Article

Southwest Airlines, MCI, and Now Uber: Lessons for Managing Competitive Entry into Taxi Markets

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ABSTRACT

Notwithstanding low capital investment requirements and a market structure that otherwise allows many thousands of competitors in big markets, taxis have long been treated as a regulated industry, with the same legal constraints as once applied to railroads, airlines, telecoms, electric, and other utilities. Now, Uber and other ridesharing services are upsetting that regulatory system, much as the competitive entry of Southwest Airlines or MCI upset the premises of regulation in their markets. This paper discusses the economic reasons that taxi markets were regulated as common carriers, with limited entry, rate regulation, and universal service obligations. And this paper explains how ride-sharing services change the market structure without creating the fear of a persistent new monopoly. Drawing on prior deregulatory practice, the paper then provides a roadmap for managing the transformation of "ride markets": separate safety from economic regulation; ensure competitive neutrality; make universal service subsidies explicit; manage externalities directly;

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and reject claims from incumbents that their lost value somehow requires compensation.

I. Introduction

Those writing from the policy community have variously described opposition to Uber's entry into transportation services as techno-phobia, an unreasonable distrust of markets, or a pure public-choice play by taxi owners trying to protect the value of their medallions and taxi drivers trying to protect their jobs. Thus, Tim Askew writes, "Uber is fighting the Neo-Luddism of the establishment—the establishment being the forces of the inefficient elites in labor, government, and the crony capitalists of big business."[1] Jim Epstein decries "the medallion cartel" and its efforts for a taxpayer bailout of license owners.[2] Mark Perry of the American Enterprise Institute says that "[t]here probably hasn't been a better example of Schumpeterian creative destruction in the last decade or more than the recent ascendance of app-based ridesharing services like

1. Tim Askew, *How Uber is Defeating the Luddites*, Inc. (Aug. 10, 2015), http://www.inc.com/tim-askew/uber-the-gig-economy-versus-the-luddite-status-quo.html.

2. Jim Epstein, *Uber and the Great Taxicab Collapse*, Reason.com (Aug. 27, 2015), http://reason.com/archives/2015/08/27/uber-medallion-murstein-freidman-taxi.

Uber . . . challenging traditional legacy taxi cartels . . .."[3]

Uber of course has enjoyed both significant success and substantial opposition. Based on its venture funding, Uber is currently valued at $69 billion – and it beat Facebook's previous record for achieving a $50 billion value within seven years by reaching it in five years.[4] Tens of thousands of people drive for Uber[5] in more than 300 markets in 60 countries.[6] A group of economists has estimated that Uber generates $18 million in consumer surplus every single day.[7] The company's growth continues, and its appeal in many markets has accelerated.

But opposition remains, sometimes intense opposition backed by violence.[8] In some countries, Uber and ridesharing have been effectively banned.[9] Even within the United States, cities continue to approach Uber's entry cautiously, for example by keeping airport and other valuable routes out of Uber's reach.[10]

But while Uber and similar services may reflect a new technological

3. Mark J. Perry, *Schumpetarian Creative Destruction – the Rise of Uber and the Great Taxicab Collapse*, AEIDEAS (Sep. 2, 2015), http://www.aei.org/publication/schumpeterian-creative-destruction-the-rise-of-uber-and-the-great-taxicab-collapse/.

4. Christopher Mims, *Why Uber Might Stalk an IPO Sooner Rather Than Later*, THE WALL ST. J. (Aug. 7, 2016, 2:11 PM), http://www.wsj.com/articles/why-uber-might-stalk-an-ipo-sooner-rather-than-later-1470593467; Eugene Kim, *Uber Has Grown Faster in its First Five Years Than Facebook Did*, BUS. INSIDER (June 1, 2015, 4:42 PM), http://www.businessinsider.com/uber-vs-facebook-valuation-in-years-one-through-five-2015-6.

5. Per a 2015 estimate, about 20,000 Uber vehicles are registered in New York City alone. Colleen Wright, Car Service Companies Adopt their Own Apps To Fend Off Uber, N.Y. TIMES, Aug. 12, 2015, at A14.

6. Mark Scott, *The Bumps in Uber's Fast Lane*, N.Y. TIMES, July 8, 2015, at B1.

7. Tyler Cowen, *Computing the Social Value of Uber. (It's High)*, BLOOMBERGVIEW (Sept. 8, 2016, 9:00 AM), https://www.bloomberg.com/view/articles/2016-09-08/computing-the-social-value-of-uber-it-s-high; Peter Cohen et al., *Using Big Data to Estimate Consumer Surplus: The Case of Uber* (Aug. 30, 2016, 9:00 AM), https://cbpp.georgetown.edu/sites/cbpp.georgetown.edu/files/ConsumersurplusatUber_PR.PDF.

8. Violence was perhaps most notable in France, where authorities also threatened legal action against drivers and company officials. *See* Scott, *supra* note 6; Alissa J. Rubin & Mark Scott, *Clashes Erupt in France as Taxi Drivers Block Roads to Protest Uber*, N.Y. TIMES, June 26, 2015, at A10.

9. *See, e.g., Uber Faces Ban in Taiwan*, BBC NEWS (Aug. 3, 2016), http://www.bbc.com/news/technology-36966334; Rob Davies, *Uber Suffers Legal Setbacks in France and Germany*, THE GUARDIAN (June 9, 2016, 2:09 PM), https://www.theguardian.com/technology/2016/jun/09/uber-suffers-legal-setbacks-in-france-and-germany; Kevin McSpadden, *Setback for Uber as South Korea Bans Private Taxis*, TIME (May 28, 2015), http://time.com/3901066/uber-ban-south-korea-taxi-uberblack-uberx.

10. *See, e.g.*, Scott McCartney, *You Can't Take an Uber Home from These Airports*, THE WALL ST. J. (July 6, 2016, 2:26 PM), http://www.wsj.com/articles/you-cant-take-an-uber-home-from-these-airports-1467829592 (reporting that 10 of the 40 busiest U.S. airports do not allow Uber); Mike Tierney, *Uber's Final Frontier: Airports*, N.Y. TIMES, May 26, 2015, at B1 ("At . . . airports in cities from Chicago to Las Vegas to Los Angeles, drivers for ride-hailing services are barred from picking up passengers.").

moment, part of a broader trend where the mobile Internet radically changes on-the-ground markets, ridesharing presents familiar problems from a regulatory perspective. Indeed, ridesharing's entry into transportation services is just the latest example of a new technology challenging a market that had historically been subject to common carrier regulation. Although it may seem odd to equate the regulation of railroads and telephone networks, with their high-cost infrastructures, to taxi markets, which have a relatively low capital requirement (a car), taxi markets in fact have long been regulated under the same model. Indeed, even earlier experiments with deregulating taxi services largely resulted in re-regulation, so that in most cities, taxi services were still regulated as common carriers when Uber and other ridesharing services began.[11]

This article makes the case that seeing taxi markets as common carrier markets can help explain and respond to the challenges created by the entry of these new transportation modes. Part I begins by briefly reviewing taxi regulation and shows that it fits within the broad common carrier model. More importantly, Part I evaluates the common carrier regulation of taxi markets against the usual justifications for such regulation. Despite the low-capital characteristics of the taxi markets, common carrier regulation fits both a historic and economic narrative. Historically, numerous similar transportation industries such as bus, water, and air transport were also common carriers. And some features of the taxi market, such as information problems and uncertain trip values, can support the economic narrative of common carrier regulation. Part II surveys the technological change wrought by ridesharing and compares it to nearly identical episodes of competitive challenges to common carrier industries, such as telecom, rail, and airline deregulation. These episodes show similar challenges to those that have prompted opposition to carsharing services: concern over safety standards; concern over cream-skimming of valuable customers, such that universal service will suffer; and concerns over price-discrimination.

Seeing ridesharing's entry as a challenge to a common carrier industry does not, of course, suggest that entry should be denied. Unlike most of the current literature, this paper takes the economic arguments for taxi regulation seriously and shows on their own terms how the technology and incentives behind ridesharing platforms overcome those perceived market failures. Moreover, in each of the above examples of market change (and many others), the new entry occurred and regulation shifted to accommodate the new reality. Indeed, the point of reviewing these examples demonstrates several regulatory principles and tools that could

11. *See generally* Paul Stephen Dempsey, *Taxi Industry Regulation, Deregulation & Reregulation: the Paradox of Market Failure*, 24 TRANSP. L.J. 73 (1996).

be applied to the taxi market. First, these examples show the separation of economics from safety regulation, which is already underway in some cities. Second, these examples show various strategies for managing universal service concerns. Third, these examples show how economic transition issues – the loss of value for incumbents – has usually been dealt with, both in addition to and independently of universal service policy. Finally, these examples show that new regulations must always attend to competitive neutrality.

II. Taxi Regulation as Common Carriage

Although the decades-long trend towards deregulation has resulted in less familiarity with the structures of common carrier regulation,[12] taxi regulation is a paradigmatic example of that model – limited entry, price and quality regulation, and universal service aspirations. Describing taxi regulation in these terms is, as a positive matter, relatively uncontroversial. More difficult is asking whether a market that never exhibited high barriers to entry or the classic market failures associated with natural monopoly appropriately fits within the justifications for such regulation. This Part briefly reviews the features of taxi regulation and then turns to this normative question. As an historical matter, taxi markets have, at least arguably, exhibited some economic characteristics that match the justification for common carrier regulation. This is a different question from whether such regulation should continue (and also different from whether it was, as an empirical matter, ever justified). But establishing the theory of the regulatory scheme will help inform the ultimate question of any appropriate regulation going forward.

A. The Positive Characteristics of Taxi Common Carriage

The system of common carrier regulation once applied throughout much of the economy, from the railroads (regulated by the Interstate Commerce Act of 1887) to the other "interstate components of the shipping, stockyard, telephone, telegraph, trucking, electric, gas, and aviation industries."[13] The statutory regimes that created special-purpose industry regulators grew on top of a common law of common carriage that had applied for centuries to so-called "public callings," which were largely coextensive with the transportation and guild-run industries.[14] Regulation

12. On the deregulatory trend and some of its causes, see generally Joseph D. Kearney & Thomas W. Merrill, *The Great Transformation of Regulated Industries Law*, 98 Colum. L. Rev. 1323 (1998).

13. Kearney & Merrill, *supra* note 12, at 1334.

14. *See generally* James B. Speta, *A Common Carrier Approach to Internet Interconnection*, 54 Fed. Comm. L.J. 225, 251-58 (2002) (reviewing common law history of common carrier regulation); Munn v. Illinois, 94 U.S. 113, 125-26 (1876) (upholding state regulation of rates at grain

had four consistent features: limitations on entry and exit, a legal duty to serve all within a particular territory, obligations to charge only "just and reasonable" prices, and a prohibition on discrimination.[15] The relative importance of these characteristics changed over time: at the common law, the duty to serve was paramount and there could be no discrimination if the prices charged to different customers, though different, were nonetheless all reasonable;[16] under the Interstate Commerce Act and its progeny, the prohibition on discrimination was most important, and led to the elaborate tariff-filing schemes that dominated those industries.[17]

As the dean of transportation law Paul Stephen Dempsey wrote, in an article surveying taxi regulation just about two decades ago, "[t]oday, nearly all large and medium-sized communities regulate their local taxicab companies."[18]

Typically, regulation of taxicabs involves: (1) limited entry (restricting the number of firms, and/or the ratio of taxis to the population), usually under a standard of "public convenience and necessity," (2) just, reasonable, and nondiscriminatory fares, (3) service standards (e.g., vehicular and driver safety standards), as well as a common carrier obligation of nondiscriminatory service, 24-hour radio dispatch capability, and a minimum level of response time, and (4) financial responsibility standards (e.g., insurance).[19]

In the Anglo-American tradition, Dempsey traces taxi regulation to 1634 when "Charles I ordered that London hackneys be licensed so as 'to restrain the multitude and promiscuous use of coaches.'"[20] In the seminal case of *Munn v. Illinois*,[21] the United States Supreme Court characterized common carriers as obviously including "the cartman [and] the hackney-coachman."[22]

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elevators and reviewing common law: "Looking, then, to the common law, from whence came the right which the Constitution protects, we find that when private property is 'affected with a public interest, it ceases to be *juris privati* only.' This was said by Lord Chief Justice Hale more than two hundred years ago, in his treatise *De Portibus Maris*, 1 Harg. Law Tracts, 78, and has been accepted without objection as an essential element in the law of property ever since.").

