

E-Scooter Programs: Current State of Practice in US Cities

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Prepared for and Funded by:
New Jersey Department of Transportation (NJDOT)
Federal Highway Administration (FHWA)

December 2019



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Susan G. Blickstein, LLC is a planning, policy, and public engagement firm that specializes in sustainable land use and transportation planning in the State of New York and New Jersey. It provides urban planning and strategic planning services to municipal entities, MPOs, state agencies and the private sector. Susan G. Blickstein, LLC is a certified DBE (Disadvantaged Business Enterprise) in New York and New Jersey.

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Acknowledgments

The authors would like to extend special thanks to Aashna Jain, Research Project Coordinator, Alan M. Voorhees Transportation Center and the Alan M. Voorhees Transportation Center graduate interns for their assistance in finalizing the report. Additionally, the authors would like to thank Michael J. Manzella, PP, AICP, Director of Transportation, City of Asbury Park for his assistance in creating the Asbury Park City Summary.

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Credit: Michael J. Manzella



Credit: Michael J. Manzella

CHAPTER I

OVERVIEW



I. OVERVIEW

In the US, dockless electric scooters (e-scooters) emerged in 2017 and have proliferated in many US cities in the past two or three years. The introduction of electric scooters is part of a larger shared micromobility investment trend – an innovative transportation strategy that provides users with short-term access to a bicycle/e-bicycle, scooter/e-scooter or other low-speed mode of transportation on an as-needed basis (Cohen and Shaheen, 2019). Shared micromobility services could replace/reduce personal vehicle use and ride-hailing trips and provide first and last-mile solutions for public transit (Populus, 2018). Because electric scooters are dockless, users typically locate, unlock, and pay for an e-scooter using a phone application. To operate them, users stand on the electric scooters' narrow platform with one foot in front of another and can travel 15-20 mph.

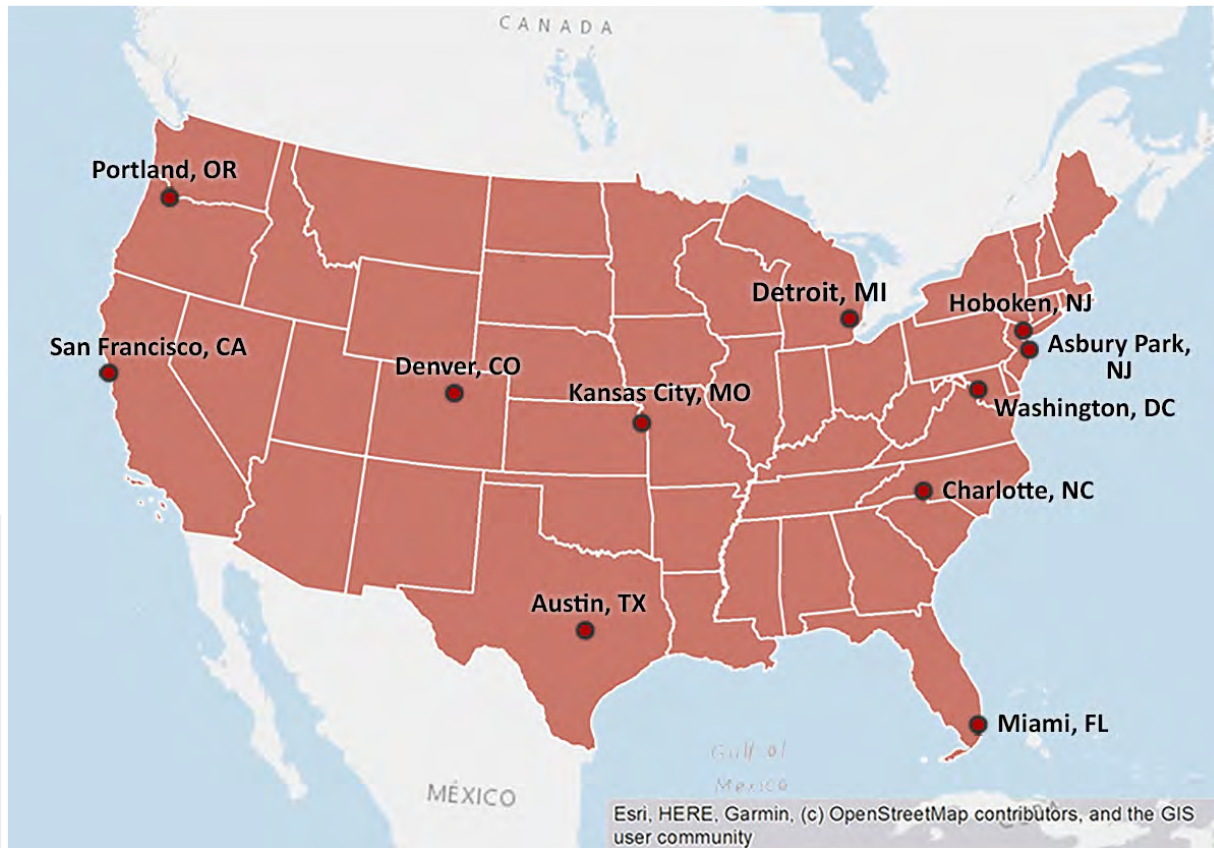
Given e-scooters' recent introduction into US cities, this study explores the current state of practice of integrating e-scooters into urban travel infrastructure, including pilot program structures, applicable State and local regulations, access and equity concerns, and other aspects of managing e-scooters in urban contexts. The goal of this white paper is to identify best practices for incorporating e-scooters as micromobility options in New Jersey communities.

For this analysis, eleven US cities that have piloted or are piloting an e-scooter program were evaluated. Cities were selected to reflect geographic variation and to represent the experiences of both large and smaller urban areas. Cities were also selected based on the availability of information on current or recent pilot efforts.

This study highlights e-scooter best practices that govern user accessibility/user trends, safety data, and right-of-way regulations. Details on each of the city's e-scooter program are provided in an Appendix. We also present the recent New Jersey law that defines, and, to some extent, regulates e-scooters. Lastly, we identify key findings and concerns for consideration by New Jersey communities in adopting e-scooter share programs.



11 Case Studies of American cities that have piloted or are piloting an e-scooter program.



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Key findings and concerns for consideration by NJ communities in adopting e-scooter share programs.



Details on each of the city's e-scooter program (see the Appendix).



The recent New Jersey law that defines, and, to some extent, regulates e-scooters.



Credit: Charles Brown

CHAPTER II

BRIEF HISTORY OF E-SCOOTERS IN THE US



II. BRIEF HISTORY OF E-SCOOTERS IN THE US

Electric scooters were first introduced in the US in September 2017 by Bird Rides, Inc., a company founded by a former executive who worked previously at Uber and Lyft ride-sharing companies. Bird first launched electric scooters in Santa Monica, CA, where the company is based, and expanded to other US cities in the spring of 2018. Borrowing from the business strategies of ride-share programs, Bird brought e-scooters to cities without permission from local officials or advanced coordination (PBOT, 2018). Other companies that were previously bike-share companies, such as Lime and Spin, also began to introduce e-scooters in 2018 without advance coordination or permission from the cities they serve. Because of the traffic and right-of-way accessibility disruption that e-scooters brought to cities, some cities, such as Miami, Denver, and San Francisco, chose to suspend or ban e-scooter operations in the summer of 2018 until regulations could be put into place. Additionally, issues related to safety and equity have required cities to develop local programs and regulations to minimize safety concerns and maximize access to e-scooters to better serve historically underserved neighborhoods.

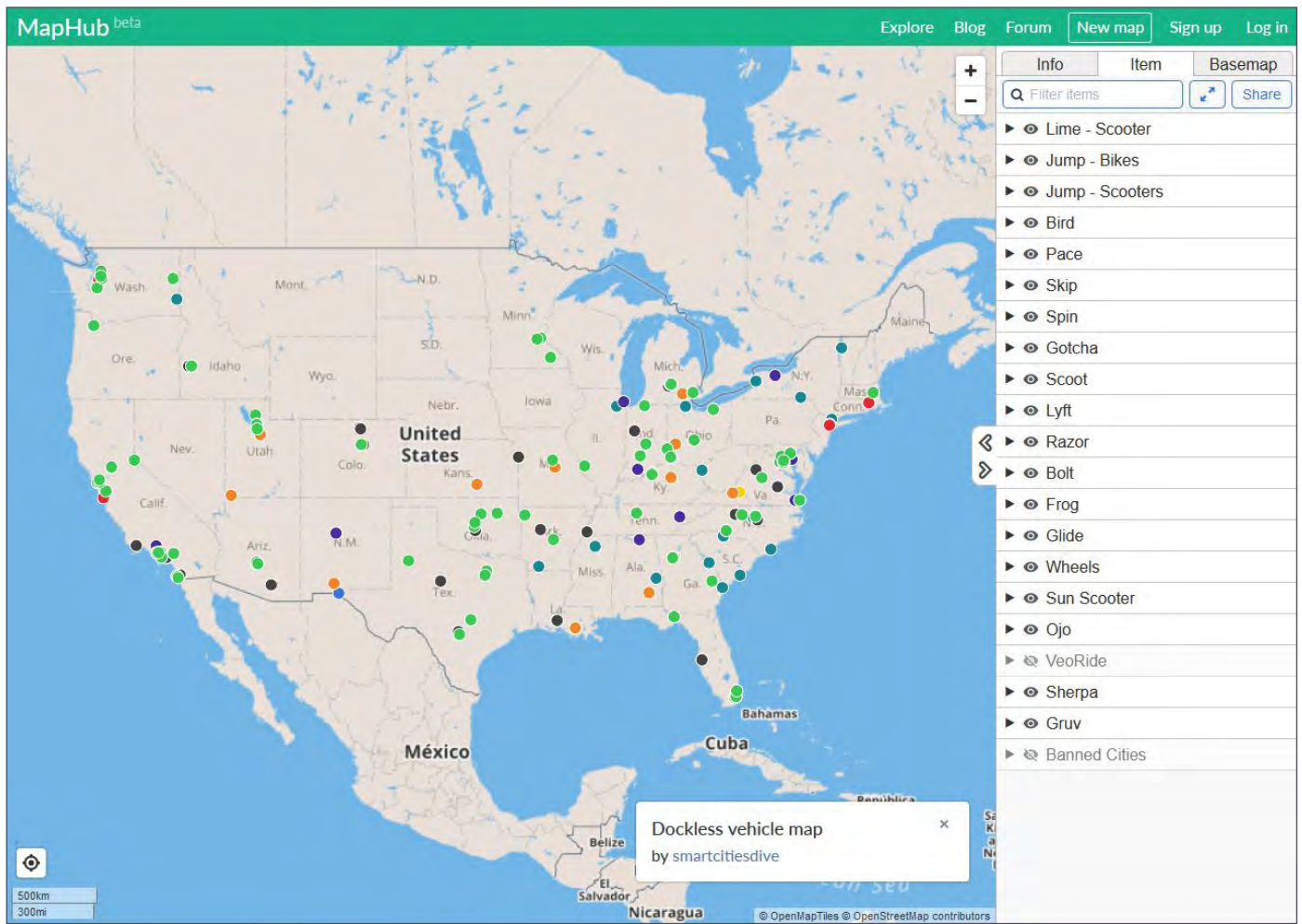
As micromobility and shared transport options have grown in the US (see map on page 8), cities have begun to develop and revisit policies to select providers and monitor companies' e-scooter programs. This report reviews common practices and policies for electric scooter operator permits, including fleet sizes, user equipment/operational requirements, data requirements, strategies to promote equitable access, and parking/right-of-way use regulations. Where safety data and/or development of safe riding regulations are in place, we also include an overview of these practices.



E-scooter in Washington, DC.

Credit: Elvert Barnes.

Source: <https://www.flickr.com/photos/perspective/44012043172>



*Screenshot of a map showing all the e-scooter share programs operating in the US. The map is launched by Smart Cities Dive on Maphub, an open platform for interactive map-making. Last updated on December 13, 2019.
Source: <https://maphub.net/smartcitiesdive/Mobility-map>*



Credit: Charles Brown

CHAPTER III

E-SCOOTER PILOTS/PROGRAM STRUCTURE & REGULATIONS



III. E-SCOOTER PILOT PROGRAM STRUCTURE & REGULATIONS

The eleven cities showcased herein highlight a range of approaches to regulating e-scooters. Some cities have chosen to establish clear visions and objectives that guide micromobility policy/planning, including selection of providers and implementation of programs. Cities have also established a variety of formal and quasi-formal processes to approve and regulate e-scooter programs in order to manage competition among different providers and to maintain safety in the public right-of-way. In the most effective applications, these approaches are being refined collaboratively as both providers and cities learn from practicing what is most effective, safe, and desirable to serve local needs.

This section summarizes approaches to micromobility policy and planning as foundations for e-scooter programs, pilot regulatory frameworks, and selection of operators.

Micromobility Policy: Visions and Objectives

Out of the eleven selected cities, San Francisco, Charlotte, Denver, Portland, Kansas City, and DC have established clear goals and objectives for their e-scooter pilot or programs. Some of the visions are aligned with larger goals and plans (ex. Climate Action Plans, Vision Zero) of the cities. The following lists some of the shared goals and objectives that these cities have identified and communicated to their e-scooter operators and residents:



New Brunswick Ciclovía, April 2019

Safety : Prevent E-scooter Fatalities and Serious Injuries; Achieve Vision Zero

All cities have identified safety as an important goal for their e-scooter pilot program. In particular, DC and San Francisco view e-scooters as strategies to achieve Vision Zero, and Kansas City and Portland have explicit goals to prevent fatalities and serious injuries in the pilot program. Denver and Charlotte also include investing in infrastructure as an important aspect of increasing safety for e-scooters and other transportation modes. (Please note that this study explores current educational strategies of providers in Chapter VI).

Equity : Increase Access of E-scooters in Underserved Communities; Equitable Hiring Practices

Another goal that all cities share is providing equitable access to e-scooters, especially for lower-income and underserved communities. In addition, San Francisco and Portland have policies to promote equitable job opportunities and to encourage permitted operators to hire low-income people and people of color as part of their pilot objectives. San Francisco encourages operators to hire locally and to also maximize procurement of goods and services from disadvantaged business enterprises. (Please note that this study presents the various approaches to equitable access to e-scooters in Chapter VII).

Increase Transportation Options

Portland, Denver, and DC have explicit goals for increasing mobility/transportation options for all residents. Denver and San Francisco's goals for e-scooters include improving residents' access to public transit and other modes.



Credit: Michael J. Manzella

Sustainability

San Francisco, Portland, Kansas City, and DC expressly align e-scooter use with the greater goal of reducing carbon emissions and air pollution. Portland, San Francisco and Kansas City aspire to reduce motor vehicle use by encouraging e-scooters as a viable alternative for short trips. For instance, DC's pilot program referred to the City's larger Sustainable DC plan that aims to increase biking and walking to 25 percent of all commuter trips. Some cities also identify measures to create/enforce sustainability practices for e-scooter operators. For instance, Portland's pilot sought to quantify permitted operators' scooter program life cycle climate impacts and to reduce vehicle miles traveled from deploying, rebalancing, and charging e-scooters.

Right-of-Way Management

While all cities emphasize the importance of maintaining the public right-of-way in their city codes/ordinances and educational materials, DC and San Francisco included public space management as part of their e-scooter pilots' main goals. San Francisco emphasized that the public right-of-way must be maintained so that e-scooters are not a nuisance or barrier to people using mobility aids. (For more detailed information on right-of-way regulations and management, see Chapter V).

Data Sharing & Evaluation

Kansas City, San Francisco, and DC policies recognize the importance of using data/performance metrics to evaluate e-scooters' benefits and impacts on the transportation system. Austin's program includes open access to live-reported usage data that is geocoded. (For more information on accessible data and evaluation efforts, see Chapter VIII).



*E-scooter Parking in
Asbury Park, NJ.*

Regulatory Frameworks for Provider Selection

In addition to program objectives and visions, cities have also adopted different types of permitting processes to select companies to operate e-scooter pilots and programs. Some cities have written formal policies that are codified in local ordinances, while others have developed interim agreements and have introduced short-term e-scooter pilots to test operations before committing to full-blown programs.

Ordinances/City Codes/Agreements

When companies such as Bird and Lime first brought e-scooters to cities, most of them did not request and receive prior authorization from city governments. Some cities did not have regulations or permitting processes in place to effectively manage e-scooter activity. As a result, some cities, such as San Francisco, issued cease and desist letters to ban e-scooter companies until they could establish a formal regulatory and permitting process. Other cities, such as Charlotte, adopted a local ordinance to address e-scooter regulations before providers began service. Out of all eleven cities, Kansas City and Detroit currently do not have formal regulations, though they do have agreements that provide guidelines for e-scooter program operation (See Table below).

Most cities have introduced e-scooters through pilot programs, which set temporary regulations and provide for a limited-term agreement that may be updated at the conclusion of the pilot if a permanent program is implemented (Cohen and Shaheen, 2019). Cities establishing permanent programs or proactive pilot programs typically have an application process and specific selection criteria to solicit and choose companies with experience and qualifications to operate e-scooters (Cohen and Shaheen, 2019). Like most bike-share programs, instead of cities paying operators to provide service, companies pay for the opportunity to operate e-scooters with users paying directly for the service (Collins, 2018).

