round-trip, returning the car to the same pod in which it was picked up, but the company recently began experimenting with one-way trips within a city, allowing cars to be dropped off at any designated company pod.<sup>27</sup> Hourly access rates average around nine dollars, location dependent.<sup>28</sup>

The second largest U.S. operator, Enterprise CarShare, has vehicles available in twenty-eight U.S. cities.<sup>29</sup> Enterprise houses many of its cars at its vast network of neighborhood car rental locations but keeps the process of reserving a carsharing vehicle distinct from regular car rentals.<sup>30</sup> While Car2go allows cars to be reserved on a per-minute basis,<sup>31</sup> Enterprise only

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20. Shawn Langhois, *Zipcar Zooms 56% Higher in IPO*, MARKETWATCH (Apr. 14, 2011), <http://www.marketwatch.com/story/zipcar-zooms-60-higher-in-ipo-2011-04-14>; *Avis Budget Group Completes Acquisition of Zipcar*, AVIS BUDGET GROUP (Mar. 14, 2013), <http://ir.avisbudgetgroup.com/releasedetail.cfm?ReleaseID=748594>.

21. *Zipcar Overview*, ZIPCAR, <http://www.zipcar.com/press/overview> (last visited Mar. 29, 2017).

22. *Welcome to Zipcar*, ZIPCAR, [www.zipcar.com/communitycar](http://www.zipcar.com/communitycar) (last visited Mar. 29, 2017).

23. ZIPCAR, [www.zipcar.com](http://www.zipcar.com) (last visited Mar. 29, 2017).

24. *How does Zipcar Work?*, ZIPCAR, <http://www.zipcar.com/how> (last visited Apr. 16, 2017).

25. *Id.*

26. *What's Included*, ZIPCAR, <http://www.zipcar.com/how/whatsincluded/cofc> (last visited Mar. 29, 2017).

27. Billy Steel, *Zipcar Tests Pay-Per Miles Pricing for Short Trips*, ENGADGET (June 28, 2016), <http://www.engadget.com/2016/06/28/zipcar-tests-pay-per-mile>.

28. Joseph P. Schwieterman & Alice Bieszczyk, *A Review of the Changing Prices and Taxation Levels for Neighborhood Carsharing in the United States: 2011 – 2016* (Nov. 2016) (unpublished manuscript) (on file with author).

29. ENTERPRISE CARSHARE, <https://www.enterprise-carshare.com/us/en/home.html> (last visited Mar. 29, 2017).

30. *Our Story*, ENTERPRISE CARSHARE, <https://www.enterprise-carshare.com/us/en/our-story.html> (last visited Mar. 29, 2017).

31. *How Much does car2go Cost?*, CAR2GO, <https://www.car2go.com/US/en/portland/how/> (last visited Apr. 16, 2017).

allows cars to be reserved on a per-hour basis;<sup>32</sup> and, unlike Zipcar, which provides worldwide access,<sup>33</sup> Enterprise generally provides members access to vehicles in one city.<sup>34</sup>

Ranking third in size in this country—but regarded as the largest carsharing company in the world due to its international operations—is car2go, which has expanded beyond its home city of Austin, Texas, to six other U.S. cities.<sup>35</sup> This company emphasizes short one-way trips, with many of its consumers using its cars for trips spanning just a few minutes, hopping in for a quick drive and leaving the car at an on-street parking spot near their destination.<sup>36</sup> In some cities, users are allowed to leave cars at any publicly available parking spot, including spaces that are metered.<sup>37</sup>

The recent expansion of car2go, a subsidiary of Daimler AG, has drawn attention to a major move by automotive companies into carsharing.<sup>38</sup> Auto companies see having a stake in this niche as an incremental step toward preparing themselves for changing business practices coming—the eventual widespread deployment of autonomous vehicles, which some analysts maintain is only a decade away.<sup>39</sup> Audi, BMW, Ford, and General Motors, following Daimler’s lead, invested heavily in U.S. carsharing brands.<sup>40</sup> Some (including BMW’s ReachNow) are experimenting with such sophisticated techniques as pay-per-minute pricing that differentiate between time spent driving versus parked.<sup>41</sup>

Keeping a lower profile in this high-stakes game are many smaller providers that are largely confined to individual cities. These include: Buffalo CarShare, City CarShare (San Francisco, California), eGo CarShare (Denver, Colorado), Hourcar (Chicago, Illinois), and CarHopper (multiple cities).<sup>38</sup> Several are working to expand the availability of one-way carsharing, which, as previously noted, is administratively complex but gives users more flexibility and is seen as a “must” to meet the rising expectations of consumers.<sup>39</sup> At some companies, such as Indianapolis’s

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32. *FAQ*, ENTERPRISE CARSHARE, <https://www.enterprise-carshare.com/us/en/faq.html> (last visited Apr. 16, 2017).

33. *How does Zipcar Work?*, ZIPCAR, <https://www.zipcar.com/how> (last visited Apr. 16, 2007).

34. *FAQ*, ENTERPRISE CARSHARE, <https://www.enterprise-carshare.com/us/en/faq.html> (last visited Apr. 16, 2017).

35. *Your New Ride[s]*, CAR2GO, <https://www.car2go.com/US/en/#152743> (last visited Mar. 29, 2017).

36. *Id.*

37. *Id.*

38. *car2go*, DAIMLER, <https://www.daimler.com/products/services/mobility-services/car2go/> (last visited Mar. 29, 2017).

39. Jared Lindzon, *Why Auto Makers Encourage Car Sharing Despite Trend Away from Ownership*, THE GLOBE & MAIL (Feb. 25, 2015).

40. Schwieterman & Bieszczyk, *supra* note 28, at 3.

41. *Id.*

38. *Id.*

39. *Id.* at 4.



BlueIndy, electric vehicles circulate freely, allowing members to pick up cars at on-street parking spots with charging stations and drop them off at any electricity-equipped spot they choose.<sup>42</sup>

The past several years have seen particularly rapid growth in *peer-to-peer carsharing*, which allows users to rent cars owned by individuals living nearby. Among the largest entities in this category is Getaround, which now operates in the San Francisco Bay Area; Portland, Oregon; Chicago; and Washington, D.C.<sup>43</sup> This firm emphasizes, in a manner similar to Zipcar, that it reduces the need to own a personal vehicle.<sup>44</sup> The company's research indicates that, "Sharing your car on Getaround takes ten cars off the road."<sup>45</sup>

Getaround reduces the legal issues associated with allowing members to rent their private cars to another member by offering insurance as part of every transaction, as well as extensive customer service.<sup>46</sup> It also restricts car use to round-trip journeys and limits travel to 200 miles per day.<sup>47</sup> Unlike those using Zipcar and other neighborhood carsharing companies, users are responsible for their own fuel costs.<sup>48</sup> Vehicle owners independently set their own hourly or daily rates for use of their cars, resulting in considerable fluctuation in prices from place to place.<sup>49</sup> In some markets, hourly rates range from a low of six dollars for small cars to sixty dollars for specialty vehicles, while the most common daily rates are often around forty dollars.<sup>50</sup> Some vehicles have designated parking spaces—perhaps in the owner's driveway—but street parking is more common.<sup>51</sup>

## 2. Notable Research

Carsharing has generated much more research than the other three sectors considered in this study. Much of this research focuses on

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42. *Ready to BlueIndy? Follow the guide!*, BLUEINDY, <https://www.blueindy.com/how-does-it-work> (last visited Mar. 29, 2017).

43. GETAROUND, <https://www.getaround.com/> (last visited Mar. 29, 2017).

44. *Why Getaround*, GETAROUND, <https://www.getaround.com/tour> (last visited Mar. 29, 2017).

45. *Benefits of Sharing your Car*, GETAROUND, <https://www.getaround.com/tour/benefits> (last visited Mar. 29, 2017).

46. *Why Getaround*, GETAROUND, <https://www.getaround.com/tour> (last visited Mar. 29, 2017).

47. *Is There A Mileage Cap?*, GETAROUND, <https://help.getaround.com/hc/en-us/articles/204371464-Is-there-a-mileage-cap-> (last visited Mar. 29, 2017).

48. *Who Pays For Gas?*, GETAROUND, <https://help.getaround.com/hc/en-us/articles/204371454-Who-pays-for-gas-> (last visited Mar. 29, 2017).

49. *Fee and Commission Schedule*, GETAROUND, <https://www.getaround.com/terms/fees> (last visited Mar. 29, 2017).