15. *See* Speta, *supra* note 14, at 251-52; Kearney & Merrill, *supra* note 12, at 1331-34.

16. *See* Speta, *supra* note 14, at 227-28.

17. *See* Kearney & Merrill, *supra* note 12, at 1331-34.

18. *See* Dempsey, *supra* note 11, at 75.

19. *Id.* at 75-76.

20. *Id.* at 76 (quoting U.S. DEP'T OF TRANSP., FINAL REP. NO. DOT-1-84-35, TAXICAB REGULATION IN U.S. CITIES 5 (Oct. 1983)).

21. 94 U.S. 113 (1876).

22. In discussing whether grain elevators could be price-regulated, the Court said: "Under such circumstances it is difficult to see why, if the common carrier, or the miller, or the ferryman, or the innkeeper, or the wharfinger, or the baker, or the cartman, or the hackney-coachman, pursues a public employment and exercises 'a sort of public office,' these plaintiffs in error do not. They stand, to use again the language of their counsel, in the very 'gateway of commerce,' and take toll from all who pass." *Id.* at 131-32.

Hold these requirements up against the Communications Act of 1934, which in its Title II regulates interstate telecommunications service as common carriage, and one sees a clear identity. Thus, section 214 of the Act limits entry: "No carrier shall undertake the construction of a new line or of an extension of any line . . . unless and until there shall first have been obtained from the Commission a certificate that the present or future public convenience and necessity require or will require the construction."[23] Under the Act, charges and practices must be "just and reasonable,"[24] discrimination is forbidden,[25] and service must be provided to all.[26] These provisions – which are still effective today, although the scope and rigor of their application is in debate in the Internet age[27] – were copied directly from the Interstate Commerce Act's regulation of railroads and as such appear throughout the common carrier/public utility statutes.[28]

Lastly, although Dempsey wrote 20 years ago, taxi regulation had these features at the dawn of ridesharing technologies. For example, the Municipal Code of Chicago required a medallion (license) to operate a taxicab,[29] established the rates for taxi trips[30] (and forbade any agreement to charge a greater rate[31]), and set quality standards for vehicles.[32]

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23. 47 U.S.C. § 214(a).

24. 47 U.S.C. § 201(b) ("All charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable").

25. 47 U.S.C. § 202(a) ("It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage.").

26. 47 U.S.C. § 201(a) ("It shall be the duty of every common carrier engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor").

27. *See generally* STUART MINOR BENJAMIN & JAMES B. SPETA, TELECOMM. LAW AND POL'Y 587-674 (4th ed. 2015) (discussing the application of common carrier rules – Title II of the Communications Act of 1934 – to Internet services); Protecting and Promoting the Open Internet, 30 F.C.C. Rcd. 5601 (2015) (adopting rules classifying broadband internet access service as a common carrier service), *aff'd*, USTA v. FCC, 825 F.3d 674 (D.C. Cir. 2016).

28. Speta, *supra* note 14, at 263; Kenneth A. Cox & William J. Byrnes, *The Common-Carrier Provisions—A Product of Evolutionary Development*, in A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934, at 25 (Max D. Paglin ed., 1989); Glen O. Robinson, *The Federal Communications Act: An Essay on Origins and Legislative Purpose*, in A LEGISLATIVE HISTORY OF THE COMMUNICATIONS ACT OF 1934, at 3 (Max D. Paglin ed., 1989).

29. Chi. Mun. Code § 9-112-020.

30. Chi. Mun. Code § 9-112-600(a).

31. Chi. Mun. Code § 9-112-600(b) ("It is unlawful for any person to demand or collect any fare for taxicab service which is more than the rates established by the ordinance, or for any passenger to refuse payment of the fare so registered."). This provision largely replicates the so-called filed rate doctrine that was key to enforcing tariffs under the common carrier statutes. *See* Kearney & Merrill, *supra* note 12, at 1331-32 ("This extraordinarily strict rule, which would

Moreover, the Code required a universal service within the territory: "Licensees and taxicab affiliations shall have an affirmative duty to respond to dispatch requests for taxicab service in underserved areas and to insure compliance with this section by the drivers of vehicles."[33]

B. Taxi Regulation within the Common Carrier Narrative

Although its legal status as a common carrier scheme can hardly be doubted, classifying taxi regulation as such is easier than placing it within the narrative that historically justified such regulation. On the one hand, the character of the service – as a transportation service offered generally to the public – place it as common carriage as a service imbued with the public interest. Similarly, the desire for universal service in taxi service matches well with the use of common carrier tools. On the other hand, the case for a market failure justifying economic regulation is weaker, for taxi markets do not exhibit the high infrastructure costs associated with the most classically regulated markets. Still, common carrier regulation was applied to many markets with similar structures, and, indeed, some case can be made that taxi markets (or at least submarkets) exhibit certain market failures. Indeed, the history of taxi regulation showed experiments with deregulation which, in most cases, yielded results that governments considered unsatisfactory and re-regulation was the result.[34]

i. Service Characteristics

The functional characteristics of taxi services match the traditional legal category of "common carriage." First, taxicab companies could meet the definition of common carriers simply by offering their transportation services to the public generally. As Blackstone noted, the common law rules applied the adjective "common," as in "common inn-keeper" or "common carrier" or even "common farrier," to those who offered their services as a "general undertaking."[35] Even under modern regulated industries statutes, a company becomes a common carrier (as opposed to a private carrier) by offering services on such a basis. For example, the Communications Act unhelpfully defines a common carrier as "any person engaged as a common carrier for hire,"[36] but courts have uniformly

eventually be called the 'filed rate doctrine,' was deemed necessary because non-discrimination was unquestionably the overriding goal of the Interstate Commerce Act").

32. Chi. Mun. Code § 9-112-050 to -070.

33. Chi. Mun. Code § 9-112-320(a). *See also id.* § 9-112-320(c) ("The driver must respond in a timely manner to two-way dispatch requests for service in any area within the city's boundaries.").

34. *See* Dempsey, *supra* note 11, at 75, 85-90 (discussing re-regulation when experiments with deregulation led to congestion and did not, in general, result in lower prices).

35. 3 William Blackstone, Commentaries *164.

36. 47 U.S.C. § 153(11).

exited this circularity by saying that status depends on the company's actual practice.[37] A company that undertakes to serve the public is (usually) a common carrier; a company that offers private service (usually) is not. As to taxicabs, the Supreme Court has said that their status as common carriers depends on how they operate; if taxicabs served the public generally, they were considered common carriers.[38]

Second, in addition to being offered indiscriminately, taxi service is offered at the direction of the customer, who chooses the time and endpoints for service. This characteristic is in part what unites the transportation industries, but it is also true of many utility services. Although the service infrastructure is provided by the carrier, any individual trip or shipment or call or use of electricity is based upon the customer's direction. In the most recent federal statute to address this distinction, the Telecommunications Act of 1996[39] (which amended the 1934 Act in many regards), the common carrier duties apply to those companies providing "telecommunications service," and "telecommunications" is defined as "the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received."[40]

Third, as a transportation industry, taxi service depends upon the use of certain public resources – namely the use of streets. Common carrier requirements have long been attached to services that grew from public fiat or depended upon the use of public assets. The origins of common carrier duties were in part the common law courts' restriction on royal grants – that is, when the king granted a royal license for a service, which frequently conferred a monopoly, that licensee then was required to serve all at reasonable rates.[41] The transportation carriers, utilities, and communications companies to which legislatures applied common carrier duties were also frequently granted public properties (such as the railroad land grants) or the right of eminent domain, or they used public rights of way.[42] These companies often, but not always, also had licensed service areas and therefore had a legal monopoly in the manner of a royal paten-

37. *See, e.g.*, Nat'l Ass'n of Reg. Util. Comm'rs v. FCC, 525 F.2d 630, 640 (D.C. Cir. 1976); Southwestern Bell Tel. Co. v. FCC, 19 F.3d 1475, 1480 (D.C. Cir. 1994); Nat'l Ass'n of Reg. Util. Comm'rs v. FCC, 533 F.2d 601, 608 (D.C. Cir. 1976) ("[T]he primary sine qua non of common carrier status is a quasi-public character, which arises out of the undertaking 'to carry for all people indifferently.'").

38. *See, e.g.*, Terminal Taxicab Co. v. Kutz, 241 U.S. 252, 255-56 (1916).

39. Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996).

40. 47 U.S.C. § 153(50)-(51).

41. *See generally* Speta, *supra* note 14, at 255-56; Charles K. Burdick, *The Origin of the Peculiar Duties of Public Service Companies*, 11 COLUM. L. REV. 514, 515, 528 (1911).

42. Speta, *supra* note 14, at 259-60.

tee.[43] As the Supreme Court in *Munn* said, the common carrier duties were associated with a "publicness" of the use,[44] and sometimes that publicness arose quite directly from the use of government land or powers to facilitate the service.[45]

ii. Market Failure Arguments

Although the "service characteristic" considerations just discussed can place taxi regulation within the common carrier stream as an historical matter or as a matter of analogic legal reasoning, they do not provide a normative argument in contemporary policy terms. One of the most important features of the trend towards deregulation that began in the 1970s was an insistence that regulation be shown necessary to solve a market failure and that policymakers accurately account for the costs and distortions of regulation itself.[46] To be sure, that construct is itself imperfect, for the information it demands may not be available, or legislatures may decide to regulate for reasons independent of market failure. But in unpeeling the economic arguments, we can reveal what parties' motivations might be – is this indeed just a public choice nightmare? – as well as focus on appropriate transition mechanisms.

Taxi regulation has in fact been justified by arguments that the competitive market does not work well. Before reviewing these, a few notes on the structure of taxi markets are needed to place the economics in context. Economists and, to a lesser extent, regulators, have usually divided taxi service into three submarkets: (1) the "hail" market, in which customers on the street engage cruising taxis on a real-time basis; (2) the "stand" market, in which customers and taxis queue at a particular location, usually designed to be a high-demand location such as an airport or a train station; and (3) the dispatch market, in which customers phone for a taxicab and in which a substantial percentage of the bookings are made

43. *See* Speta, *supra* note 14, at 260.

44. *See* Munn v. Illinois, 94 U.S. 113, 125-26 (1876).

45. This is not to say that such "publicness" was independently assessed by the courts in a manner that would limit the legislature's power to impose common carrier duties. That argument would have been possible in the *Munn* era, an argument derived from the due process and takings clause. But the *Munn* Court also held that the determination of whether an industry should be regulated was a quintessential legislative task. *See Munn*, 94 U.S. at 132-33 ("For our purposes we must assume that, if a state of facts could exist that would justify such legislation, it actually did exist when the statute now under consideration was passed. For us the question is one of power, not of expediency. . . . Of the propriety of legislative interference within the scope of the legislative power, the legislature is the exclusive judge."); Brass v. N. Dakota ex rel. Stoeser, 153 U.S. 391, 403-04 (1894).

