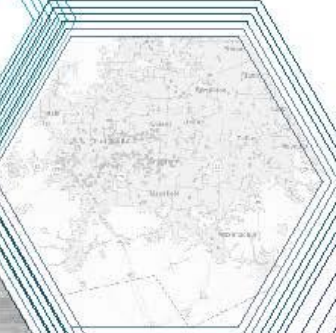


Preparing for Progress: Establishing Guidelines for the Regulation, Safe Integration, and Equitable Usage of Dockless Electric Scooters in American Cities

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FINAL REPORT

PREPARING FOR PROGRESS: ESTABLISHING GUIDELINES FOR THE REGULATION, SAFE INTEGRATION, AND EQUITABLE USAGE OF DOCKLESS ELECTRIC SCOOTERS IN AMERICAN CITIES

FINAL PROJECT REPORT

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Abstract

Personal electric scooters (also called e-scooters) have quickly gained attention in Western cities as a novel means of transportation. As community leaders seek a new generation of mobility options, e-scooters represent great promise but also considerable complexity. These privately-funded vehicles operate generally without much regulation, and many of the platforms require no fixed charging stations. Also, e-scooters can be parked wherever a user wishes to leave it. This has the potential to create obstacles on sidewalks or in the public right-of-way, a problem compounded by a general lack of enforceable regulation in cities. In addition, these motorized devices are often operated in cities without designated travel paths, leaving riders to use bike lanes or the sidewalk. Cities must therefore find a way to ensure safe ridership and sensible integration of this mode into the broader transportation network. At the same time, equity concerns around e-scooters have simmered in media and political circles. It remains unclear whether e-scooter providers are making conscious or structured efforts to attract lower-income or elderly riders to their services, despite the e-scooter's potential to give these populations a much-needed new option for personal mobility. These challenges, and the lack of scholarly investigation into how cities and e-scooter providers might be addressing them, are the core focus of this study. This project investigates how e-scooters are impacting the regulatory, planning, and infrastructure processes in American cities, as well as the ways in which cities and providers are (or are not) partnering to advance shared goals of safety and equity. Relying on stakeholder interviews and content analysis of relevant materials, this project offers a set of practice-ready reforms that will aid cities in establishing a baseline for effective management of e-scooters. By documenting how American cities and their private-sector counterparts are managing e-scooters, this project will contribute to a newborn literature on e-scooters. And by providing both public officials and private-sector interests with the tools to work toward a more equitable, safe, and durable network for e-scooters, this project will contribute practical solutions to a new and growing urban problem.

Chapter I: Introduction

The rapid growth of electric scooters (e-scooters) in North American cities represents a captivating regulatory and management challenge for city officials and transportation planners, while also posing new questions for the private-sector firms launching e-scooter programs on American streets with a somewhat limited understanding of their potential impacts on safety, mobility, and equal access. Local governments, already grappling with how best to fund, construct, and manage infrastructure for bicycles, must now contend with these motorized e-scooters as a similar, yet still distinct, form of personal transportation. And whereas cities and states have long had regulations in place for automobiles and bicycles, e-scooters are too new a mode to have seasoned and solid rules governing their usage. Local officials are thus left with little institutional knowledge on how best to proceed, and must therefore improvise a regulatory framework that meets local needs. Adding a great sense of urgency to the issue is the fact that in dozens of American cities, e-scooters were simply deposited onto city streets without any warning or coordination between e-scooter companies and local governments or law enforcement. Issues of safety, accessibility, and ridership are thus magnified as cities grapple with balancing the consumer demand for these devices with the broader public mandate to prevent injuries and allocate public space fairly. Guidance on how to most effectively achieve these goals is thus sorely needed by practitioners. At the same time, the transportation literature would benefit from an analysis of how cities are presently seeking to regulate e-scooters as a form of personal mobility. Little is known about how local governments are setting policies for e-scooter operations, and even less is known about why those specific actions are taken (or not taken). This study attempts to fill this gap. Also, since so little has been documented on the operations and general climate of e-scooter providers as private companies, this study will also explore how e-scooter providers conceptualize and prioritize public-interest issues like safety and equity. The authors intend for this study to be a modest contribution to scholars' and practitioners' broader understanding of how city officials and e-scooter companies are working to ensure the promise of e-scooters can match the complex and colorful realm of personal mobility in modern American cities. Figure 1 illustrates modern e-scooters in Atlanta.

Figure 1: Parked E-Scooters in Atlanta, 2019



Photo by John Bazemore, Associated Press. 2019.

This project is based on the premise that electric scooters represent a novel but poorly understood addition to the ecosystem of urban transportation and personal mobility. Like bikeshare programs before them, these devices bring tremendous potential for advancing personal mobility in cities, but their costs and regulatory/management structures are poorly understood by the literature and policy makers in the cities hosting them. As a new amenity, e-scooters generally exist outside of existing regulatory frameworks and established guidelines, leaving planners and public officials to improvise their management techniques one day at a time. This lack of reliable knowledge arguably leads to poor decision-making and missed opportunities for fair and equitable management of e-scooter programs. Companies managing e-scooter programs also lack objective guidance on issues of equity and equal access, which arguably leads to narrow corporate thinking and a general lack of interest in using e-scooters to truly advance the wellbeing of disadvantaged urban populations. By studying the e-scooter phenomenon in American cities, and generating useful findings and data to guide these programs toward a more sensible and equitable presence in cities, this project will advance knowledge and provide public and private actors with much-needed insights into ensuring e-scooters work for all concerned.

Chapter II: Background

The foundations of the e-scooter phenomenon in American cities lie deep within the broader revolution of personal mobility presently underway in cities. Issues facing e-scooter regulators and operators are similar to those facing ride-hailing services, transit, bikeshare, and traditional personal automobiles. Much as ride-hailing services such as Lyft and Uber have upended traditions of transit and vehicle ownership, so too are concepts like bikeshare and e-scooters reshaping what it means to be a pedestrian and/or motorist in urban areas. The growth in options has also opened up new avenues of investment and vertical integration for transportation companies, many of which now own multiple holdings cutting across modes. For example, Uber operates its eponymous ride-hailing service using automobiles, and it also owns Jump, a major operator of e-scooters in North America. City dwellers now have more mobility options than at any time in recent memory, and the growth of the “transportation menu” has left urban infrastructure strained by the new options and its public-sector planners perplexed as to how to most effectively and fairly manage so many new options in the same shared space. This study attempts to encapsulate that public sector struggle and document the common threads of regulation among dozens of American cities. At the same time, the study explores the attitudes and operations of many of those larger e-scooter operators, to launch an effort to better understand the provider’s perspective on e-scooter operations and management.