50. *Id.*

51. *Parking*, GETAROUND, <https://help.getaround.com/hc/en-us/sections/200788784-Parking> (last visited Mar. 29, 2017).

carsharing's environmental, economic, and social benefits.<sup>52</sup> The benefits are particularly significant with respect to reducing social costs linked to private vehicle operation, such as air pollution, congestion, and vehicle accidents.<sup>53</sup>

Urban planners take particular interest in the growing body of evidence indicating that carsharing promotes active lifestyles by encouraging more walking and biking.<sup>54</sup> By reducing the amount of land that is devoted to both on-street and off-street parking, carsharing can also help foster improved open space and public safety.<sup>55</sup> The criticism that carsharing makes automobile travel easier, thus encouraging a car-dependent lifestyle, has been countered by research showing that carsharing tends not to substantially reduce the use of public transit.<sup>56</sup> This phenomenon is often attributed to the tendency for those sharing cars to make decisions differently than those who have large "sunk" investments in a private vehicle.<sup>57</sup> Since they pay for every trip, they use buses and trains more regularly than vehicle owners, who often view the incremental cost of driving as little more than the fuel.<sup>58</sup>

Comparatively less research exists on the cost of carsharing for consumers, although several studies have surveyed consumers about the importance of cost in their decision to purchase a carshare membership.<sup>59</sup> This research suggests that many consumers are quite sensitive to price.<sup>60</sup> After evaluating membership fees of more than two-dozen carsharing organizations, Shaheen, Cohen, and Roberts conclude that keeping prices low is an important factor that can spur growth.<sup>61</sup> Schwieterman and Bieszczyk show that the per-hour cost of carsharing fell by about five percent between 2011 and 2016, but rising taxes have offset about a third of this drop.<sup>62</sup> When adjusted for inflation, these researchers show that prices have

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52. See Elliot Martin & Susan Shaheen, *Impacts of Car2Go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions: An Analysis of Five North American Cities*, TRANSP. RES. CTR. U. CALIFORNIA-BERKELEY, Jul. 2016.

53. See Millard-Ball et al., *supra* note 18.

54. See Todd Litman, *Evaluating Carsharing Benefits*, TRANSP. RES. REC., Sept. 17, 2015, at 31-32.

55. See Donald Shoup, *The High Cost of Free Parking*, 17 J. PLAN. EDUC. & RES. 3 (1997).

56. See Elliot Martin & Susan Shaheen, *Greenhouse Gas Emission Impacts of Carsharing in North America*, 12 IEEE TRANSACTIONS ON INTELLIGENT TRANSP. SYS., no. 4, Dec. 2011.

57. See *id.*

58. *Id.*

59. See Cindy Costain, Carolyn Arddron, & Khandker Nurul Habib, *Synopsis of Users' Behavior of a Carsharing Program: A Case Study in Toronto*, DEP'T CIVIL ENG'G U. TORONTO (Jan. 2012).

60. *Id.*

61. Susan Shaheen, Adam P. Cohen, & J. Darius Roberts, *Carsharing in North America: Market Growth, Current Developments, and Future Potential*, U. CAL. DAVIS INST. TRANSP. STUDIES, 2005, at 14.

62. Schwieterman & Bieszczyk, *supra* note 28, at 6.

dropped by more than ten percent, making carsharing more affordable than in previous years.<sup>63</sup>

The falling price of carsharing, they argue, follows a pattern that is pervasive among “infant industries” that launch services using an experimental business model and gradually benefit from heightened technical sophistication and economies of scale.<sup>64</sup> Indeed, carsharing, with its emphasis on short-hop urban trips and a high rate of vehicle utilization, has proven to be an effective way to experiment with electric vehicles and smaller cars that achieve high fuel efficiency.<sup>65</sup>

### 3. Policy Issues and Outlook.

Of the four mobility groupings considered in this study, carsharing faces the fewest policy hurdles. This is due, in part, to its legal classification as a “rental” rather than a “service.”<sup>66</sup> This allows the sector to sidestep some of the thorny issues associated with the regulation of transportation services. Accordingly, the sector generally does not face challenges about whether it is violating governmental rules about the procedures that need to be followed and permits needed before launching transportation services, which in some locales casts a pall over Lyft, Uber, and microtransit operators.<sup>67</sup>

Peer-to-peer carsharing faces somewhat more vexing legal problems due to still unresolved insurance issues related to the legal liability of driving other peoples’ private cars.<sup>68</sup> This problem is severe enough that it prompted RelayRides to withdraw from the state of New York.<sup>69</sup> Nevertheless, in most states, these issues are gradually being resolved and do not pose an existential threat to the sector.

At the same time, all forms of carsharing face the specter of rising retail taxes.<sup>70</sup> In fact, the taxes these operators face is in many cities higher than nearly every other sector of the economy.<sup>71</sup> Despite the fact that many other sectors of the sharing economy are not taxed at the retail level, this sector faces the almost universal requirement that carsharers pay all taxes

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63. *Id.*

64. *Id.* at 14.

65. Shaheen, Cohen, & Roberts, *supra* note 61, at 3.

66. Millard-Ball et al., *supra* note 18, at 6-10.

67. Joseph P. Schwieterman & Heather Spray, *When Sharing is Taxing: Comparing the Tax Burden on Carsharing Services in Major U.S. Cities*, CHADDICK INST. FOR METROPOLITAN DEV. DEPAUL U. (July 21, 2016) at 3.

68. See *Carsharing: The Legality of An Innovative Industry*, MOISAN LEGAL P.C. BLOG (Feb. 12, 2016), [http://moisanlegal.com/lawyer/2016/02/12/Recent-News/Carsharing-The-Legality-of-an-Innovative-Industry\\_bl23539.htm](http://moisanlegal.com/lawyer/2016/02/12/Recent-News/Carsharing-The-Legality-of-an-Innovative-Industry_bl23539.htm).

69. *Id.*

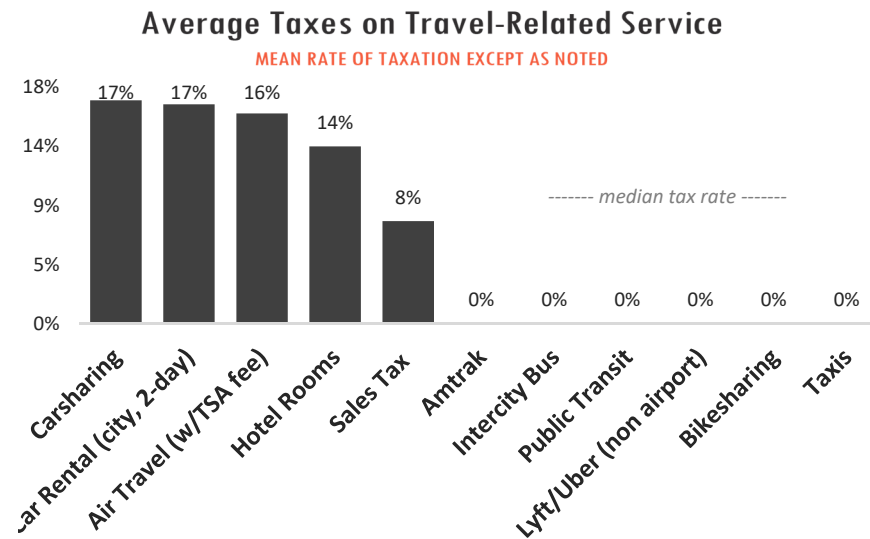
70. Schwieterman & Spray, *supra* note 67, at 3.

71. *Id.*

that are paid by users of conventional car rental services.<sup>72</sup> This often adds more than twenty percent to the cost of many reservations.<sup>73</sup> The authors are aware of only three states—Hawaii, Massachusetts, and Oregon—where concessions have been made for carsharing.<sup>74</sup> The applicability of transaction-based (lump-sum) taxes, such as add-on fees to pay for sports stadiums and convention centers, is particularly significant in many locales.<sup>75</sup> These often add two to four dollars to even the shortest carsharing trip.<sup>76</sup> As a result, in many cities, users face tax rates that are several times the sales tax rate, despite the apparent desire of many local governments to have carsharing grow.

Schwieterman and Spray have computed the average tax on various sectors of the economy.<sup>77</sup> This research shows that carsharing faces retail taxes only slightly higher than two-day neighborhood car rentals and airline travel, but far higher than all of the other sectors considered, including hotels rooms, general retail merchandise (subject to sales taxes), and ridesourcing operators like Lyft and Uber, which generally are not subject to retail taxes (Figure 1).<sup>78</sup>

**FIGURE 1**



72. *Id.*

73. *Id.* at 7.