46. Kearney & Merrill, *supra* note 12, at 1397-1403; Alfred E. Kahn, *Deregulation: Looking Backward and Looking Forward*, 7 YALE J. ON REG., 325, 330 (1990); RICHARD H. K. VIETOR, CONTRIVED COMPETITION: REGULATION AND DEREGULATION IN AMERICA 280 (1994).

in advance.[47] These submarkets interact and therefore are not completely independent. But they do have some differing characteristics and, in many places, the different submarkets have been regulated differently. To some extent, Uber's innovation is a technology that obliterates the separation between the hail and the dispatch markets. (On this, more below.)

It should go without saying that, whatever failures taxi markets exhibit, they are not the market failures of natural monopoly. Natural monopolies usually arise when high infrastructure costs and low marginal costs of service combine to make service by a single company the most efficient market structure,[48] but the infrastructure costs of basic taxi service are only a car. Dispatch service does require some additional fixed costs and therefore exhibits some economies of scale and scope. In addition to the infrastructure necessary to receive calls and to communicate with cabs, the dispatch companies sit at the middle of a two-sided market: they must have enough drivers to quickly and reliably fulfill customer requests (and hence attract customer bookings), and they must have enough customers to attract drivers to fill those requests.[49] But these economies are not so severe that the market must be restricted to a single company.[50] In most places, multiple dispatch companies have competed alongside each other and alongside the hail and stand markets.[51] One study, conducted in Chicago in 1983, estimated that taxicab companies could reach efficient scale at 100,000 annual rides and, therefore, in larger markets "more than one firm can provide service efficiently."[52]

Instead of natural monopoly, taxi regulation has generally been justified by concerns that information and search does not work well in these markets and by concerns for universal service. Today, common carrier or

47. *See generally* Dempsey, *supra* note 11, at 88; Josep Maria Salanova et al., *A Review of the Modeling of Taxi Services*, 20 PROC. SOC. & BEHAV. SCI. 150, 152 (2011); Bruce Schaller, *Entry Controls in Taxi Regulation: Implications of US and Canadian Experience for Taxi Regulation and Deregulation*, 14 TRANSPORT POL'Y 490, 492-93 (2007).

48. *See generally* WILLIAM W. SHARKEY, THE THEORY OF NATURAL MONOPOLY (1982); Thomas Hazlett, *The Curious Evolution of Natural Monopoly Theory*, *in* UNNATURAL MONOPOLIES 1-25 (Robert W. Poole, Jr. ed., 1985). Natural monopolies can arise from economies of scale (as described in the text), economies of scope, or highly variable demand. *See* BENJAMIN & SPETA, *supra* note 27, at 3-5.

49. Dempsey, *supra* note 11, at 98.

50. *Id.* at 84.

51. *Id.* at 88.

52. Anthony M. Pagano & Claire E. McKnight, *Economies of Scale in the Taxicab Industry: Some Empirical Evidence from the United States*, 17 J. TRANSPORT ECON. & POL'Y 299, 309-10 (1983). The specific size of the efficient company will depend on a variety of market characteristics that will vary from market to market – based on such factors as density of demand and street congestion. But the general conclusion that even dispatch markets can support multiple players seems intuitive.

utility regulation has been most strongly associated with railroad, electric, gas, sewer, communications, and other infrastructure-heavy markets, and it may be tempting to simply conclude that common carrier regulation is therefore inappropriate for taxis. But seeing economic regulation as restricted to natural monopoly markets "is an ahistorical view of the matter."[53] Such statutes have applied to markets that never conceivably were natural monopolies, such as innkeepers, busses, water carriers, airplanes, stockyards, and many others.[54]

As to taxi markets, several market failure arguments have been advanced. First, some economists have argued that, in the hail market particularly, consumers face search costs that cause the competitive price to be unstable and allow consumers to be exploited. In an unregulated market, a consumer waiting for a cab faces a choice between taking the first cab that arrives or rejecting that cab to determine whether a subsequent cab will offer a lower price. Rejecting the first cab, however, requires the customer to incur additional costs, namely waiting time. This has two consequences. First, "[a]n individual cab operator, acting independently, cannot gain more passengers if he alone reduces his price below the going market rate. No passenger can be expected to turn down a passing cab in favor of a lower fare cab—or even a few of them."[55] Second, the costs of waiting for an additional cab permits each individual cab to raise its price above the competitive equilibrium: "Every time a passenger turns down an available cab he doubles, on average, his waiting time. If waiting time is relatively long, we would expect that most passengers will take the first available cab. An individual cab, therefore, that raises its price above the going rate is not likely to be turned down by many passengers. This will reinforce the upward pressure on price."[56]

The stand and dispatch markets could, in theory, constrain this tendency in the hail market. As to stands, if there are areas of relatively dense demand, multiple cabs can appear at once and offer different prices to riders. "The existence of taxi ranks [stands] means that a potential traveler now has the choice of waiting . . . or of walking to a rank where vacant cabs congregate in expectation of customers."[57] The cost to the customer of walking to the cab stand is a potential limit on the extent of exploitation in the hail market (assuming the hailing customer has information about the stand and the prices likely to be offered there). Simi-

53. Kearney & Merrill, *supra* note 12, at 1332-33.

54. *Id.* at 1332-34.

55. Chanoch Shreiber, *The Economic Reasons for Price and Entry Regulation of Taxicabs*, 9 J. TRANSPORT ECON. & POL'Y 268, 270 (1975).

56. *Id.* at 271.

57. David J. Williams, *The Economic Reasons for Price and Entry Regulation of Taxicabs: A Comment*, 14 J. TRANSPORT ECON. & POL'Y 105, 106 (1980).

larly, customers can compare the prices of multiple dispatch services and dispatch companies can earn reputations for pricing. As a result, the dispatch market may be more competitive and it may discipline the hail market. Customers may, if they experience or fear exploitation in the hail market, shift their behavior to arranging rides in advance or utilizing large dispatch companies that can meet demand with low waiting times.[58]

Although this constraint is possible, other writers have argued that these submarkets do not work this way. Some stand markets may enforce first-in first-out assignments, which does not allow bidding and consumer choice: "With taxicabs in a queue at the airport and the stand coordinator instructing passengers to take the lead cab, there is no role for price or quality competition. Unrestricted fares in this case could mean severe price gouging and 'rip offs.'"[59]

Others have suggested that cabs at stands will bid price down below average cost, resulting in "destructive competition."[60] "Because the only cost incurred for giving a ride is the opportunity cost of being in service when another customer may come, Bertrand competition will drive the price to a low level."[61] Some cities, such as Los Angeles, imposed taxi regulation as a response to violence that occurred at taxi stands as drivers sought customers in a free for all.[62] The tension between these two effects is particularly notable. Conflicts at taxi stands can be resolved by creating property rights (including queuing systems) for the taxis.[63] But the creation of property rights also creates the potential for exploiting a localized monopoly, such as in the airport example.[64]

58. *See* Williams, *supra* note 57, at 107 ("A taxi operator who works from a depot, aided by phone information and assisted by two-way radio, can vary his price to a level that enables him to co-ordinate his work to minimize dead running, and yet be able to give low waiting times to customers he chooses to supply. Further, it seems probable that any limiting effect on fares in the cruising market from this type of operation will be extended with increases in consumers' values of time and in the number of telephones per head in the population.").

59. Adrian T. Moore & Ted Balaker, *Do Economists Reach a Conclusion on Taxi Deregulation?*, 3 ECON J. WATCH 109, 113 (2006).

60. *See* 1 ALFRED E. KAHN, THE ECONOMICS OF REGULATION 2, 4-5 (1988).

61. Robert D. Cairns & Catherine Liston-Heyes, *Competition and Regulation in the Taxi Industry*, 59 J. PUB. ECON 1, 5 (1996).

62. *Id.* at 5-6 ("This may be the reason for the violence and bickering that broke out in some US cities when fares were deregulated."); Ross D. Eckert, *The Los Angeles Taxi Monopoly: An Economic Inquiry*, 43 S. CAL. L. REV. 407, 409-13 (1970) (describing evolution of taxi regulation in Los Angeles as originating in "troublesome battles" among drivers and companies for fares at taxi stands, battles that "tied up traffic, unnerved other motorists, caused collisions, and endangered pedestrians").

63. Eckert, *supra* note 62, at 411 ("[S]uch behavior was not an inherent feature of the taxicab industry or of the people who drove cabs, but was a logical form of competition *given the absence of property rights in taxi stands.*").

64. The conflict is not intractable, but may be beyond the technology of a particular time. One resolution could be confirming property rights in particular stands but creating sufficient

Other writers have taken the argument concerning search costs a step further, to suggest that incurring search costs is not economically efficient: "[D]rivers will have similar costs for any particular trip and customers have no special preference among different cabs. There would . . . be no social gain from the aggregate search performed by all potential drivers relative to the one search by the driver who ultimately won the trip."[65] These "wasted" search costs can be saved by imposing average rate regulation (which is what we usually see in regulation).[66]

Once average rate-regulation is imposed, however, the regulator is driven to fill out the system with the other trappings of the common carrier system. Average rate regulation, especially if based on distance or a combination of distance and time for the trip, creates another problem: not all trips of the same distance or time are of equal value. This is because some trips will result in deadheading – an "empty" return trip – and thus any trip has two values, the value of the trip itself and the odds that a deadhead will result. Given this variation, cabs, even when subject to average rate regulation, will compete for trips that are less likely to result in empty returns and may simply refuse trips that are highly likely to result in empty returns. In practical terms, this means that cabs will congregate in downtown areas and may refuse to travel to less dense or poorer areas.[67] "It is not surprising therefore that one regulation that has generally accompanied taxi regulation is the requirement to haul all customers."[68] This is the duty to serve of common carrier regulation.

A related argument also justified limited entry rules, another feature of common carrier regulation. If prices are based on average costs and demand is variable, then casual drivers have an incentive to enter at particularly valuable times and locations: "Such hit-and-run entry could occur at peak hours and on the more profitable routes, undercutting the regulated average price. The likely outcome of this situation was the collapse of the efficiency-based regulations requiring all customers be served and that a uniform price (a fixed price per mile) be charged."[69] Thus, average price regulation and a duty to serve must be coupled with limited entry, so that companies in the market can make enough on valuable trips to offset losses on less valuable trips. And this, in fact, mirrors the devel-

nearby stands that customers can easily switch between stands based on price (though this may mitigate as opposed to eliminate any destructive pricing tendency, if that is a concern).

65. Edward C. Gallick & David E. Sisk, *A Reconsideration of Taxi Regulation*, 3 J.L. ECON. & ORG. 117, 118 (1987).

66. *Id.*

67. *See* Gallick & Sisk, *supra* note 65, at 120 ("[W]ith average pricing some trips are profitable and some unprofitable. This provides an incentive for drivers to reject unprofitable trips and to queue for profitable trips.").