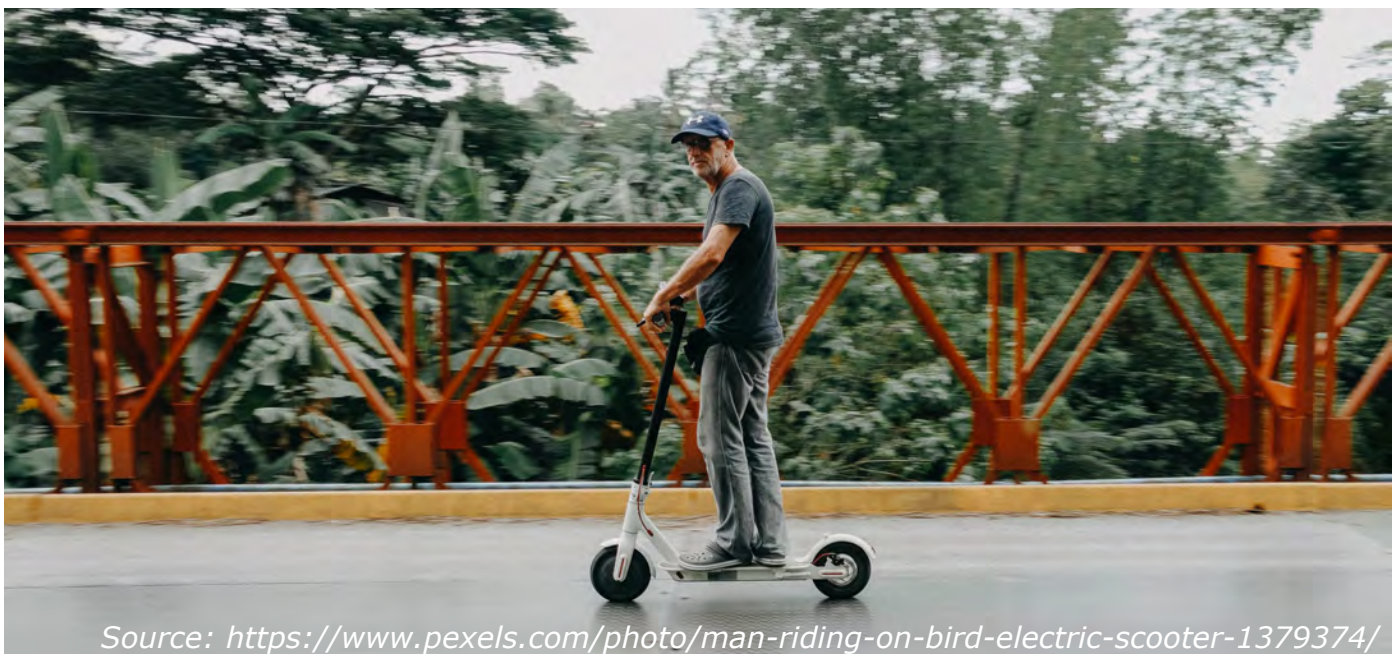
Regulatory Oversight and Approaches to Regulation in Cities	
<i>E-scooter Companies Came without Prior Authorization</i>	<i>Cities with Formal Regulation: Local Ordinance/City Code</i>
Miami, FL Kansas City, MO Austin, TX Denver, CO San Francisco, CA	Asbury Park, NJ Hoboken, NJ Washington, DC Charlotte, NC Miami, FL Austin, TX Denver, CO Portland, OR San Francisco, CA

Out of the eleven cities studied, only three cities have permanent programs – Austin, Charlotte, Washington, DC. All three of the cities started permanent programs in late 2018 to early 2019. Denver and San Francisco are planning to start permanent programs in the fall of 2019.

Provider Permit Fees

Contracts between providers and municipal entities generally include a permit fee, an application fee, and often a per-vehicle fee. In some fee structures, such as Washington, DC, the per-vehicle fee decreases by increment of \$5 each month after the first month of operation. Fee amounts vary by city. Some cities are experimenting with variable per-scooter fees to encourage companies to educate users with proper parking and safety guidelines. For instance, in Charlotte, companies will receive fee deductions if scooters are parked and used properly; conversely, companies will receive a fee increase if users don't follow parking and safety guidelines (More information about Charlotte's dynamic pricing model in Chapter VIII, page 54).

In addition to these fees, performance bonds are often required to cover repair and maintenance of public property. For instance, San Francisco requires a public property repair and maintenance endowment that is due at the time of permit issuance (\$10,000). Denver charges a public property repair and maintenance performance bond of \$30 per deployed vehicle that the City can draw upon as needed for costs associated with auditing, removing, and storing improperly parked vehicles. Washington, DC requires a \$10,000 bond to cover moving dockless vehicles that are parked illegally or blocking the right-of-way. While Miami does not require a fixed bond payment, it charges \$25 for any scooter that is parked outside of the permitted area. Lastly, Austin charges a performance bond of \$100 per deployed unit.



Source: <https://www.pexels.com/photo/man-riding-on-bird-electric-scooter-1379374/>

Provider Selection Criteria

Cities have established different criteria to review e-scooter companies' permit applications and to select providers. The selection criteria are often designed to evaluate the extent to which e-scooter companies' programs and approaches to service align with the broader planning objectives, goals or criteria established by the city. In the case of San Francisco, twelve criteria are used to evaluate providers, including specific criteria for maintaining right-of-way/sidewalk clearance for disabled accessibility, criteria for equitable access to e-scooters for low-income residents and areas outside of the downtown, as well as for community outreach, and safety/education.

San Francisco Case Study: Scooter Pilot Assessment Criteria

San Francisco created a formal permitting process, in which SFMTA (San Francisco Municipal Transportation Agency) assesses e-scooter applications based on 12 criteria. Criteria address the education and training of users, maintaining disabled/ADA access, equity (payment options, service areas and rebalancing), community outreach, labor requirements, commitment to sustainability, and experience. Scoot and Skip were ultimately selected by SFMTA because they were rated strong or fair in most of the criteria. Clear evaluation criteria that align with program goals and objectives are necessary as the number of e-scooter companies continues to grow in the US.

Scooter Share Pilot Program - SFMTA Application Assessments

AUGUST 30, 2018

		Bird	HOPR	JUMP	Lime	Lyft	Ofo	Razor	Ridecell	Scoot	Skip	Spin	Uscooter
Safety	Strategies to educate and train users should result in safe operations of scooters by riders.	F	F	P	P	P	P	P	F	S	F	F	F
	Strategies to promote and distribute helmets should result in helmet use by riders.	P	S	P	P	P	P	P	P	S	F	P	P
Disabled Access	Strategies to ensure properly parked scooters, including any commitments to locking or tethering, should result in parking that does not block the right of way	F	S	P	F	F	F	F	P	F	S	S	F
	User penalties for poor compliance by users with laws governing scooter operation, including possibility of suspension by the applicant, should support appropriate operation and parking by users.	P	P	P	P	P	P	P	P	F	S	P	P
Equitable Access	Approach to providing service to low-income residents, including diverse payment options and fare discounts, should reduce barriers to participation.	P	P	S	P	S	F	P	P	P	S	F	P
	Service Area beyond the downtown core and commitment to rebalancing should ensure availability of scooters in underserved areas.	P	F	S	P	P	F	P	S	F	S	P	F
Community Outreach	Outreach approach should include strategies to ensure that low income residents are aware of service and how to participate.	P	P	S	F	F	P	P	P	S	F	S	P
	Approach to outreach should ensure that members of the public, including those that choose not to use scooter services, have the opportunity to be heard and to stay informed about program.	P	P	P	F	F	P	P	P	F	S	P	P
Labor	Should demonstrate understanding of operational needs and resource requirements to ensure service reliability.	P	P	S	S	S	S	P	S	S	S	S	F
	Approach to hiring and training employees and/or contractors should ensure that staff have the knowledge and skills to ensure safe operational practices and knowledge of the communities in which they operate.	P	P	P	F	F	S	P	P	S	F	P	F
Sustainability	Approaches to operations and disposal should demonstrate commitment to environmental sustainability.	P	P	F	F	S	P	F	F	F	P	F	P
Experience & Qualifications	Applicant's experience in operating and maintaining shared mobility systems, in San Francisco and elsewhere as well as applicant's history, and the history of their users, in complying with city regulations should demonstrate their capacity to comply with the terms of the scooter share permit.	P	F	F	P	P	S	P	P	S	S	P	P

Rating Definitions

S **STRONG** ratings were given to responses that included detailed, unique or innovative approaches demonstrating the highest level of commitment and ability to solving known challenges and concerns, and substantially exceeding the minimum requirements. The SFMTA evaluated these proposed approaches as highly likely to achieve the stated standard.

F **FAIR** ratings were given to responses that included basic or typical, but unexceptional solutions, demonstrating a moderate level of commitment and ability to solving known challenges and concerns and meeting or somewhat exceeding the minimum requirements. The SFMTA evaluated these proposed approaches as moderately likely to achieve the stated standard.

P **POOR** ratings were given to responses that at best met the bare minimum requirements established in the terms and conditions for holding a permit, and often lacked important details, demonstrating a low level of commitment and ability to solving known challenges and concerns. The SFMTA evaluated these proposed approaches as unlikely to achieve the stated standard.



SFMTA's Application Assessment Chart that is used to choose e-scooter companies for San Francisco. Source: SFMTA.



Credit: Charles Brown



CHAPTER IV

EQUIPMENT & OPERATIONAL REQUIREMENTS FOR E-SCOOTERS



IV. EQUIPMENT & OPERATIONAL REQUIREMENTS FOR E-SCOOTERS

What is an “E-scooter”?

Cities use varying terminology and definitions to characterize and locally regulate electric scooters (ex. dockless electric scooters, motorized scooters, electric mobility scooters, etc.). Definitions are important in that they are often used to establish different operational and equipment requirements that e-scooter users need to follow. The definitions are typically also linked to specific guidelines that e-scooter companies need to adhere to, such as maximum speeds and e-scooter design. An e-scooter is most often defined as a vehicle — but not as a motor vehicle or a toy vehicle. In such cases, e-scooters are subjected to all of the local rules that pertain to a vehicle (in some cities, bicycles and e-bikes are also defined as vehicles). E-scooters are also not usually categorized as electric personal assistive mobility devices, which typically refers to wheelchairs. Portland’s and San Francisco’s definitions of an e-scooter allows devices to have a seat, while the balance of local definitions that do not allow for seated scooters. In Kansas City and Austin, electric scooters are categorized under “small vehicle” and “micromobility device,” respectively. For instance, in Kansas City, the definition of a “small vehicle” pertains to dockless/lock-to geo-fenced bikes, scooters, e-bikes, e-scooters, skateboards, and other small, wheeled vehicles.

Cities also have various equipment requirements for e-scooters, ranging from GPS tracking systems, accessory equipment such as brakes and lights, and specific operational requirements, as noted in the following section.



*New Brunswick Ciclovía,
April 2019*

Equipment Requirements for E-scooters

All cities require e-scooters to have an on-board GPS unit so that they can track the vehicles' location in real-time. Cities and companies require e-scooter vehicles to affix stickers with critical information for the users. For instance, most cities require e-scooters to have a unique identification number, which indicates that the vehicle is permitted to operate in the city. Operators also need to include their customer service phone number/contact information on e-scooters. Some cities, such as Portland and Kansas City, also require operators to include general guidelines on how to properly use and park scooters on the e-scooters.

To ensure the safety of users, all e-scooters come with brakes. Some cities require the vehicles to have front light that emits white light and rear red lights/reflectors that are visible at least from 500 to 600 feet away. Denver requires e-scooters to have reflective materials that can be visible 600 feet away from both sides.

In addition, some cities, such as Charlotte and San Francisco, are experimenting with different ways to encourage proper parking behavior, such as requiring e-scooters to have locking mechanisms that enable users to lock shared scooters to a physical object such as a bike rack. In Austin, supplemental licenses will be given to operators for strategies that promote or incentivize good parking/riding behaviors, including giving e-scooters the ability to lock on fixed bike parking infrastructure.

Furthermore, in San Francisco's *Powered Shared Mid-Point Evaluation* (August 2018), SFMTA (San Francisco Municipal Transportation Agency) indicates that the lock-to design on e-scooters has addressed major issues with sidewalk clearance and pedestrian safety. Through the pilot program, SFMTA has found out that locking/tethering e-scooters to fixed objects is the most practical way to ensure the public pedestrian right-of-way is kept clear of obstacles.



Table: List of Active Micromobility Operators in Selected Cities

City	Bird	Lime	Spin	Skip	Lyft	Jump	Ojo*	Bolt	Razor	Other	Number of Operators
Asbury Park, NJ			X								1
Hoboken, NJ		X					X				2
Washington, DC	X	X	X	X	X	X		X	X		8
Charlotte, NC	X	X	X								3
Miami, FL	X	X	X					X			6
Kansas City, MO	X	X	X							RideKC	3
Detroit, MI	X	X	X							Boaz Bikes*	4
Austin, TX	X	X	X	X	X	X	X			Veloride	8
Denver, CO	X	X	X		X				X		5
Portland, OR		X	X					X	X	Shared	5
San Francisco, CA				X						Scout	2

**Different from other micromobility companies, Ojo and Boaz scooters provide a seated riding position and a cargo trunk in the rear. Boaz scooters are also equipped with side mirrors and turn signals. Ojo can travel up to 20 mph. The introduction of seated e-scooters have implications on e-scooters' operational and equipment regulations since they function differently from stand-up scooters.*

In San Francisco, Scout (scooter company) saw a decline in the monthly number of devices stolen since the implementation of its integrated locking mechanism. As a result of this finding, all Skip and Scout e-scooters, the two active companies in San Francisco, have locking mechanisms on them. Aside from the aforementioned equipment, companies are introducing new technology and equipment to improve the performance of e-scooters. For example, some of Skip's scooters have cameras that take snapshot photos during a rider's trip and swappable batteries (Dickey, 2018).



*An Ojo scooter with seat and trunk.
Source: <https://ojoelectric.com/>*

Operational Requirements for E-scooter Users

Most cities and e-scooter companies suggest that e-scooters should only be used by one person only at a time and users should not carry other articles (such as backpacks or packages) while riding an e-scooter. There are also specific restrictions on time of use, age of users, license requirements, speed limits, and personal safety accessories, specifically helmets (see Table on page 23), as noted below:

Time Restrictitons

Most cities prohibit e-scooter usage between sunset and sunrise. E-scooters are rebalanced, maintained, and charged during evening and early morning time periods while use is restricted.



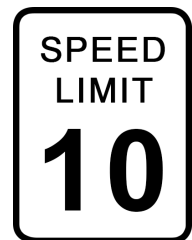
Age limit and Driver's License Requirement

Most cities require e-scooter users to have a driver's license. Some cities have an age requirement — users either need to be over 16 years old (DC and Portland) or at least 18 years old. Most of the electric scooter providers, such as Bird, Lime, and Spin, require users to be at least 18 years old and to have a valid driver's license.



Speed Limit

The speed limit for e-scooters is 15 mph in all cities except for Washington DC (10mph), Asbury Park (12mph), Hoboken (18mph), and Austin (20mph). While Denver does not have an explicit maximum speed for e-scooters, e-scooters are only permitted to operate in bike lanes or roadways on streets with speed limits of 30mph or less.



Helmet Use

Portland requires helmet use for users of all ages, while San Francisco and Austin only require helmets for those under 18 (and Detroit for those under 19). Interestingly, Charlotte requires helmets for those under 16, though operators are required to comply with a local age minimum of 18. Asbury Park, Kansas City, Miami, and Hoboken do not require helmets.



Operational Requirements				
CITY	Speed Limit (max mph)	Helmet Requirement	Driver's License Requirement	Age Requirement
Asbury Park, NJ	12	Not Required	Yes	18 years and older
Hoboken, NJ	18	Not Required	Yes (State)	18 years and older
Washington, DC	10	Under 16	Yes	Over 16
Charlotte, NC	15	Under 16	Yes	18 years and older
Miami, FL	15	Not Required	No	18 years and older
Kansas City, MO	15	Not Required	Not specified	Not specified
Detroit, MI	15	Under 18 (State)	Yes	18 years and older
Austin, TX	20	Under 18	Yes	No
Denver, CO		Under 18 (State)	Yes (State)	No (City); prohibited under 18 (State)
Portland, OR	15	All ages	No	16 and older
San Francisco, CA	15	Under 18	Yes	16 and older (State)

Despite the helmet requirement in many cities, many users do not wear helmets while using e-scooters. According to Austin Public Health's *Dockless Electric Scooter-Related Injuries Study* (April 2019), out of 190 riders who sustained an injury, only one rider wore a helmet at the time of injury. Similarly, according to San Francisco's *E-scooter Collision and Injury Analysis Report* (April 2019), out of 28 e-scooter users who were injured from a collision in 2018, only two wore a helmet. Wearing a helmet could prevent or reduce the severity of many injuries as most injuries in both studies were head injuries (48% of all injuries were head injuries in Austin, and 67% in San Francisco).

Due to concerns over safety and injury, cities have worked with e-scooter operators, such as Bird and Lime, to establish programs to incentivize users to wear helmets. For instance, in DC, providers are encouraged to provide a free helmet to customers upon request within 20 business days. The City of Miami encourages operators to work with local businesses or other organizations to promote the use of helmets through partnerships, promotional credits, and other incentives. In Denver, Lyft has free helmets at its Lyft Hub from 5pm to 8pm on Wednesdays and Fridays (Kenny, 2018). In addition, Bird and Lime offer free helmets to users via their apps.



The three e-scooter companies in Portland - Bird, Lime and Skip - gave away over 500 helmets at the E-scooter Safety Event hosted by PBOT on a first come, first serve basis. The event was held on September 13, 2018.

Credits: Sarah Petersen

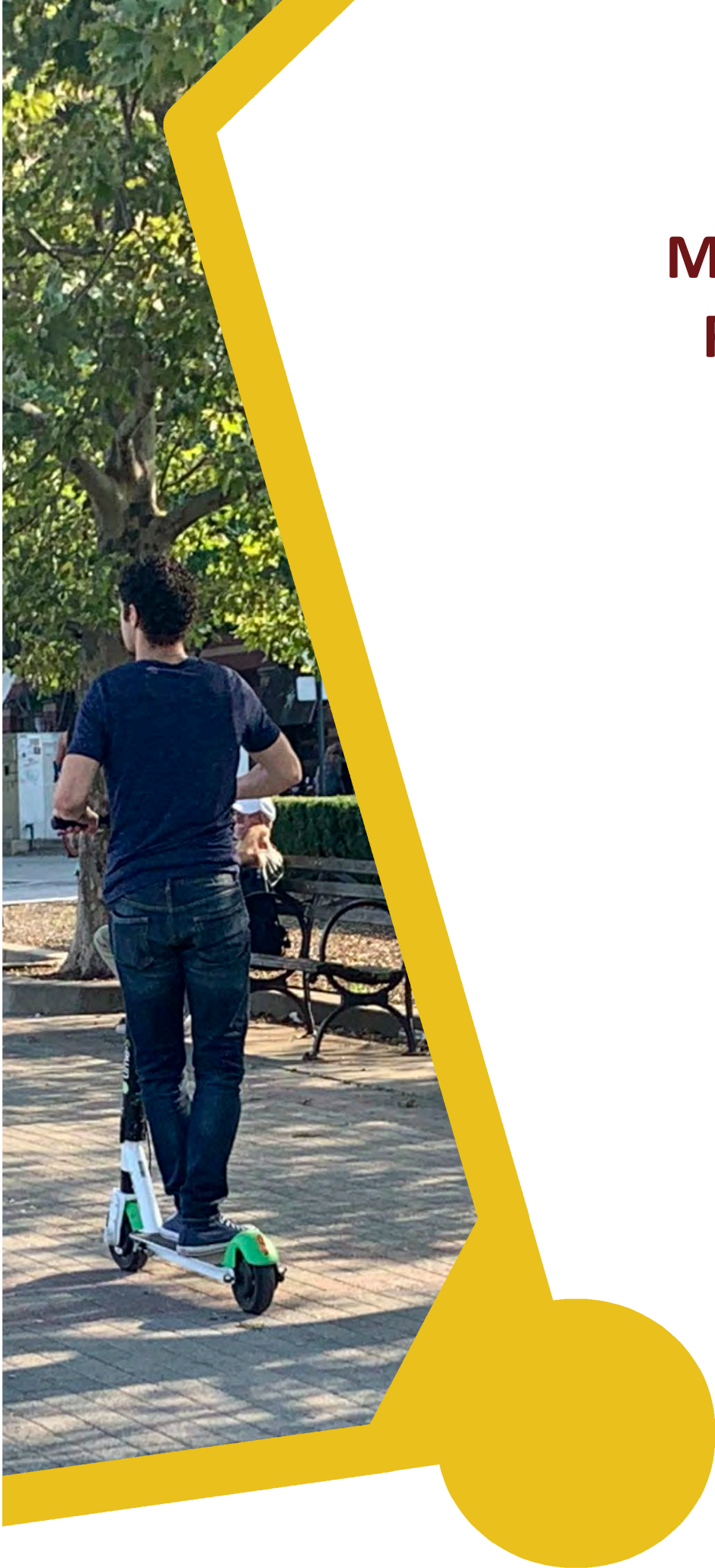
Source: <https://www.flickr.com/photos/pbotinfo/43756143965/in/photostream/>



Credit: Charles Brown

CHAPTER V

MANAGING THE RIGHT-OF-WAY



V. MANAGING THE RIGHT-OF-WAY

Cities typically establish caps on fleet size, designate areas open to e-scooter use, and enforce parking and rebalancing requirements to ensure reasonable use and accessibility of public right-of-way.