74. *Id.* at 9, 11; See *Hawaii Carsharing Tax, January 2015*, TAXRATES.COM, <http://www.taxrates.com/blog/2014/06/26/hawaii-car-sharing-tax-january-2015/> (last visited Sept. 2, 2016).

75. Schwieterman & Spray, *supra* note 67, at 3.

76. *Id.* at 2.

77. Schwieterman & Spray, *supra* note 67, at 16.

78. *Id.*

This research also provides evidence that carsharing is being affected by rising competition from largely untaxed “ridesourcing” services, which often provide transportation at lower cost. Carsharing also faces rising competition from traditional car rental services, which, in some locales, now offer hourly rentals.<sup>79</sup>

These implications are amplified by recent research suggesting that the growth of the carsharing sector has stalled.<sup>80</sup> Between 2013 and 2014, the number of available carsharing vehicles (not including peer-to-peer vehicles) increased from 16,811 to 19,115.<sup>81</sup> From the end of that period through early 2015, however, available vehicles dropped to 16,754.<sup>82</sup> Although some of this 11.7% decline may be due to seasonal issues related to the timing of the counts, a concurrent drop in the number of carsharing *members* suggests that neighborhood carsharing, at a minimum, is no longer poised for the rapid expansion that has been long associated with this sector.<sup>83</sup>

A final issue affecting the carsharing sector is the apparent diminished interest from local governments in providing favorable parking spots.<sup>84</sup> This shift in the sector’s status from one dominated by nonprofit providers to one dominated by large for-profit firms owned by international conglomerates has led to a belief that these firms can afford to pay market rates for parking—despite evidence highlighting the mounting competition this sector faces.<sup>85</sup>

## B. Transportation Network Companies

Transportation network companies (“TNCs”) are entities that use “a digital network to connect riders to drivers for the purposes of pre-arranging and providing transportation.”<sup>86</sup> The largest companies in this category, Lyft and Uber, have networks across the world to connect riders

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79. Biesczat & Schwieterman, *supra* note 14, at 6.

80. Shaheen & Cohen, *supra* note 1, at 2.

81. *Id.*

82. *Id.*

83. For a summary of vehicle and membership declines, see Martin & Shaheen, *supra* note 52.

84. Millard-Ball et al., *supra* note 18, at 6-11.

85. Stephanie Steinberg & Bill Vlastic, *Car-Sharing Services Grow, and Expand Options*, THE NEW YORK TIMES (Jan. 25, 2013), <http://www.nytimes.com/2013/01/26/business/car-sharing-services-grow-and-expand-options.html>.

86. An Act Establishing Dep’t of Pub. Utilities Oversight of Transp. Network Companies, H3351, 189th Leg (Mass. 2015), *available at* <http://www.mass.gov/governor/legislationexecorder/legislation/oversight-of-transportation-network-companies.html>.

and drivers.<sup>87</sup> These services in many ways resemble high-tech taxicab operations and have been reviewed critically by many local governments that have regulated cab fares and service levels for decades.<sup>88</sup>

The lexicon used to describe this sector can be somewhat confusing. “Ride hailing” and “real-time ridesharing” are both used to describe the mobile application-based services of TNCs.<sup>89</sup> In this study, the term “ridesourcing” is deemed most appropriate. As Rayle, Dai, Chan, Cervero, and Shaheen observe, this term captures the basic platform involving a pool of drivers and a means of “sourcing” rides.<sup>90</sup> Regardless of what term or phrase is used, however, some ambiguities remain. For example, it is important to acknowledge that some of the same “sourcing” features used by TNCs are also used by taxi companies, which are not regarded as part of this sector.<sup>91</sup>

## 1. Evolution and Expansion.

In the most basic sense, some form of ridesourcing has been around for years. Airport shuttles run by hotels often dynamically change their routes based on their guests’ requests. Many jitney operators have long provided a flexible route service based on requests for pickups.<sup>92</sup> Still, the level of customer awareness and sophistication of ridesharing has grown exponentially in the past six years.<sup>93</sup>

Uber, after launching in many U.S. cities in 2010, quickly grew to encompass five distinct services.<sup>94</sup> Most consumers are familiar with UberX, which is akin to an app-based taxi that connects passengers to local drivers who respond to pickup requests.<sup>95</sup> Passengers are taken straight to their destinations without additional passenger pickups or drop-offs. When many say, “let’s Uber it,” they are often referring to this service.

Gradually, Uber differentiated from its original offering. For groups needing larger vehicles with room for up to six people, UberXL has become widely available.<sup>96</sup> A more luxurious service, UberBLACK, offers black

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87. Susan Shaheen et al., *App-Based, On Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco* (Nov. 2014) (unpublished manuscript), [https://www.its.dot.gov/itspac/dec2014/ridesourcingwhitepaper\\_nov2014.pdf](https://www.its.dot.gov/itspac/dec2014/ridesourcingwhitepaper_nov2014.pdf).

88. *See id.*

89. *Id.* at 2.

90. *Id.*

91. *Id.*

92. Matthew Mitchell & Michael Farren, *If You Like Uber, You Would’ve Loved the Jitney*, L.A. TIMES (July 12, 2014), <http://www.latimes.com/opinion/op-ed/la-oe-mitchell-jitneys-uber-ride-share-20140713-story.html>.

93. Schwieterman & Bieszczyk, *supra* note 28, at 6.

94. *Uber’s Founding*, UBER NEWSROOM (Dec. 22, 2010), <https://newsroom.uber.com/ubers-founding/>.

95. Alexander DeMasi, *Uber: Europe’s Backseat Driver for the Sharing Economy*, 7 CREIGHTON INT’L AND COMPARATIVE L.J. 73, 75 (2016).

96. *Id.*

vehicles that are relatively new and feature black leather interiors.<sup>97</sup> Slightly less costly is UberSELECT, which offers luxury transportation without assurances that the vehicle will be black.<sup>98</sup> Another top-of-the-line option is UberLUX, which offers the guarantee of being picked up in a BMW 7-Series, Mercedes Benz S-Class, or other high-end luxury vehicle.<sup>99</sup>

Lyft has followed a similar growth trajectory, starting in San Francisco and gradually expanding throughout the United States and abroad.<sup>100</sup> In 2016, the company invested heavily in growing LyftPremier, a luxury version of its “classic” service that is similar to UberBLACK.<sup>101</sup> Lyft has reported that sixty percent of its customers have requested a luxury vehicle at least once.<sup>102</sup>

Among the most significant strategic initiatives by these firms in recent years has been the development of LyftLine and UberPOOL.<sup>103</sup> These services, through an evaluation of a rider’s origin and destination compared to the origins and destinations of nearby customers, allow the same driver to pick up multiple riders in one multipurpose trip.<sup>104</sup> Along many of these routes, which are often broadly described as “ride-splitting,” the services are priced only a few dollars more than public transit service.<sup>105</sup>

After beta-testing UberPOOL in San Francisco, Uber formally launched the service in many cities in August 2014—its first widely available service in which several travel parties shared one vehicle at the same time.<sup>106</sup> Logan Green, Chief Operating Officer of Lyft, was reportedly inspired by a carpooling service in Zimbabwe before developing LyftLine, which also launched in mid-2014 with a similar goal of keeping costs low by building efficiencies into the system and matching riders headed in the same direction.<sup>107</sup> Both Lyft and Uber stand out for bundling attractive features into an easily accessible app-based service that has dramatically

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97. *Id.*

98. *Id.*

99. *Id.*

100. Ryan Lawler, *Lyft Hits the East Coast with a Launch in Boston, its First Big Post-Funding Expansion City*, TECH CRUNCH (May 31, 2013), <https://techcrunch.com/2013/05/31/lyft-boston/>.

101. Jordan Golson, *Premier is Lyft’s Answer to Uber Black*, THE VERGE (July 7, 2016), [www.theverge.com/2016/7/7/12119030/lyft-premier-luxury-car-uber-black](http://www.theverge.com/2016/7/7/12119030/lyft-premier-luxury-car-uber-black).

102. *Id.*

103. *Meet Lyft Line*, LYFT, <https://www.lyft.com/line> (last visited Mar. 31, 2017); *uberPOOL*, UBER, <https://www.uber.com/ride/uberpool/> (last visited Mar. 31, 2017).

104. *Id.*

105. *Id.*

106. *Announcing UberPool*, UBER, <https://newsroom.uber.com/announcing-uberpool/> (last visited March 31, 2017); Karyne Levy, *Uber Has A New Way To Make Your Ride Even Cheaper*, BUSINESS INSIDER (Aug. 5, 2014, 8:37 PM), <http://www.businessinsider.com/uberpool-cheaper-rides-2014-8>.