E-scooters as a form of personal mobility are a relatively recent phenomenon, having existed on American roadways since late 2017. In large part due to this short time span, little about their management and impact on communities has been documented in scholarly sources. The literature on electric scooters (e-scooters) as a form of urban personal mobility is remarkably limited as of 2019. Much of what has been published on the topic has been derived from extensions of bikeshare programs – an intuitive link for scholars, as most major dockless bikeshare providers also operate e-scooters. Still, significant gaps remain in the scholarly literature on how these devices function, how they are perceived by riders, and how they are regulated and managed by public officials. This study will not encapsulate all of these knowledge gaps, but it begins with the understanding that this area of the transportation literature is rather underdeveloped. Studies examining e-scooter pilot projects in specific communities have been published (Nocerino et al, 2016; Thaler et al, 2012), as have some speculative works on the potential adoption of electric-

assisted bicycles and scooters as part of a city's technologically-advanced future mobility plans (Danciu et al, 2012). E-scooters have seen wider and earlier adoption in certain Asian cities (Lee and Hsu, 2013; Weinert et al, 2007), but their relatively recent (since late 2017) entry into North America means little scholarly work has been undertaken to help inform policymakers on the most effective methods for managing and regulating these devices.

To understand the state of local governments' regulatory attitude toward e-scooters, scholars must for the time examine how cities have recently sought to regulate similar modes – chiefly, bikeshare. The same holds true for investigations on how cities and providers can partner to make plans and adapt bike-ped infrastructure to serve this new mode. While urban bikeshare programs have existed in various forms for several decades, the literature on bikeshare policy in cities is relatively young. Scholars such as Shaheen et al (2010) have identified several key “public interest benefits” of bikeshare, including flexible mobility, reduced emissions, health benefits, cost savings for users, and last-mile connectivity to other forms of transit. These benefits can arguably be applied with equal gusto to e-scooter programs, thus demonstrating their potential to cities and residents. Studies that investigate whether bikeshare programs actually achieve these goals are in short supply (Murphy, 2010; Fishman et al, 2012), and nonexistent for e-scooters, again indicating a need in the literature for reliable findings and policy recommendations on how to use these innovations to further those stated policy goals.

In investigating the equity aspects of e-scooters – which have been depicted in the popular media as either a unique mobility aid for disadvantaged people or as a tool for high-wage gentrification (della Cava and Guynn, 2018; Woodward, 2018) – the research team again turns to the bikeshare literature and its growing body of work on equity and equal access to nonmotorized transportation. The bikeshare equity literature has focused on physical equity (Buehler, 2012; Ursaki and Aultman-Hall, 2015), as well as socioeconomic access to shared devices (Broach et al, 2012; Dill et al, 2012). For e-scooters, much of the same conclusions may be drawn and applied. For example, both bikeshare and e-scooter systems generally require the use of a smartphone app and a registered credit card – two requirements that may leave lower-income residents behind. In addition, the locations in which bikeshare/e-scooter companies choose to situate their vehicles can impact equitable usage. Placing vehicles near higher-income tourist spots may generate higher revenues at times of peak demand, but not placing vehicles where lower-income residents could

use them to access jobs or health amenities arguably has a lasting social cost as well. The bikeshare studies explored these equity outcomes in bikeshare, but firmer study is needed to capture the precise impacts of e-scooter programs on equity. Finally, the fact that many of these private-sector providers engage in partnerships with city governments presents a novel (but unstudied in the literature) opportunity to examine the ways in which contracts and agreements can foster greater socioeconomic equity through shared mobility. Little is known about how cities and bikeshare/e-scooter providers forge agreements that may or may not address equity concerns among riders, and this study addresses that gap directly by documenting the formal and informal ways it is being done with this latest mobility program. By documenting the ways in which city governments and e-scooter providers interact, and how those interactions shape mobility and the built environment, this study contributes a hearty set of findings to a new and largely unexplored literature.

Chapter III: Research Design

As mentioned previously, the research team behind this study conceptualized the challenges facing e-scooter management and regulation as two parallel tracks: One track, based in policy analysis, is generally concerned with regulating e-scooter usage, and maintaining law and order within the public right of way. Management is the watchword of this track, and the authors lean heavily on past experiences investigating bikeshare regulation in a similar “mobility revolution” framework. The second track, centered on the human actors in both regulatory and commercial environments, focuses on how to most effectively manage e-scooter programs from the complementary (and sometimes competing) perspectives of regulator and business promoter. The author and his supporting team thus broke this study into two phases, each with their own methodology, scope, and results. The two research phases are depicted in the following sections, and are subsequently linked together by a shared set of findings and implications for both local government policymakers and the private-sector managers of e-scooter programs at large. By exploring the issue from both perspectives – regulatory and commercial – the team can address the lack of information and best practices currently plaguing the e-scooter phenomenon in American cities.

The two phases are centered on three interrelated research questions, each of which is explored to some degree in the two project phases. The questions are as follows:

1. *How are electric scooters (e-scooters) managed by city officials and private-sector e-scooter providers?*
2. *In what ways are e-scooter providers partnering with city officials and other authorities to promote safe and equitable usage of e-scooters?*
3. *How are transportation planners integrating e-scooters into their existing and future mobility plans?*

The report proceeds from this point in two distinct phases/chapters. Phase I (included here as Chapter IV), documents the various municipal policies and regulations regarding e-scooters present in 2019, as well as the performance of e-scooter companies on a structured evaluation rubric. The chapter includes text on methods, rationale, and results from that phase of data collection and analysis. Phase II (included here as Chapter V), provides a similar reporting of the stakeholder interviews conducted as a follow-up to the regulatory analysis of Phase I.

Chapter IV: Analysis of E-Scooter Policies in Cities and Companies

The first phase established a database of regulatory and permitting information on e-scooters that aided in addressing elements of all three research questions. Originally, the sample size was the 50 largest U.S. cities by population, based on the reasoning that larger cities may be more likely to have active e-scooter programs in operation. The research team structured a previous bikeshare study in a similar fashion, and thus adapted that sampling framework to start. However, upon investigation, the research team discovered that, unlike with bikeshare, e-scooter programs were active in dozens of American cities, large and small. Researchers found active e-scooter programs in major cities, but also suburbs and small college towns. The team thus changed the framework from a sample to a census, wherein the policies and experiences of each U.S. city with e-scooter activity would be documented. Instead of using a set list of cities organized by population, the team would collect information on every municipality that experienced or had experienced e-scooters. This revised approach required the team to first investigate and then create a list of all e-scooter companies operating in the United States. From company websites or other e-scooter sources, a list of 153 cities with one or more e-scooter companies (in some cases, a bikeshare company claiming to also operate bikeshare) operating within their boundaries was generated. The team used this initial list as a starting point for researching each of these cities. But before the team could examine ordinances and permitting regulations in each of these cities, they confirmed the accuracy of the cities listed. This process involved combing city websites, e-scooter company materials, Twitter feeds, media coverage, and content from cycling nonprofits (many of which developed e-scooter advocacy or criticisms in 2018-2019). The team collected basic information on e-scooter launch dates, the number of providers operating in each city, and what kinds of structured policies had been put into place to regulate or manage ridership of the devices. From the starting list of 153, the team narrowed the list to 81 after basic analysis showed that e-scooter providers were incorrectly listing cities as having both bikeshare and e-scooters, when the cities only hosted bikeshare programs. A set of findings focused on this stage of the analysis is included later in this chapter.