68. *Id.*

69. *Id.* at 123.

opment of the medallion system, which licenses the number of taxis that may provide service within a given market.[70]

A further market failure argument that has been used to justify taxi regulation concerns the externalities of the service – congestion and environmental effects.[71] Because capital costs are low, entry for individual drivers is easy. The congestion that results from additional taxis on the road and the environmental effects of additional emissions are externalities to the transaction over any individual trip.[72] As a matter of history, taxi regulation has often been imposed after cities experienced significant congestion from unrestricted entry.[73] Limited entry can address both concerns.

iii. Other Regulatory Justifications

Taxi regulation has also been justified by safety and universal service concerns, although these are related to the economic characteristics argued above. As an economic matter, safety is just one aspect of service quality and is therefore just the flip side of price. If the market does not lend itself to easy price comparison, then consumers may also have difficulty judging safety, and cab companies will have the incentive to shirk on the quality of cabs and drivers.[74] Even apart from a market imperfection, consumers can only fully judge the safety of an individual cab or driver after experiencing the ride.[75] As a result, safety concerns have often justified licensing and limited entry.

Similarly, taxi regulators justify the system of regulation by arguing that average pricing and duties to serve promote universal service by eliminating incentives to engage in cream-skimming. Cabs are disproportionately used by consumers who may not have market alternatives for transportation: "Seniors, housewives, the disabled, and the poor each account for a much higher share of taxi trips than their share of the population."[76] Consistent with the common carrier argument, "dense markets cross-subsidize low-density and impoverished areas; peak traffic cross-subsidizes off-peak service."[77] It may be gilding the lily at this point, but the equivalence to the universal service policies under historic common carrier regulation in natural-monopoly industries is remarkable. Exactly the same theory underlay the implicit cross-subsidies that its regulation of

70. *See* Gallick & Sisk, *supra* note 65, at 123-25.
71. *See* Dempsey, *supra* note 11, at 94.
72. *Id.*
73. *Id.* at 93-95.
74. Gallick & Sisk, *supra* note 65, at 93.
75. *Id.*
76. Moore & Balaker, *supra* note 59, at 109.
77. Dempsey, *supra* note 11, at 96.

the Bell System and other telephone companies promoted: given postalized rates, dense areas and routes cross-subsidized less dense areas and routes, and high income areas cross-subsidized lower income areas.[78]

III. Managing a Common Carrier Transition

The era of deregulation kicked off in the late 1970s with railroad, airlines, bus, truck, telecommunications, and other common carrier industries.[79] In many of these cases, deregulation was prompted by a change in technology that altered the characteristics of the market and made competition more possible than it had been previously.[80] In that regard, these episodes resemble the entry of ridesharing services based upon smartphone platforms. More generally, these deregulatory episodes have taught some lessons that can be used to manage the transition to a more open "ride market," one that accommodates the innovative business models made possible by Uber and other ridesharing platforms.

The premise here is that taxi markets ought to be opened to ridesharing services, if the transition can be managed to address legitimate public policy goals. Thus, this Part begins by describing the technological innovation, its market effects, and some preliminary evidence from markets in which Uber has entered. Next, this Part discusses the issues that ridesharing's entry provokes and the manner in which they might be addressed. In particular, ridesharing services have raised concerns about the safety of both cars and drivers. Additionally, the entry of ridesharing services has brought innovative pricing methods, such as surge pricing. As the current model of taxi regulation has been based in significant part on universal service concerns, any new regulatory system needs to address the need to provide transportation to all persons. The history of deregulating common carrier industries provides a number of tools to replace implicit cross subsidies to provide universal service. Moreover, modern competition economics requires a view broader than just the taxi market: if the issue is transportation, the focus cannot simply be on one form of transportation. Similarly, the introduction of competition into command and control industries has dealt with externalities through targeted fees or licensing fees. Finally, the transition to competition has usually left incumbents crying foul, as they are in the taxi industry, due to the loss of investment. In telecommunications particularly,

78. *See generally* Benjamin & Speta, *supra* note 27, at 545-47; David L. Kaserman & John W. Mayo, *Cross-Subsidies in Telecommunications: Roadblocks on the Road to Intelligent Telephone Pricing*, 11 Yale J. on Reg. 119, 131 (1994); Karen Palmer, *A Test for Cross Subsidies in Local Telephone Rates: Do Business Customers Subsidize Residential Customers?*, 23 RAND J. Econ. 415, 416-17 (1992).

79. *See* Dempsey, *supra* note 11, at 74.

80. *See* Kearney & Merrill, *supra* note 12, at 1362-64.

incumbents brought takings claims as they lost their monopoly status. These unsuccessful claims provide a roadmap for a legal and an economic response to medallion owners' objections to a new system of regulation.

A. Ridesharing, the Technology of Change, and Early Results

Ridesharing platforms such as Uber present a technological change for taxi markets at several levels, and these changes suggest that some of the economic difficulties that justified taxi regulation might now be overcome by market forces. As a functional matter, the smartphone apps allow for the fluid construction of taxi dispatch networks at relatively low cost and a large app-based network can obliterate the distinction between hail and dispatch markets (and render stands irrelevant). This is essentially what Uber has done.

First, the presence of ridesharing apps radically changes the costs of search. A consumer who might otherwise hail a cab can consult the app for a competing price and waiting time. That same consumer can consult multiple apps for multiple prices, checking not only Uber but also Lyft and Sidecar. As a result, the consumer is not subject to the localized monopoly that can arise from waiting time in hail markets.[81] And the theoretic discipline that dispatch might have imposed on hail markets becomes real, because dispatch from ridesharing apps is a very close substitute for hail. In December 2014, average Uber wait times in Manhattan were 2 minutes and 25 seconds, and only 3 minutes 8 seconds in the outer boroughs.[82] In Washington D.C., Atlanta, Chicago, Austin, Los Angeles, San Francisco, and Seattle, average wait times were all below 4 minutes.[83] If consumers can easily substitute ridesharing and hail, then the instability of prices that justify regulation can be checked.

The ridesharing platform can also address the problem of too-low pricing that arguably made average pricing more efficient. Recall that the argument in favor of average price regulation had two additional components: that setting an average price was more efficient given that costs were likely to be relatively equal, and that setting an average price ensured that underbidding did not lead to pressures on universal service.[84] I will discuss universal service below, but the argument that average cost regulation is justified by equivalent costs must be balanced by the probability that the regulatory mechanism is not setting the "correct"

81. *Compare supra* notes 46-67 and accompanying text.

82. *See* Polly Mosendz & Hanna Sender, *Exclusive: Here's How Long It Takes to Get an Uber in U.S. Cities*, Newsweek (Dec. 4, 2014, 12:00 PM), http://www.newsweek.com/exclusive-heres-how-long-it-takes-get-uber-across-us-cities-289133 (based on Uber-reported data).

83. *Id.*

84. *See supra* notes 55-66 and accompanying text.

price. The goal of a rate regulation system, and certainly the one described above, is to set a cost-based price (the price that theoretically would apply if the market were competitive).[85] But regulators may not have sufficient information to find the "right price" – the FCC famously testified in the antitrust litigation that resulted in the Bell System Breakup that it could not acquire sufficient information or expertise to effectively regulate AT&T.[86] Or, regulators may be captured by the regulated industry.[87] A competitive offering revealing that regulated rates are "too high" has frequently prompted deregulation, such as the way in which evidence that Southwest Airlines and Pacific Coast Airlines charged significantly lower rates in part prompted airline deregulation.[88]

In fact, Uber has generally offered rates comparable to or lower than those of traditional taxis. In an October 2014 survey of 21 cities, *Business Insider* calculated that Uber's rates were lower in 19 markets (New York and Philadelphia were slightly more expensive).[89] For example, the calculation showed Uber's prices in LA to be less or equal to those of taxis, even if the platform imposed a 1.7x surge charge (more on surge pricing below).[90] Moreover, on some of the highest value routes – trips between the central business district and the airport – price differences can be even more significant. According to one survey, the average price difference on such a trip in L.A. was $34 ($56 for taxi plus tip; $22 for UberX).[91] In Chicago, Uber was $28 cheaper ($54/26); in Dallas $22

85. *See* KAHN, *supra* note 60, at 26 ("Just as competition is supposed to hold prices down to the cost of production . . . so regulation takes cost as its standard of the 'revenue requirements' of public utility companies, hence the 'just and reasonable' rates that the typical controlling statute enjoins them to maintain."); W. KIP VISCUSI ET AL., ECONOMICS OF REGULATION AND ANTITRUST 430 (4th ed. 2005) ("The underlying idea [of rate regulation], of course, is that the company's revenues must equal its costs, so that economic profit is zero.").

86. *See* United States v. Am. Tel. & Tel. Co., 552 F. Supp. 131, 168 (D.D.C. 1982) ("Two former chiefs of the FCC's Common Carrier Bureau, the agency charged with regulating AT & T, testified that the Commission is not and never has been capable of effective enforcement of the laws governing AT&T's behavior."), *aff'd sub nom.* Maryland v. United States, 460 U.S. 1001 (1983).

87. VISCUSI ET AL. state this as a condition of rate regulation: "*Unless captured by the firm it is regulating*, a regulatory agency will want to set the rate of return at the minimum level that maintains the firm's financial viability and ensures it can raise funds to finance future investment." (emphasis added). VISCUSI ET AL., *supra* note 85, at 431.

88. *See id.* at 613-14 ("Fares in unregulated intrastate markets were considerably below fairs for the CAB-regulated markets."); *see generally* Theodore E. Keeler, *The Revolution in Airline Regulation*, in CASE STUDIES IN REGULATION: REVOLUTION AND REFORM 53-85 (Leonard W. Weiss & Michael W. Klass eds., 1981); ELIZABETH E. BAILEY ET AL., DEREGULATING THE AIRLINES (1985).

89. Sara Silverstein, *These Animated Charts Tell You Everything About Uber Prices in 21 Cities*, BUSINESS INSIDER (Oct. 16, 2014, 12:47 PM), http://www.businessinsider.com/uber-vs-taxi-pricing-by-city-2014-10.

90. *Id.*

91. Andrew Bender, *Uber's Astounding Rise: Overtaking Taxis in Key Markets*, FORBES

($49/27); in Washington DC to Dulles $30 ($76/46).[92]

More importantly, ridesharing platforms have incentives not to engage in the price-undercutting (the "destructive competition") that, in earlier times, was thought to frustrate the operation of stand markets.[93] The ridesharing platform sits between the drivers and the riders, and in order to serve the market a platform must appeal both to drivers and to riders. Uber has demonstrated the importance of recruiting drivers both by paying significant signing fees and by altering certain policies that drivers found unpalatable (such as sending UberX requests to Uber Black and SUV drivers).[94] Drivers can easily switch ridesharing platforms, and drivers as well as customers can multi-home – that is a driver can be signed-in to Uber and other ridesharing platforms at the same time.[95] As a two-sided platform market, Uber has its own incentive to set an efficient price to garner scale on both sides of the market.[96] The platform has an incentive not to underprice on individual trips in the same way that an individual driver might. This is particularly true in a market where multiple platforms operate, and therefore compete for drivers.[97]

The ridesharing platform's character as a two-sided market does raise the possibility of a market tipping towards monopoly, although that risk probably does not justify regulation of ridesharing apps. As to the risk, two-sided markets with externalities benefit from size and that size can result in monopoly scope. For example, in the Microsoft antitrust litigation, the court held that Microsoft was insulated from competition by the indirect network effect created by the software market – applications would only be written for an operating system with a "substantial consumer base" and customers would only join a platform with a critical mass of applications already written.[98] Other familiar examples abound – ranging from formats for video (Beta v. VHS, BluRay v. HDDVD) to Internet search. The problem can be more general: where network ef-

(April 10, 2015, 11:42 AM), http://www.forbes.com/sites/andrewbender/2015/04/10/ubers-astounding-rise-overtaking-taxis-in-key-markets/.