107. Ellen Huet, *The Case For Carpooling: Inside Lyft and Uber’s Quest To Squeeze More People In The Backseat*, FORBES (Aug. 18, 2015), [www.forbes.com/sites/ellenhuet/2015/08/18/inside-lyfts-and-ubers-carpooling-quest-uberpool-lyft-line/#499dace111a5](http://www.forbes.com/sites/ellenhuet/2015/08/18/inside-lyfts-and-ubers-carpooling-quest-uberpool-lyft-line/#499dace111a5).

expanded carpooling's availability and geographic reach. Initially, both companies deeply subsidized these services, offering discounts to encourage riders to try them out.<sup>108</sup>

Customers can access these new ride-splitting services by opening the app on a smartphone and inputting his or her location and destination. The app then displays two prices—a traditional rate and a discounted rate if you choose to pool, which is as much as twenty-five percent less costly than a private ride (the pool option is now the default choice in the Uber app, which has resulted in some riders choosing to share their ride without realizing it).<sup>109</sup> In this case, the rate quoted to the travel party depends on the number of passengers. Once the user chooses the pool option, a driver is assigned to them.<sup>110</sup> The user may be the second or third pickup on a trip or the only rider, though they are not made aware of this at the time the reservation is made.<sup>111</sup>

A related service offered by these companies matches commuters who travel to the same destination but are otherwise uninterested in making shared-ride trips over the course of the day. UberCommuter and Lyft Carpool are both attempting to achieve such “carpool facilitation” through their mobile apps.<sup>112</sup> Presently, however, both services are in an embryonic form. In fact, Lyft recently suspended its carpool operation due to lack of driver interest.<sup>113</sup>

A variety of other firms have been operating in the carpooling facilitation space for longer periods, with Scoop among the most prominent. Scoop's motto is to “replace solo driving with shared commuting,” thus reducing single occupancy vehicle trips and even vehicle ownership.<sup>114</sup> Like most other firms in the sharing economy, this start-up provides only the communication platform and does not own or lease vehicles.<sup>115</sup> It stands out, however, for marketing heavily to employers rather than using the more traditional direct-to-consumer approach.<sup>116</sup> Interested employers cultivate awareness among employees in order to generate enough interest

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108. *Id.*

109. Joseph P. Schwieterman & Matthew Michel, *Have App Will Travel: Comparing the Price & Speed of Fifty CTA & UberPool Trips in Chicago*, CHADDICK INST. FOR METROPOLITAN DEV. DEPAUL U. (June 27, 2016) at 2.

110. *Id.*

111. *Id.*

112. *Id.* at 12 n.1.

113. See Faiz Siddiqui, *Lyft ditches casual carpooling, citing lack of driver interest*, WASH. POST (Aug. 24, 2016), <https://www.washingtonpost.com/news/dr-gridlock/wp/2016/08/24/lyft-ditches-casual-carpooling-citing-a-lack-of-driver-interest/>.

114. *About Scoop*, INSIDE SCOOP, <https://takescoop.wordpress.com/about/> (last visited Mar. 30, 2017).

115. *SCOOP*, <https://www.takescoop.com/> (last visited Mar. 31, 2017).

116. *Scoop for Business*, SCOOP, <https://www.takescoop.com/partners> (last visited Mar. 31, 2017).



to make Scoop carpools possible.<sup>117</sup> Scoop is also notable for guaranteeing your ride home, thereby eliminating the concern about needing to leave the office by a certain time.<sup>118</sup> Many users “blend” modes by taking public transit or a ridesharing service in one direction and Scoop in the other.

Scoop carpools are launched only on routes that have achieved a critical mass of demand. This is generally met when 250 people have expressed interest between geographically similar home and work locations.<sup>119</sup> Once achieved, Scoop then launches the route. Recent expansion has led to services beyond the San Francisco Bay Area and into other metropolitan regions, with new routes reportedly being added daily. Scoop touts surge-free pricing and a ten dollar cap on every ride.<sup>120</sup> On its popular route from Palo Alto to San Francisco, for example, riders pay about \$7 and the driver receives about \$6 per rider.<sup>121</sup> This compares favorably to CalTrain commuter service, which costs \$7.75 one way.<sup>122</sup>

## 2. Notable Research.

Research on the carpooling sector is far less developed than that on carsharing. However, in response to the enormous interest in Lyft and Uber from both the general public and transportation agencies, researchers are rapidly filling the void. Among the most notable studies, *Shared Mobility and the Transformation of Public Transit*, a publication of the Shared-Use Mobility Center in partnership with the American Public Transit Association, draws upon survey data from more than 4,500 users across the United States.<sup>123</sup> This study shows that travelers inclined to take shared-use modes including bikesharing, carsharing, and ridesourcing are also more likely to use public transit than their non-sharing counterparts.<sup>124</sup> These sharers have a tendency to own fewer cars and blend different modes to

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117. Lora Kolodny, *Scoop Gets Bay Area Cities to Pick Up the Tab for Carpooling to Alleviate Traffic Jams*, TECH CRUNCH (Oct. 24, 2016), <https://techcrunch.com/2016/10/04/scoop-gets-bay-area-cities-to-pick-up-the-tab-for-carpooling-to-alleviate-traffic-jams/>.

118. SCOOP, <https://www.takescoop.com> (last visited Mar. 30, 2017).

119. *Get Scoop Even Sooner: “Connect Your Commute” Launches*, SCOOP (Apr. 19, 2016), <https://blog.takescoop.com/get-scoop-even-sooner-connect-your-commute-launches-ecf49597ff67>.

120. *FAQ*, SCOOP, <https://takescoop.zendesk.com/hc/en-us> (last visited Mar. 30, 2017).

121. *Connect your Commute*, SCOOP, <https://route.takescoop.com> (last visited Mar. 30, 2017).

122. *See Fare Chart*, CALTRAIN, <http://www.caltrain.com/Fares/farechart.html> (last visited March 3, 2017).

123. *Shared Mobility and the Transformation of Public Transit*, SHARED USE MOBILITY CENTER, March 2016, at 6, <https://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf>.

124. *Id.*

meet their needs.<sup>125</sup> Furthermore, “supersharers” live in households that average only half as many cars as those public transit users who are less reliant on shared-use modes.<sup>126</sup> Only about one in five shared-use travelers (twenty-one percent) use ridesourcing to commute, while a mere seven percent use it daily, suggesting that most shared use is situational in nature.<sup>127</sup>

The Shared Use Mobility study paints a compelling portrait about the manner in which shared mobility can support enhancements to public transit. Nonetheless, the study offers several warnings about the implications of ridesourcing for transit. Ridesharers tend to be more “automobile-centered” than those reliant on other shared-use modes.<sup>128</sup> More than a third (thirty-four percent) indicated they would use a private automobile (either alone or with a friend) if ridesourcing wasn’t available, while just fourteen percent would use a bus or train.<sup>129</sup> Ridesourcers are less inclined to live “transit-oriented” lifestyles than carsharers.

Another notable work, a 2016 survey by Rayle, Dai, Chan, Cervero, and Shaheen, conducted “intercept surveys” of several thousand ridesourcing and taxicab customers taking trips in the San Francisco market.<sup>130</sup> This analysis illustrates the extent to which ridesourcing is filling demand that was previously unmet. Wait times are found to be markedly shorter for ridesourcing than taxis, and customers are found to generally shy away from taxi use, which suggests that many ridesourcing trips are newly generated.<sup>131</sup> Ridesharers tend to be younger, own fewer vehicles, and be more likely to travel with companions.<sup>132</sup> Among the study’s most basic findings, therefore, is that TNCs and taxis tend to serve different markets.<sup>133</sup> Like the Shared-Use Mobility Center study, it also indicates that ridesourcing tends to support car-free lifestyles and thus is largely complementary to transit use.<sup>134</sup>

The revenue model used by ridesourcing and the taxation issues this sector faces are explored by Oie and Ring.<sup>135</sup> This study evaluates Uber’s emphasis on dynamic price adjustments in response to supply and

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125. *Id.* at 3-4.

126. *Id.* at 7.

127. *Id.* at 15.

128. *Id.* at 16.

129. *Shared Mobility and the Transformation of Public Transit*, SHARED USE MOBILITY CENTER, at 16 (March 2016),

<https://www.apta.com/resources/reportsandpublications/Documents/APTA-Shared-Mobility.pdf>.