After the preliminary analysis, the team next examined the ordinances and permitting regulations of cities that had them in effect, tracking which cities have an explicit ordinance

governing e-scooter usage and/or a formal permitting framework designed to manage the safe and legal usage of e-scooters within the public right-of-way. Once the preliminary database of cities and regulations was established, the team used content analysis of ordinances and government publications to probe deeper into the specific language used by city governments, as well as any relevant media coverage of the topic, in order to ascertain the regulatory environment surrounding this specific mode of travel in these cities. The text of ordinances, permit guidance, and related government documents was obtained via city websites, emailed requests, and FOIA requests as the situation warranted. The goal here was to establish a solid foundation of information, terminology, and techniques that would inform the analysis of both phases of the project.

At the same time, the research team explored the ways in which e-scooter providers might shape their operations in order to meet public demand and serve the public interest on issues like equity, safety, equal access, sharing the road, etc. Table 1 documents the various factors of e-scooter service that have been identified by mobility scholars as being important to a well-managed and functional e-scooter program in a North American context. Per Table 1, the factors can be loosely organized into categories of Equity and Safety. The team applied these concepts as a general rubric when evaluating the operations and policies of e-scooter operators in American cities. Specific scores, and their implications for e-scooter policy and program management, are discussed later in Chapter IV.

Table 1: Factors of Service Identified by Scholars as Vital to Safe and Equitable E-Scooter Usage

Topic	Components of Service	Description/Rationale	Literature Identifying This Measure
Equity	Adaptive Scooters	Requiring providers to have a certain number of adaptive vehicles in their fleet to assist people with disabilities	Glambrone (2018), Clabaugh (2018);
	Low income/Discount plan/ Reduced monthly plan	Requiring providers to offer a low-income fare for lower-income riders	Portland Bureau of Transportation (2018); Woodsinky (2018)
	Payment and operation for non-smart phone	Requiring providers to provide the option to pay cash and unlock e-scooters without the use of a smartphone	Carino (2018); Woodsinky (2018)
	Multilingual communication option available	Offering all promotional materials, signage, and apps in multiple languages to aid international users	Scoot Networks (n.d.)
	Fleet redistribution in low-income areas	Expanding access to e-scooters for underserved and low-income areas	Fleming (2018); Portland Bureau of Transportation (2018), Carino (2018)
	Transit connections and multimodal connectivity	Connecting e-scooters with a transit system via linked-payment options, such as coupons, fare cards, or a free transfer	Shaheen & Rodier (2008)
Safety	Use of Helmet required or encouraged	Providing a free helmet and encouraging helmet usage among riders to promote safety	Cohen & Shaheen (2018), Tridevi et al. (2018), Aizpuru et al. (2019)
	Educating riders	Educating riders on safe usage, maintaining pedestrian safety, and local ridership laws	Peterson (2018); Scoot Networks (n.d.)
	Safety features of e-scooters touted or explained to riders	Utilizing e-scooters designed with extra safety features, such as high-visibility lights, larger wheels, etc.	Lieswyn et al. (2017); Wilson (2018)
	Designated hours to ride e-scooters	Making e-scooters available during daylight hours only, which will ensure the safety of riders	Anderson-Hall et al (2018)
	Location-specific speed limits	Limiting or controlling the speed of e-scooters within a certain location or boundary	Solomon (2019), Holder (2018)
	Geofenced routes/parking options	Geofencing to ensure e-scooter riders are riding only within a designated area of the city	Schmitt (2018), Anderson-Hall et al (2018)

Findings from the Analysis of E-Scooter Policies and Programs

As mentioned previously, the team documented a total of 81 cities across the United States with active e-scooter programs as of mid-2019. The team had difficulty obtaining an accurate count of cities with active e-scooter programs, in large part due to incorrect and inflated figures published by the e-scooter companies. For example, one prominent national e-scooter company (which had previously been a major operator of dock-less bikeshare programs in a similar format) did not distinguish between the two modes of transportation in its marketing materials, thus leading to a figure inflated by dozens of cities. The company also reported to be operating in several cities that later turned out not to have active e-scooter programs at all. Due to this experience with one e-scooter company, the research team altered its approach and triangulated each city's e-scooter operations by obtaining information from both the companies and the city officials under whose purview e-scooters fell. This added step gave a much-needed confirmation to the city count, and helped the team to build rapport with city officials ahead of potential stakeholder interviews. A map of cities with one or more e-scooter programs in operation as of May, 2019, is included below as Figure 2.

Figure 2: Distribution of Cities with Active E-Scooter Programs, Summer, 2019



E-Scooter Programs Defy Geographic Pattern, Population Size

Taken by itself, Figure 2 shows the beginnings of an urbanization pattern with e-scooter operations – the vehicles would appear to be more commonly found in the nation’s largest cities. However, a closer look reveals several exceptions to such a pattern. For example, several smaller or mid-sized communities in rural areas of the Midwest and Great Plains have active e-scooter programs, while cities such as Philadelphia, New Orleans, Las Vegas, and Cleveland had no active programs at the time. Another notable exception: Chicago. That city launched an e-scooter pilot program in the late summer of 2019, and was thus not included in this graphic. Suburban communities – such as Scottsdale, Arizona, and Alexandria, Virginia – were sometimes home to as many e-scooter companies than their core cities. For example, Washington, DC had six separate e-scooter companies operating on district streets in the spring of 2019, while its suburbs of Alexandria and Arlington, Virginia each had five e-scooter companies offering service. The