Management of E-scooter Fleet Size

Cities establish device caps to limit the number of e-scooters that companies can operate at a given time. Device caps are important to manage both traffic flow in the public right-of-way and the competition among different e-scooter companies in a way that allows for reasonable right-of-way use. Each city permits different fleet sizes per operator (See Table below).

Number of Operators and E-scooters Allowed in Cities' E-scooter Pilot/Programs	
CITY	# of E-scooters Allowed Per Operator
Asbury Park, NJ	250
Hoboken, NJ	Total scooters for all operators: 300
Washington, DC	Min: 100; Max: 600
Charlotte, NC	Min: 50; Max: 400
Miami, FL	50 (first two weeks); 100 (after first two weeks) # of operators allowed: 6
Kansas City, MO	500
Detroit, MI	400
Austin, TX	500
Denver, CO	250; # of operators allowed: 5
Portland, OR	Min: 250; Max: 1250
San Francisco, CA	1250; Max: 2500 (after six months of pilot program) # of operators allowed: 5

Conditions for Cities to Change Permitted Fleet Size/Issue Supplemental Licenses:

City contracts/regulations may allow companies to increase their scooter fleets, and/or require companies to decrease their fleet size based on certain criteria, ranging from deployment goals (including service to underserved neighborhoods), average ridership, maintenance, and service area expansions.

For example, in some cities, companies may be permitted to increase their scooter fleet based on consistent good performance over a period of time. In most cases, additional e-scooters would be granted to companies, especially if

they commit to distribute/rebalance those e-scooters in underserved communities. For instance, in Kansas City, after companies request an increase in fleet size, a committee of interdepartmental staff use the following criteria to determine if additional e-scooters should be permitted (up to a maximum of 500 additional e-scooters each month):

- Kansas City performance measures:
 - Data of e-scooter activity supports request for increase
 - Average ridership of three riders or more per-vehicle per day
 - Payment received on time
 - Equitable deployment of vehicles
 - Good communication with the City/Business Associations/Neighborhood Associations in the community
 - Maintenance of equipment
 - Quick response time

An additional 500 vehicles may be granted to Kansas City providers that meet performance metrics if they are distributed to lower life expectancy zip code areas with proof of rebalancing throughout the city.



*E-scooters in Asbury Park, NJ
Credit: Michael J. Manzella*

Ridership Metrics

In most cities, the increase/decrease of e-scooter fleet is determined by ridership. For instance, in Miami, fleet size can increase by 25% monthly if each scooter exceeds an average of three riders per day. Fleet size may decrease if each scooter has fewer than two rides per day.

Service Area Goals

In Austin, supplemental licenses may be issued in increments of 250 units outside of the initial licensed area — the Downtown Austin Project Coordination Zone (central Austin). Additional units are permitted to operate within a specific geographic area, of at least five square miles in size, as determined by the licensee. The licensee needs to pay a performance bond of \$100/unit to cover any additional units.

Incentive-Based Strategies

In Austin, supplemental licenses could be given—by an amount determined by the Director of Transportation — for strategies that promote/incentivize good parking or riding behaviors. Examples of such strategies include:

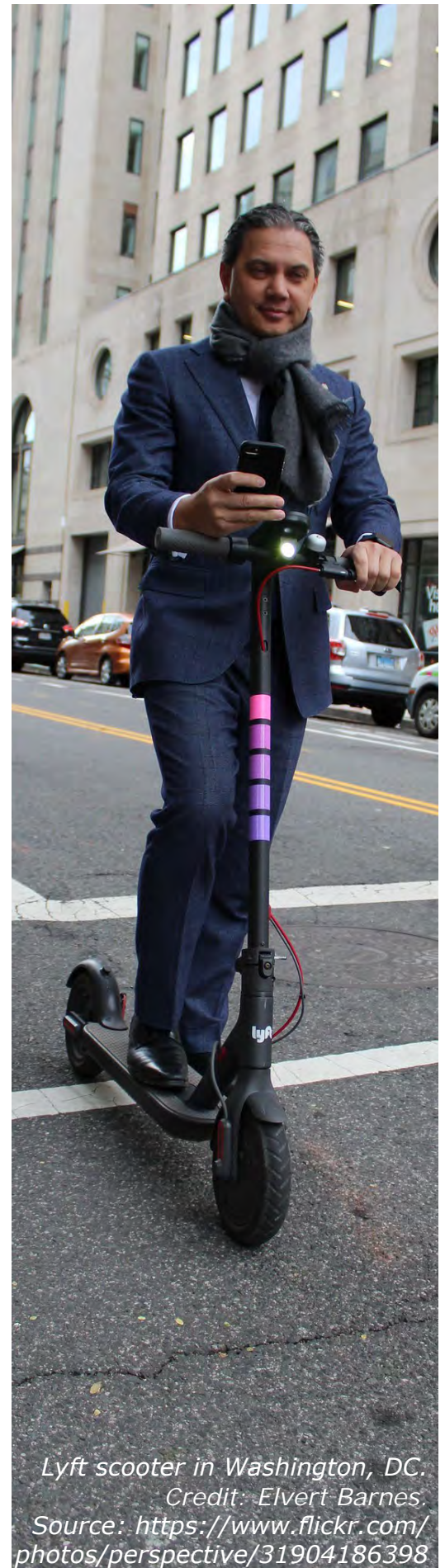
- Ability to lock to fixed biking parking infrastructure
- Technology that enables the licensee to elicit specific behavior from riders, for an outcome that enhances safety and mobility
- Augment reality that uses a digital interface to display virtual parking or no parking zones to riders
- Ability to govern speed and riding location remotely

Geographic Restrictions on E-scooter Use: Sidewalks, Bike Lanes, Parks & Trails

Some cities have enacted geographic restrictions on where e-scooters can ride, including regulations on bike lane use, sidewalk use, and operation on high-volume/high-speed roads. Some cities only allow e-scooter use in certain areas of the city. For example, Miami only allows e-scooter operation in a certain district (ex. District 2) that has given political support for the pilot.

While most cities prefer e-scooter users to ride in bike lanes or on roadways with lower speed limits/slower traffic, some have established regulations to prevent e-scooters from riding in travel lanes with fast traffic. For instance, San Francisco (state law), as well as Detroit, prohibits e-scooters to ride on highways/streets with speed limits over 25 mph. Denver prohibits e-scooter users from riding in any bicycle lane or on any roadway with a speed limit that exceeds 30 mph.

Even though cities' regulations on riding in bike lane/low-volume streets are similar, regulations on sidewalk riding differ across the cities (see Table on page 30). Out of the eleven cities, six cities (Asbury Park, Denver, Hoboken, Kansas City, Portland, and San Francisco) prohibit e-scooter users to ride on sidewalks (See Table on page 30). While Denver previously allowed e-scooters to ride on sidewalks with a speed limit of 6mph or less, Denver proposed to prohibit e-scooter use on sidewalks in late August 2019. The other five cities allow e-scooter users to ride on sidewalks with exceptions. Some cities have established bans on sidewalk riding on major roads or congested/busy areas, such as in central business districts (Washington, Charlotte, Miami).



*Lyft scooter in Washington, DC.
Credit: Elvert Barnes.
Source: <https://www.flickr.com/photos/perspective/31904186398>*

Table: Regulations on Operating E-scooters on Sidewalks

CITY	Permitted to ride on sidewalks
Asbury Park, NJ	No
Hoboken, NJ	No
Washington, DC	Yes, but prohibited on sidewalks in the CBD
Charlotte, NC	Yes, but prohibited in the Congested Business District and uptown Charlotte.
Miami, FL	Yes, but prohibited on sidewalks of Southwest 8th Street between 4th Avenue and Tamiami Canal Road. Southwest 8th Street is a major road in Miami.
Kansas City, MO	No
Detroit, MI	Yes
Austin, TX	Yes
Denver, CO	No
Portland, OR	No
San Francisco, CA	No

In addition to regulations for e-scooter riding on low-volume streets, bike lanes, and sidewalks, e-scooter use in parks and on trails has also been locally regulated in some cases. For instance, while Portland explicitly prohibits e-scooters in Portland parks, Austin's Parks and Recreation Department has started an eight-month pilot program to allow e-scooters to ride on certain parkland trails with a speed limit of 10mph.

It is not uncommon for cities to require geofencing to discourage trips that end outside of designated service areas. Geofencing is a technology that alerts users via a mobile app when exiting service areas and entering a no-park zone.



Parking Guidelines for E-scooters

Because e-scooters are dockless devices, enforcement of proper parking is crucial to eliminating barriers and obstacles for other road users on streets and sidewalks. According to PBOT's *E-scooter Findings Report* (2018), results from a month-long study indicate that 27% of scooters were improperly parked. Cities and providers work together to promote parking guidelines. Parking guidelines typically include:

- ***E-scooters should be parked upright:***

When users leave e-scooters lying on the ground, it presents major obstacles and create hazardous conditions for other roadway and sidewalk users.

- ***Designated Parking Areas:***

Some cities recommend users to park e-scooters on bike racks and have designated parking boxes or parking spaces for dockless mobility devices.



Improperly parked Lime e-scooter in San Francisco.

Source: <https://www.businessinsider.com/electric-scooters-return-to-san-francisco-after-a-citywide-ban-2018-10>

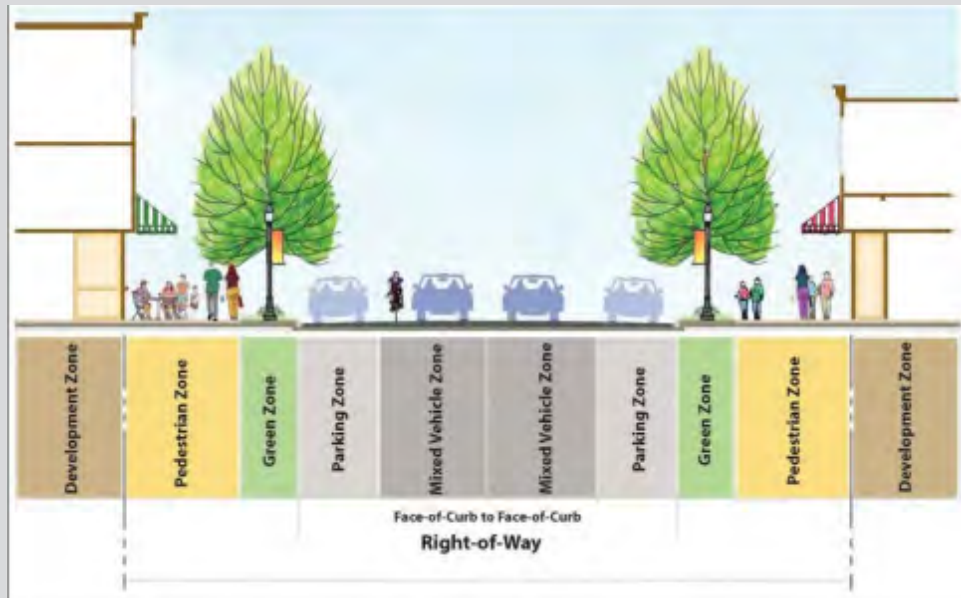


Designated parking box for dockless mobility devices in Austin.

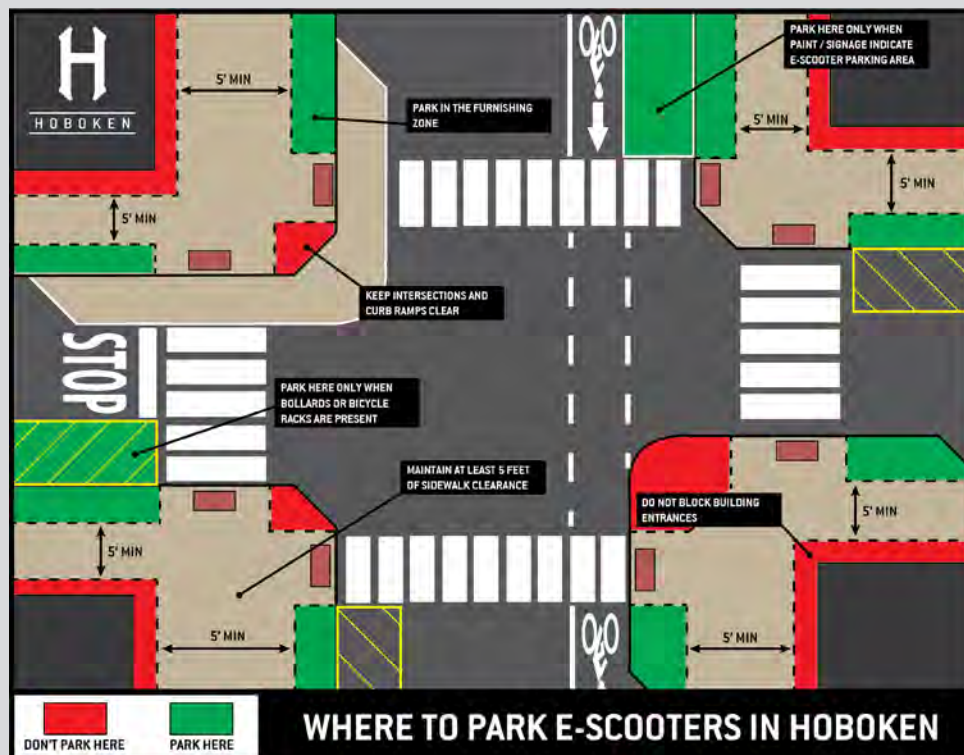
Source: <http://www.austintexas.gov/edims/document.cfm?id=315444>

- ***E-scooters Should Not Park in Any Private Property Without Permission.***
- ***E-scooters Should not Block Right-of-Way on Sidewalks:***

Many cities have designated sidewalk zones, such as frontage and furniture zones, where e-scooters are allowed to park. For instance, in Charlotte, e-scooters are only allowed to park in Pedestrian Zones that are six feet wide and in the Green Zone. Hoboken shows proper parking behavior via a graphic that illustrates acceptable sidewalk parking.



A sidewalk diagram that shows eligible parking zones for e-scooters in Charlotte, NC. The diagram is part of Charlotte's Shared-Use Mobility System Permit Requirements Document. Source: <https://charlottenc.gov/Transportation/Programs/Documents/Shared-Use%20Mobility%20System%20Permit%20Requirements%20-%2014-19.pdf>



Graphic that shows areas where e-scooters can be parked on sidewalks in Hoboken, NJ. E-scooter parking is allowed in the furnishing zone of the sidewalk, at bike racks, or in designated e-scooter parking areas. E-scooters should not be parked in streets, nor block building entrances or sidewalks. Source: <https://www.hobokennj.gov/resources/electric-scooters>

Rebalancing E-scooter Fleet

Because e-scooters are dockless, cities require e-scooter operators to rebalance their e-scooter fleets throughout the day to ensure fair distribution of e-scooters throughout the city/designated use area(s). The process of rebalancing also allows operators' staff to maintain e-scooters and move e-scooters that are not parked properly. Each city requires operators to rebalance their fleets at different time frames – at intervals throughout the day or once a day. For example, the Austin Department of Transportation requires operators to reduce the concentration of e-scooter units within four hours of notice on weekdays (6am-6pm), not including holidays. At all other times, operators have ten hours to address over-concentration of units. By contrast, in order to provide e-scooters as a last-mile transportation option for people who use public transit, Denver's DPW requires operators to rebalance vehicles back to transit and bus stops throughout the day. E-scooters need to be "reset" back to identified transit/bus stop locations no later than 7am each day. Operators also need to follow proper parking guidelines as they rebalance e-scooters.

E-scooter Operation in Winter Seasons

Because most cities in this study launched e-scooter operations in mid-/late-2018, it was the first time that cities and companies dealt with e-scooter deployment during the 2018-2019 winter season. Most e-scooter companies continued to deploy scooters during the winter months, but had plans to pause service temporarily or remove e-scooters in the case of extreme cold temperatures, icy conditions, or snowfall/snowstorm (Small, 2018).

While e-scooters could still be operated, experiences from the past winter has shown that e-scooters take longer to be fully charged



when the temperature is around freezing. It could also be dangerous to use e-scooters if bike paths/roadways are not plowed. Furthermore, piles of snow or icy surfaces can complicate e-scooter parking, where users might need to park e-scooters in the snow.

While e-scooters continued to operate, it is evident that ridership decreased during winter months in some cities. For instance, in Denver, usage per deployed scooter ranged from as high as 12 rides per vehicle per day during the summer and fall (August to November) to fewer than four rides per-vehicle per day in the winter (December to February) from 2018 to 2019.

Some cities took precautionary measures. For instance, Kansas City requires companies to halt e-scooter operation and remove their fleets from the public right-of-way when inclement weather is anticipated – rain or snow. Portland suspended the launching date of its second e-scooter pilot to late April 2019 until the winter season passed. Asbury Park decided to reduce e-scooter fleet size in the winter of 2019-2020 and to prohibit e-scooter service availability during harsh weather conditions, such as days with heavy rain or temperatures below freezing.



*New Brunswick Ciclovía,
April 2019*



Credit: Charles Brown

CHAPTER VI

METHODS OF COMMUNITY OUTREACH AND EDUCATION



VI. METHODS OF COMMUNITY OUTREACH AND EDUCATION

Effective outreach requires a multi-pronged approach to community education and engagement. The use of mobile apps, surveys, community events, and film are common. Most cities also require operators to maintain customer service lines and to provide a complaint process. Some cities also require e-scooter operators to provide specific educational programs.

Mobile Apps

Cities require operators' mobile platforms and websites to include safety guidelines, such as relevant local/state laws and regulations and information on how to park responsibly.