130. Lisa Rayle et al., *Just a better taxi? A survey-based comparison of taxis, transit, and ridesourcing services in San Francisco*, 45 *TRANSP. POL’Y* 168 (2016).

131. *Id.* at 173.

132. *Id.* at 176.

133. *Id.* at 177.

134. *Id.* at 176.

135. Shu-Yi Oei & Diane M. Ring, *Can Sharing Be Taxed?*, 93 *WASH. U. L. REV.* 989, 989 (2016).

demand shifts, and notes that “surge pricing” is determined through algorithms based heavily on variations in wait times.<sup>136</sup> Fares are increased, often dramatically, when the number of unfulfilled requests grows, which happens regularly on Friday and Saturday nights, on holidays, and during inclement weather.<sup>137</sup>

Oie and Ring also described the negative public reaction to surge pricing and how this has spurred the expansion of competing services, most notably Gett, which does not change prices in response to demand fluctuations.<sup>138</sup> Oie and Ring note that, due to Uber’s practice of including a twenty percent gratuity in its fares, for several years Uber stressed to customers that additional tips were unnecessary.<sup>139</sup> This, in turn, stoked dissatisfaction among Uber’s drivers. In April 2016, in the wake of class action lawsuits involving several states that took into account Uber’s categorization of its drivers as independent contractors, the company reversed course and began allowing drivers to seek tips.<sup>140</sup>

A research team led by Schwieterman used data collectors to make fifty “paired trips” between randomly selected points within a transit-rich environment in Chicago.<sup>141</sup> A pair of data collectors departed simultaneously, one taking public transit and the other using UberPOOL, to destinations between two and six miles away.<sup>142</sup> The results show that travel times were relatively equal on trips to and from Chicago’s central business district, which means that few commuters are likely to use UberPOOL every day.<sup>143</sup> However, the time saving increases to about ten minutes on trips originating in the “outer downtown” area and reaches nearly twenty minutes for trips linking outlying neighborhoods.<sup>144</sup> The authors conclude that UberPOOL, which generally costs between seven and ten dollars, is an attractive option for many different types of journeys, including commuter trips that do not involve traveling to the central business district.<sup>145</sup> This conclusion is supported by federal recommendations stating that analysts estimate a value on time savings in urban trips at \$24.10/hour.<sup>146</sup>

As part of the analysis for this paper, the authors reviewed the prices of both LyftLine and UberPOOL in the same fifty markets on

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136. *Id.* at 1000.

137. *Id.* at 1000-01.

138. *Id.* at 1001.

139. *Id.* at 1002.

140. *Id.*

141. Joseph P. Schwieterman & Matthew Michel, *Have App Will Travel: Comparing the Price & Speed of Fifty CTA & UberPool Trips in Chicago*, CHADDICK INST. FOR METROPOLITAN DEV. DEPAUL U. (June 27, 2016).

142. *See id.*

143. *Id.* at 5-8.

144. *Id.* at 5, 10.

145. *Id.* at 10.

146. Memorandum from Peter Rogoff, the Acting Under Secretary of Policy for the U.S. Dep’t of Transp., to Secretarial Officers and Modal Administrators (July 9, 2014).

weekdays during mid-day hours. The average UberPOOL price was \$8.52, compared to \$10.92 for LyftLine.<sup>147</sup> The difference in prices was proportionately less on longer distance routes than on short ones.<sup>148</sup> Although this analysis did not consider price difference during surge periods, it shows that both companies offer less expensive services than taxicab rides.

### 3. Policy Issues and Outlook

Many cities are working to find acceptable regulatory frameworks for ridesourcing that are palatable for both the TNCs and consumers. Wide differences in the regulatory environment and legal interpretations of municipal ordinances (most of which were written long before the emergence of Lyft and Uber) remain an impediment to expansion. Some communities have adopted a “ban first, ask questions later” approach, while others have avoided dealing with the sector in a formal way.<sup>149</sup> The resulting regulatory initiatives tend to fall into two main categories:

*Complying with regulations on taxicabs:* The first type of initiative involves a push to require TNCs to comply with rate and service regulations created for taxi operations. Many of these initiatives seek to apply licensing and price controls that Lyft and Uber vociferously argue are incompatible with their technological platforms, making this a high-stakes battle.<sup>150</sup> Among the primary arguments used to justify exempting ridesourcing from such regulation is that they provide rides that are “prearranged rides,” rather than rides obtained through street hailing, which is common for taxicab trips.<sup>151</sup> In Washington State, to qualify as a prearranged trip, a chauffeur must pick up the passenger no sooner than fifteen minutes after the request is made—a rule not presently enforced for TNCs.<sup>152</sup> The requirement that TNC drivers undergo fingerprinting and comply with other regulation in Austin, Texas, prompted both companies to immediately withdraw.<sup>153</sup> Similar issues prompted them to pull out of Albany, Buffalo, and Syracuse, New York.<sup>154</sup> Other cities have struck a compromise by barring TNCs from offering airport drop-off and pickup services in a manner similar to taxis.<sup>155</sup>

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147. Joseph P. Schwieterman, *Notes on the Pricing and Scope of UberPOOL, Lyft and Skedaddle*, CHADDICK INST. FOR METRO. DEV. DEPAUL UNIVERSITY, at 1 (Sept. 1, 2016) (on file with author).

148. *Id.*

149. Eli Lehrer & Andrew Moylan, *Embracing the Peer-Production Economy*, 56 NAT'L AFF., Fall 2014, at 56.

150. Rayle et al., *supra* note 130, at 1.

151. Edelman & Geradin, *supra* note 12.

152. WASH. ADMIN. CODE § 308-83-200 (2014).

153. Arun Sundararajan, *What Uber and Lyft's Austin Exit Says About the Future of Regulation*, FORTUNE (May 13, 2016), <http://fortune.com/2016/05/13/uber-lyft-austin/>.

154. *Uber, Lyft Reignite Plans to Expand into Upstate New York*, ASSOCIATED PRESS (Apr. 6, 2016 4:02p.m.),

*Requiring drivers to have credentials beyond the training they receive from TNCs:* Another regulatory challenge involves rules governing the needed qualifications to drive vehicles for commercial purposes. In some cities, drivers for TNCs are now required to undergo formal training, although such training often remains far less than that for traditional taxi drivers.<sup>156</sup> San Francisco struck a compromise by demanding that TNC drivers obtain a business license.<sup>157</sup> The practice of classifying drivers as private contractors, rather than employees, has also generated litigation.<sup>158</sup>

Finally, some cities, such as New York, are exploring regulations seeking to deal with congestion, including proposals on how TNCs wait for customers in high-traffic areas.<sup>159</sup> New York commissioned a traffic study and is exploring possible caps on the number of ridesourcing vehicles operating in parts of Manhattan and other high-density zones.<sup>160</sup>

### C. Microtransit Service

This third category consists of firms in the shared-mobility sector that offer van and bus services in a much more flexible manner than that provided by scheduled public transport services. Microtransit revolves around communication platforms that dramatically change how service is delivered.<sup>161</sup> Firms often utilize smaller vehicles and have schedules that routinely change in response to fluctuating supply and demand.<sup>162</sup> Microtransit blends some of the convenience of ridesourcing with the some of the predictable aspects of public transit.<sup>163</sup>

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<http://bigstory.ap.org/article/2eaf95c34434c45b69404d6c4f11ac6/uber-lyft-reignite-plans-expand-upstate-ny>.

155. Scott McCartney, *You Can't Take an Uber Home from These Airports*, THE WALL STREET JOURNAL (July 6, 2016 2:26p.m.), <https://www.wsj.com/articles/you-cant-take-an-uber-home-from-these-airports-1467829592>.

156. Shaheen et al., *supra* note 87, at 4.

157. Georgia Wells & Douglas MacMillan, *Uber, Lyft Drivers Need Business Licenses to Operate in San Francisco*, WALL ST. J. (April 15, 2016), <http://www.wsj.com/articles/uber-lyft-drivers-need-business-licenses-to-operate-in-san-francisco-1460762952>.

158. Kia Kokalitcheva, *The Real Deal with Uber's (Not) New Tipping Policy*, FORBES.COM (Apr. 22, 2016), <http://fortune.com/2016/04/22/uber-driver-tips-settlement/>.

159. Emma G. Fitzsimmons, *City's Delayed Traffic Study to Guide Regulation of Uber Vehicles*, N.Y. TIMES (Jan. 14, 2016), [https://www.nytimes.com/2016/01/15/nyregion/citys-delayed-traffic-study-to-guide-regulation-of-uber-vehicles.html?\\_r=0](https://www.nytimes.com/2016/01/15/nyregion/citys-delayed-traffic-study-to-guide-regulation-of-uber-vehicles.html?_r=0).