Figure 4: Four Regulatory Frameworks for E-Scooters in American Cities

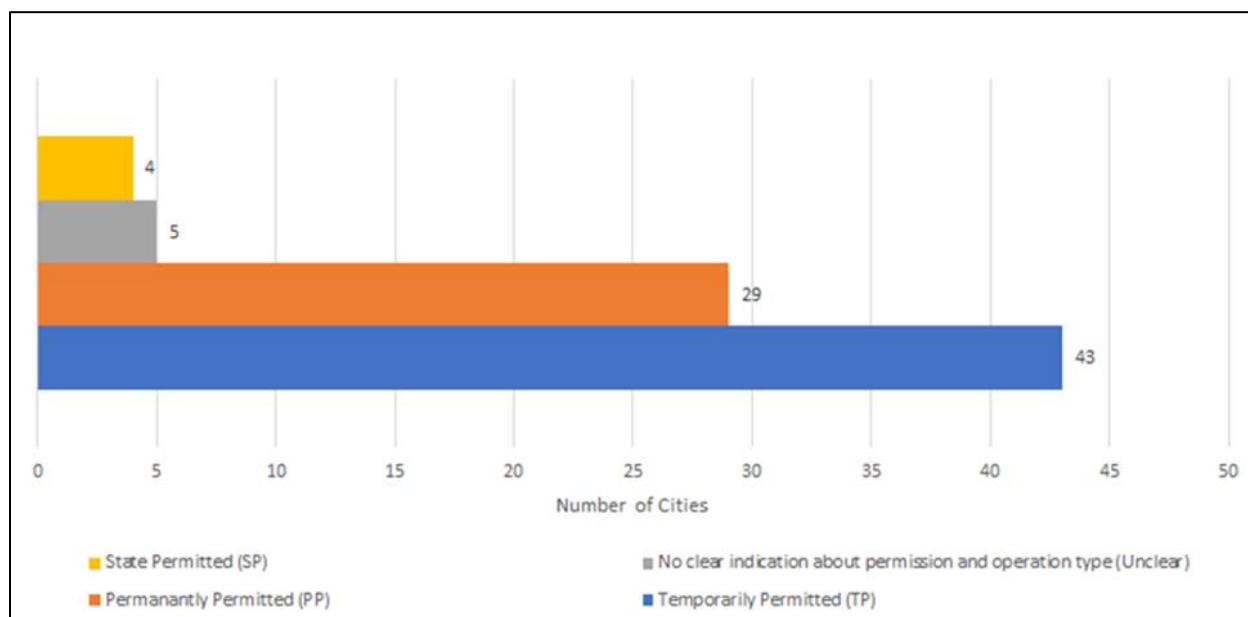


Figure 4 illustrates the comparison of these four regulatory environments. More than half of observed communities have temporarily (as of mid-2019) allowed e-scooters to operate in the public right-of-way, most frequently in the form of a “pilot program” where key variables (such as injury incidents, parking standards, and company responsiveness/performance) are tracked by city staff over a set period of time. This testing phase ostensibly allows e-scooters to operate while city officials determine longer-term plans and regulations for the devices. In 29 cities, a permanent policy or set of regulations is in place to govern e-scooter operations. Moving beyond the testing stage, officials in these cities have enacted more lasting policies that, although variable from place to place, establish a more durable regulatory environment for e-scooter operators. Four cities reported to be abiding by statewide regulations for e-scooter operations and regulation, but in all four cases, the research team found no elaboration as to what this meant or why officials chose to publicly label their regulatory framework as such. Requests for interviews also went unanswered. Finally, five of the 81 cities had no observed regulations or ordinances in place governing e-scooter operations or usage. This was in stark contrast to what the research team observed from the bikeshare literature, which has found cities to be generally lax or delayed in formally regulating shared-mobility platforms in the past. The evidence here suggests city governments are far more likely to expeditiously enact regulations on e-scooter usage than they were to enact similar rules on bikeshare usage only a short time previously.

E-Scooter Bans Are Proactive or Reactive, and Follow a Sociodemographic Profile

Aside from the 81 cities with active e-scooter programs on streets, the research team found an additional 26 cities with a permanent or temporary ban on e-scooters. These communities had, at some point in the preceding 14 months, crafted and enacted a policy forbidding the rental and/or operation of e-scooters in the public right-of-way on either a permanent or temporary basis. The author divides the citywide bans in these 26 communities into two categories: Proactive (enacted before e-scooters were operating) and Reactive (enacted after e-scooters were operating). Per Table 2, communities with temporary bans were more prevalent in the study than those with a permanent e-scooter ban.

Table 2: Proactive and Reactive E-Scooter Bans in Selected American Cities

Proactive Ban		Reactive Ban	
Temporary	Permanent	Temporary	Permanent
San Mateo, CA	Marietta, GA	Athens, GA	Highland Park, TX
Santa Clara, CA	Dripping Springs, TX	Birmingham, AL	University Park, TX
		Columbia, SC	Glendale, AZ
		Isla Vista, CA	Hollywood, CA
		Lafayette, LA	Fredericksburg, TX
		Miami Beach, FL	New Braunfels, TX
		Seattle, WA	
		Winston-Salem, NC	
		Tucson, AZ	
		Beverly Hills, CA	
		Goleta, CA	
		Santa Barbara, CA	
		Frederick, MD	
		Asheville, NC	
		South Padre Island, TX	
		New Orleans, LA	

In the four groupings of cities featured in Table 1, a few patterns of size, location, and sociodemographic profile emerge. Most of the communities with permanent bans (particularly the Texas communities of Dripping Springs, Highland Park, and University Park) are considered some of the wealthier suburbs of Austin and Dallas, respectively. In addition, many of the communities

with temporary bans are considered mainstays of tourist activity, including New Orleans, Asheville, South Padre Island, and Miami Beach. Many of the temporary bans were active in university communities, such as Tucson, Athens, Santa Barbara, and Lafayette. The research team does not speculate on the reasons why these communities (and their various demographic profiles and public images) might have permanently or temporarily banned e-scooters, but the clustering is nonetheless notable. Several large cities had temporary bans in effect within the past 14 months, and media coverage from those cities generally described the temporary bans as being a necessary on safety grounds while city regulators and elected officials could take the time to study the issue and craft meaningful regulations that would eventually enable the safe and legal operation of e-scooters. The prevalence of temporary bans (especially those of a reactive nature) over permanent bans in these cases illustrates a willingness on the part of city officials to place a (generally temporary) restriction on e-scooter operations while staff contemplate and enact an acceptable means of managing these devices and their operation. This regulatory optimism stood out to the research team, and was one area they sought to explore in Phase Two.

E-Scooter Companies Featured Wide Variation in Scores on Safety and Equity Concerns

Moving on from the analysis of city e-scooter policies, the study next examined the policies, goals, and program documents of e-scooter providers themselves, with a particular focus on the issues outlined in Table 1. At this step, the research team compiled materials from the websites, executed contracts, social media posts, and published materials of the 17 e-scooter providers found to be operating in the 81 cities with active programs. Passages of text were coded and evaluated on the 12 factors described in the two categories of Table 1. Each e-scooter provider's policies were scored on these 12 factors. Each factor had the following scoring range:

- “0” – Factor or item not present in written materials
- “1” – Factor or item present in written materials, but vaguely described
- “2” – Factor or item present in a detailed and quantifiable manner

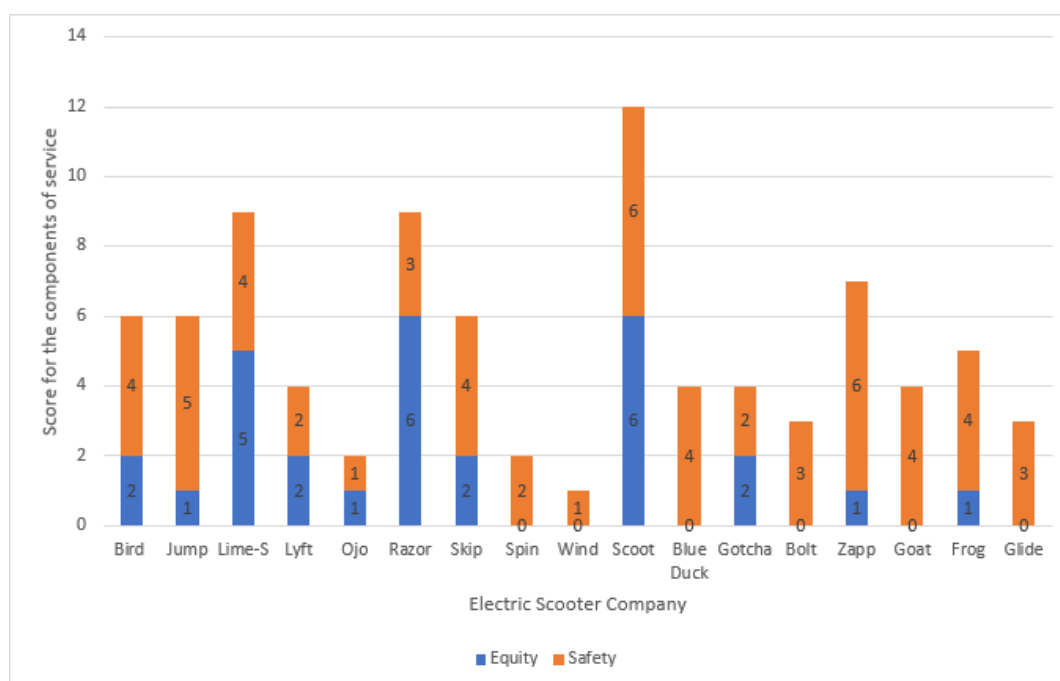
Based on the above scoring range, each e-scooter provider had a maximum score of 24. A matrix of all 17 companies' scores is included below as Table 3.