Surveys

Most cities require operators to conduct surveys via their app/mobile platforms at specified intervals during the pilot and after the conclusion of the pilot. Surveys are often designed and conducted in collaboration with the city.

Education Programs

Operators are required to educate the public on how to safely use e-scooters, especially when there are any changes to the rules and regulations that pertain to e-scooters in the city. Educational programming is done via pop-up community events, workshops, online videos, and/or through provider mobile/web platforms. Targeted outreach is often required for underserved/low-income communities. Some cities will collaborate with operators to conduct effective community outreach on safe e-scooter use and operations.

Public Complaint Process

Most cities require operators to have a 24-hour customer service number for users to ask questions or submit complaints. The customer service number is typically posted on individual scooters for ease of access.

Other Forms of Community Outreach

In addition to those engagements strategies already addressed, in San Francisco, prospective scooter operators are encouraged to establish a community advisory board or its equivalent, to identify a local business partnership strategy, and to establish a partnership plan to increase economic/cultural access and ensure implementation of a culturally sensitive marketing plan. In Miami, operators are encouraged to work with local businesses or other organizations to promote the use of helmets by e-scooter users through business partnerships, promotional credits, and other incentives.

Community Engagement Best Practices: Austin, TX

Austin conducted a survey four months into its pilot in the summer of 2018. The survey received 9,650 responses. Key survey findings that helped the City to transition to a permanent program include:

- Trip Purpose: Most survey respondents used e-scooters for recreation or entertainment purposes. Among 3,350 e-scooter respondents, 96% ride for recreation and 81% for entertainment. In addition, 60% use scooters for their work commute.
- Reason Someone Might Like Dockless Mobility Services: Respondents agreed that e-scooters make it easier and faster for people to get to where they need to go (rated 3.66 on a 1 to 5 scale) and slightly agreed that e-scooters make using bus and/or rail transit easier (rated 3.05).
- Customer Service: Respondents indicated that companies need to improve their responsiveness to customer requests, including addressing concerns and answering questions.
- E-scooter Parking: Respondents rated “scooters are often parked in the way” as the top reason people dislike dockless mobility services.
- Connection to Public Transit: Among 6,781 respondents, 32% selected public transit as a form of transportation that they take in addition to their primary mode of transportation. Respondents somewhat agreed that easier and more reliable connections to public transit

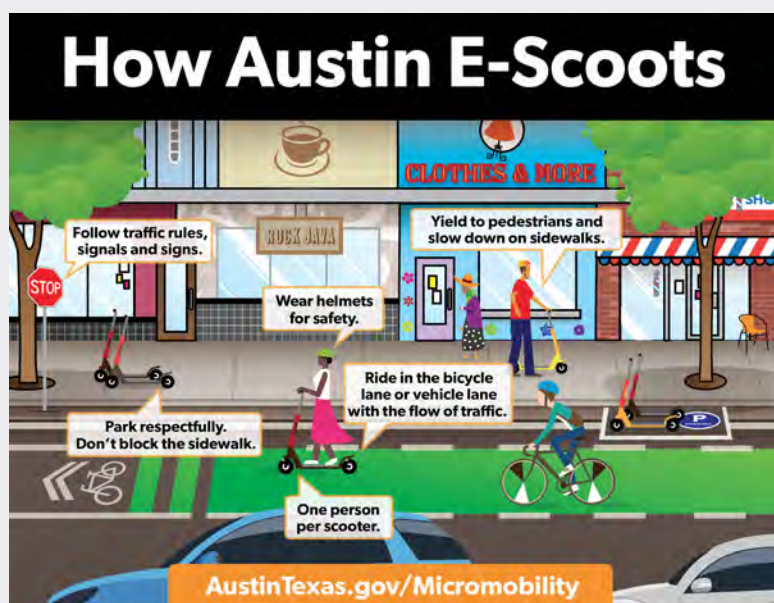


*New Brunswick Ciclovía,
April 2019*

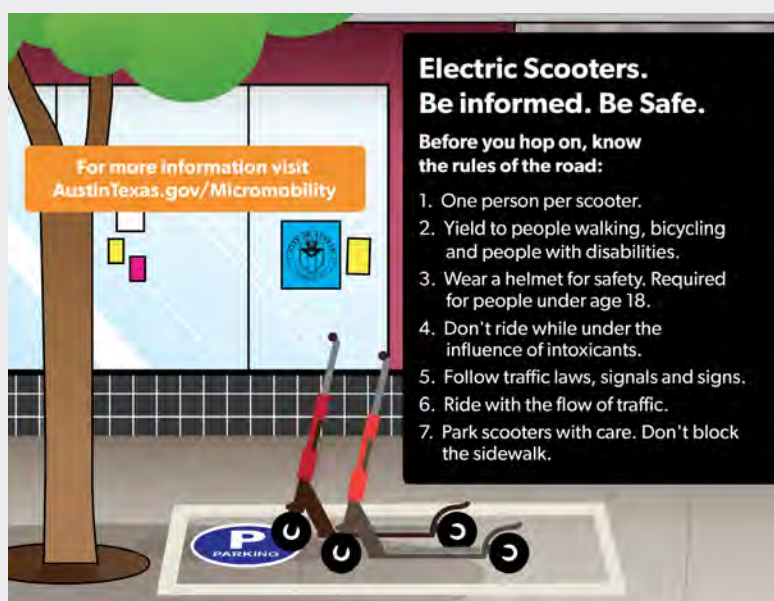
would influence their decision to use dockless mobility (rated 3.07 on a 1 to 5 scale — five being strongly agree).

- Infrastructure Improvements: Respondents agreed that more dedicated infrastructure, such as connected bicycle facilities or shared-use pathways, would encourage them to use dockless mobility. Respondents also noted that they are most comfortable using dockless mobility on protected bike lanes and least comfortable on multi-lane roads without bicycle lanes or sidewalks.

Source: *E-scooter Community Survey Report (Feb 2019).*



Austin DOT distributes its e-scooter etiquette flyer at outreach events, such as at the June 2019 Scooter Summit, to educate riders on how to ride and park e-scooters safely.



Austin, TX's E-scooter Etiquette Flyer.

Source: <https://austintexas.gov/micromobility>

After Austin introduced new e-scooter rules in May 2019, Austin Transportation Department hosted an outdoor scooter summit in June 2019 (Huber, 2019).

During the summit, both Austin Transportation Department and scooter companies were present to teach people how to safely use scooters and to reinforce the new rules via distribution of flyers with the new regulations. Free helmets and other free items were available to first-time riders.



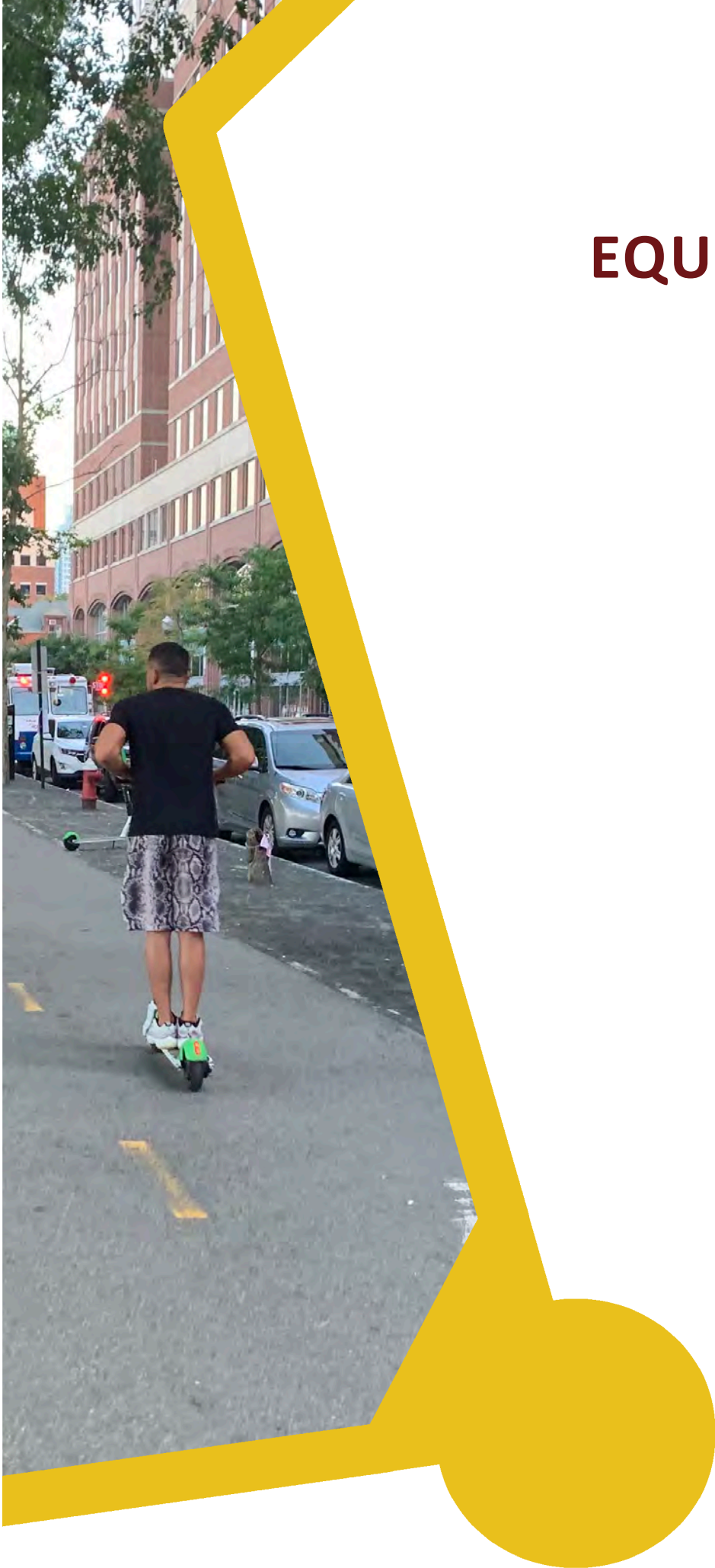
Flyer and photo from Austin's scooter summit, which was hosted on June 22, 2019.
Source: <https://www.facebook.com/ATXTransportation/>



Credit: Charles Brown

CHAPTER VII

EQUITY PRACTICES AND POLICIES



VII. EQUITY PRACTICES AND POLICIES

For individuals who do not own a car or don't live proximate to public transit, e-scooters are an important transportation mode. As a result, and in response to historical inequities in transit and roadway infrastructure investments in minority/low-income neighborhoods, some cities require operators to provide access to e-scooters in underserved and disadvantaged neighborhoods. The following are some ways in which cities have incorporated equity initiatives and programs in e-scooter pilots and programs:

Services For Un/Under-Banked And Digitally Impoverished Individuals

Most cities require operators to offer services for un/under-banked and digitally impoverished individuals so that they can also have easy access to e-scooters, as follows:

- ***Affordable Cash Payment Option:***

Most e-scooters are rented via a credit card. Operators should provide low-income users the option to rent e-scooters by cash. In San Francisco, a cash payment option is given to users with an income level at or below 200% of the federal poverty guidelines. In Kansas City, operators can give eligible users prepaid passes so that they do not need to use a credit card to pay for scooter use.

- ***Non-Smartphone Access Option:***

While e-scooters are often unlocked via the smartphone application, operators should also provide a way for users who don't own a smartphone to easily unlock an e-scooter. In DC, operators are required to have a manual unlock option that can be activated by entering a customer's account number.



Subsidized Prices/Low-cost Service

Many cities also require operators to subsidize the cost of renting an e-scooter to increase e-scooter use among low-income and people of color communities. Specific approaches to offering low-cost service include:

- Waive application vehicle deposit
- Discount rider fees
- Provide discounted rate structures for students, youth, low-income/at-risk populations (Denver).
- Offer unlimited trips under 30 minutes to any customer with an income level at or below 200% of federal poverty guidelines (Washington, DC).
- Pay-as-you-go option (Kansas City).
- Offer incentives for low-income service by allowing increasing in fleet size (San Francisco): If operators serve at least 150 low-income plan members, fleet size can increase from 625 to 800 scooters. For 500 low-income plan members, fleet size can increase to 1250 scooters. Any increase beyond 1250 e-scooters (max cap at 2500 scooters) would require a proportional increase in the number of low-income plan members prior to increasing the fleet size. For instance, SFMTA would permit 2.5 additional scooters for every one new low-income plan member added.

In addition, some operators also offer their own discount programs, as follows:

- Under the One Bird program, Bird eliminates \$1 base fee per ride for anyone who is currently enrolled in, or eligible for a state or federal assistance program.
- Through the Lime Access program, Lime gives individuals who can demonstrate eligibility or participation in any state or federally-run assistance program a 50% discount on all electric scooter riders.
- The Spin Access program provides discounted fares for those who qualify – people who are enrolled in an official city, state, or federal assistance program.

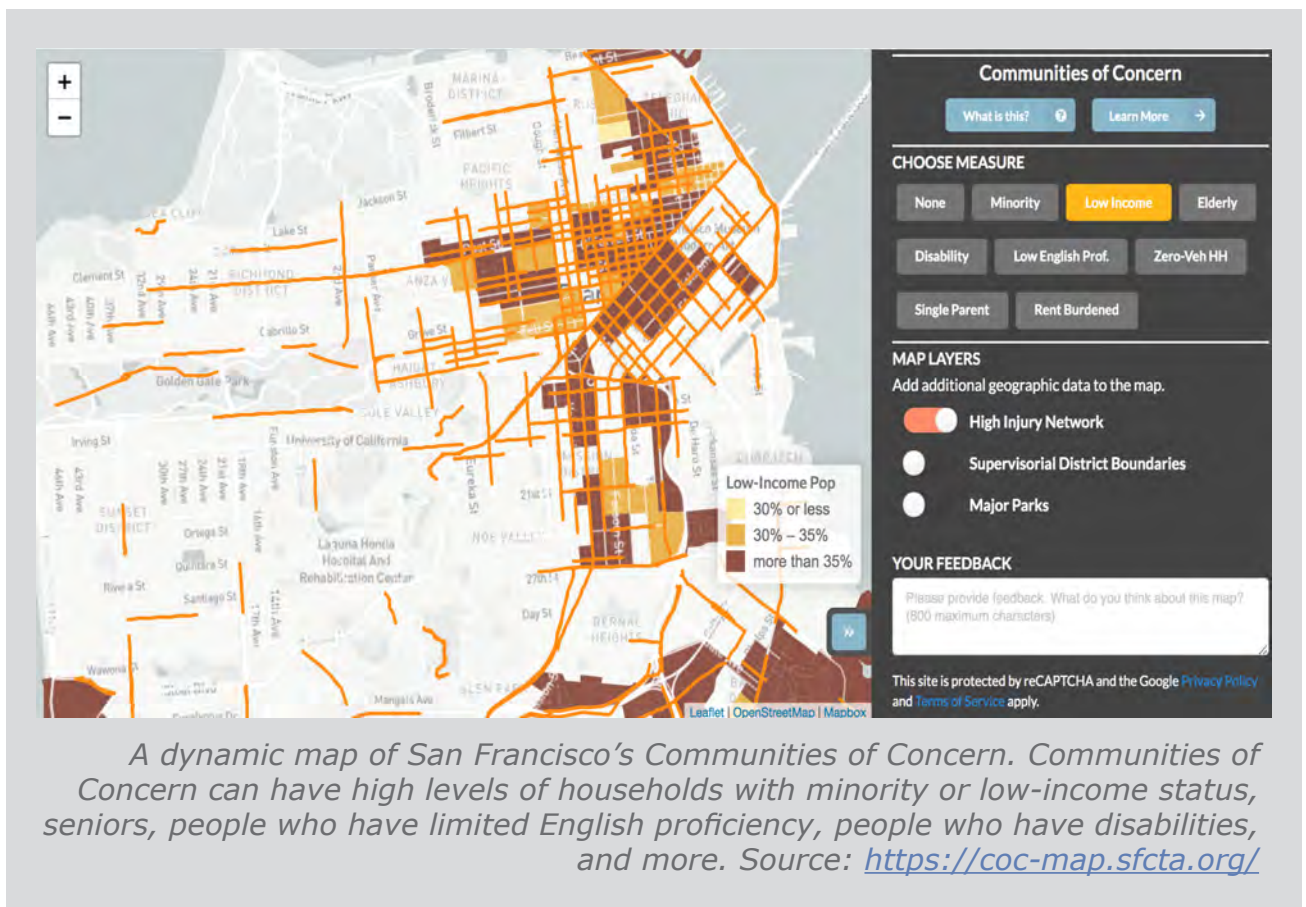


Credit: pixabay.com
Source: <https://pixabay.com/photos/people-girls-young-going-scooter-4547864/>

Neighborhood Service Availability/Rebalancing

Many cities require operators to deploy a share of their e-scooter fleet in underserved/low-income communities. Each city employs different criteria for identifying underserved communities:

- In DC, the National Capital Region Transportation Planning Board designated equity emphasis areas based on the highest concentrations of low-income and/or minority populations by census tract.
- In San Francisco, SFMTA designated Communities of Concern based on the concentration of minority populations, low-income households, seniors, residents with limited English proficiency, zero-car households, single-parent households, rent-burdened households, and people with disabilities using census tract data.



- Kansas City requires operators to deploy, maintain, and rebalance 20% of their fleets in high priority zip codes that have the lowest life expectancy in the city. Kansas City measures life expectancy based on state death records and population estimates from the US Bureau of Census by each census tract. Because census tract is a smaller geographical unit, it offers a more complete picture of the disparity of health, and extendedly the disparity of socio-economic levels at a local level.

- Denver identifies opportunity areas and high priority opportunity areas, which are a subset of the opportunity areas with the greatest concentrations of vulnerable populations. Operators can increase their fleet size to 350 e-scooters from 250 e-scooters if 100 of them are committed to serving designated opportunity areas. Half of the increase (50 scooters) must start each day at the designated opportunity areas.

To ensure the availability of e-scooters in low-income/underserved communities, cities require operators to deploy, maintain, and rebalance the required percentage of e-scooters on a daily basis. To incentivize operators, some cities allow operators to increase their fleets if they consistently achieve equitable distribution of devices, as follows:

- San Francisco: Operators can increase their fleets of e-scooters to 1250 from 800 if they maintain 20% device availability in Communities of Concern or 20% availability in southeast neighborhoods.
- Kansas City: Companies can add an additional 500 vehicles if they are distributed to lower life expectancy zip code areas with proof of rebalancing throughout the day.

Language Accessibility

Operators are encouraged to provide multilingual websites (ex. DC and San Francisco) and printed materials about e-scooters in multiple languages (ex. Portland).