160. *Id.*

161. Tod Newcombe, *The Sharing Economy: Ride Sharing Offers Transportation-Related Benefits*, GOVTECH (Dec. 10, 2015), <http://www.govtech.com/dc/articles/The-Sharing-Economy-Ride-Sharing-Offers-Transportation-Related-Benefits.html>.

162. *Id.*

163. *Id.*

## 1. Evolution and Expansion.

The growth of microtransit is drawing attention from policymakers who had long assumed that public transit was an inherently money-losing proposition. Almost all transit service in the United States since World War II has been managed by government or quasi-government agencies that rely on subsidies from federal, state, and local sources to offset deficits from insufficient farebox revenue.<sup>164</sup> Believing that competition would “skim the cream” from the most lucrative routes, thereby hurting public transit operators, many governments impose regulations that bar private companies from establishing competing services.<sup>165</sup> Some states, such as Illinois, require would-be operators to hold public hearings and obtain “Certificates of Public Convenience and Necessity” before launching microtransit services (this process can take months, if permission is granted at all).<sup>166</sup>

Rapid advances in technology, however, are allowing entrepreneurs to fill gaps in transit while differentiating themselves enough from public transit operators to make it unclear whether such regulation applies to their services. Microtransit often maintains schedules generated by “crowdsourcing” apps and does not adhere to fixed schedules for extended periods of time.<sup>167</sup> Service is offered only to members, which is often provided for free and generally provided by vans and other small vehicles.<sup>168</sup> Companies like Bridj, Chariot, and Via are leaders in this category.

Chariot touts itself as “reinventing mass transit for commuters, companies, and fun-seekers with fast, reliable, affordable, and comfortable service.”<sup>169</sup> This is done through a combination of flexible routing, high frequencies, and innovative pricing that is proving to be particularly attractive to commuters. Operating only in the San Francisco Bay Area, Chariot places emphasis on routes to neighborhoods that suffer from poor transit service. Most of its twenty-seven routes within the city and neighboring suburbs link residential areas to high-density employment areas.<sup>170</sup> Routes are determined through a crowd-funding app with revenue generated through commitments to buy passes, such as twelve-ride and

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164. Ronald F. Kirby, *Financing Public Transportation*, in PUBLIC TRANSPORTATION 445, 445 (George E. Gray & Lester A. Hoel eds., 1992).

165. *Id.* at 449.

166. Timothy Sandefur, *CON Job: State “Certificate of Necessity” Laws Protect Firms, Not Consumers*, REGULATION, at 42, (Summer 2011), <https://object.cato.org/sites/cato.org/files/serials/files/regulation/2011/8/regv34n2-1.pdf>.

167. Newcombe, *supra* note 161.

168. *Id.*

169. CHARIOT, <https://www.chariot.com/> (last visited March 30, 2017).

170. *See Routes*, CHARIOT, <https://www.chariot.com/routes> (last visited Sept. 3, 2016).

thirty-day unlimited ride passes, once a route is established.<sup>171</sup> Generally, 125 to 200 riders must “buy in” for a route to be established.<sup>172</sup>

Some Chariot routes, such as its popular route to Glassdoor’s office in Mill Valley, California, are employer-sponsored.<sup>173</sup> Only those employed by this prominent human resources firm can use this route.<sup>174</sup> Although data on these services is limited, users may find travel times to be markedly less than those for local public transit buses, but similar to express or skip-stop public transit service. The appeal of such limited-stop schedules encourages users to pay more than they would for a regular public bus.

Bridj employs a similar business model but serves more cities, operating in Boston and Kansas City, Missouri.<sup>175</sup> The firm’s routes nonetheless are confined to relatively small geographic areas within these locales and concentrate on linking specific neighborhoods that it feels need to be “bridged.”<sup>176</sup> Before making a booking, users are provided with a price, time, and approximate pickup location.<sup>177</sup> After booking, they are given a pickup time and a more exact pickup spot at which they should wait.<sup>178</sup> Similar to public buses, groups of users are requested to congregate at a common location to save time, yet—unlike public transit services—all are guaranteed seats and provided an estimated arrival time that is continuously adjusted.<sup>179</sup>

Both companies price their services similarly, with Chariot having a \$5.00 rate for peak-period rides and a \$3.80 rate during off-peak periods, while also offering a variety of monthly passes including a popular “all access” pass (\$119/month).<sup>180</sup> Bridj touts that its prices are close to public transit fares, generally being in the \$1.50-\$7.00 range.<sup>181</sup>

Another company, Via, operates in Chicago, New York, and Washington, D.C.<sup>182</sup> Like Bridj and Chariot, Via promotes itself as a service that “essentially combines the cheap, communal ride of a bus with something close to the door-to-door service of a cab.”<sup>183</sup> Although its

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171. See *Crowdfunding*, CHARIOT, <https://www.chariot.com/crowdfundings> (last visited Mar. 30, 2017).

172. *Id.*

173. *Glassdoor Mill Valley – Private Route*, CHARIOT, <https://www.chariot.com/line/glassdoor/pm> (last visited Mar. 30, 2017).

174. *Id.*

175. BRIDJ, <http://www.bridj.com/> (last visited Mar. 30, 2017).

176. See Ryan Lawler, *Bridj Raises \$4M, Hires Former Chicago & DC Transport Head Gabe Klein to Reinvent Your Commute*, TECH CRUNCH (Sept. 4, 2014), <https://techcrunch.com/2014/09/04/bridj/>.

177. *FAQ*, BRIDJ, <http://www.bridj.com/faq> (last visited Mar. 30, 2017).

178. *Id.*

179. *Id.*

180. See *Pricing*, CHARIOT, <https://www.chariot.com/pricing> (last visited Mar. 29, 2017).

181. See *FAQ*, BRIDJ, <http://www.bridj.com/faq> (last visited Mar. 4, 2017).

182. VIA, <https://ridewithvia.com/> (last visited Mar. 30, 2017).

183. Matthew Flamm, *Yet Another Ride Service. Only This One Is Different*, CRAINS NEW YORK BUS. (May 24, 2015, 12:01 AM),

service is flexible, travelers are directed to specified curbside locations to allow drivers to service several passengers at each stop, thereby lowering travel times.<sup>184</sup> An important difference between Via and its two peers, however, is that it stresses ultra-low fares to compete with other shared mobility providers, such as UberPool.<sup>185</sup> In two cities, Via offers one-way pricing as low as \$2.15, which undercuts even public transit.<sup>186</sup>

A more specialized startup, Scoot, is a point-to-point electric scooter sharing service.<sup>187</sup> With stations throughout San Francisco, it advertises as being “as fast as taxis, as cheap as the bus, and as fun as your bike.”<sup>188</sup> The firm makes the process simple and predictable by having designated parking spots.<sup>189</sup> Although little has been published about this service and its popularity is affected greatly by the weather, it appears to primarily cater to those making trips that are only a few miles long and would take a half-hour or less on public transit. Still, Scoot stands out for its flexibility. Consumers can change destinations at any point, making it similar to the on-the-go nature of bikesharing.<sup>190</sup>

## 2. Notable Research

Little scholarly research exists on microtransit. The Shared-Use Mobility Center describes Bridj and Chariot as “private shuttle services” for customers who are willing to pay slightly higher prices in exchange for added comfort and service.<sup>191</sup> The Center also concludes that, “Dynamic route-generating technology used by many of these services also has tremendous potential for transit and para-transit services.”<sup>192</sup> The Ford Motor Company reported that Bridj had a fleet of 100 vehicles and considerable expansion potential upon acquiring the company in September 2016.<sup>193</sup>

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<http://www.crainsnewyork.com/article/20150524/TRANSPORTATION/150529933/yet-another-ride-service-only-this-one-is-different>.

184. *Id.*

185. Sage Lazzaro, *You Need to Try Via—An Ultra-Cheap Uber Competitor Now Offering \$2 Ride*, OBSERVER (Aug. 1, 2016, 11:37 AM), <http://observer.com/2016/08/you-need-to-try-via-an-ultra-cheap-uber-competitor-now-offering-2-rides/>.

186. *Id.*

187. See *What is Scoot*, SCOOT, <https://scoot.co/what-is-scoot/> (last visited Mar. 4, 2017).

188. *Id.*

189. *FAQ*, SCOOT, <https://scoot.co/faq/#locations-384> (last visited Mar. 29, 2017).