Table 3: Scoring Rubric for American E-Scooter Providers on Equity and Safety Issues

Features	Contents	Bird	Jump	Lime S	Lyft	Ojo	Razor	Skip	Spin	Wind	Scoot	Blue Duck	Gotcha	Bolt	Zapp	Goat	Frog	Glide	
Equity	Adaptive Scooters	0	0	0	0	1	2	0	0	0	1	0	2	0	0	0	0	0	0
	Low income/ Discount plan/ Reduced monthly plan	1	0	2	2	0	2	2	0	0	2	0	0	0	1	0	0	0	0
	Payment and operation for non-smart phone/non credit card	0	0	2	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0
	Multilingual communication option available	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
	Fleet Redistribution in low income areas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Transit Connection-multimodal connectivity option with coupon system or one-ticket option	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Equity Total:		1	1	5	2	1	6	2	0	0	6	0	2	0	1	0	1	0
Safety	Helmet Use	2	1	1	0	0	0	2	0	0	2	2	0	0	2	0	1	1	1
	Educating the riders	1	1	1	1	0	1	1	1	1	2	1	1	1	1	1	1	1	0
	Superior design of electric scooter/safety features	0	0	0	0	0	1	0	0	0	1	0	0	2	1	0	1	0	
	Designated hours to ride e-scooters	1	1	1	1	1	1	1	1	0	1	1	1	0	1	1	0	1	
	Geofence for speed limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
	Geofenced routes/parking options	0	2	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	
Safety Total:		4	5	4	2	1	3	4	2	1	6	4	2	3	6	4	4	4	3 out of 12
Overall Total:		5	6	9	4	2	9	6	2	1	12	4	4	3	7	4	5	3 out of 24	

According to Table 3, e-scooter providers in 2019 were not particularly invested in written policies that advanced issues of equity or safety in their operations. Of the 17 active companies, only one (Scoot, headquartered in San Francisco) scored as high as 12 out of 24 possible points. The other companies' scores were in the single digits, indicating a general lack of written policies on these issues in company materials. Scores in the category of equity were particularly weak, with many companies scoring a flat zero and only two scoring a 6 out of 12. The author concedes that using such a focused rubric may have contributed to these scores, but the results remain clear that few e-scooter providers in 2019 were outwardly focused on making or advancing company policies centered on social equity or rider safety. The relative strength of safety language, compared to equity, suggests to the research team that companies may make a greater formal effort to codify their policies on rider safety due to the potential for confusion and/or legal liability stemming from rider injuries. As an added step in the investigation, the research team downloaded and trialed several e-scooter apps on a smartphone, and language relating to rider safety was quite prominently displayed for riders. In fact, in most cases, riders are compelled to review safety language and agree to abide by set terms before being permitted to use the e-scooter, thus lending credence to the author's earlier observation about liability concerns. Figure 5 illustrates the comparative scores of the 17 companies, as well as how each score breaks down on issues of safety and equity.

Figure 5: E-Scooter Companies and Their Scores on Equity and Safety Issues



E-Scooter Companies Vary in Size, Business Model, and Style of Communication

Expanding on the information provided by these 17 e-scooter companies, the research team documented several differences and quirks among them. Companies showed wide variation in size and scale, ownership, business model, and general philosophy. On the topic of size and scale, one company – Bird Scooters – clearly dominates. According to company publications, Bird has entered (and in many cases quickly exited) roughly 120 American cities in the past three years. Bird’s score on the safety/equity rubric was merely average, but the company’s scale of operations dwarfs its nearest competitor – Lime, which operated in approximately 60 American cities in mid-2019. Bird is also the most visible company engaging in what the research team came to term “dead drop” e-scooter deployment. This method involves entering a market by depositing e-scooters on a city’s sidewalks and launching service without much advance warning or coordination with that city’s government. Spin is active in roughly 20 cities, with Jump in 10 and Razor in 9. Most of the remaining companies were active in only a handful of cities each. The team’s investigation also found that among these smaller e-scooter companies, formal cooperation with city governments was far more commonplace. The major operators followed the “dead drop” model and had virtually no structured coordination with cities, while e-scooter providers that only operated in one or two cities tended to have a robust and formal agreement with their host governments. Ownership also varies slightly, with the smaller operators being self-contained companies, and many of the larger operators in fact being owned by multinational transportation companies. For example, Spin and Ojo are owned by the Ford Motor Company, while Lyft Scooters is a subsidiary of the Lyft ride-hailing company. Jump and Lime are owned by Uber, Lyft’s chief competitor. The ecosystem of e-scooter companies is thus diverse and worthy of richer study going forward, but given the way these companies score on issues of equity and safety, their fitness as well-rounded providers of enduring personal mobility services may need more seasoning. From this point, the report next moves into a discussion of the stakeholder interviews undertaken as a follow-up to the information gleaned from this multi-part analysis.

Chapter V: Analysis of E-Scooter Stakeholder Interviews

The process of investigating e-scooter regulations, companies, and management practices provided a great deal of insight into the location-specific and company-specific quirks of operating e-scooter programs for public rental. The process also raised significant questions as to how and why certain processes and policies were formulated, as well as why certain cities opted to regulate, ban, or ban and then regulate, e-scooters on their roadways. And while the data-gathering process from Chapter IV was useful in building this foundation of knowledge, firsthand accounts and stakeholder interviews remained essential in establishing ground truth on e-scooter policy. Thus, over the course of exploring e-scooter policy in cities and companies across America, the research team built lists of questions to ask as well as influential voices to interview. Chapter V showcases the methods, findings, and implications of those interviews.