An E-scooter in Downtown Miami.
Credit: Phillip Pessar
Source: <https://www.flickr.com/photos/southbeachcars/32601801147>

Equitable Hiring Practices

In addition to making e-scooter programs more accessible for all residents, some cities require equitable hiring practices. For example, Portland requires applicants to submit an economic opportunity plan as part of their permit application to indicate their commitment to hire and contract with individuals from historically underserved communities, including people with low-incomes, people of color, and people with disabilities. Applicants are also required to provide information about any existing partnerships with Portland's workforce development agencies. In San Francisco, prospective scooter operators are encouraged to establish a local hire and recruitment plan as part of their permit application to ensure equitable hiring practices.

Importance of Community Outreach in Equity Policy Implementation

While cities require operators to implement equity policies and plans as part of their permit regulations, consistent community outreach is also necessary to ensure public awareness, and therefore use of such programs.

According to Portland's *E-scooter Findings Report* (2018), only 47 users out of more than 4500 respondents were on low-income plans, and no users signed up for cash payment plans. In focus groups with Portlanders from Black and East Portland communities, nearly all participants identified the need for more information on how to use the service. Additionally, 50% of focus group participants did not know that they could earn income from charging e-scooters (Companies such as Bird allow individuals to sign up online to become a "Bird Charger," where they get paid by picking



PBOT's E-scooter Safety Event
Credit: Sarah Petersen
Source: <https://www.flickr.com/photos/pbotinfo/44665526211>

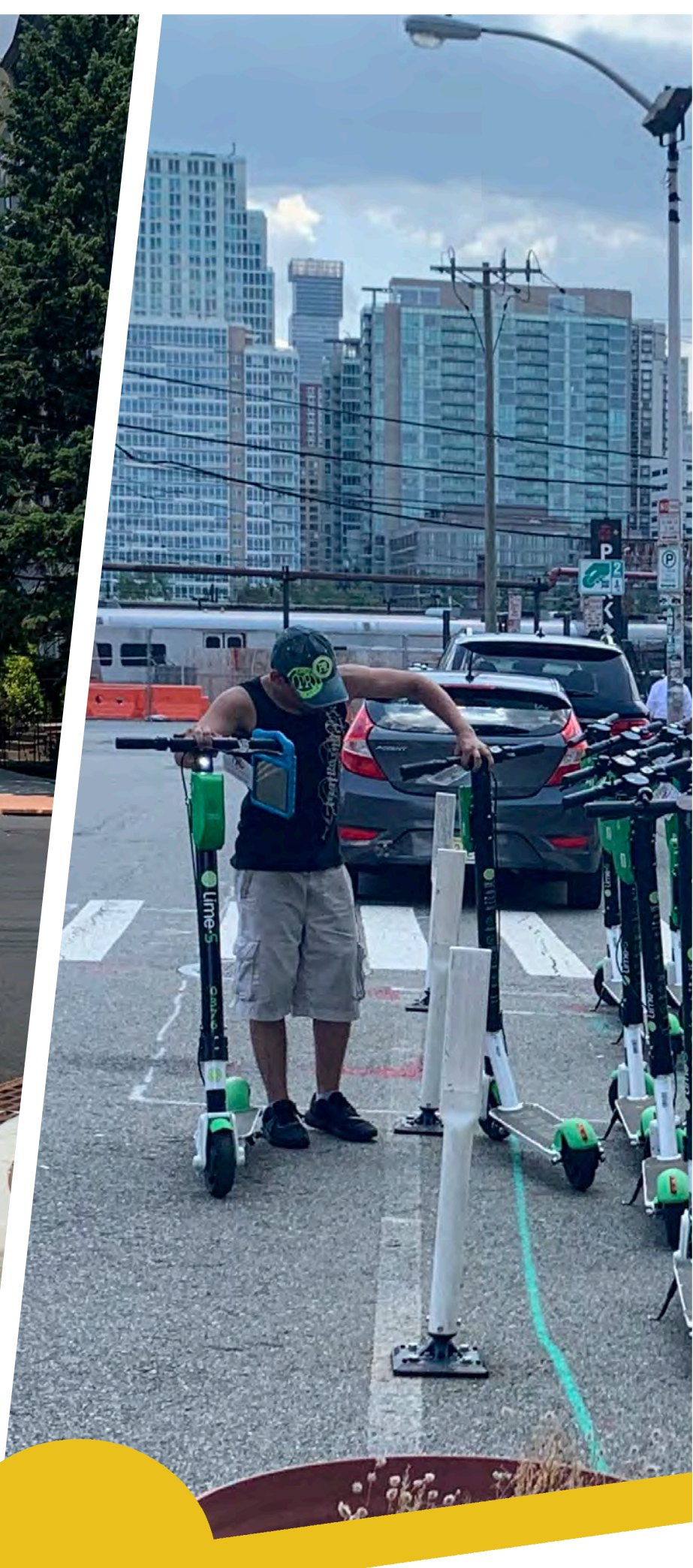
up Bird e-scooters, charging them at their residences and releasing them the next day. Lime offers a similar program as well – “Lime Juicers”). Most participants expressed interest in this kind of work. Thus, more effective community outreach is necessary to promote companies’ equity programs to people of color and low-income individuals.



A guy riding Bird E-scooter in Baltimore.

Credit: Elvert Barnes

Source: <https://www.flickr.com/photos/perspective/43197529354>



Credit: Charles Brown

CHAPTER 8

DATA ANALYTICS AND DATA SHARING



VIII. DATA ANALYTICS AND DATA SHARING

To effectively track, observe, and analyze e-scooter use and activity, e-scooter companies are typically required to submit a set of APIs (Application Programming Interfaces) to the city. Data for API is collected through the on-board GPS unit on each e-scooter. API also collects the data that companies need in order to submit data reports to the city, which is often a requirement of permits. API platforms also provide the public with the opportunity to access e-scooter data online.

Data standards and open source tools are particularly important in advancing collaboration between mobility operators and public entities and allow on-going tracking of mobility, equity, and safety goals and metrics. Detroit's Mobility Metrics tool generates both a set of overall metrics and map-based metrics that reflect the daily activity of dockless vehicles across the City. Metrics include total vehicles, active vehicles, total trips, total trip distance, distance per-vehicle, vehicle utilization percentage, trips per active vehicle, average trip distance, and average trip duration. Data can be broken out separately for e-scooters and e-bikes by day, and map-based metrics can be generated for a variety of characteristics for specific time intervals.

Austin is one of many US cities that uses mobility data specification (MDS). Originally developed by Los Angeles DOT, MDS provides API, a set of data standards and data sharing requirements to help municipalities collect and analyze information from e-scooter companies. Before the use of MDS, companies submitted e-scooter data in PDF or CSV formats. It was difficult for companies to produce different data reports with unique requirements of each city, and it was also challenging for cities



Credit: patrick gantz.
Source: <https://pixabay.com/photos/photographer-scooter-arenas-2700833/>

to analyze an overwhelming amount of data that uses slightly different data standards. By standardizing data collection across different companies, MDS provides cities with the information, capacity, and power to monitor manage e-scooter activity more efficiently.

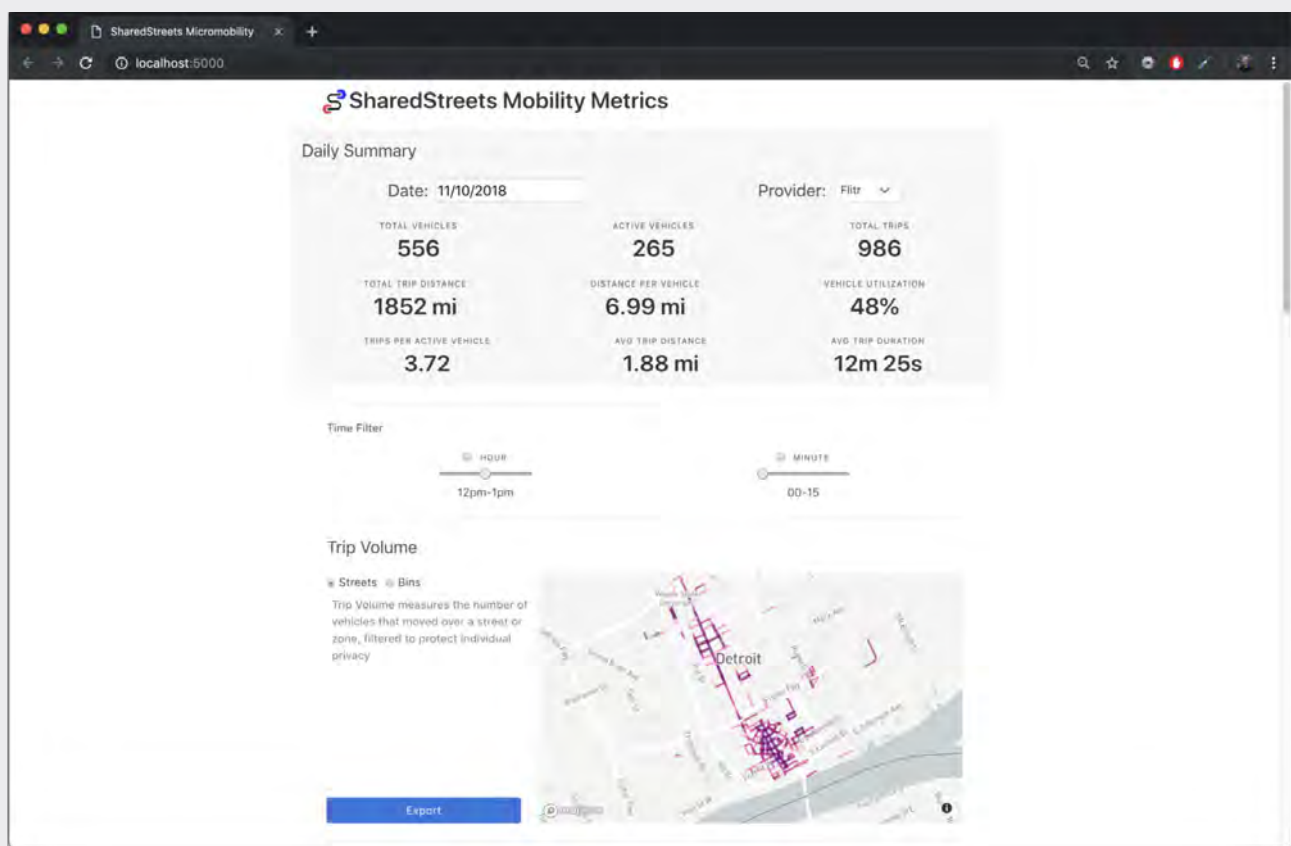
The following are some additional examples of innovative data sharing and analytics:



Detroit's SharedStreet Mobility Metrics

On October 2018, the mayor of Detroit, NACTO, and SharedStreets partnered to pilot a comprehensive standard and analysis tool for mobility data on dockless scooters and bicycles.

The SharedStreet Mobility Metrics tool is open source software that turns datasets about dockless vehicles into a set of open metrics. The Detroit pilot uses data from Bird and Lime. Data is open source and customizable, geo-coded, and it is easy to export.

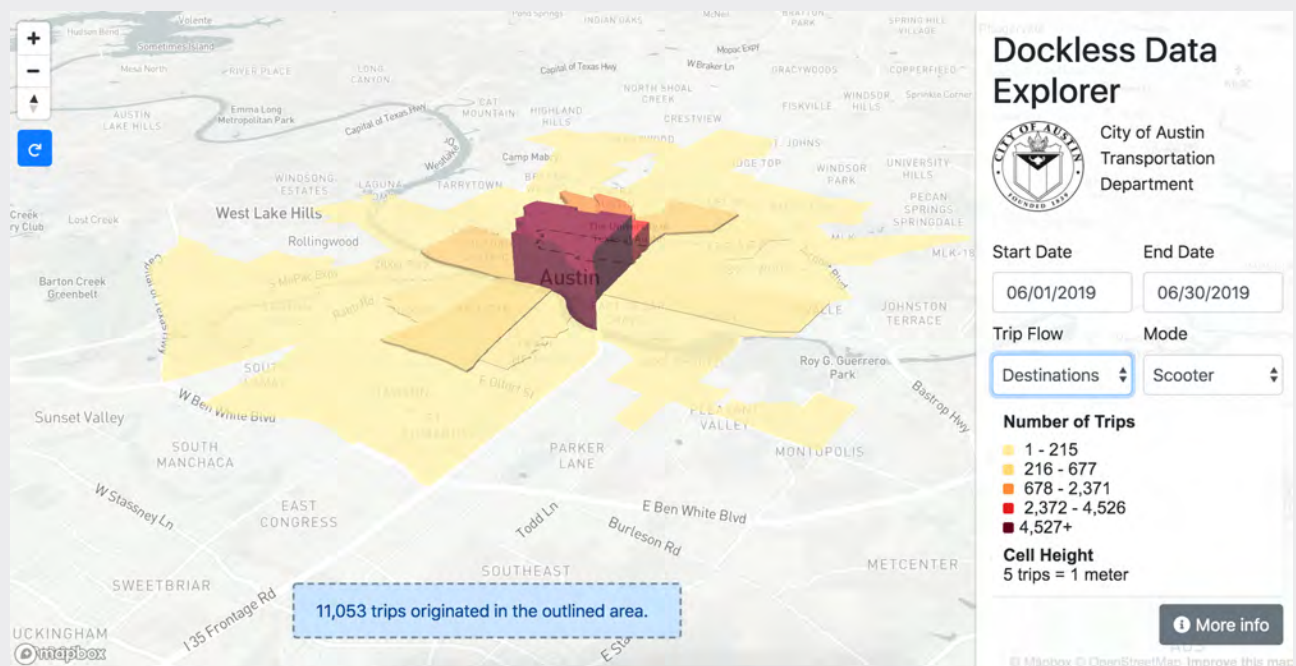


Screenshot of a sample map-based graphic showing mid-day dockless vehicle trip volume.

Austin's Open Data and Reporting Tool

This is another example of the use of live data reporting and API to analyze trip characteristics and trends. The Dockless Vehicle Trips Dataset tracks all trips taken in the city daily. Data can be customized and geographically displayed.

Austin's data tools also include a Dockless Data Explorer, an interactive tool that visually displays locations of trip origins and destinations, as well as a Dockless Reporting Dashboard, which provides monthly summaries for statistics, such as trip numbers, miles traveled, average distance traveled, average trip duration, and number of devices.



A snapshot of Austin's Dockless Data Explorer that visualize the volume of e-scooter trips that ended in the outlined area in June 2019.

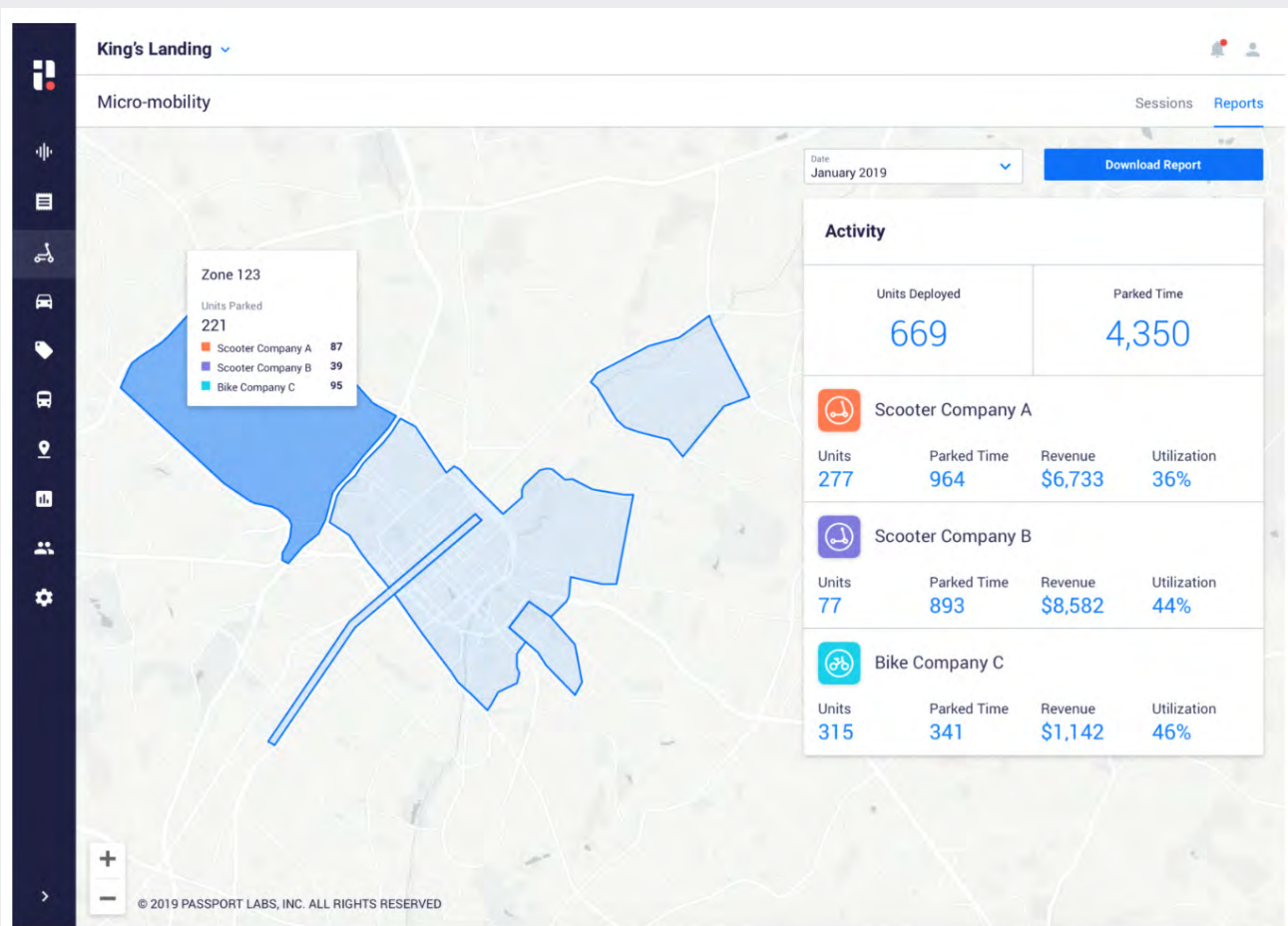
Passport's Mobility Platform

Charlotte, Detroit, and Omaha recently announced a collaborative pilot program to manage micromobility through sharing best practices and leveraging Passport's mobility platform.