190. See *What is Scoot*, SCOOT, <https://scoot.co/what-is-scoot/> (last visited Mar. 4, 2017).

191. *Shared Use Mobility Reference Guide*, SHARED USE MOBILITY CENTER 1, 11 (2016), [http://sharedusemobilitycenter.org/wp-content/uploads/2015/09/SharedUseMobility\\_ReferenceGuide\\_09.25.2015.pdf](http://sharedusemobilitycenter.org/wp-content/uploads/2015/09/SharedUseMobility_ReferenceGuide_09.25.2015.pdf).

192. *Id.*

193. *Ford Buys Shuttle Service as Part of New Mobility Push*, ASSOCIATED PRESS (Sept. 9, 2016), <http://www.cnsnews.com/news/article/ford-buys-shuttle-service-part-new-mobility-push> (last visited Sept. 14, 2016).



### 3. Policy Issues and Outlook

Microtransit operators face a delicate balancing act in trying to demonstrate that they enhance mobility and environmental goals while avoiding the appearance of being bona fide transit operators. Looming over them is the specter of government action to shut them down by applying regulation that is designed to preserve the monopoly status of public transit operators. In some cities, authorities could require that microtransit operators receive Certificates of Public Convenience and Necessity to remain in operation.

Bus services such as Bridj and Chariot are particularly vulnerable due to their status as companies that operate a transportation service—they own the vehicles and hire the drivers, much like transit companies—rather than simply maintaining communication platforms. The requirement that passengers register on the firms' websites to become members, however, insulates them somewhat from regulatory challenges.<sup>194</sup> Yet, microtransit faces some of the same threats as Lyft and Uber related to the applicability of taxicab regulations, making the future difficult to predict. A smaller firm, Leap, received a cease-and-desist from the California Public Utilities Commission after starting operations before it had all of the necessary licenses from the state.<sup>195</sup>

#### D. Crowdsourced Intercity Bus Operators

This final category involves firms that facilitate *intercity* trips, i.e., those that extend beyond the limits of a metropolitan region. Like microtransit, the participants in this sector seek to establish viable routes through crowdsourcing and compete heavily with private car travel.<sup>196</sup> Rather than operating routes served by public transit, however, they compete with intercity buses, Amtrak, and commercial airlines.<sup>197</sup> Rally Bus<sup>198</sup> and Skeddadle<sup>199</sup> are the most prominent operators in this sector.

#### 1. Evolution and Expansion

For many years, the federal government considered bus service akin to a public utility, controlled how carriers entered and exited interstate

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194. See Kim-Mai Cutler, *The Last Bus Startup Standing: Chariot*, TECH CRUNCH (Nov. 29, 2015), <https://techcrunch.com/2015/11/29/the-last-bus-startup-standing-chariot/>.

195. *Id.*

196. Lauren Fischer & Joseph Schwieterman, *The Decline and Recovery of Intercity Bus Service in the United States: A Comeback for an Environmentally Friendly Transportation Mode*, 13 ENVTL. PRAC., no. 2, 2011, at 13.

197. *Id.*

198. RALLY, <http://rallybus.net> (last visited Mar. 29, 2017).

199. SKEDADDLE, <https://www.letskedaddle.com> (last visited Mar. 29, 2017).

routes, and regulated the prices carriers charged.<sup>200</sup> Additional regulation as *intrastate* routes—those confined to a single state—was enforced by state governments.<sup>201</sup> By the mid-1970s, however, the intercity bus industry was struggling, and governments everywhere recognized the need for reform.<sup>202</sup> The rate of car ownership in the U.S. had risen to more than eighty percent, and airlines were experimenting with steeply discounted fares.<sup>203</sup> Many small-town bus routes were dropped, leaving many communities without service.<sup>204</sup>

The industry's partial deregulation through the Bus Regulatory Reform Act in 1982 afforded the industry new marketing freedoms.<sup>205</sup> The Act relieved the industry of federal controls on pricing and routes and provided a mechanism for bus companies to appeal regulations imposed upon them by state governments on intrastate routes.<sup>206</sup> Still, many *intrastate* regulations remained in place and continue today. This makes it possible to operate from, for example, Atlanta, Georgia, to Jacksonville, Florida, without the need for governmental permission, while still needing to obtain permission and comply with rate and schedule regulations on in-state trips from Atlanta to Augusta.<sup>207</sup>

The industry's long retrenchment culminated in the bankruptcy of Greyhound and cutbacks by many smaller carriers, including various Trailways lines, before the sector experienced a turnaround in the early 2000s.<sup>208</sup> Bus service for relatively short distance routes began to attract a new customer base, often travelers who were less attached to the car than their predecessors.<sup>209</sup> Particularly brisk expansion occurred among "Chinatown operators" linking the Chinatown districts in Manhattan with Boston and Washington, D.C.<sup>210</sup> These operators often operated in a legal "grey area," failing to keep adequate records on vehicle maintenance or employee service hours and most did not publish printed timetables.<sup>211</sup>

The recovery began slowly and entered a new era when several city-to-city express operators—including Megabus, which began in the

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200. William E. Thoms, *Unleashing the Greyhounds - The Bus Regulatory Reform Act of 1982*, 6 CAMPBELL L. REV. 75, 95-96 (1984).

201. *Id.* at 96.

202. Fischer & Schwieterman, *supra* note 197, at 8.

203. *Id.*

204. See U.S. GENERAL ACCOUNTING OFFICE, GAO/RCED-92-126, SURFACE TRANSPORTATION: THE AVAILABILITY OF INTERCITY BUS SERVICE CONTINUES TO DECLINE (June 1992).

205. Act of Sept. 20, 1982, Pub. L. No. 97-261, 96 Stat. 1102 (1982).

206. *See id.*

207. For an example of such regulation, see *What Do I Need?*, G.A. DEP'T OF PUB. SAFETY, <http://www.gamccd.net/LPCWhatDoINeed.aspx> (last visited Sept. 11, 2016).

208. Fischer & Schwieterman, *supra* note 197, at 8.

209. *See id.*

210. Nicholas Klein, *Emergent Curbside Intercity Bus Industry: Chinatown and Beyond*, TRANSP. & RES. REC., vol. 2111, 2009, at 83.

211. Fischer & Schwieterman, *supra* note 197, at 8.

Midwest in 2006<sup>212</sup>—entered the fray. Megabus soon expanded to most heavily-populated regions of the country and relied heavily on “curbside” pickup and drop-off rather than using conventional stations.<sup>213</sup> BoltBus, Vamoose, and other carriers expanded in the Eastern United States.<sup>214</sup> Sensing the timing was right for large-scale investments, major capital flowed into the intercity travel sector.

These developments dramatically improved the public image of intercity bus travel.<sup>215</sup> In the wake of this comeback came the development of technological platforms that allowed bus services to set schedules through crowdsourcing.<sup>216</sup> If enough travelers expressed a willingness to pay, a bus would operate between two points on a particular day.<sup>217</sup> Rally Bus and Skedaddle emerged as market leaders in this category, both allowing the individual who launches the bus trip to travel for free if enough other riders sign up.<sup>218</sup> The fares rise as the number of reservations increases.<sup>219</sup> If the trip fails to attract enough riders, it does not operate and no fares are collected.<sup>220</sup>

## 2. Notable Research.

The wide body of research on intercity bus service contrasts sharply with the paucity of technical analysis that exists on crowdsourced routes.<sup>221</sup> As part of the research for the present study, the authors tracked a number of routes advertised by Skedaddle. The firm’s number of routes (not all of which attracted enough riders to go “live”) was found to vary widely by season. The analysis identified 242 routes on June 15, 2016, but just fifty-six routes on September 16, 2016, which suggests that there may be wide month-by-month variation.<sup>222</sup> Although most routes involve travel to festivals, musical and sporting events, and other cultural activities, some resemble intercity services, with some trips even leaving from locations advertised as near the Port Authority Bus Terminal in New York.<sup>223</sup> At present, however, this sector should be regarded only as an infant industry.

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212. *Id.* at 10.

213. *Id.* at 7, 12.

214. *Id.* at 8; see VAMOOSE, <http://www.vamoosebus.com/> (last visited Mar. 30, 2017).

215. Fischer & Schwieterman, *supra* note 197, at 10.

216. See *FAQ*, RALLY, <http://rallybus.net/FAQ> (last visited Mar. 30, 2017); *About Us*, SKEDADDLE, <https://www.letskedaddle.com/about> (last visited Mar. 30, 2017).

217. *Id.*

218. *Id.*

219. *FAQ*, SKEDADDLE, <https://www.letskedaddle.com/faq> (last visited Mar. 30, 2017).