Starting with the same database of e-scooter operators and city policies, the team identified approximately 60 cases of either a city or an e-scooter company that featured a particularly noteworthy set of circumstances worthy of deeper exploration through personal interviews. The breakdown of the cases is as follows:

- 34 city governments (a mix of banned and present, regulated and not regulated, etc.)
- 17 e-scooter providers (all 17 examined in Chapter IV)
- 8 city officials identified in the literature/media as e-scooter or bikeshare innovators

The research team emailed an interview request to each of the 59 governments, companies, and individuals, requesting that they (or an alternate of their choice) agree to speak with the group about their experiences in regulating, managing, and/or planning for e-scooter usage in American cities. Interviews were structured to take place over the telephone, with the question set shared with each participant before the conversation. The project received IRB approval to conduct human subjects research of this nature, and the necessary materials were made available to all participants as part of the informed consent process. Interviews took place in the spring and summer of 2019. A total of 15 interviews were secured and conducted – 13 with city employees, and two with management at e-scooter companies. A majority of interview respondents requested personal anonymity as a condition for speaking on these matters, but interviews were conducted with employees of cities in California, Texas, Minnesota, Missouri, the District of Columbia, and

a handful of Southeastern states. The two e-scooter employees, citing legal concerns, asked that neither they nor their employer be named in the study. The research team honors this request, and hereafter discusses findings without naming these providers or their markets and partner cities. While the interviews began with a set of pre-determined questions based on the findings described in Chapter IV, many of the conversations evolved into more revealing discussions of on-the-ground practices and perceptions that were not intended to be covered in the interviews. The team therefore depicts the full set of noteworthy findings and themes that emerged from this set of colorful and insightful stakeholder interviews.

Findings from the Stakeholder Interviews

Most of the stakeholder interviews began with a general conversation about the operation and management of e-scooter programs in a place or company, while building up to more expansive and open-ended questions later in the interview that would generate more substantial (and often subjective) inputs on the regulatory process and environment. Interview participants were permitted to speak at length on any topic of their choosing, and while a few participants did indeed tell detailed stories of political intrigue or colorful media relations in their community, the end result was a wealth of notes and transcripts that the team then organized and coded around points of consensus and/or disagreement. These points, represented below as a series of specific findings, depict an operating environment in the midst of significant and very public upheaval. Still, the team found several strong threads of consensus that can be woven into the broader narrative about how e-scooters are (and perhaps should be) managed in cities and companies. These findings are not an exhaustive documentation of all interview notes and transcripts, but they do present information the research team has deemed to be the most pertinent to the policy conversation.

City Officials See their Task as Regulating Micro-Mobility, Not Merely E-Scooters

The first thread of consensus among city officials, and one that perhaps provides the best long-term vision for readers operating in this environment, is the way in which officials in these cities view e-scooters as merely one iteration of a much larger personal mobility revolution. Most of these participants work as urban planners, and experienced the bikeshare regulation debates in the past decade. They spoke of a booming interest in bicycle-pedestrian infrastructure, and a deeper

political consensus on funding protected bike lanes, sidewalks, and other infrastructure for personal mobility. This optimism for personal mobility in cities was apparent in several of these interview discussions. Individuals generally felt that micro-mobility as a factor in transportation planning is here to stay, even if the specific modes of travel (bicycles, e-scooters, electric unicycles, etc.) evolve in the marketplace over time. This belief underscored the attitudes in many cities regarding e-scooters, and motivated those cities with regulations in mind to treat e-scooters as but one component of a broader restructuring of the personal mobility conversation.

Officials View E-Scooter Infrastructure as Inadequate, but Demand Compels Quick Action

Discussions of physical infrastructure for e-scooters are prominent in the transportation literature, and the author folded the issue into the interview process with each stakeholder. For these motorized personal scooters, legitimate questions must be asked about how they might most safely share the right-of-way. At the same time, given the expense of modifying travel paths to add another mode of transportation, it remains an open question as to how cities have thus far adapted their infrastructure plans to incorporate e-scooters. On this topic, the interview participants shared one broad consensus that physical infrastructure for e-scooters is presently “inadequate,” with many folding it in to a broader discussion on the lack of funding or space for bicycle lanes in many parts of their cities. Still, as a handful of participants described in differing terms, the booming demand for e-scooters has placed pressure on local governments to find a solution of some kind. While these cities have not yet built dedicated pathways for e-scooters (and at the time of the interviews, none had plans to), they are nonetheless faced with the challenge of finding a travel path for dozens or even hundreds of moving vehicles already on their streets. Cities cope with this pressure in different ways – some permit e-scooters to use bike lanes, while others forbid this and instead ask riders to share the automobile roadway with cars, trucks, and motorcycles. Still, the challenge of finding a place to put so many vehicles – whether parked or in motion – after they have already launched on city streets is a complex one that cities have not yet conquered in a generally-applicable or universal way. It remains a challenge shared by all.

Officials and Managers View Media Coverage of E-Scooters as Unfair, Agenda-Driven

One topic that emerged in the interviews with both city officials and e-scooter operators was that of media coverage of e-scooter programs and safety-related incidents. While the research team did not exhaustively analyze the media coverage of e-scooters in every American city, they discussed the issue more generally with each interview participant to obtain their thoughts on how media coverage shapes – and is shaped by – regulation. Several of the cities covered in the interview process had experienced visible controversies in their local media about e-scooters and safety. One city in the Southeast had an especially high-profile experience with severe collisions between e-scooters and automobiles. City officials, and their private-sector counterparts, generally felt that the media coverage of e-scooters in this sense was somewhat unfair and agenda-driven. One interview participant explained that “We understand the media has a responsibility to report on injuries and things that affect people’s lives, but they never seem to ask our office for a comment on what we’re doing to make things better. They just show the accident and move on.” The individuals from the e-scooter companies described a slightly different agenda in their media coverage – criticism of business practices – but had similar sentiments about not being able to share the positive attributes of their operations. On the whole, e-scooter regulators and managers felt “boxed-in” by media coverage that fed a broader public energy against e-scooters, making the task of overseeing these programs somewhat more difficult along the way.

Officials See E-Scooters as Reasonably Safe with Vendor Instructions, Cite Safety Data

In keeping with the previous finding, officials and e-scooter managers generally felt that e-scooters were reasonably safe for casual riders, provided certain conditions were met. They pointed to education efforts – either enacted through legislation or broadcast to e-scooter users before each ride – that steer riders toward safer choices and more attentive riding. To support their assertions on safety, several cities pointed to collision data obtained from both local police agencies as well as the e-scooter operators themselves (where a data-sharing agreement was in place). E-scooters from the 17 companies are fitted with technology that tracks not only location and ridership of e-scooters, but also collision locations. Where city officials have access to these data, they use it to plan future infrastructure, but also to rebut claims that e-scooters are unsafe and

unregulated. This ties in with the previous finding on media coverage of e-scooters, but city officials generally purport to be pleased to have access to useful data in those disputes.