92. *Id.*

93. *See supra* notes 57-61 and accompanying text.

94. *See* Alison Griswold, *Uber Just Caved on a Big Policy Change after Its Drivers Threatened to Strike*, SLATE (Sept. 12, 2014, 1:03 PM), http://www.slate.com/blogs/moneybox/2014/09/12/uber_drivers_strike_they_protested_cheap_uberx_fares_uber_backed_down.html.

95. Sangeet Paul Choudary, *What the Uber-Lyft War Teaches Us About Building the Next Uber for X*, PLATFORMED.INFO, http://platformed.info/uber-lyft-war-teaches-us-building-next-uber-x/ (last visited Nov. 15, 2016).

96. *See generally* Jean-Charles Rochet & Jean Tirole, *Platform Competition in Two-Sided Markets*, 1 J. EUR. ECON. ASS'N 990, 992-94, 1013 (2003) (the general problem for a two-sided platform owner is to "design their price structure so as to get both sides on board").

97. *See* Rochet & Tirole, *supra* note 96, at 1013 (pricing strategies apply to both monopoly and competitive two-sided platforms).

98. United States v. Microsoft Corp., 254 F.3d 34, 54-56 (D.C. Cir. 2001).

fects favor dominant market players, competition can be initially unstable but then it will "tip to monopoly, after which entry is hard, often even too hard given incompatibility."[99] But ridesharing apps are not likely to exhibit this characteristic. To be sure, in some markets, Uber has a significant market share. A recent report says that, for business travelers, "an average 46 percent of all total paid car rides were through Uber."[100] Measuring the entire market is harder, but, although it is somewhat early to think that market has hit equilibrium, Uber has only 8-10% of the ride market in New York City.[101] And some reports have put Lyft (Uber's principal competitor) at 40% in San Francisco, Los Angeles, and Austin, Texas, showing that markets need not be dominated by a single platform.[102] More importantly, a two-sided market is likely to tip to monopoly only in circumstances in which switching costs are high (and customers are therefore "locked in").[103] Neither riders nor drivers face significant lock in costs, and can in fact multi-home with multiple apps. As a result, the market is likely to support multiple, competing rideshare platforms.[104]

In short, the innovation of ridesharing apps potentially overcomes many of the market-failure issues that historically justified strict regulation of taxis, and some preliminary data suggests significant benefits to be had from competitive entry through lower prices and consistently low waiting times.

B. Managing the Transition

Managing the transition to a more open taxi market involves four related steps, steps that have been taken in many common carrier industries as market structure changed and deregulation began. First, the law can separate safety from economic regulation by setting explicit safety

99. Joseph Farrell & Paul Klemperer, *Coordination and Lock-In: Competition with Switching Costs and Network Effects*, in 3 Handbook of Industrial Organization 1970 (Mark Armstrong & Robert K. Porter eds., 2007).

100. Andrew Bender, *Uber's Astounding Rise: Overtaking Taxis in Key Markets*, Forbes (April 10, 2015, 11:42 AM), http://www.forbes.com/sites/andrewbender/2015/04/10/ubers-astounding-rise-overtaking-taxis-in-key-markets/.

101. Lawrence Meyers, *Uber Meets Taxis' Immovable Object: Market Equilibrium*, Observer (Sept. 11, 2015, 8:00 AM), http://observer.com/2015/09/uber-meets-taxis-immovable-object-market-equilibrium/).

102. Brian Solomon, *Lyft: We're Closing in on Uber with a 'Path To Profitability,'* Forbes (May 12, 2016, 10:00 AM), http://www.forbes.com/sites/briansolomon/2016/05/12/lyft-were-closing-in-on-uber-with-path-to-profitability/#74847bb0464e.

103. *See* Farrell & Klemperer, *supra* note 99, at 2005.

104. If drivers multihome, a platform that wishes to establish a reputation for a particular pricing structure may have a more difficult time doing so, if its drivers strategically switch platforms. This is relevant to surge pricing, discussed below. But platforms can monitor driver responsiveness and take actions to limit this strategic behavior.

standards that are independent of rate regulation or market restrictions. But such safety regulation must be implemented in a competitively neutral manner. Second, the law can address residual concerns over monopoly and gateway pricing practices, if any exist, or the need for interconnection among newly competing platforms. Third, the law can address universal service issues, by transitioning from the implicit cross-subsidies that arise from average price regulation (or other regulatory features) to more explicit tax-and-spend mechanisms. In this regard, considering universal service in taxi markets requires a broader view of transportation. Fourth, the law can address externalities by focusing specifically on the effect (such as congestion or pollution) instead of addressing the externality indirectly, by limiting the number of market participants. The past forty years of deregulation have provided many examples where the law took just these steps.

A last transition issue is to consider the economic arguments of the incumbents – the medallion owners who have already lost substantial value in markets in which ridesharing has taken off in earnest and who stand to lose additional value. In several places, medallion owners have sought government compensation or filed suits alleging that a change in regulation to permit ridesharing services constitutes an unconstitutional taking. These claims are also not unique, having arisen when telecom monopolies were eliminated by law. In general, the legal objections seem untenable, and nothing other than politics supports the need for transition support to taxi owners.

i. Separating Safety from Economic Regulation

Taxi regulation sets very specific and high safety standards for the cars used in service and licenses drivers only after they complete background checks, safety training, and (usually) testing on area knowledge.[105] Ridesharing has drawn the early and persistent objection that its cars and drivers are unsafe, and the issue is playing a significant role in the current debate: "Taxi lobbyists have latched onto the driver safety issue, even circulating a binder at L.A. City Hall detailing the criminal records of Southern California Uber drivers, including a convicted second-degree murderer and a registered sex offender."[106]

105. *See generally* Michael E. Beesley, *Regulation of Taxis*, 83 THE ECON. J. 150 (1973). In London, "the knowledge" – the very significant testing of drivers for location and street information – has substituted for explicit limits on the number of drivers, so difficult is the test. *See id.* at 152, 155.

106. Laura J. Nelson & Emily Alpert Reyes, *Uber's Driver Screen Practices Fuel Political Debate on Rider Safety*, L.A. TIMES (Aug. 20, 2015, 5:50 PM), http://www.latimes.com/local/cityhall/la-me-uber-criminal-drivers-20150821-story.html. According to the story, this lobbying caused the City Council to hold up a proposal granting rideshare access to LAX). *Id.*

Earlier periods of deregulation remind us that safety regulation can usually be developed independently from economic regulation. Airline deregulation provides a leading example. Part of the early argument for price regulation of airlines was a tie between destructive competition and safety issues. In lobbying for economic regulation, the Air Transport Association, which represented the airlines, argued that competition had caused "financial starvation" and "could lead to traffic competition of such intensity that the accident ratio might accelerate instead of decline."[107] And, at least in theory, restricting price competition might help safety because "nonprice competition may generate levels of safety exceeding that mandated by law."[108] When the Airline Deregulation Act of 1978[109] eliminated the economic regulation of airlines and dissolved the Civil Aeronautics Board, the Act also invigorated safety regulation under the Federal Aviation Administration. Several studies have established that airline safety has improved despite deregulation.[110] In other deregulated industries, such as railroads,[111] trucking,[112] natural gas,[113] and busses,[114] safety regulation continued even as the government relinquished economic control of the industry.

Safety regulation of ridesharing services ought to be able to stand independently of the body of taxi regulation, and a few jurisdictions have

107. CHARLES J. KELLY, THE SKY'S THE LIMIT: THE HISTORY OF THE AIRLINES 101 (1963) (quoting ATA report); *see also* Michael E. Levine, *Is Regulation Necessary? California Air Transportation and National Regulatory Policy*, 74 YALE L.J. 1416, 1419-23 (1965) (describing the early link between economic and safety concerns).

108. VISCUSI ET AL., *supra* note 85, at 623.

109. Airline Deregulation Act of 1978, Pub. L. 95-504, 92 Stat. 1705 (1978), *codified as amended* by 49 U.S.C. § 1371 et seq.

110. *See generally* Nancy L. Rose, *Fear of Flying?: Economic Analyses of Airline Safety*, 6 J. ECON. PERSP. 75 (1992); Arnold Barnett & Mary K. Higgins, *Airline Safety: The Last Decade*, 35 MGMT. SCI. 1 (1989); Steven A. Morrison & Clifford Winston, *Air Safety, Deregulation, and Public Policy*, THE BROOKINGS REV. 10 (1988).

111. *See* 49 U.S.C. § 103(c) ("In carrying out its duties, the [Federal Railroad] Administration shall consider the assignment and maintenance of safety as the highest priority, recognizing the clear intent, encouragement, and dedication of Congress to the furtherance of the highest degree of safety in railroad transportation.").

112. *See* 49 U.S.C. § 113(b) ("In carrying out its duties, the [Federal Motor Carrier Safety] Administration shall consider the assignment and maintenance of safety as the highest priority, recognizing the clear intent, encouragement, and dedication of Congress to the furtherance of the highest degree of safety in motor carrier transportation.").

113. *See* 49 U.S.C. § 60102(a)(1) ("The purpose of this chapter is to provide adequate protection against risks to life and property posed by pipeline transportation and pipeline facilities by improving the regulatory and enforcement authority of the Secretary of Transportation.").

114. Also covered by the Federal Motor Carrier Safety Administration. *See* 49 U.S.C. § 113(b) ("In carrying out its duties, the Administration shall consider the assignment and maintenance of safety as the highest priority, recognizing the clear intent, encouragement, and dedication of Congress to the furtherance of the highest degree of safety in motor carrier transportation.").

already taken steps to create safety rules specific to ridesharing. (Uber has maintained that it has sufficient market incentives to maintain the safety of its drivers and cars, but government regulation may nevertheless be necessary or even desirable for car sharing services as a way of demonstrating safety to their prospective customers.[115]) For example, the California Public Utility Commission and the Colorado Public Utility Commission are considering rules that would require vehicle inspections and driver background checks.[116] And in Chicago, a rideshare ordinance requires chauffeur licenses for any driver working more than 20 hours per week.[117]

In setting safety regulations, maintaining competitive equality between services is important, for safety regulations are costly and can create barriers to entry or tilt the playing field. In the Telecommunications Act of 1996 for example, a statute which abolished legal monopolies[118] and otherwise sought to introduce competition into all telecommunications markets,[119] one of the consistent themes was the "competitive neutrality" of any regulation that continued. Thus, the statute said that states could continue universal service regulations "on a competitively neutral basis" and could regulate rights of ways and other matters "on a competitively neutral and nondiscriminatory basis."[120] When considering safety regulations for ridesharing services, regulators have not always imposed the same level of regulation as have applied to taxis. Most UberX drivers

115. The argument might be made that reputational effects make all health and safety regulation unnecessary. Consumers can rate drivers; a ridesharing platform publicizes those ratings; and the platform itself has an incentive to maintain a reputation for safe cars and safe drivers. One need not resolve this, for the purpose of the argument here: the point is that any safety regulation that is necessary can be accomplished independently of economic regulation. Nevertheless, there is reason to think that legislatures (and consumers) will still demand safety regulation. And, even on its own term, the information requirements necessary for reputation to supplant the need for safety regulation seem heroic. *See generally* Stephan Marette et al., *Product Safety Provision and Consumers' Information*, 39 AUSTRIAN ECON. PAPERS 426 (2000) (arguing that imperfect information will cause the underprovision of safety).