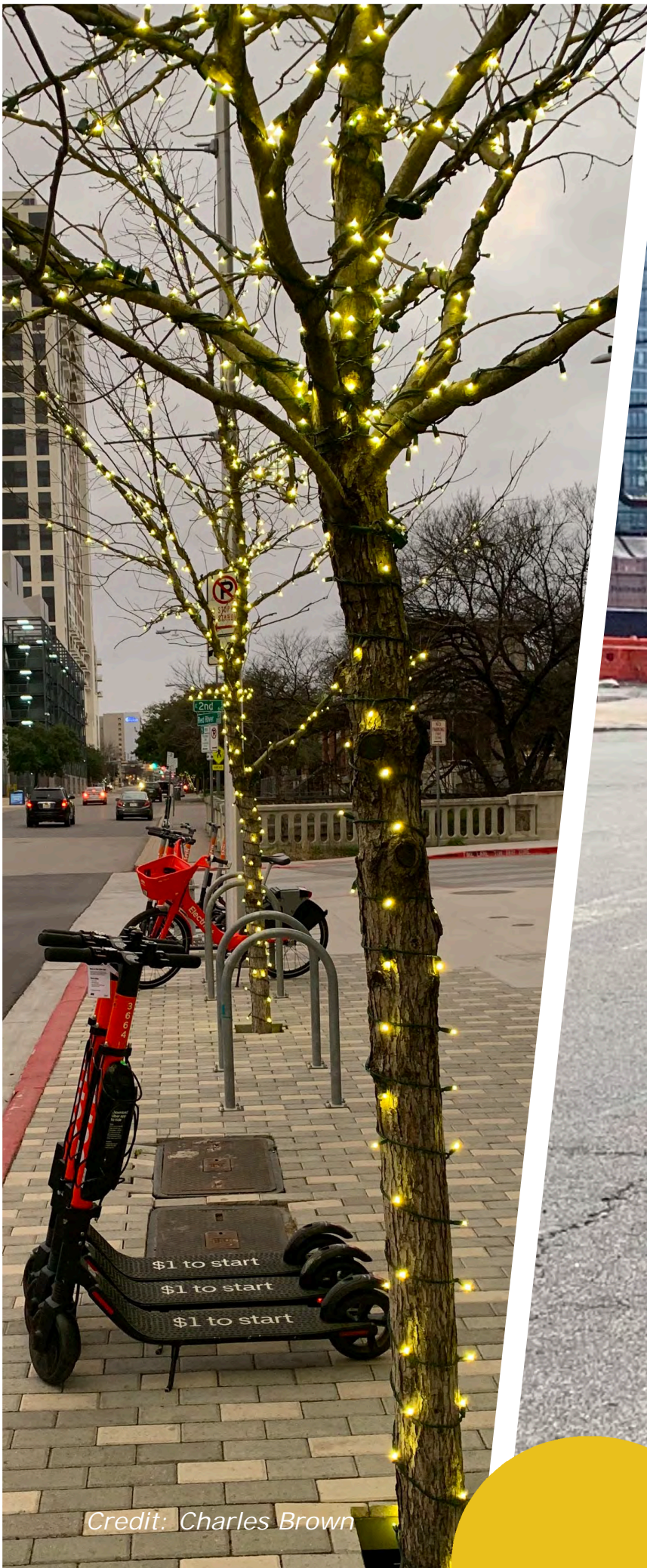
Passport uses supply/demand economics to more effectively manage scooter distribution. Passport's platform shows the monthly summary data, filtered by each dockless vehicle company, including the number of units deployed, parked time, revenue, utilization (%).

Passport's software platform will also allow cities to institute curbside pricing and/or to reward providers for complying with right-of-way management and parking requirements. Instead of capping the number of permitted scooters or imposing fees, this platform allows cities to charge providers illegally parked scooters.

Charlotte is piloting and testing a dynamic pricing system in collaboration with Passport, Inc. Instead of charging a fixed annual fee per scooter, Charlotte will use dynamic pricing to charge variable monthly fees based on users' "good behavior." Companies will receive deductions in annual costs if users follow proper parking/safety guidelines, such as parking scooters without blocking the right-of-way, wearing helmets, parking near transit stops, etc. If users do not show "good behavior," companies would be charged more. Behavioral metrics will be tracked and observed through GPS and analyzed through Passport's platform.



Screenshot of Passport's micromobility data platform that shows e-scooter activity in King's Landing in Jan 2019.



Credit: Charles Brown



CHAPTER 9

LESSONS LEARNED FOR NJ COMMUNITIES IMPLEMENTING E-SCOOTER SHARE PROGRAMS



IX. LESSONS LEARNED FOR NJ COMMUNITIES IMPLEMENTING E-SCOOTER SHARE PROGRAMS

Until recently, e-scooters and e-bikes fell between the cracks of existing legal frameworks in New Jersey. In the case of e-scooters, there was no codified legal status that explicitly allowed them to operate within the State. This changed when Governor Phil Murphy signed New Jersey's e-bike/e-scooter law in 2019. The new law should make it easier for people to travel around New Jersey without using a car.

New Jersey's E-scooter Law

Prior to the new law, all forms of scooters, aside from electric personal assistive mobility devices (mobility scooters for the disabled), were illegal for use on public streets in New Jersey. The new law creates a new vehicle type called a **"Low-speed electric scooter"** which is defined as "a scooter with a floorboard that can be stood upon by the operator, with handlebars, and an electric motor that is capable of propelling the device with or without human propulsion at a maximum speed of less than 19 miles per hour."

E-scooters must follow all the laws that apply to bicycles. That means that riders must comply with all the laws that apply to vehicles, such as obeying traffic signals and following the direction of traffic. Like e-bikes, e-scooters may be allowed to be parked on sidewalks, as long as they do not block pedestrian access. Operation on sidewalks and trails is up to local municipalities.



A Lime electric scooter being demonstrated during the April 2019 New Brunswick Ciclovía.

Low-speed Electric Scooters:

- 19 mph max speed
- May be parked on sidewalks without blocking pedestrian traffic
- Riding on sidewalk up to each municipality
- No license, insurance, or registration required
- Must follow all laws applicable to bicycles
- Helmet use is required for those under age 17

What does this mean for New Jersey?

The new law will make it easy to purchase e-bikes and e-scooters for personal use in New Jersey, without having to worry about making a trip to the MVC (with the exception of higher speed, Class 3 e-bikes). The addition of electric-assisted/electric devices will make it easier to take trips in hilly areas, can provide first mile/last mile transit connectivity, and allow users to arrive at destinations without sweating. The most visible change will likely come about as a result of share programs for e-bikes and e-scooters. Around the country, companies like Jump, Bird, Lime (and many others) have allowed people to rent e-bikes and e-scooters to make one-way trips within urban areas. Hoboken was the first New Jersey city to welcome a dockless e-scooter provider in May 2019; shortly thereafter, in August, Asbury Park introduced an e-scooter share program. Many more NJ communities are likely to follow.



*Photo of Lime and Ojo scooters in Hoboken.
Source: <https://www.hobokennj.gov/resources/electric-scooters>.*

Tips for Implementing E-scooter Share Programs in NJ Communities

The e-scooter pilot and permanent programs of the eleven cities that were researched for this study shed light on potential issues that might arise as communities in New Jersey implement e-scooter programs and regulate e-scooter use and operation. The following section examines issues that may be locally specified and regulated as well as highlights of some best practices components based on the research herein.

Establish Clear Operational Regulations & Permitting Requirements

Avoid Unregulated E-Scooter Deployments

As evident from the experiences of other cities, e-scooters can cause disruption in the public right-of-way when companies bring their fleets to communities that do not have a clear permit application process, regulations for parking/right-of-way use, safety and educational programs, equity strategies, and/or effective community outreach. Taking a proactive approach to establishing regulatory and permitting frameworks is important for e-scooters to be integrated and used within the transportation network in a safe and equitable manner. Regulations should be formalized through ordinance adoption and revisited periodically as usage patterns, parking requirements, use restrictions (sidewalk riding, for example), and technologies change.

Align Selection Criteria with Program Objectives

It is important for cities to identify the goals and objectives of their micromobility programs to guide both selection criteria and operational agreements for e-scooter providers and to inform future program strategies. Identifying companies that have track records of implementing tangible strategies consistent with identified goals, such as safe operation of e-scooters and equitable access, can ensure productive collaboration between the municipality and providers. Furthermore, it is useful to align e-scooter program objectives with the greater visions and plans that a community is pursuing. For instance, many cities, including Hoboken, have a Climate Action Plan to become carbon neutral. Choosing companies that prioritize sustainability practices in their e-scooter programs is one way to demonstrate the city's sustainability commitment.



*A person riding an e-scooter in a bike lane.
Credit: Steven Vance.*

Source: <https://www.flickr.com/photos/jamesbondsv/44862243862>

Implement Fee Structure to Reinforce Program Accountability and Sustainability

Implementing a variety of fees under cities' permitting framework is important for the sustainability of e-scooter operation in cities. Fee structures that both recognize/fund municipal staff resources dedicated to program administration/management and ensure commitment and accountability from e-scooter companies contribute to sustained program funding. Communities can consider a range of fee structures, such as flat annual permit fees, per-vehicle/trip fees, and application fees. Performance bonds are an effective method for ensuring that funding is available for any repairs required to public property as a result e-scooter use/operation. Payment consequences for noncompliance as well as fees associated with vehicle impoundment or relocation should also be considered to incentivize companies to enforce proper rider behaviors.

In addition to program management and administrative costs, fees could also be directed to infrastructure projects — such as those that improve and redesign streets and bicycle infrastructure with a complete street approach — that would accommodate the future potential/demand of shared micromobility.

Address Operational Concerns, Especially Maximum E-scooter Speeds

Clear operational requirements are necessary to ensure the safety of e-scooter users and other roadway users. Examples include efforts to enforce age restrictions, such as requiring users to have a valid driver's license or other state-issued identification. Some cities have also chosen to regulate the time of day that e-scooters can operate to allow time for the fleet to be properly rebalanced, maintained, and charged.

In communities or districts where travel speeds are a concern, municipalities can require providers to include speed governors to cap scooter speeds. While the average speed limit for e-scooters in the cities highlighted herein is 15mph, lower speeds may be more appropriate to address safety concerns.

Highlights of Asbury Park's Operational Requirements:

- Age Requirement: To enforce the age requirement, e-scooter users in Asbury Park are required to scan their driver's licenses to verify that they are over 18 when they create a user account.
- Speed Limit: Less than one month into the pilot, Asbury Park lowered the maximum e-scooter speed from 15 mph to 12mph in response to public concerns about shared roadway use.
- E-scooter Use During Winter: To address concerns of using e-scooters during harsh weather conditions, Asbury Park will reduce the fleet to 75-100 e-scooters during the winter and may not have e-scooters deployed on days below freezing or during severe weather events.

- **On-Street Requirement:** Similar to many cities, Asbury Park does not allow e-scooter use on sidewalks, but it permits e-scooters on City's bike lanes and multi-use paths. While other cities encourage e-scooter users to operate on low-volume streets, Asbury Park specifically requires users to ride and share the streets with other vehicles.

Effectively Manage the Right-of-Way

Clearly Identify Parking Zones

E-scooter companies and municipalities need to clearly communicate where e-scooters may and may not be parked. Improperly parked e-scooters can obstruct the public right-of-way for pedestrians and mobility impaired persons on sidewalks, for those trying to use bicycle parking in the public right-of-way, and for those accessing transit stops and handicap parking spaces. According to Portland's *E-scooter Findings Report* (2018),



improperly parked scooters that block ADA access at transit stops or access to ADA parking spots presented a major challenge for people with disabilities, especially where sidewalks are narrow or where there are no sidewalks. Designating and signing specific dockless parking zones can help to alleviate this concern. Requiring providers to incorporate geofencing technology in their apps to notify users when an e-scooter is parked in a no-parking zone not only prevents e-scooters from blocking the right-of-way, but also reduces the need for staff to identify and move improperly parked e-scooters. In addition, establishing specific timeframes for rectifying illegally parked e-scooters (as well as consequences for violating such timeframes) can ensure greater accountability and encourage proper parking behavior.

Prioritize Development of Safe, Comfortable and Complete Streets

New Jersey municipalities also need to consider whether e-scooter use should be allowed on all or some sidewalks within a community. Many cities restrict e-scooter use to a certain extent because e-scooter speeds (generally up to 20mph) are

too fast to integrate with pedestrians on sidewalks. Sidewalk widths are also an important factor in allowing shared use.

According to Portland's *E-scooter Findings Report* (2018), one of the most common public complaints was unsafe riding on sidewalks (27% of all complaints) and three percent of injuries reported during the pilot resulted from collisions with pedestrians. These findings suggest that e-scooter sidewalk riding has an impact on pedestrian safety and comfort. Furthermore, Portland's *E-scooter Findings Report* (2018) also shows that, while e-scooter users in Portland demonstrated a strong preference for riding in bikeways and other protected infrastructure (and the least preference for riding in sidewalks), sidewalk riding increased substantially on high-speed streets and on streets without protected bicycle infrastructure. From observations of 128 Portland e-scooter users, only eight percent of riders used the sidewalk when riding on a street with a protected bike lane. On the other hand, 39% of riders used the sidewalk when riding on a street without bicycle facilities, and 66% used the sidewalk on roads with speed limits of 35 or more mph. Thus, cities need to take the volume and speed of roadway traffic, sidewalk widths, other uses within in the sidewalk realm (benches, transit stops, bicycle parking, etc.), and the availability of dedicated micromobility infrastructure into consideration when weighing e-scooter sidewalk use.

To accommodate growing micromobility services in the long-term, cities have had to grapple with where scooter and e-bike riders can go safely. Protected bike lanes are expensive to construct, and networks have not been designed with scooters in mind. From the experiences of the eleven cities that were studied, micromobility vehicles are often too fast to go on sidewalks, but too slow to share space with cars. To that end, NACTO recommends that cities prioritize the development of "safe and comfortable" bikeways and incorporate complete street elements to accomplish this.

Identify Device Caps and Service Area Changes Over Time

Two other methods for managing public rights-of-way are to set a device cap for the number of aggregate e-scooters in use by all providers (including a limit on the number of operators) and/or to regulate e-scooter service areas geographically. Municipalities should identify the size of the initial service area for e-scooter operation — whether it should be community-wide or limited to a specific area within the municipality. Some early stage pilots tend to be focused on busy areas, such as transit-served downtowns, that potentially have high demand. Over time, municipalities may opt to expand initial service areas to allow for greater access and use for first mile/last mile connections. The number of operators and e-scooters should be refined periodically to reflect shifts in demand and extent of service areas.

Incorporate Equitable Service Standards

E-scooters are an important transportation alternative for first mile/last mile trips, for neighborhoods underserved by conventional transit systems, and for individuals who do not own or have access to cars. Dockless e-scooter share programs, with the sensible equity policies, lend themselves to serving disadvantaged communities. Municipalities may require providers to offer alternative payment options, such as cash payments and subsidized prices for eligible low-income individuals. To encourage helmet use, companies should offer free helmets at neighborhood events or upon request, especially for those who cannot afford one.

Moreover, to reach individuals who don't speak or read English fluently, companies should have multi-lingual versions of all printed materials, websites, and apps so all users understand the terms and requirements for e-scooter operation and parking. Because the dockless nature of e-scooters provides users with the flexibility to park the vehicle anywhere within the service area, municipalities should require e-scooter operators to rebalance their fleets throughout the day to ensure a fair distribution of e-scooters across different neighborhoods. In addition, cities can offer incentives for providers to maintain a consistent number of e-scooters in underserved/disadvantaged neighborhoods, such as providing supplemental licenses for additional scooters and allowing larger overall fleet sizes. While it is important to maintain availability of e-scooters, Austin's *E-scooter Community Survey Report (Feb 2019)* reveals that the increasing availability of e-scooters was not a major factor in influencing individuals' decision to use dockless mobility. Thus, equity practices, such as increasing availability of e-scooters, must be implemented in tandem with effective community outreach in underserved neighborhoods and adjusted based on e-scooter activity data and program goals. Lastly, in addition to providing equitable access to e-scooters, it is important for companies to adopt equitable hiring practices to provide job opportunities for individuals from historically underserved communities.



Engage, Educate and Collaborate

Promoting and enforcing safe e-scooter operation is an on-going process that requires a broad set of strategies and tools, targeted to populations most at risk for injury, especially as e-scooter equipment and regulations change over time. Given that e-scooter share is a relatively new mode of transportation, community outreach is crucial to inform and educate the public on how to safely use e-scooters, including proper parking and any local restrictions on e-scooter use. It is not enough to educate the public solely using provider apps and other media early on in the life of a program or pilot effort.

According to the Austin's *Dockless Electric Scooter-Related Injuries Study* (April 2019), having a multi-pronged and continuous safety training process on e-scooter use is necessary to prevent injuries (60% of all injured riders received prior safety training via the company's phone app and 63% of injured riders rode an e-scooter fewer than ten times prior to injury). For example, e-scooter companies can use different educational media to distribute safe operation tips, including flyers, videos embedded in user apps, and demonstrations at local events. Scooter safety can also be integrated into Safe Routes to School and other local safety programs so that children are exposed to safety information long before they are old enough to operate a motorized scooter. Municipalities can partner with other community organizations and health agencies to conduct on-the-ground safety training and education, such as organizing group e-scooter rides, tours, and hosting pop-up events.

As additional safety and usage data become available over time, targeted education strategies should be developed, periodically updated and re-circulated via multiple modalities. Municipalities can also partner with other community organizations and health agencies to conduct on-the-ground safety training and education, such as organizing group e-scooter rides, tours and hosting pop-up events.



Furthermore, there needs to be a collaborative effort among providers, planners, local advisory committees, and public health professionals to review data and refine educational strategies and messaging over time. Having inter-departmental and inter-agency participation in e-scooter safety enforcement initiatives addresses not only the diverse needs and concerns of various stakeholders, but also a broader spectrum of issues pertaining to e-scooter use. A collaborative approach also allows safety initiatives to reach and target specific communities, especially underserved communities.

According to Portland's *E-scooter Findings Report* (2018), while Black Portlanders and East Portlanders expressed enthusiasm for e-scooters, they were concerned for being targeted for racial profiling and harassment. One tool for combatting racial profiling is to engage local residents as ambassadors paid by providers to assist with educational efforts. In tandem with properly training local police on how traffic laws apply to e-scooters, local police could be a potential partner to educate the public regarding e-scooter regulations and carrying out safety enforcement. As with effective pedestrian and bicycle safety enforcement efforts, enforcement should always be paired with robust educational programming.

Conducting safety training with a multi-pronged approach and with the socio-economic context of different communities in mind is crucial to providing equitable access so that all residents can comfortably use e-scooters for their transportation needs.

Provide Open and Standardized Data and Reporting

Access to standardized and accessible micromobility data (ex. Application Program Interface, API) is crucial for determining permit compliance, understanding e-scooter usage, identifying gaps in micromobility networks, evaluating impacts, and monitoring parking behavior and rebalancing efforts. APIs also allow providers and program managers to monitor the distribution of e-scooter in underserved neighborhoods through real-time transportation information (Cohen and Shaheen, 2018). Data platforms should be designed to analyze micromobility modes separately (for example, bike share and e-scooter share) and to integrate geo-based equity criteria for ease of tracking metrics and examining micromobility activity for specific time intervals.