Copious Amounts of E-Scooter Ridership Data Are Being Collected, but Put to Mixed Use

Related to the previous point, the consensus among interview subjects was that e-scooter programs are collecting large amounts of data that could aid companies as well as local governments in more effectively planning infrastructure, safety adaptations, equity programs, and more. Cities with pilot programs often collect data on ridership and demographics, while the companies collect data on locations, travel paths, collisions, speed and driving style, and so forth. Taken together, these two camps are in many cases flush with useful information that could improve the management climate for e-scooters both immediately and over the long term. However, some participants aired concerns that data are either not being fully shared between parties or not being used productively after sharing. One California city official described attending a budget meeting to learn that the data collected by the city and its e-scooter operators would require two full-time city employees to process on an ongoing basis and fold into maps and regional transportation reports. Without such staff support, data can linger unused. City officials see a clear need for reliable ridership and geographic data, but also admit it will take time and resources to transform the raw data into useful policy shifts and long-range plans. In this vein, several city officials also complained of information asymmetries in the ecosystem of e-scooters. Companies have the resources to process their data more readily than cities, giving them an advantage in planning future operations. This continues to be a point of contention in many locations, but also a point of potential collaboration in the future.

Regulations Are Still Young and Being Adjusted, but Appetite for Rules is Healthy

Closely linked to the findings of Chapter IV, these interviews shed light on the reality that in many cities, regulations on e-scooter programs remain relatively new and in-flux. The research team found several examples of communities where the original e-scooter contracts or permit regulations were being changed due to shifting political or economic demands. E-scooter company representatives expressed little concrete sentiment on this subject, but stated a general willingness to work with city governments in a partnership that “promotes safe and fun mobility.” Despite

shifts in the regulatory structure in some cities (including the many cities mentioned in Chapter IV with temporary bans), the desire for e-scooter regulations remains robust and driving. Interview participants expressed no regret at regulating e-scooters (in the cities with regulations), and in the cities without written rules, officials admitted to being “behind the times” and eager to set some framework in place. This ties in to a previous finding in this section about planners seeing this issue as a longer-range mobility revolution that will need a continued effort over a period of years.

Cities Value Equity and Safety, but Prefer to Let Operators Enforce/Measure Both

One final area that the research team sought to cover in the interviews relates to the rubric used in Chapter IV to evaluate e-scooter programs on matters of equity and safety. Researchers asked interview participants in both camps to discuss their views on the importance of equity and safety as structured components of e-scooter operations and planning. Among city officials, there was considerable sentiment that equity and safety are vital concepts to the running of a city government, and they felt there was a strong need for concrete standards ensuring both concepts were treated seriously by e-scooter operators. However, when pressed on the issue, every city official who expressed this sentiment conceded that it is ultimately up to the providers to determine the best way to promote safe and equitable e-scooter usage. In other words, there was virtually no appetite for enforcing concerns of equity and safety beyond what was already in place in these communities. This admission that two concepts are important to a city government, but not so important that the government itself will push for their inclusion in operating policies of a mode of transportation, illustrates one limitation of city regulators, and arguably one area in which they are unable or unwilling to use police power to enforce policy goals in the name of social welfare.

The sentiments expressed in these interviews helped to fill in the gaps on this broader study of e-scooter regulations. Findings from this chapter illustrate the attitudes behind the regulations, for better or worse, and provide some rebuttal to media claims that cities are unconcerned with e-scooter safety or long-term planning for this new mode of travel. The interviews were also structured to allow each participant to offer actionable advice to their counterparts across North America, and participants indulged the research team with some very specific suggestions for how to more effectively manage an e-scooter program or regulation from the beginning. Several of these suggestions are folded into the following chapter.

Chapter VI: Advice and Actions for Effective E-Scooter Policy

This chapter briefly describes several of the more practice-ready examples of advice given by city officials and e-scooter managers to their counterparts exploring how to most effectively regulate and manage e-scooter programs in American cities. The list that follows is not a comprehensive recounting of the interview conversations, but rather a gathering of the strongest points of agreement and commonality in the many insights shared by interview participants. Each of these items is structured to be actionable and applicable to program management.

“Work as partners, not top-down autocrats, and set shared goals for success”

The most prevalent piece of advice given by interview participants to their nationwide peers is to build more effective partnerships between city governments and e-scooter providers. When the team first approached the project as a study of regulations imposed upon e-scooter providers, one of the early stakeholders advised them to check the premise and instead see the city-operator interactions as a partnership of sorts. By discarding the traditional vertical orientation of regulators and the regulated, the team was better able to conceptualize the potential partnership as one of two or more parties with generally compatible goals for safe and enjoyable personal mobility. This was supported in the interviews, with participants warning against treating this as a simple, top-down relationship. A few pointed to the information asymmetries present in this relationship as an example of how neither party has a true upper hand. Both groups would arguably produce the best results by embracing their shared goals and working cooperatively to reach them. This partnership orientation may be an untested concept for traditionally minded city regulators, but it holds significant promise in helping authorities to navigate this new ecosystem.

“Use a pilot program to gather data and set rules/norms for the future”

Participants also recommended launching a pilot program for e-scooters as a chance to test the programs, identify key weaknesses and safety failures, and gather data on how to most effectively manage a permanent program. When the research team reached out to cities with temporary bans in place, it found that several of those cities initiated a pilot study soon after the short-term ban was enacted, so they could test and learn more about e-scooters before allowing them citywide. Given the documented examples of limited communication and lack of national-level best practices for e-scooter management, the notion of a city testing its suitability for e-

scooters through a pilot program made sense to the research team. As communities learn more about e-scooters and personal mobility, those rules and norms will surely continue to evolve. But beginning a city’s e-scooter commitment with a structured pilot program will ideally help to iron out dangers and critical issues before they cause more lasting damage to riders or cities.

“When regulating e-scooters, use flexible rules to keep abreast of changes in mobility technology”

From the officials in cities with an active e-scooter regulation in place came the advice to keep the regulations flexible in order to account for changes in technology and preferences over time. This input came as a result of discussions that the research team had with a few of the interview participants regarding bikeshare policy over the past several years. The research team, having studied bikeshare policy in a previous project, recounted how bikeshare policies often had to be adapted as bikeshare programs shifted from docked to dock-less modes, forcing city officials to rewrite many of their rules and norms. Participants agreed with this concept, and supported the assertion that regulations of this nature should be structured to be flexible and easy to adapt to the next generation of mobility devices. This advice applies chiefly to cities working with permit regulations – which are generally easier to revise – as opposed to contracts or ordinances – which are generally denser and more complex to alter after the fact. But the general sentiment of adaptability remains a valid piece of wisdom for practitioners.

“Gather data, but put it to good use immediately and over the long term”

Directly tied to one of the findings of Chapter V is the advice that cities and e-scooter companies find a productive use for all the data being collected on these vehicles and programs. While cities may lack the manpower or technical ability to transform raw data into policy solutions overnight, they must still find ways to absorb the information and apply it to a more informed decision-making process. Cities can require e-scooter companies to share non-proprietary usage data with local governments, and participants generally recommend this. In the short term, these data can be used to map “hot spots” of e-scooter ridership and popular travel paths. Over the long term, these data can help plan for lasting infrastructure for e-scooters and similar devices, while also anticipating e-scooter usage by demographic profile. As mentioned previously, the data collected by governments and e-scooter companies is substantial and holds great promise for policy reform, but it must be put into the right hands at the right time in order to make a difference.