116. Joe Fitzgerald Rodriguez, *Uber, Lyft Argue New Regulations Will Stifle Business Models*, S.F. EXAMINER (July 1, 2015, 10:01 PM), http://www.sfexaminer.com/uber-lyft-argue-new-regulations-will-stifle-business-models/; Ben Markus, *Uber, Lyft Could Soon Face Tighter Restrictions in Colorado*, COLO. PUBLIC RADIO (Jan. 14, 2015), http://www.cpr.org/news/story/uber-lyft-could-soon-face-tighter-restrictions-colorado.

117. Hal Dardick & Jon Hilkevitch, *Chicago Rideshare Regulations Approved*, CHIC. TRIB. (May 28, 2014, 1:30 PM), http://www.chicagotribune.com/news/local/politics/chi-chicago-ride share-regulations-approved-20140528-story.html.

118. 47 U.S.C. § 253(a) ("No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.").

119. *See generally* Thomas G. Krattenmaker, *The Telecommunications Act of 1996*, 29 CONN. L. REV. 123 (1996); Deonne L. Bruning, *The Telecommunications Act of 1996: The Challenge of Competition*, 30 CREIGHTON L. REV. 1255 (1997).

120. 47 U.S.C. § 253(b)—(c) (2012).

use normal production vehicles, and even inspections of those vehicles will not be equivalent to taxi regulation, which usually set standards that go beyond those of typical production vehicles.[121] Similarly, although Uber conducts background checks of its drivers before it allows them to provide service, Uber does not use fingerprint background checks that go through the FBI's crime database – which is a typical requirement for taxi drivers.[122] The "optimal" level of safety regulation may be higher or lower, but no good reason supports making car and driver regulation different for taxis than for rideshare.[123] Indeed, while taxi companies opposed to ridesharing services have frequently argued for higher safety standards on the new entrants, competitive neutrality could be met by identifying unnecessary safety regulation on traditional taxi companies and seeking to reduce those regulations.

ii. Retain Regulation Where Monopoly or Market Failures Persist

One of the most significant challenges of deregulation has been to identify market segments in which some degree of regulation ought to be retained. In railroad markets, although the Interstate Commerce Commission was abolished and rate regulation largely abolished, the Surface Transportation Board may still set rates where a shipper can prove that it is captive to a particular railroad that has "market dominance" and that railroad is charging elevated prices.[124] In the Telecommunications Act of 1996, incumbent local carriers, which were thought to retain market power, were required to interconnect and to unbundle their networks to

121. Adrienne LaFrance & Rose Eveleth, *Are Taxis Safer than Uber?*, THE ATLANTIC (Mar. 3, 2015), http://www.theatlantic.com/technology/archive/2015/03/are-taxis-safer-than-uber/386207/.

122. Nelson & Reyes, *supra* note 106.

123. Some regulations might be different, but where regulation is different it should be justified by differences in the service so as to maintain competitive neutrality to the degree possible. Taxi regulation usually requires painted cars and medallions affixed to the vehicle. *See, e.g.*, OFF. OF REVENUE ANALYSIS, OFF. OF THE C. FIN. OFFICER, GOV'T OF THE DISTRICT OF COLUMBIA, BRIEFING NOTE: TAXICAB MEDALLIONS—A REVIEW OF EXPERIENCES IN OTHER CITIES (May 31, 2011), http://cfo.dc.gov/sites/default/files/dc/sites/ocfo/publication/attachments/ocfo_taxicab_briefing_note.pdf. That regulation came to be so that police could easily identify legal from illegal taxis. Rideshare vehicles may need a different sort of identification system, or, perhaps, in the Internet age, no identification system beyond a database provided to law enforcement. But it would also seem reasonable to require ridesharing apps to build in a positive identification system, so that passengers would be able to identify the authorized vehicle (and not be subject to random pickups pretending to be rideshare). Uber, for example, provides a license plate number of the dispatched car. *See How to Identify a Driver and Vehicle*, UBER HELP, https://help.uber.com/h/02746faf-1bc6-4d3f-8ba2-ab35f36d7191 (last visited Dec. 15, 2016).

124. *See* 49 U.S.C. § 10704; Robert Bowman, *'Captive' Rail Shippers Plead: Set Us Free*, FORBES (Oct. 15, 2013, 6:29 PM), http://www.forbes.com/sites/robertbowman/2013/10/15/captive-rail-shippers-plead-set-us-free/.

provide entry opportunities for new competitors.[125] The unbundling obligations, however, were written in such a way that they applied only if "necessary" for competition to develop.[126] In several cases, even as the limitations on entry and severe rate regulation waned, the statutes retained the general common carrier duties to serve, at reasonable prices, and of nondiscriminatory rates.[127]

In deregulating the taxi market, the incumbents are unlikely to exercise residual monopoly power or gateway power and therefore the remaining regulation should focus exclusively on safety and not economic matters. As discussed above,[128] taxi regulation was not based on the notion that operators had natural monopoly power. And, although Uber currently dominates the ridesharing market, there is little reason to think its platform will be a monopoly.[129]

Even if the full panoply of rate regulation need not be retained, what about maintaining as general standards the common carrier duties? The duty to serve is an aspect of universal service policy and will be discussed below. But what about reasonable prices or nondiscrimination? The FCC has retained these general standards even as competition has developed in many telecommunications markets. One of the most controversial aspects of Uber's business model is its use of "surge" or "dynamic" pricing, by which fares are multiplied during times where the demand for rides exceeds supply.[130] Uber describes this as the routine functioning of a market: "[d]ynamic pricing may cause fares to temporarily increase [which] . . . encourages more drivers to get on the road."[131] But, "[s]urge pricing is, from the other side of the fence, often called price gouging."[132] Even Uber has responded to criticism that surge pricing is exploitation, deciding in some instances not to apply surge pricing, for example during snowstorms.[133] One preliminary data analysis has shown that surge pric-

125. 47 U.S.C. §§ 251-253 (1996); Krattenmaker, *supra* note 119, at 130-35.

126. 47 U.S.C. § 251(d)(2) (1996) ("[T]he Commission shall consider, at a minimum, whether—(A) access to such network elements as are proprietary in nature is necessary; and (B) the failure to provide access to such network elements would impair the ability of the telecommunications carrier seeking access to provide the services that it seeks to offer"); AT&T Corp. v. Iowa Util's Bd., 525 U.S. 366, 391-92 (1999).

127. *See* 47 U.S.C. § 251 (1996); 47 U.S.C. § 254 (2016).

128. *See supra* notes 48-53 and accompanying text.

129. *See supra* notes 99-104 and accompanying text.

130. *What is Dynamic Pricing?*, UBER HELP, https://help.uber.com/h/34212e8b-d69a-4d8a-a923-095d3075b487 (last visited Oct. 10, 2016).

131. *Id.*

132. Tim Worstall, *Paul Krugman's Excellent Point About Uber's Surge Pricing*, FORBES (Dec. 22, 2013, 10:02 AM), http://www.forbes.com/sites/timworstall/2013/12/22/paul-krugmans-excellent-point-about-ubers-surge-pricing/.

133. David McCormack, *Uber Suspends Controversial Surge Pricing During Snowstorm After Criticism that It has Exploited Previous Crises for Profit*, DAILY MAIL (Jan. 26, 2015, 2:07

ing does bring more drivers into areas experiencing shortages, but it also showed that the drivers were simply drawn from other areas – it was not that new drivers "signed on" to Uber expanding total supply.[134]

For three reasons, I believe that surge pricing does not justify retaining common carrier regulation. First, any ridesharing platform has the need to attract customers, just as it needs to attract drivers, in order to maintain its business.[135] Some businesses that could engage in surge pricing – such a Walmart during a storm or natural disaster – do not do so: they simply ship more supplies to the affected area.[136] In part, concern over long-term reputation limits a company's willingness to engage in short-term price hikes.[137] Pricing structure as well as pricing level should be a dimension over which platforms compete, just as airlines compete on price, timing, service quality, frequent flyer benefits, and other dimensions. Second, surge pricing probably does not strictly violate the common carrier notion of "nondiscriminatory" pricing. That rule forbids discrimination in pricing between "like" services,[138] and time of day, weather conditions, or whatever is contributing to the "surge" can be a sufficient reason to charge different rates. The platform is not charging different prices to different people at the same time. Indeed, utility regulation often tolerated or even encouraged higher rates at peak times, in order to better manage demand and to ensure that utilities did not need to overprovision infrastructure.[139] A leading policy goal of common carrier nondiscrimination rules was to ensure that powerful business customers did not systematically receive better rates than individual customers

PM), http://www.dailymail.co.uk/news/article-2927196/Uber-suspends-controversial-surge-pricing-snowstorm-criticism-exploited-previous-crises-profit.html ("With cities all along the Philadelphia-to-Boston corridor preparing for a potentially historic storm, Uber has announced that it is suspending price surges during the storm in accordance with an agreement made with New York's attorney general last year.").

134. Nicholas Diakopoulos, *How Uber Surge Pricing Really Works*, WASH. POST: WONKBLOG (April 17, 2015), http://www.washingtonpost.com/news/wonkblog/wp/2015/04/17/how-uber-surge-pricing-really-works/.

135. *See supra* notes 94-97 and accompanying text.

136. *See* Worstall, *supra* note 132.

137. *See, e.g.*, Roger D. Blair & Thomas Knight, *Compliance with Corporate Policy: An Economic Approach*, 34 MANAGERIAL & DECISION ECON. 529, 531 (2013).

138. *See, e.g.*, Competitive Telecom. Ass'n v. FCC, 998 F.2d 1058, 1061 (D.C. Cir. 1993) ("An inquiry into whether a carrier is discriminating in violation of § 202(a) involves a three-step inquiry: (1) whether the services are "like"; (2) if they are, whether there is a price difference between them; and (3) if there is, whether that difference is reasonable."); Sea-Land Serv., Inc. v. ICC, 738 F.2d 1311, 1316-17, 1319-20 (D.C. Cir. 1984).

139. *See generally* KAHN, *supra* note 60, at 95 (discussing prevalence of peak pricing in utility markets); James B. Speta, *Supervising Discrimination: Reflections of the Interstate Commerce Act in the Broadband Debate*, 95 Marq. L. Rev. 1195 (2012) (discussing the manner in which regulation would sometimes encourage discriminatory pricing in service of other regulatory goals).

due to differences in bargaining power or differential market power. Indeed, the political movement behind the Interstate Commerce Act was farmers objecting to railroads' long/short-haul discrimination, under which farmers that were captive to a single line were charged much higher effective rates that intercity shippers.[140] Surge pricing, by contrast, applies equally to all customers in the relevant area. Third, surge pricing could be subject to general regulation, without the need for an industry-specific regulator and the risks of capture that such regulation entails. Many states already have so-called price gouging statutes, statutes that prevent significant increases in average prices during declared emergencies or other listed natural disasters.[141]

In short, given that taxi markets can likely support competition and that any market failures will be addressed by the informational efficiency of ridesharing apps, little need for residual or continuing regulatory oversight of industry economics appears.

iii. Universal Service Policy

Transportation is a basic good, and, as such, transportation policy has long been constructed with the aspiration of universal service.[142] Taxis provide an enormous part of transportation: in the United States, "taxis carry at least 40 percent more passengers than all other mass transit combined."[143] And that service is provided disproportionately to certain vulnerable populations – seniors, the disabled, and the poor – in the sense that they rely on taxis disproportionately to other forms of transportation.[144] Some of the justification for average price regulation, a duty to serve, and limited entry were to enable a system of universal service by allowing cross-subsidies from high-value trips to lower value trips.[145]

The deregulation of several common carrier industries, however, demonstrates that any universal service need can be met while also elimi-

140. *See* Kearney & Merrill, *supra* note 12, at 1333. Kearney and Merrill show that those pushing for railroad regulation also objected to discrimination on competitive routes. *Id.* But price discrimination in a competitive market presents a different evil (if it presents an evil at all) of price discrimination by exploiting differential monopoly power.