Data standards should be established at the onset and be uniform across platforms of all companies operating within a municipality. As Portland's *E-scooter Findings Report* (2018) shows, because companies' compliance with permit data requirements varied, some key terms were not universally used and defined in companies' APIs, resulting in inaccurate data reporting by some companies. Data standardization and provision of monthly reports by providers is important for ease of comparison of usage data and trip characteristics across operators so that a city can effectively manage and monitor e-scooter usage patterns. Additionally, annual reports of aggregate data can assist communities in meeting overall program goals and objectives. Annual reports should include analysis of available injury data from police and hospital records to examine the effectiveness of educational and safety programs. Annual reports should also address program refinements to improve the program and address concerns, such as recommended changes to program goals, operational regulations, data tracking, educational strategies, provider incentives, service area, and equity service standards. Individual provider annual reports can greatly assist municipal program managers in preparing the overall annual report and identifying necessary program refinements.

Next Steps for E-scooter Research & Policy

As e-scooter share pilots proliferate and transition to permanent programs in US cities, the following questions and initiatives should be considered and advanced:

E-scooter Safety Enforcement/Education Strategies

- There is a need for both targeted educational strategies for specific users (bicycles, e-bikes, e-scooters), including basic tips on how to safely operate and park each, as well as integrated strategies that address how to share bike lanes and other shared-use facilities, such as trails on which e-bikes and e-scooters are allowed and sidewalks where e-scooters are permitted.
- Since helmet use, speed, and injury severity go hand in hand, the use of speed governors within devices and the effectiveness of educational outreach regarding helmet use should be evaluated, particularly as programs mature and more comprehensive injury data is available.
- Cities should research ways to enforce the age limit for e-scooter riders. For instance, cities can require users to scan their driver's licenses to verify their age when creating a user account and work with providers to ensure that apps effectively close out trips to prevent unauthorized use by minors.
- As various educational strategies are employed and targeted to specific users in particular places, the effectiveness of different educational approaches should be evaluated and educational materials should be shared in the public domain. As part of this effort, different approaches to requiring users to receive safety information via provider apps should be evaluated for effectiveness.

- E-scooter operations and other forms of micromobility need to be integrated into safety enforcement training for local police, including materials on how state traffic codes and local ordinances apply to various forms of micromobility. Similar micromobility integration with the NJ Motor Vehicle Commission's educational resources and the State Driver's Test is also important to advancing the safety of all roadway users. There are also opportunities for local e-scooter ambassadors and police to collaborate on safety education and enforcement. The use of radar to enforce e-scooter speed limits may make it more palatable for some communities to introduce e-scooters and/or allow shared use of facilities. Micromobility safety education and enforcement programs that pair police training with local educational efforts should be piloted and ultimately integrated with on-going local safety programming.

Integration of Micromobility Needs into Cities' Infrastructure Networks

- Given research that points to a strong preference for separated facilities like protected bicycle lanes, design guidance like New Jersey's Complete Streets Design Guide should be reviewed and refined to address the shared use of dedicated facilities by those on bicycles, e-bikes, and e-scooters.
- The connectivity of dedicated facilities is also important to consider. If separated on-street facilities do not connect to desired destinations, e-scooter demand and usage will not grow over time as users transition from riding for fun to more utilitarian use. This is particularly important for communities that restrict sidewalk e-scooter use.
- As with sidewalks and on-street bicycle lanes, proper snow removal techniques and timely snow removal are important for continuing programs and usage levels during winter months.
- Because research shows that incorrect e-scooter parking has created hazards in the public right-of-way especially for people with disabilities, cities should work with providers to enforce proper parking behaviors and demarcate specific micromobility parking zones. As part of this effort, the effectiveness of various pavement markings and signage for dockless device parking zones should be evaluated so that consistent standards can be developed and implemented.



New Brunswick Ciclovía, April 2019

Intergration of Equitable Access Goals & Targets

- The types and effectiveness of equitable access policies should be explored to better understand if e-scooter programs are reaching disadvantaged/low-income/transit-poor neighborhoods. Equitable access policies should also be refined over time based on local experience and input.
- Some prior research indicates that men and minorities are more likely to view e-scooters positively. Research is needed to determine if such patterns are consistent over time and whether they warrant refining outreach strategies and promotional messaging.

Data Standards & Aggregation

- Consistent data platforms/data collection tools enable more complete safety and usage data across and within cities. As this data is aggregated and grows over time, it can support a wide range of micromobility policy, regulatory and research efforts.
- Having an integrated user platform that includes a variety of micromobility services allows users to easily view their options and choose a micromobility service that best suits their needs. It also helps to standardize data analytics across different companies for the City to better understand micromobility usage.

Pittsburgh's Micromobility Collective:

While Pittsburgh, PA was not studied in this report, its Micromobility Collective provides a good example for other cities that are seeking to create an integrated user platform of micromobility options. In late July 2019, the Pittsburgh Micromobility Collective was founded as a self-organized, private consortium that services the range of micromobility needs of a major city. The Collective was the first-of-its-kind in the US and was created to reduce the 56% of commuters in Pittsburgh who drive alone. The group is led by Spin, and also includes Zipcar, Ford Mobility, Waze, Swift-mile and The Transit App.

The Collective not only creates mobility hubs near transit stops that offer a combination of bike-share stations, e-bikes/e-scooters, Zipcar vehicles and other mobility forms, but also allows customers to access a variety of travel options through one digital platform. The collaboration with The Transit App and Ford Mobility enable the Collective to handle route planning/ticketing services for customers and to provide data reports for the City.

E-scooter Share & Sustainability Benefits

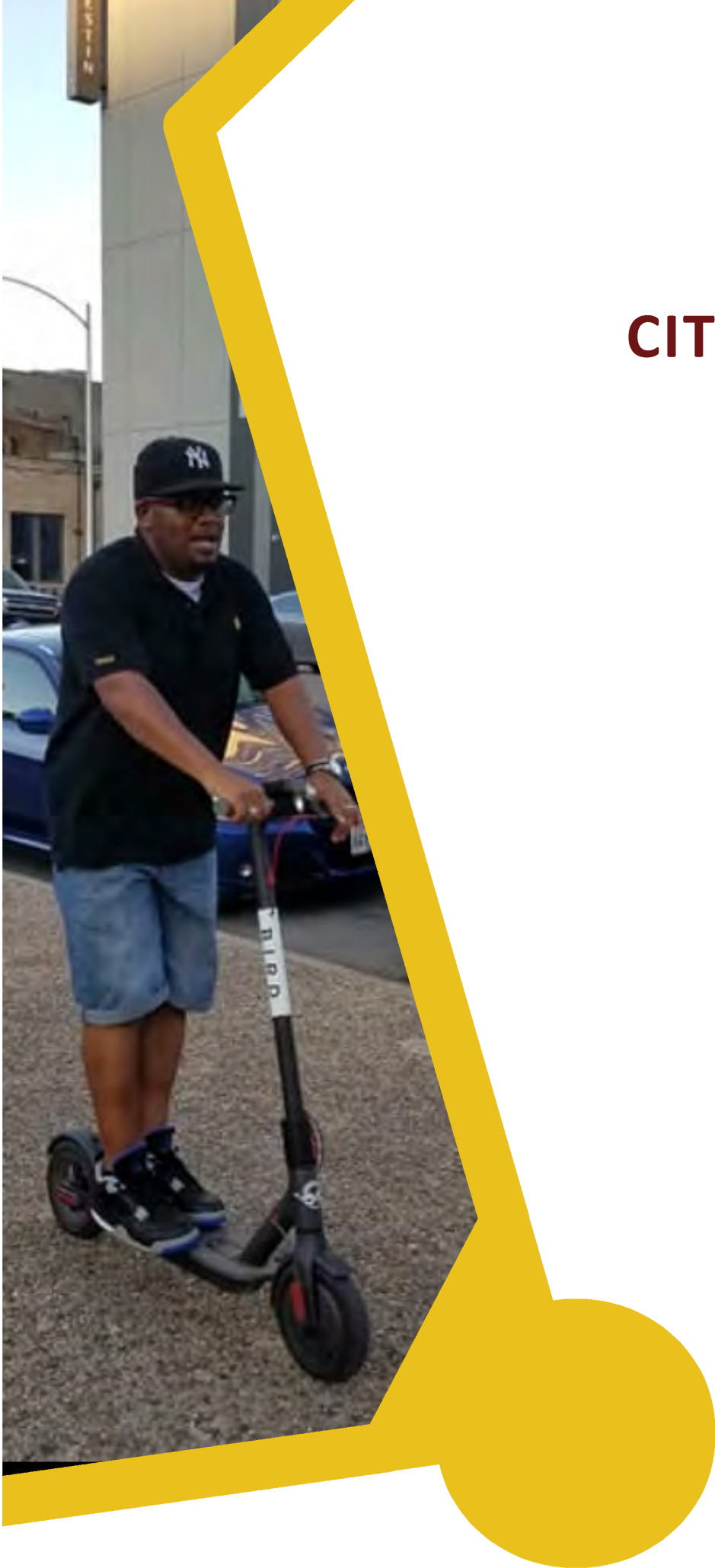
- As e-scooter share systems grow and mature, research on trip substitution (in particular any reduction of motorized traffic trips, especially single-occupant vehicle trips), vehicle use for transporting/rebalancing scooters and e-scooter life cycles would be useful in quantifying sustainability benefits.



Credit: Charles Brown

CHAPTER X

APPENDIX: CITY SUMMARIES



LOCATION: Asbury Park, NJ

Pilot/Program Name:	Electric Scooter Sharing Program
Pilot/Program Progress:	<ul style="list-style-type: none">• <u>May 2019</u>: Governor Murphy signed legislation legalizing low-speed electric vehicles• <u>August 2, 2019 to August 1, 2020</u>: First One-Year Pilot
City Manager of Pilot/Program:	City of Asbury Park
Existing E-scooter Companies:	SPIN, operated by Zagster
E-scooters Previously Banned/Came Without Authorization:	n/a
Other Relevant City/State Plans and Visions:	Asbury Park Plan for Walking and Biking

PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES

Device Cap/# of Operators Allowed:	Sole operator - 250 scooters
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E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none">• New Jersey Revised Statutes §39• Code of the City of Asbury Park §3-39
E-scooter Legal Definition (State):	<u>Low-Speed Electric Scooter (NJ Revised Statutes §39-1.1)</u> : "A scooter with a floorboard that can be stood upon by the operator, with handlebars, and an electric motor that is capable of propelling the device with or without human propulsion at a maximum speed of less than 19 mph."
E-scooter Legal Definition (City):	<u>Electric Scooter (Code of the City of Hoboken §190-42.3)</u> : Same as the State's definition.

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (State):	Yes
Age Requirement (City):	18
Speed Limit (City):	19 mph (speed is limited further in scooter pilot, currently 12 mph)
Helmet (City):	No
# of Persons Allowed on E-scooters (City):	One
Requirements for Carrying Other Articles on E-scooters (City):	Should not carry any package, bundle, or article which prevents the user from keeping both hands upon the handlebars.
Required E-scooter Safety/Accessory Requirement (City):	<ul style="list-style-type: none">• Lamp on the front that emits a white light visible from at least 500 feet to the front and a lamp emitting a red light visible from 500 feet to the rear• Brakes• Bell or other audible signal• Should not be equipped with sirens or whistle

LOCATION: Asbury Park, NJ

Technology Requirement (City):	GPS
Other Requirements (City):	<ul style="list-style-type: none"> E-scooters are available 7am - 9pm (7 days) in the current pilot sharing program. Pilot will continue through the winter with a smaller fleet of 75-100 scooters per day, except on days with heavy rain or on days that are below freezing. Individuals can purchase their own e-scooters if it meets the legal requirements outlined in NJ state law.
Violations/Non-Compliance (City):	When individuals violate electric scooter regulations: <ul style="list-style-type: none"> First offense (\$50), each subsequent offense (\$100)

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> On the roadway against the curb Bike racks/on the sidewalk's furnishing zone Designated parking areas For the pilot e-scooter sharing program, users must end their rides in the designated parking areas which are geofenced in the SPIN app and marked on the street or sidewalk
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Never obstruct pedestrian access on sidewalks or at crosswalks.

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<ul style="list-style-type: none"> Streets, bike lanes, and multi-use paths. Yield to pedestrians and other slower-moving street users.
Prohibited Areas of Operation (City):	<ul style="list-style-type: none"> Sidewalks Asbury Park Boardwalk: E-scooters are prohibited, and a restricted area is geofenced in the SPIN app.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<ul style="list-style-type: none"> Zagster has conducted multiple information sessions and safety trials at local events and markets. SPIN issued a survey to riders after the first month to gather information.
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EQUITY PRACTICES AND POLICIES

Subsidized Prices:	None at this time (The City and Zagster work collaboratively to make sure that scooters are adequately deployed in communities of color and with limited transportation options.)
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DATA COLLECTION & SHARING

Data Reports:	The City reviews ridership data on a continuous basis using data provided by Zagster/SPIN and through an aggregate data platform (Populus).
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LOCATION: Hoboken, NJ

Pilot/Program Name:	Electric Scooter Sharing Program
Pilot/Program Progress:	<ul style="list-style-type: none">• <u>May 2019</u>: Governor Murphy signed legislation legalizing low-speed electric vehicles• <u>May 20, 2019 to November 20, 2019</u>: First Six-Month Pilot
City Manager of Pilot/Program:	City of Hoboken
Existing E-scooter Companies:	Lime and OjO (Mayor announced termination of OjO contract in mid-September 2019)
E-scooters Previously Banned/Came Without Authorization:	n/a
Other Relevant City/State Plans and Visions:	Climate Action Plan

PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES

Device Cap/# of Operators Allowed:	250 Lime scooters and 50 OjO scooters (before contract was terminated in mid-September 2019)
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E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none">• New Jersey Revised Statutes §39• Code of the City of Hoboken §190-42
E-scooter Legal Definition (State):	<u>Low-Speed Electric Scooter (NJ Revised Statutes §39-1.1)</u> : "A scooter with a floorboard that can be stood upon by the operator, with handlebars, and an electric motor that is capable of propelling the device with or without human propulsion at a maximum speed of less than 19 mph."
E-scooter Legal Definition (City):	<u>Electric Scooter (Code of the City of Hoboken §190-42.3)</u> : Same as the State's definition.

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (State):	Yes
Age Requirement (City):	18
Speed Limit (City):	18
Helmet (City):	No
# of Persons Allowed on E-scooters (City):	One
Requirements for Carrying Other Articles on E-scooters (City):	Should not carry any package, bundle, or article which prevents the user from keeping both hands upon the handlebars.
Required E-scooter Safety/Accessory Requirement (City):	<ul style="list-style-type: none">• Lamp on the front that emits a white light visible from at least 500 feet to the front and a lamp emitting a red light visible from 500 feet to the rear• Brakes• Bell or other audible signal• Should not be equipped with sirens or whistle
Technology Requirement (City):	GPS

LOCATION: Hoboken, NJ

Other Requirements (City):	<ul style="list-style-type: none"> E-scooters are only available 5am - 11pm (Sun to Wed), 5am - 10pm (Thurs), 5am – 9pm (Fri to Sat). E-scooters are prohibited from transit vehicles in Hoboken. Individuals can purchase their own e-scooters if it meets the legal requirements outlined in NJ state law.
Violations/Non-Compliance (City):	<p>When individuals violate electric scooter regulations:</p> <ul style="list-style-type: none"> First offense (\$20), second offense (\$100), third offense (\$500). Fourth offense: Individual suspended for one year from any City-sponsored rideshare program

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> On the roadway against the curb/a building Bike racks/on the sidewalk's furnishing zone Designated parking areas The City is gradually implementing designated scooter parking areas in the street or daylighting space at inbound legs of intersections.
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Never obstruct pedestrian access on sidewalks or at crosswalks.

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<ul style="list-style-type: none"> Streets, bike lanes, and multi-use paths. Yield to pedestrians and other slower-moving street users.
Prohibited Areas of Operation (City):	<ul style="list-style-type: none"> Sidewalks Waterfront Walkway: Lime and privately-owned scooters must obey a 8mph speed limit and ride in areas dedicated for bicyclists. If there is no dedicated bicycle facilities, users must yield to slower Walkway users and audibly signal when passing pedestrians.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	After the pilot, the City will conduct a survey to develop a report and make recommendations for future e-scooter share programs.
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EQUITY PRACTICES AND POLICIES

Subsidized Prices:	Lime offers a 50% discount for anyone that qualifies for any state- or federally-run assistance program through its Lime Access program.
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DATA COLLECTION & SHARING

Data Reports:	After the pilot, the City will review usage data to develop a report and make recommendations for future e-scooter share programs.
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LOCATION: Washington, DC

Pilot/Program Name:	Dockless Vehicle Sharing Demonstration
Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>September 2017 to August 2018</u>: First dockless demonstration phase in DC. This initial demonstration was extended from April 2018 to August 2018 after showing some promising but inconclusive results. • <u>September 2018 to December 2018</u>: Second dockless demonstration phase in DC. • <u>January 2019 to December 31, 2019</u>: Formal and longer-term dockless sharing vehicles program. • <u>July 2019 to December 31, 2019</u>: Mid-year permit time frame (DDOT permitted two additional operators, Bolt and Razor, to reach the initial expected number of permitted dockless vehicles in 2019).
City Manager of Pilot/Program:	DDOT
Existing E-scooter Companies:	Bird, Bolt, Jump, Lime, Lyft, Razor, Skip, Spin With conditional approval (pending receipt of permit fees): Hoppr, Ridecell
E-scooters Previously Banned/Came Without Authorization:	n/a
Pilot Goals and Objectives:	<ul style="list-style-type: none"> • Increase mobility options and ridership for all residents in DC • Manage public space to ensure continued safe and shared use of the public right-of-way • Promote equity in transportation access across the District • Practice safe service deliver and contribute to the achievement of Vision Zero goals • Establish baseline and transparent data sharing for program evaluation and continuous active transportation improvements • Contribute the DC's vision of being a sustainable, resilient and livable, city
Other Relevant City/State Plans and Visions:	<ul style="list-style-type: none"> • <u>Vision Zero Initiative</u>: DC aims to reduce fatalities and serious injuries to zero by 2024. • <u>MoveDC</u>: District of Columbia's Multimodal Long-Range Transportation Plan. Targets a goal of 75% of commuter trips by non-auto modes. • <u>Sustainable DC</u>: District's Plan to be the healthiest, greenest, most livable city in the US. Plan aims to increase biking and walking trips 25% of all commuter trips in the District.