“Set your focus on local needs and a long-term vision, not media coverage or fears”

This last piece of wisdom involves a spirit of optimism and local focus that sometimes seems lacking from the literature and media coverage related to e-scooters. Officials strongly advise that a city planning to regulate e-scooters and similar devices structure their plans for local needs rather than national-scale best practices that may not truly work for the community in question. Also, they stress the need for plans to have a long timeframe, in keeping with the vision of personal-scale mobility as a permanent shift in transportation planning. Going back to the discussion of media coverage and public controversy, officials acknowledged that some media sensationalism will always color the coverage of city administration and policymaking, but it is ultimately up to city staff themselves to determine whether such sensationalism and publicity can or should set the tone for transportation regulation and oversight. Interview participants recommend officials focus their energy not on crafting rules and policies that address media criticisms, but that advance community goals of safety, equity, and efficiency. They recommend their peers focus on the core motivation of local government in order to set wise and just policy.

Chapter VII: Conclusion

This study represents a brief glimpse into a new and still-unfolding means of personal transportation, and the ways in which local governments might proceed to regulate or oversee the new mode's safe operation on city streets. The research team investigated the dozens of American cities, large and small, that hosted one or more e-scooter programs in 2019, exploring those cities' willingness to regulate, their general attitudes toward e-scooters, and the patterns that are emerging as e-scooters mature on American streets. The researchers also explored the role of e-scooter companies in entering markets, managing issues of safety and equity, and working with local governments to establish guidelines, regulations, and a better understanding of personal mobility. Through document review, policy evaluation, and stakeholder interviews, the researchers established a set of fundamental findings and points of consensus around which future scholars and practitioners can build a more permanent foundation of knowledge and policy. The team also incorporated a handful of specific management and oversight recommendations from practitioners themselves. Ultimately, however, this study was a modest exploration of a growing phenomenon. A tremendous amount of research remains to be done on this topic, although much of it will not be truly possible until e-scooters have matured a bit more as a means of personal mobility. Nevertheless, the authors present this report's findings and recommendations, brief though they are, as a contribution to the latest addition to the urban transportation menu.

There are a few key items the research team would have investigated differently or in greater depth, had time and chance permitted it. First, the researchers would like to have done a more robust investigation of city e-scooter policies, parsing the language and enforcement mechanisms of the various community regulations governing e-scooters. Such an undertaking would be a vital contribution to the literature on e-scooters, and the researchers lament not having the resources to undertake that investigation to its logical conclusion. Another area of potential exploration is in the depth of the team's analysis of e-scooter companies. Virtually nothing has been published on these companies in the academic literature, but they represent a captivating hybrid of venture capital, traditional business, and the sort of colorful entrepreneurs that so typically invest resources in novel ideas like electric scooters. The researchers found it quite enjoyable to study these companies and to communicate with a few of their employees, and a richer standalone study into those companies is needed in order to bring that perspective to the

growing e-scooter literature. One final area of reflection is the number of stakeholder interviews the team was able to conduct. While they were grateful to have the input of so many informed individuals across the nation, the research team initially intended to have dozens more interviews than were eventually conducted. This shortfall was due chiefly to staffing and administrative challenges that emerged for the research team, rather than any structural flaw in the research design itself, but the team nonetheless feels these results would have more weight if the consensus bore the input of 50-100 stakeholders rather than the 15 that resulted. Despite these self-identified shortcomings of the project, the team remains hopeful that these lessons and findings will be of some use to agencies and companies in need of information on this topic.

The next steps for this research are to first distribute this information to relevant stakeholders via report dissemination, webinars, and supporting materials aimed at that audience. In addition, studies that build on these initial findings – perhaps by overcoming the challenges outlined in the previous paragraph – will contribute to the e-scooter literature as it develops. Greater and richer studies are needed on this topic, not merely because e-scooters were so popular and visible in 2019, but also because of the staying power of the personal mobility revolution. The author and his research team strongly feel that the root of these cities’ struggle with regulating e-scooters stems from a lack of preparedness for issues of personal mobility beyond transit and the automobile. In order to address the challenge of e-scooter management, as well as to prevent being caught unaware in the next wave of personal mobility devices, community planners and elected officials must make an ongoing effort to understand not just the devices of personal mobility, but also the philosophy of planning for human-scale, single-occupant forms of urban transportation. These devices will evolve over time, but the spirit of flexible and personal mobility will endure in American cities, and reports like this will hopefully contribute some knowledge to that spirit.

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Appendix A: Base Interview Question Set

1. Tell us about your current position and role in your community/company.
2. How long have you been active in the area of e-scooter policy/activism/management?
3. What do you think of your city's current scooter/bicycle/cyclist culture and community?
4. What do you think of your city's current infrastructure for e-scooters?
5. In your own words, what makes e-scooters so unique for cities?
6. What challenges have you encountered in managing/regulating them?
7. How are e-scooters regulated in your city?
8. Are those regulations necessary or sufficient? How are they impacting ridership?
9. Do you think e-scooters in your city are safe enough for casual riders?
10. What makes a city safe for modes like e-scooters and bicycles, and how has your community performed at that?
11. Does your community have a formal plan for equity and fair usage of e-scooters by disadvantaged or disabled riders? If so, tell us more about how it was formulated and what it entails.
12. What forces/actors were a part of those deliberations? Whose input was sought?
13. In what ways has the city government's attitude toward personal transportation changed since e-scooters were launched?
14. Why do you think these changes in attitude have occurred?
15. How has your city adapted physical infrastructure plans to suit e-scooter ridership?
16. Can you think of anyone in city leadership who was vocally opposed to e-scooters, or to bike-ped infrastructure in general?
17. If so, has that person remained a skeptic?
18. What vital lessons has your community learned from managing e-scooters that can be imparted to other cities planning for personal mobility infrastructure?
19. Do you have any additional comments, or questions to ask us at this point?

Appendix B: IRB-Approved Script for Verbal Consent

The following script was read to all interview subjects at the start of each phone interview, in order to obtain their verbal consent to proceed. The script was approved by the Institutional Review Board of the University of Texas at Arlington (protocol # 2019-0262).

“This interview is part of a study looking at e-scooter regulation in American cities, specifically how the attitudes toward regulation have evolved over time and how those attitudes are shaping equity and infrastructure decisions. We are conducting interviews with stakeholders such as yourself in order to gain the perspective of people who work most closely with city regulations and oversight of transportation modes. Our ultimate goal is to tell the story of how and why communities like yours regulate e-scooters the way that they do, and we think you have information that can help us tell that story.

While we are pleased to talk with you about your expertise, we must also inform you of your rights as an interview subject. Ethical research requires the informed consent of the individuals touched by the study, and you have the right to protect your confidentiality, your employer, and your dignity and safety. While we do not plan to ask any questions of a personal or confidential nature, you still have the right to refuse to answer any question for any reason. This will not be held against you, nor will we document your refusal(s) in the final report. You may also end the interview at any time and for any reason, and you have the right to insist we discard your responses should you no longer wish to be a part of our study.

There is no compensation for participating in this study.

If you understand your rights as an interview participant, please reply with ‘Yes.’

Do you still wish to proceed with the interview?”