141. *See* Michael Giberson, *List of State Anti-Price Gouging Laws*, KNOWLEDGE PROBLEM (Nov. 3, 2012), http://knowledgeproblem.com/2012/11/03/list-of-price-gouging-laws/ (counting 34 states plus D.C.); ADAM VANN & KATHLEEN ANN RUANE, CONG. RES. SERV., RS22236, GASOLINE PRICE INCREASES: FEDERAL AND STATE AUTHORITY TO LIMIT "PRICE GOUGING" (Aug. 23, 2011), https://www.hsdl.org/?view&did=719097.

142. *See, e.g.*, Harold Cremer et al., *Universal Service: An Economic Perspective*, 72 ANNALS PUB. & COOPERATIVE ECON. 5, 5-6 (2001) ("The universal service obligation (USO) is a [major] cornerstone of industrial and regulatory policies in the major network industries of most industrialized and developing countries.").

143. Moore & Balaker, *supra* note 59, at 109.

144. *Id.*

145. *See supra* notes 14-16 and accompanying text.

nating the strict regulation of taxi markets and will likely be met more efficiently. First, in deregulating airlines and telecommunications, legislation replaced implicit cross subsidy policy with explicit subsidies. Coincident with the Airline Deregulation Act of 1978 and continuing to today, Congress funds the Essential Air Service to subsidize air service to small, usually rural communities.[146] Declining federal subsidies for passenger rail have been replaced in some areas by state subsidized Amtrak routes.[147] In telecoms, the Bell System Breakup led to explicit transfer payments from long-distance to local carriers in the form of above-cost "access charges,"[148] and in the Telecommunications Act of 1996 "Congress directed the FCC to replace the patchwork of explicit and implicit subsidies with 'specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service.'"[149]

Thus, just as the trend has been towards separating safety and economic regulation, so too the trend has been towards separating universal service subsidies from entry limitations and the other regulation necessary to maintain implicit cross-subsidization.[150] Such explicit subsidies are likely to be more efficient.[151] Of course, they may not be as politically sustainable, for they make the costs appear as taxes or at least as government spending.[152]

Some taxi systems already engage in forms of subsidy that are rea-

146. *See* Timothy C. Matisziw et al., *An Analysis of Essential Air Service Structure and Performance*, 18 J. AIR TRANSP. MGMT. 5, 5 (2012) ("Essential Air Service (EAS) is a federally subsidized program in the US created to better integrate rural and remote communities with the national air transport system. Established to provide short-term support for rural communities and to prevent their abandonment by commercial air carriers after the Airline Deregulation Act (ADA) of 1978, the program continues to maintain a budget line."); James Nolan et al., *Small Market Air Service and Regional Policy*, 39 J. TRANSPORT ECON. & POL'Y 363, 364 (2005) (discussing U.S. Essential Air Service program and similar programs in Europe).

147. John R. Bartle & Can Chen, *Future Issues in State Transportation Finance*, in SUSTAINING THE STATES: THE FISCAL VIABILITY OF AMERICAN STATE GOVERNMENTS 211, 223 (Marilyn Marks Rubin & Katherine G. Willoughby eds., 2014) (noting declining state subsidies).

148. In the Matter of MTS and WATS Mkt. Structure, 93 F.C.C.2d 241, 243-46 (1983) (creating such access charges); In the Matter of Access Reform, 15 F.C.C. Rcd. 12962, 12965-70 (2000) (recounting history).

149. Texas Off. of Pub. Util. Counsel v. FCC, 183 F.3d 393, 406 (5th Cir. 1999) (quoting 47 U.S.C. § 254(b)(5)); *see also* 47 U.S.C. § 254(e) (1996) (universal service support "should be explicit and sufficient to achieve the purposes of this section").

150. *See* Kearney & Merrill, *supra* note 12, at 1346-49.

151. *See* Jerry Hausman & Howard Shelanski, *Economic Welfare and Telecommunications Regulations: The E-Rate Policy for Universal-Service Subsidies*, 16 YALE J. ON REG. 19, 32 (1999) (discussing efficiency criteria); ROBERT W. CRANDALL & LEONARD WAVERMAN, WHO PAYS FOR UNIVERSAL SERVICE?: WHEN TELEPHONE SUBSIDIES BECOME TRANSPARENT 165, 171 (2010).

152. Hausman & Shelanski, *supra* note 151, at 20-25; Kearney & Merrill, *supra* note 12, at 1349 ("political pressures will likely mean that these [new explicit] subsidies will only partially blunt the impact" of deregulation).

sonably explicit on this model, though competitive neutrality will require that they be modified to accommodate new entry. For example, in Chicago, as in other cities, disabled riders can receive subsidized rides through a Taxi Access Program that flows from American with Disabilities Act requirements.[153] As the market opens, such vouchers should be available for use both with traditional taxi services and with new ridesharing services. As the FCC transitioned to customer-focused subsidies for certain telephone services, it developed certifications for "Eligible Telecommunications Carriers" and then provided that universal service program subsidies could be paid to any such ETC.[154] "Universal service support mechanisms and rules should be competitively neutral. In this context, competitive neutrality means that universal service support mechanisms and rules neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another."[155]

Two final notes on universal service. First, some preliminary information suggests that universal service may not be a significant issue in deregulating taxi services. Some observers have alleged that, due to the very high value attached to traditional medallions and therefore to driver lease fees, traditional taxi drivers were already forced to serve only high value routes, to the detriment of service throughout cities.[156] One nationwide survey (albeit a survey sponsored by Uber) found that half of all customers believe that taxi drivers refuse to pick up in minority neighborhoods (and to pick up minorities in downtown areas).[157] And several academics who studied taxis in Chicago found, as to the requirement to serve all areas, that "the formal policy of the ordinance is not and never has been fully enforced."[158] Indeed, some New York City data analyzed

153. *See* PACE, TAXI ACCESS PROGRAM: CUSTOMER GUIDE (Nov. 1, 2015), http://pacebus.com/pdf/paratransit/TAP_User_Guide.pdf.

154. 47 U.S.C. § 214(e) (1997); PHYLLIS BERNT, THE ELIGIBLE TELECOMMUNICATIONS CARRIER: A STRATEGY FOR EXPANDING UNIVERSAL SERVICE (1996).

155. F.C.C., 97-157, FEDERAL-STATE JOINT BOARD ON UNIVERSAL SERVICE, at ¶¶ 47-48 (1997).

156. Emily Badger, *Taxi Medallions Have Been the Best Investment in America for Years. Now Uber May Be Changing That*, WASH. POST: Wonkblog (June 20, 2014), http://www.washingtonpost.com/news/wonkblog/wp/2014/06/20/taxi-medallions-have-been-the-best-investment-in-america-for-years-now-uber-may-be-changing-that/ ("The lease fees a taxi driver pays in Chicago create certain incentives. He must take the most profitable trips: the short, plentiful fares around downtown, or the big payoffs to the airport. He refuses rides to the South Side or Pickups in Humboldt Park – a practice forbidden by law – because drivers loath long-distance 'deadheading' or one-way trips to parts of town where there's little guarantee of a return fare.").

157. Erick Johnson, *Cab Drivers Passing Blacks By*, CHICAGO CRUSADER (July 18, 2015), http://www.chicagocrusader.com/Chicago/News-Detail.aspx?typeID=1&newsID=8985&CityID=1.

158. Edmund W. Kitch et al., *The Regulation of Taxicabs in Chicago*, 14 J.L. & ECON. 285, 286 (1971).

by FiveThirtyEight.com showed that Uber made a higher percentage of its pickups in the outer boroughs than taxis did.[159] (The data also showed, however, that both taxis and Uber tend to serve only wealthier areas.[160])

Second, the question of universal service should focus on access to transportation options and not just taxi service. Other transportation service may be substitutes, at least in the sense that enhancing access to them may compensate for any loss of universal taxi service. Car ownership, busses, subways, and other forms of transit are at least partial substitutes for point-to-point private vehicle service (as taxi service might more generically be called).[161] Additionally, a universal service policy must consider the totality of the access question. In examining universal service policy for broadband services, the FCC has emphasized that some users need the physical hardware to connect to the Internet and some need training in order to be comfortable with computer and Internet services.[162] If universal service options such as vouchers for taxis and ridesharing move to Internet platforms, policymakers will need to consider those related access issues. The Pew Research Center has estimated that only 27% of seniors and only 15% of those making less than $30,000/year have smartphones.[163] In other words, effective universal service may need more than expanding the types of taxi vouchers available.

In sum, while the devil is of course in the details, a universal service policy for taxicabs can be devised to operate outside the traditional common carrier format. Such a policy must rely on explicit taxes and subsi-

159. Carl Bialik et al., *Uber is Serving New York's Outer Boroughs More Than Taxis Are*, FIVETHIRTYEIGHT.COM (Aug. 10, 2015, 2:06 PM), http://fivethirtyeight.com/features/uber-is-serving-new-yorks-outer-boroughs-more-than-taxis-are/.

160. Nate Silver & Reuben Fisher-Baum, *Public Transit Should Be Uber's New Best Friend*, FIVETHIRTYEIGHT.COM (Aug. 28, 2015, 6:30 AM), http://fivethirtyeight.com/features/public-transit-should-be-ubers-new-best-friend/.

161. *See id.* (discussing interaction between public transit availability, car ownership, taxi service, and ridesharing in New York City); GORMAN GILBERT ET AL., TRANSIT COOPERATIVE RESEARCH PROGRAM, REPORT 75: THE ROLE OF THE PRIVATE-FOR-HIRE VEHICLE INDUSTRY IN PUBLIC TRANSIT (2002).

162. *See* FCC, NATIONAL BROADBAND PLAN, ch. 9 (2013), http://www.broadband.gov/plan/9-adoption-and-utilization ("While cost is the leading barrier to adoption, nearly two-thirds of non-adopters note that something else keeps them from getting broadband at home. In addition to cost, lack of digital skills, irrelevance of online content and inaccessible hardware and software often work together to limit adoption. For non-adopters to find broadband valuable enough to subscribe, they need a basic knowledge of how to find and use trustworthy, substantive content. Similarly, if broadband costs fall because of lower prices or subsidies, consumers might be more willing to try it, in spite of doubts about its relevance or their own abilities to use it.").