220. See *FAQ*, RALLY, <http://rallybus.net/FAQ> (last visited Mar. 30, 2017); *FAQ*, SKEDADDLE, <https://www.letskedaddle.com/faq> (last visited Mar. 30, 2017).

221. See *Surface Transportation: The Availability of Intercity Bus Service Continues to Decline*, *supra* note 205.

222. Schwieterman, *supra* note 147, at 2.

223. See *Events*, SKEDADDLE, <https://www.letskedaddle.com/events> (last visited Mar. 30, 2017).

### 3. Policy Issues and Outlook.

Crowdsourced intercity bus operators are more effectively buffered from regulatory threats than TNCs and microtransit service.<sup>224</sup> Their focus on city-to-city service and similarities on what is commonly regarded as “charter bus service” allows them to sidestep most bureaucratic hurdles.<sup>225</sup> Moreover, by “work[ing] with only the highest quality professional bus operators in your area” the company seeks to avoid concerns that it keeps costs low by compromising safety.<sup>226</sup> In the past, there have been notorious regulatory crackdowns that have resulted in the shutdown on many Chinatown bus lines.<sup>227</sup> Similarly, by avoiding routes confined to an urban area, these operators do not face the aforementioned issues regarding competition with public transportation.<sup>228</sup>

As the sector grows, however, it will likely need to confront challenges associated with curbside pickup and drop-off. In Boston, for example, such regulation prevents carriers from operating from the city’s Chinatown district, which has prompted most scheduled intercity bus lines in the city to use the South Station Bus Terminal, which requires a usage fee.<sup>229</sup> In New York, curbside operators operating on advertised schedules must obtain permits to serve a specific location.<sup>230</sup> As the quantity of crowdfunded bus service grows, it may be only a matter of time before authorities push for operators to comply with such regulations or, ultimately, move arrivals and departures to off-street locations. This sector may also encounter resistance from more established bus lines who regard newer firms as “below the radar” operators that skirt regulation. Still, at present, the prospect of such challenges seems speculative. Skedaddle and other firms remain small and largely regarded as high-tech charter lines that remain free of much of the regulation that Greyhound, Megabus, and other lines face.

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224. See Melissa Dobstaff, *Beyond City Limits, Ride Sharing with Skedaddle*, J. HIGH TECH. L. BLOG (Feb. 14, 2017), <https://sites.suffolk.edu/jhtl/2017/02/14/beyond-city-limits-ride-sharing-with-skedaddle/>.

225. *Id.*

226. See *Arrive in Style*, SKEDADDLE, <https://www.letskedaddle.com/> (last visited Mar. 4, 2017).

227. Patrick McGeehan, *Federal Officials Shut Down 26 Bus Operators*, N.Y. TIMES, June 1, 2012, <http://www.nytimes.com/2012/06/01/nyregion/federal-officials-shut-down-26-bus-operators.html>.

228. See Cutler, *supra* note 195.

229. MICHAEL R. BLOOMBERG & AMANDA M. BURDEN, N.Y.C. DEP’T OF CITY PLANNING TRANSP. DIV., *CHINATOWN BUS STUDY*, 22-23 (October 2009), [http://www.nyc.gov/html/mancb3/downloads/cb3docs/chinatown\\_final\\_report.pdf](http://www.nyc.gov/html/mancb3/downloads/cb3docs/chinatown_final_report.pdf).

230. *Intercity Bus Permits*, NEW YORK DEP’T OF TRANSP., <http://www.nyc.gov/html/dot/html/ferrybus/intercity-bus.shtml> (last visited Sept. 2, 2016).

## II. TYPOLOGY AND CONCLUSIONS

The remarkable innovation, expansion, and increasing financial viability of shared-mobility firms in cities suggests that collaborative consumption will continue to reshape the structure of urban transportation in profound ways. Each of the sectors profiled are scalable due to their smoothly functioning communication platforms. The enormous popularity of Lyft and Uber suggests that consumers are quick learners when it comes to experimenting with new mobility options. As these and other app-based mobility services grow more prevalent, policymakers and legal analysts will need to confront issues that were difficult to imagine only a few years ago.

To illustrate the different types of shared mobility available in the marketplace, it is useful to review the differing qualities and strategic orientations of the participating firms discussed in this study (Table 1 below). As Table 1 shows, among seven categories of firms, four have business-to-consumer orientations, while two are best regarded as having a peer-to-peer focus. Five firms—Bridj, Rally Bus, Skedaddle, Scoot, and Via—operate their own vehicles, while others use contractors to provide the transportation service. Only in the case of carsharing is the consumer behind the wheel.

Table 1 also shows the major regulatory challenges that each sector now faces—or may soon face—as well as the mode of transportation that it is most apt to replace. The final column identifies those modes that tend to accent existing transport modes (rather than replace them), by providing a “first/last mile” solution (such as linking a user’s place of residence with a transit stop).

For example, the table shows that car2go, Enterprise, Zipcar, and other carsharing companies follow a business-to-consumer model and are among the few in the shared-mobility space that are vehicle providers. For these companies, taxes and rules governing car rentals loom largely, as do policy challenges. The firms also primarily attract consumers who would otherwise own private vehicles and are not seen as prominent “first/last mile” solutions.

These results show the breadth of policy issues and research questions raised by the growth of the shared-mobility sector. The policy issues facing ridesourcing providers, like Lyft and Uber, as well as microtransit operators, like Bridj and Chariot, appear most problematic, while those offering crowdfunded intercity bus services seem to be the least severe. Among this list, carsharing stands out for being the only sector taxed at a retail level, an issue that appears to be more problematic as competition intensifies.

**TABLE 1: Mobility Providers in the Sharing Economy**  
(Listed in Order Presented in this Report)

Company	Business Model				Regulatory and Policy Issues	Transportation Replacement	Accent Existing Transport (First/Last Mile Solution)
	Sector/Category	Communication Platform Provider	Vehicle Provider	Transportation Service Provider			
car2go Enterprise Car Share Zipcar	Carsharing Business to Consumer	X	X		Generally subject to taxes and other rules government car rentals	Private Vehicle Ownership	
Getaround Turo	Carsharing Peer to Peer	X	X		Liability issues of peer-to-peer car use	Private Vehicle Ownership	
Uber/Lyft	Ridesourcing Peer to Peer	X			Applicability of taxi regulatory; using drivers as private contractors	Taxi Public Transit	X
Scoop	Ridesourcing Peer to Peer	X			Liability issues of peer-to-peer car use	Private Vehicle Trip Public Transit	
Scout	Vehicle Sharing Business to consumer	X	X		Safety issues and traffic ordinances	Private Vehicle Trip Public Transit	X
Bridj Chariot Via	Microtransit Business to Consumer	X	X	X	Applicability of regulation on entry into public transit markets;	Public Transit	
Rally Bus Skedaddle	Crowdsourced Intercity Bus Business to Consumer	X	X	X	Intrastate intercity bus regulation Use of curbside locations	Intercity carriers, including Amtrak and scheduled intercity buses	

Interpreted broadly, the analysis in this paper shows that the shared mobility sector is extraordinarily diverse but broadly divisible into four categories. For all of the excitement and potential surrounding these firms, however, it is important to keep in mind that, aside from Lyft and Uber, almost all others operate at a relatively small scale. Carsharing is only a small percentage of the size of the car rental market.<sup>231</sup> Microtransit appears to barely account for one decimal point in the overall ridership of the country's public transit system.<sup>232</sup> Scoot operates in only one city, while

231. Susan A. Shaheen & Adam P. Cohen, *Carsharing and Personal Vehicle Services: Worldwide Market Developments and Emerging Trends*, 7 INT'L J. OF SUSTAINABLE TRANSP. (2013) at 2.

232. Chariot has reported that it carries about 40,000 passengers per month in the San Francisco Bay Area, whereas the public transit system carries well over a million unlinked daily trips in that region. See Cutler, *supra* note 195.

Skedaddle is much smaller than the dozens of charter bus operators that run in the same geographic regions.

All this nonetheless raises important questions that will affect the policymaking process. Will shared mobility reach such a scale that governments will make special accommodations and provide exemptions from regulation, perhaps in response to a public that has grown dependent upon them? Will the legal distinctions between these sectors become increasingly blurred as more innovation occurs, making policymaking challenges even more complex? Finally, will shared mobility mostly serve as an enhancement to public transit or will these different realms of transportation find themselves on a collision course? The answers will affect the public response to a sector that has pushed urban travel in directions that would have been difficult to imagine just a generation ago.