163. Aaron Smith, *U.S. Smartphone Use in 2015, Chapter One: A Portrait of Smartphone Ownership*, PEW RES. CTR. (April 1, 2015), http://www.pewinternet.org/2015/04/01/chapter-one-a-portrait-of-smartphone-ownership/.

dies, competitively neutral distribution, and a comprehensive view of access issues.

iv. Dealing with Externalities

Congestion was responsible for some initial taxi regulation,[164] and congestion has been the source of some opposition to ridesharing. New York City Mayor Bill De Blasio, backed by the City Council, blamed lower traffic speeds in Manhattan on congestion caused by Uber and threatened to impose a cap on the number of Uber drivers, before later agreeing to a several month study of the problem.[165] Uber of course denies any congestion effect and even asserts that its presence causes fewer private vehicles to be on the road.[166] These claims are currently hard to resolve: the statisticians at FiveThirtyEight.com say forthrightly that "[u]p to now, the data being thrown around has been contradictory, confusing and in some cases misleading."[167]

Nevertheless, to the extent that ridesharing creates congestion, one can attack the problem in the same manner as safety and universal service – by directly or indirectly regulating congestion without forbidding all entry and without controlling average taxi rates. For example, London and several other cities have imposed congestion fees directly on central business district traffic.[168] Those schemes have, in some areas, proved imperfect, for example as downtown parking lots decreased their prices to compensate for the congestion fees.[169] But, on the whole, congestion fees have significant academic and practical support.[170] Similarly, given that ridesharing platforms collect specific pickup and dropoff information, regulators could impose specific fees on trips to and from congested areas – such fees could even, in theory, be varied in real time. Competitive neutrality demands that cruising taxis be subject to the same fees, and traditional regulation did not gather this information. But many traditional dispatch and taxi companies are now responding to ridesharing competition with their own apps and by collecting GPS information

164. *See* Dempsey, *supra* note 73 and accompanying text.

165. Matt Flegenheimer, *De Blasio Administration Dropping Plan for Uber Cap, for Now*, N.Y. TIMES (July 22, 2015), http://www.nytimes.com/2015/07/23/nyregion/de-blasio-administration-dropping-plan-for-uber-cap-for-now.html?smid=tw-share&_r=0.

166. Timothy B. Lee, *Uber has Defeated Bill de Blasio's Plan to Rein Them In*, VOX (July 22, 2015, 5:35 PM), http://www.vox.com/2015/7/22/9015443/bill-de-blasio-uber.

167. Carl Bialik, The *Debate on Uber's Impact in New York City Is Far From Over*, FIVETHIRTYEIGHT.COM (July 23, 2015, 2:06 PM), http://fivethirtyeight.com/datalab/the-debate-on-ubers-impact-is-far-from-over/.

168. Theodore Brown, *Five Cities with Congestion Pricing*, THIS BIG CITY (Aug. 22, 2011), http://thisbigcity.net/five-cities-with-congestion-pricing/.

169. Moshe Givoni, *Re-assessing the Results of the London Congestion Pricing Scheme*, 49 URBAN STUD. 1089, 1098 (2012).

170. *Id.* at 1097.

on their cabs.[171] To be sure, the use of these data and its aggregation by the government raise some privacy concerns (some of those concerns are raised by the ridesharing platforms already[172]), but they might be addressed through certifying the software[173] or by random on the ground audits as opposed to collecting the data directly.

v. Medallion Value

The final transition issue has to do with the loss in value to current medallions. Evidence from the secondary markets for medallions suggests significant losses have already occurred. In New York, "[t]he average price of one of the city's 13,771 medallions has fallen from an average of $1m during the summer of 2014 to $690,000 [in mid-2015], an aggregate loss of some $4 billion of value."[174] In Chicago, a publicly traded medallion holding company's value fell 34 percent in just one year.[175] Indeed, in Chicago, a coalition of taxi drivers have sued the City alleging an unconstitutional taking when it permitted ridesharing services to operate.[176] One business person has said: "Asked about the bank's exposure to the medallion markets here and in New York, [the lender's representative] took Chicago to task for, he said, showing little concern with the fate of the medallion market and what he said was light-touch regulation of the ride-booking firms."[177]

Similar suits were brought when the Telecommunications Act of 1996 eliminated legal monopolies for telephone service and the FCC ordered incumbent local carriers to charge low, forward-looking rates for

171. Colleen Wright, *Car Service Companies Adopt Their Own Apps*, N.Y. TIMES, Aug. 12, 2015, at A14; Scott Walsten, *Has Uber Forced Taxi Drivers To Step Up Their Game?*, THE ATLANTIC (July 9, 2015), http://www.theatlantic.com/business/archive/2015/07/uber-taxi-drivers-complaints-chicago-newyork/397931/. From the perspective of this article, privacy regulation is simply a specialized case of safety regulation.

172. *See, e.g.*, Natasha Singer & Mike Isaac, *Uber Data Collection Changes Should Be Barred, Privacy Group Urges*, N.Y. TIMES (June 22, 2015), http://www.nytimes.com/2015/06/23/technology/uber-data-collection-changes-should-be-barred-privacy-group-urges.html. Note that any concerns about ridesharing services privacy practices should be met through privacy regulation, just as other forms of safety and welfare regulation need not be attached to economic regulation of the service.

173. *Compare* Colleen Wright, *Taxi Panel Passes Rules Regulating App Services*, N.Y. TIMES, June 23, 2015, at A18 (noting regulation that apps must provide estimated fares).

174. *Taxis v. Uber: Substitutes or Complements*, THE ECONOMIST (Aug. 10, 2015, 6:38 PM), http://www.economist.com/blogs/graphicdetail/2015/08/taxis-v-uber.

175. Micah Maidenberg, *Market for Taxi Medallion Loans Grinding to a Halt*, CRAIN'S CHICAGO BUS. (Aug. 29, 2015), http://www.chicagobusiness.com/article/20150829/ISSUE01/308299976/market-for-taxi-medallion-loans-grinding-to-a-halt.

176. *See* Badger, *supra* note 156.

177. Micah Maidenberg, *Taxi Lender: Chicago Uber-Clueless on Ride-Bookers' Impact*, CRAIN'S CHICAGO BUS. (Feb. 25, 2016), http://www.chicagobusiness.com/article/20160225/NEWS10/160229928/taxi-lender-chicago-uber-clueless-on-ride-bookers-impact.

access to their networks.[178] The Supreme Court ruled against the incumbents, but largely on the ground that they had not shown that the reimbursement rates that the FCC allowed were "so unjust [low] as to be confiscatory."[179] By contrast, medallion owners are receiving no compensation when ridesharing comes on the scene, for there are no equivalent interconnection fees. In the general context of deregulation, Daniel Spulber and J. Gregory Sidak have argued that the introduction of competition raises these takings concerns. "Regulatory change is precipitating the competitive transformation of network industries served by public utilities long presumed to be natural monopolies and subjected to extensive price regulation. The takings issue arises because those utilities assumed obligations to serve in return for the regulator's assurance that the utilities would earn a competitive return on invested capital, along with compensation for the full cost of providing service."[180] (Sidak, at least, has said that the takings claims he found plausible in the electric and telecom deregulation contexts do not apply to taxi medallion owners.[181])

Medallion owners' takings claims seem unlikely to succeed – and should not succeed — for two reasons. First, medallion owners will face significant difficulties in proving a property or contractual right to the exclusivity necessary to maintain their high value. Taxi regulation, while premised on limiting entry, did not promise any particular level of medallions. Statutes reserved to regulators the ability to add additional medallions to the market.[182] Thus, while the medallion might be a property right in the sense of a license, the value attached to it has come from the regulator's contingent choice (driven by public choice or bad reasoning) to issue a too-limited number of licenses. That value is not a property right, or at least it does not rise to the level of "unmistakability" that is required by Supreme Court doctrine. "[P]romises by the government to forbear from certain types of future regulatory action – in other words, promises of the sort said to be included in the regulatory contract – will be enforced by the courts only if they are set forth in 'unmistakable' lan-

178. *See* 47 U.S.C. § 253(a) (1996); Stephen Labaton, *Slew of Supreme Court Cases to Focus on '96 Telecom Law,* N.Y. TIMES (Oct. 1, 2001), http://www.nytimes.com/2001/10/01/business/slew-of-supreme-court-cases-to-focus-on-96-telecom-law.html.

179. Verizon Comm. Inc. v. FCC, 535 U.S. 467, 524 (2002).

180. J. GREGORY SIDAK & DANIEL F. SPULBER, DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF NETWORK INDUSTRIES IN THE UNITED STATES 4 (1997).

181. J. Gregory Sidak, *Is Uber Unconstitutional?*, 1 CRITERION J. ECON. 179 (2016), https://www.criterioneconomics.com/is-uber-unconstitutional.html.

182. *See, e.g.*, Katrina Miriam Wyman, *Problematic Private Property: The Case of New York Taxicab Medallions*, 30 YALE J. ON REG. 125, 128-30 (2013).

guage."[183] In utility markets, licensing usually came with a service territory and some expectation that other companies would not provide service in the same area – consistent with "natural monopoly" theory.[184] A taxi medallion did not come with any sort of exclusive service territory.

Second, medallion owners do not have the same sort of investment argument that utilities might. Utilities argue that the regulators required them to invest in long-lived infrastructure in order to serve consumers under the promise (for the future) that they would recover the costs of that investment: that they were required to build power plants or to install telephone lines, and that deregulation renders that sunk investment unrecoverable (again, contrary to the promise).[185] Taxi owners were, of course, required to have a medallion, but the medallion cost is not a capital investment that is tied to future service for customers. Only the cabs are. In other words, the license cost is just that – a contingent license cost – not one tied to an ongoing promise to recoup any particular level of fees in the future. For a long time, the license bet was correct, but times change.

In two recent cases, the Seventh Circuit (in opinions by Judge Richard Posner) has taken this same view.[186] Interpreting the Chicago taxi ordinance, the court said that the law just "gives taxi-medallion owners is the right to operate taxicabs in Chicago [and] [t]hat isn't a right to exclude competitive providers of transportation."[187] The difference between an operating right and a right against competition is crucial. "The city [this time Milwaukee] gave them no protection against such an eventuality, and [the new statute permitting additional competition] invaded no right conferred on them by the Constitution."[188]

This harsh result does not, of course, eliminate the possibility that, as a political matter, incumbents will win some compensation for lost medallion value. Transitions to market mechanisms have often been facilitated through compensation to incumbents – for example, by granting to incumbent polluters the initial tradable rights in pollution markets.[189] But any such payment is not constitutionally compelled, and should be seen for what it is – an instance of a Kaldor-Hicks politics: a transition to a

183. William J. Baumol & Thomas W. Merrill, *Deregulatory Takings, Breach of the Regulatory Contract, and the Telecommunications Act of 1996*, 72 N.Y.U. L. Rev. 1037, 1045 (1997).

184. *See supra* notes 41-44 and accompanying text.

185. *See* Sidak & Spulber, *supra* note 180, at 8-9.

186. Illinois Transp. Ass'n v. City of Chicago, 839 F.3d 594 (7th Cir. 2016); Joe Sanfelippo Cabs, Inc. v. City of Milwaukee, 839 F.3d 613 (7th Cir. 2016).

187. *See Illinois Transp. Ass'n*, 839 F.3d at 597.

188. *See Joe Sanfelippo Cabs*, 839 F.3d at 616.

189. *See* Thomas W. Merrill, *Golden Rules for Transboundary Pollution*, 46 Duke L.J. 931, 972-76 (1997).

more valuable regulatory regime is made by allocating some of the surplus to "buy out" the incumbents.

IV. Conclusion

Taking taxi regulation seriously, as many proponents of Internet-age ridesharing have not, shows that it has been based on consistent market failure arguments – arguments that supported the historic application of the common carrier model of limited entry, duties to serve, and rate regulation, in service of the policy goals of stable quality and universal service. But taking those arguments seriously also demonstrates that ridesharing platforms eliminate much of the prospect for those market failures. Ridesharing platforms radically change information costs and introduce the possibility of competition on more dimensions. How can that competition be accommodated? Fortunately, looking at common carrier regulation also provides answers here: separate safety regulation from economic control, monitor apps for market dominance, make universal service subsidies explicit, regulate externalities directly, and reject claims for compensation from the incumbents who lose to innovation. Just like new technologies in transportation and communication, ridesharing – which innovates in both markets – is here to stay.