LOCATION: Washington, DC

PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES

Fees:	<ul style="list-style-type: none"> Initial Permit to Operate in the Public Right-of-Way: \$250 Application Fee: \$50/permit Technology Fee: \$25/permit Annual Renewal of Permit: \$100 Per-vehicle Fee: \$60 for first month of operation; decrease by increments of \$5 each month (ex. \$55 for second month, \$45 for fourth month, etc) Refundable Bond: \$10,000 (pay refundable bond to DDOT for clearing dockless sharing vehicles that are parked illegally or have otherwise remained an obstruction in the public right of way.
Device Cap/# of Operators Allowed:	<ul style="list-style-type: none"> 600 scooters and no less than 100 dockless vehicles Adaptive dockless sharing vehicles shall not be counted in the max number of vehicles allowed.
Supplemental Licenses/ Changes to Initial E-scooter Cap:	<ul style="list-style-type: none"> Increase of up to 25% per quarter based on company's starting fleet size if permit holder demonstrates acceptable performance in the following domains: <ul style="list-style-type: none"> Total # of trips/month Trips/vehicle/day Trips originating/terminating in Equity Emphasis Areas Response time to violations Number of parking and safety violations Data provision violations Vehicle idle time Adaptive vehicle operations Permit holder may request fleet expansion above 25% but not more than 50% per quarter for demonstrated exceptional performance.
Other Information:	<p>Proposed Electric Mobility Device Amendment Act of 2019 – <u>Proposed Key Changes</u>:</p> <ul style="list-style-type: none"> Prohibit people from riding shared electric scooters between 10pm to 4pm each night Compel scooter companies to remove illegally parked scooters within three hours of hearing any complaints Establish a 24-hour hotline for e-scooters Cap total number of shared electric scooters to 15,000 Enact speed limit of 15 mph on roads and 6mph on sidewalks Mandate firms to provide scooters across the city by 6am daily

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none"> District of Columbia Official Code (D.C. Code) D.C. Municipal Regulations (DCMR)
E-scooter Legal Definition (State):	n/a

LOCATION: Washington, DC

E-scooter Legal Definition (City):	<p><u>Personal Mobility Device, PMD (D.C. Code §50-2201.02(13))</u>: "A motorized propulsion device designed to transport one person or a self-balancing, two non-tandem wheeled device, designed to transport only one person with an electric propulsion system, but does not include a battery-operated wheelchair."</p> <ul style="list-style-type: none"> PMD is not a motor vehicle. PMD is exempted from regulations governing motor vehicles. <p><u>Dockless Electric Scooter (DCMR § 24-3399.1)</u>: "A motorized standing scooter with tandem wheels that is available to the public for rental through a rental system that does not require the installation of docking stations in the public right-of-way."</p>
EQUIPMENT AND OPERATIONAL REQUIREMENTS	
Driver's License Required (State):	Yes
Age Requirement (City):	Over 16
Speed Limit (City):	10 mph
Helmet (City):	Required for children under 16.
# of Persons Allowed on E-scooters (City):	One
Requirements for Carrying Other Articles on E-scooters (City):	<ul style="list-style-type: none"> Not allowed to carry any package, bundle, or other article that hinders the person from keeping both hands on the handlebars. Not allowed to wear a headset, headphone, earphone on any roadway or sidewalk, unless device is used to improve hearing of a person with hearing impairment or is inserted in one year only.
Required E-scooter Safety/Accessory Requirement (City):	<ul style="list-style-type: none"> Lamp on the front that emits a white light visible from at least 500 feet to the front and a lamp emitting a red light visible from 500 feet to the rear Brakes Bell or other audible signal Should not be equipped with sirens or whistle
Technology Requirement (City):	<ul style="list-style-type: none"> GPS Speed governor to ensure that vehicle is incapable of travel in excess of 10 mph
Information Requirement on E-scooters:	<ul style="list-style-type: none"> Company logo Unique identification number Toll-free number/website address on each dockless vehicle with information on how to report an incorrectly parked vehicle Each scooter shall have a serial number, registration tag, or valid registration plate.

LOCATION: Washington, DC

Violations/Non-Compliance (City):	<p>In the event DDOT revokes the permit holders' permit:</p> <ul style="list-style-type: none"> • Permit holder shall remove its vehicles from public space within 15 business days • DDOT may impound vehicles not removed from public spaces
PARKING	
Permissible Parking Areas and Behaviors:	<ul style="list-style-type: none"> • Furniture zone of the sidewalk and must maintain a pedestrian travel space of at least five feet. • Public right-of-way between the sidewalk and the curb, provided that a minimum five-foot clear zone for pedestrians is maintained at all times. • At a bike rack • Maintain unimpeded access to entrances to private property and driveways; Capital Bikeshare stations; Metrobus, Circulator and DC Streetcar stops and shelters • Ensure vehicle is parked upright • Outside of any protected tree planting or landscaped area.
Prohibited Parking Areas and Behaviors:	Private property
Rebalancing:	<ul style="list-style-type: none"> • Six vehicles in each ward by 6:00am everyday • If vehicle has not moved from same location for five consecutive days, then permit holder will relocate the vehicle to another block. • Permit holder will relocate vehicles to eliminate an over-concentration within two hours if notified by the District of public access and safety concern. • Permit holder shall maintain staffed operations located within the District for purpose of dockless vehicle maintenance and rebalancing.
Other Information:	Permit holder will remove improperly parked dockless vehicles within 2 hours of notification.

LOCATION: Washington, DC

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation:	<ul style="list-style-type: none"> • Person operating a personal mobility device upon or along a sidewalk or while crossing a roadway shall have the rights and duties applicable to a pedestrian under the same circumstances, provided that the personal mobility device operator yields to pedestrians on the sidewalk or crosswalk. • Person operating a personal mobility device shall travel at a speed no greater than the posted speed limit of the adjacent roadway; provided, that such speed is safe for the conditions then existing on the sidewalk. • The operator of a personal mobility device emerging from, or entering an alley, driveway, or building, shall upon approaching a sidewalk, or the sidewalk area extending across any alleyway, yield the right-of-way to all pedestrians approaching on said sidewalk, and upon entering the roadway shall yield the right-of-way to all vehicles approaching on said roadway, to the extent necessary to safely enter the flow of traffic.
Prohibited Areas of Operation:	Prohibited on sidewalks in the CBD unless otherwise designated by Order of the Mayor.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<ul style="list-style-type: none"> • DDOT may require the permit holder to conduct a member survey. • Permit holder shall inform users of all applicable District laws and regulations, including, but not limited to, those regarding speed limits, parking, age restrictions, and sidewalk riding, on all its communication platforms. • Permit holders are encouraged to provide a free helmet to customers upon request within 20 business days.
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	<ul style="list-style-type: none"> • Permit holder must ensure that e-scooters can be located and unlocked both by using a smartphone application and by manually entering a customer's account number • Permit holder must offer a cash payment option
Subsidized Prices:	<ul style="list-style-type: none"> • Permit holder will offer a low-income customer plan that waives applicable vehicle deposit and offers an affordable cash payment option and unlimited trips under 30 min. Program is available to those who meet the following criteria: <ul style="list-style-type: none"> ◦ A single person making less than \$24,980/year. ◦ A family of four where the household income is less than \$51,500.
Neighborhood Service Availability:	DDOT will examine operators' ridership in Designated Equity Emphasis Areas as part of overall program evaluation and condition for operators to grow their fleet sizes. Designated Equity Emphasis Areas are identified by the National Capital Region Transportation Planning Board with significant concentrations of low-income and/or minority populations.

LOCATION: Washington, DC

Rebalancing:	Ensure e-scooter availability in Equity Emphasis Area
Language Accessibility:	Permit holder is encouraged to maintain a multilingual website with languages identified in the District of Columbia Language Access Act of 2004.
Other Equity Practices:	<ul style="list-style-type: none">• Permit holder conducts a marketing campaign at its own cost in Equity Emphasis Areas• Permit holder shall not change rental rate/impose additional fee regardless of trip origin and destination within the permitted service area.

DATA COLLECTION & SHARING

Data Reports:	<ul style="list-style-type: none">• Monthly electronic report with information on origin, destination, route travelled, and vehicle type for each trip completed, and any anonymous ridership data requested by DDOT• Safety reports on any vehicle crashes• Parking report detailing instances of illegal parking• Geographic Data, provided in GeoJSON, identifying permit holder's staging areas for dockless sharing vehicles from the prior month of operation.
Data Access/Platforms:	<ul style="list-style-type: none">• Provide an API on company website with, at minimum, accurate current locations of all dockless vehicles available for rentals at all times

REPORT

Report Names:	<i>Dockless Vehicle Sharing Demonstration: Phase I Evaluation</i> (December 2018)
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OTHER COMMENTS

Criminal Investigation:	<ul style="list-style-type: none">• When a permit holder's dockless vehicles are involved in a criminal activity, permit holder will provide the D.C. Metropolitan Police Department with any available and relevant data (ex. locations of dockless vehicles and customer information). Information requested will be subject to District and federal law as appropriate.• For emergency cases involving the imminent threat of death or serious physical injury, permit holder must have an established Emergency Disclosure Request process to allow the release of data and customer information to a law enforcement agency.
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LOCATION: Charlotte, NC

Pilot/Program Name:	Charlotte's Shared Mobility Program
Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>August 2017</u>: Launched Shared Mobility Pilot Program (didn't include e-scooters) • <u>May 2018</u>: Modified pilot program to include e-scooters • <u>November 2018</u>: The City published draft Shared Mobility Plan to support City Council conversations regarding permanent rules for e-scooters. • <u>March 2019</u>: Launched collaborative pilot with Detroit, MI and Omaha and NE to use Passport's platform to manage e-scooters more effectively. • <u>January 2019</u>: The City established permanent rules and a permitting program for e-scooter use.
City Manager of Pilot/Program:	CDOT
Existing E-scooter Companies:	Bird, Lime, Spin
E-scooters Previously Banned/Came without Authorization:	n/a
Pilot/Program Goals and Objectives:	<ul style="list-style-type: none"> • <u>Manage e-scooters safely</u>: The City aims to collaborate with e-scooter operators, users, and the general public to manage e-scooters in way that maintains order and safety, promotes an inclusive system, and encourage ridership. • <u>Invest in infrastructure</u>: Investing in a connected, safe, and comfortable bicycle network, that also accommodates e-scooter use, is more important than ever. • <u>Treat e-scooter like bikes</u>: E-scooters should be managed so that they can align so closely as possible with expectations for the safe operation of bicycles in the built environment. • <u>Provide transportation choices</u>: E-scooters are part of a greater shared mobility system that offers more transportation choices to Charlotte residents. Shared mobility also includes bike share, ride share, and transit service.
Other Relevant City/State Plans and Visions:	<i>Charlotte BIKES Bicycle Plan</i> (May 2017): The City's blueprint to becoming a bicycle-friendly city.
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<p><u>Dynamic Pricing Model</u>: Instead of charging a fixed, annual fee per scooter, Charlotte charges companies variable monthly fees to encourage "good behavior."</p> <ul style="list-style-type: none"> • Companies will receive fee deductions if users park e-scooters without blocking the right-of-way or near transit stops and wear helmets. • Companies will charge more if e-scooters block sidewalks or if users park their e-scooters in low-usage areas where it sits idle for hours. • If everyone follows "good behavior" guidelines, the city might not collect any revenue from companies.

LOCATION: Charlotte, NC

Device Cap/# of Operators Allowed:	Minimum fleet of 50 e-scooters and a maximum of 400 e-scooters per Operator.
Supplemental Licenses/ Changes to Initial E-scooter Cap:	<ul style="list-style-type: none"> When average trips per day exceeds 3.0, additional e-scooters may be deployed in increments of 50 at a time. When average trips per day drops below 2.0, e-scooters must be removed from the right-of-way in increments of 50 at a time.
Other information:	<ul style="list-style-type: none"> Require annual renewal of e-scooter permits to reflect changes in regulations over time.

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none"> General Assembly of North Carolina City of Charlotte Code
E-scooter Legal Definition (State):	<p><u>Electric Standup Scooter (G.A. § 20-4.01(7c)):</u></p> <p>"A device with no more than three 12-inch or smaller diameter wheels that has handlebars, is designed to be stood upon by the user while riding, and is powered by an electric motor that is capable of propelling the device with or without human propulsion at a speed no greater than 20 mph on a paved level surface."</p>
E-scooter Legal Definition (City):	<p><u>Electric Standup Scooter (City of Charlotte Code § 14-1):</u></p> <ul style="list-style-type: none"> "A device with no more than three twelve-inch or smaller diameter wheels that has handlebars, is designed to be stood upon by the user while riding, and is powered by an electric motor that is capable of propelling the device with or without human propulsion at a speed no greater than 15 mph on a paved level surface. The device shall not exceed 50 lbs in weight." E-scooter is a vehicle, but not a motor vehicle: "Every rider of a ...electric standup scooter upon a highway shall be subject to the sections of this chapter applicable to the driver of a vehicle except those which by their nature can have no application." Term does not include an electric personal assistive mobility device.

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	Required by all operators in Charlotte
Age Requirement (City):	Operators require users to be at least 18 years old
Speed Limit (City):	15 mph
Helmet (City):	Child-protective helmets required for users under 16
# of Persons Allowed on E-scooters (City):	One
Required E-scooter Safety/Accessory Requirement (City):	<ul style="list-style-type: none"> Brakes Locking mechanism to enable user to lock shared scooter to a stationary physical object such as a bike rack (State). Front light that emits white light and a rear red reflector (State).

LOCATION: Charlotte, NC

Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none">• Unique identifier on the e-scooter visible at a distance of 10 feet• A 24-hour customer service phone number that is in service during all operating hours and clearly visible to the user.
Other Requirements (City):	<ul style="list-style-type: none">• Unlawful for any person riding an electric standup scooter to attach such or himself to any streetcar or moving vehicle upon any roadway.• E-scooters shall be collected nightly for recharging and no e-scooter trips may be initiated after 9pm.• Require any inoperable or unsafe e-scooter to be removed from the right-of-way within 24 hours of notice and be repaired before being placed back into the City right-of-way.• Reserve the right to terminate any operator permit if the battery or motor on an e-scooter is determined by CDOT to be unsafe for public use.• Require operators to reimburse the City for any substantial costs incurred for any repair or maintenance of public property
Violations/Non-Compliance (City):	<p>Director is authorized to revoke permit for good cause, including:</p> <ul style="list-style-type: none">• Permittee failed to pay a fee and/or civil penalty within 30 days following notice of nonpayment• Permittee violated any statute or ordinance governing operation of the devices covered under the permit• Permittee violated one or more conditions of the permit <p>Civil Penalties:</p> <ul style="list-style-type: none">• Violation of this article may be enforced by the issuance of a civil penalty (\$25 /vehicle)• An additional late fee civil penalty (\$25/vehicle) may be assessed if the initial civil penalty is not paid/appealed within 30 days from date of issuance
PARKING	
Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none">• Pedestrian and green zones of sidewalks• Must park upright

LOCATION: Charlotte, NC

Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • Not allowed on park on sidewalks in the Congested Business District and uptown Charlotte. • Placement of e-scooters should not reduce width of pedestrian zone to less than six feet (or to eight feet in the Congested Business District). • Should not park on blocks where the pedestrian zone is less than 6 feet, or park in any place where there is no planting strip/amenity zone directly adjacent to the parked e-scooter. • Prohibit parking e-scooters within one-quarter mile of any rail transit station. • Should not be parked in any vehicle travel lane or bicycle lane, at the corner curb sight radius area of sidewalks and shall not conflict with the required sight triangle distance. • Shall not park on blocks without sidewalks • Shall not park in the pedestrian zone adjacent to or within: <ul style="list-style-type: none"> ◦ Parklets or sidewalk dining, transit/loading zones, accessible parking zones, street furniture that requires pedestrian access, curb ramps, signal push buttons, driveways ◦ Entryways, exists and must maintain a 10 foot clearance • City reserves the right to determine certain areas where e-scooter parking is prohibited.
Rebalancing (City):	<ul style="list-style-type: none"> • Operator shall perform, at a minimum, one afternoon fleet inspection to rebalance and properly park e-scooters. • If notified of public access and safety concerns by the City, operators shall rebalance e-scooters within two hours. • When deploying or rebalancing limit operators to no more than two e-scooters per block face to ensure good coverage and distribution. • Require operators to move any e-scooter that is parked in one location for more than seven consecutive days.
Other Information (City):	<p>Improper Parking:</p> <ul style="list-style-type: none"> • Operators are required to move any e-scooter blocking a sidewalk or curb ramp, or otherwise parked inappropriately, within two hours if notified between 7am-7pm (excluding holidays) and within 12 hours at all other times. • Director, her designee, or any law enforcement officer may impound any electric standup scooter parked in violation of the provisions of the city's ordinance, retain possession until ownership is established, issue penalty, and dispose the vehicle if ownership is not established and civil penalties are not paid within 90 days of issuance, provided that nothing herein contained shall be construed to limit the authority of law enforcement officers to take into custody any electric standup scooter believed to be stolen.
GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE	
Permissible Areas of Operation (City):	Certain sidewalks

LOCATION: Charlotte, NC

Prohibited Areas of Operation (City):	<ul style="list-style-type: none">• Sidewalk located in the Congested Business District and in uptown Charlotte• Director is authorized to prohibit the operation of electric standup scooters on other sidewalks located in high pedestrian traffic areas in the interest of public safety.• Police officers acting in the discharge of their official duties are permitted to operate electric standup scooters upon all of the public sidewalks in the city.
Other Information (City):	Director, her designee, or any law enforcement officer may impound any electric standup scooter operated in violation of the provisions of the city's ordinance, retain possession until ownership is established, issue penalty, and dispose the vehicle if ownership is not established and civil penalties are not paid within 90 days of issuance, provided that nothing herein contained shall be construed to limit the authority of law enforcement officers to take into custody any electric standup scooter believed to be stolen.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<ul style="list-style-type: none">• In-app messages needs to include:<ul style="list-style-type: none">◦ People operating e-scooters shall adhere to all local, state, and federal laws regarding motorized and non-motorized vehicles.◦ People operating e-scooters shall yield to pedestrians.◦ People shall operate e-scooters safely and park responsively.• Operator shall provide app functionality that permits users to contact operator directly and provide feedback on inappropriate riding and parking.• Maintain website with educational information and contacts for scooter operations.• Conduct month-long e-scooter safety campaign focused on encouraging appropriate rider behavior.
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DATA COLLECTION & SHARING

Data Reports:	<ul style="list-style-type: none">• Maintain a record of maintenance activities, including but not limited to unique identifier and maintenance performed.• Monthly data report. If an Operator has bicycles and e-scooters in their fleet, they are required to submit two separate data reports.• Anonymized real-time data upon request for each trip record to inform and support safe and effective management of the system.
Data Access/Platforms:	<ul style="list-style-type: none">• API

LOCATION: Charlotte, NC

Other Information:	<ul style="list-style-type: none">• Since March 2019, Charlotte (as well as Detroit and Omaha) have conducted a collaborative pilot program with <u>Passport, Inc.</u> to manage micromobility.• These cities will apply parking principles, data analysis and a software platform to charge for scooter parking to balance the supply, demand and distribution of scooters.• Instead of capping scooter volumes/imposing flat fees, Passport's technology would incentivize good parking behavior by charging for curb space for all mobility modes.• Passport's software platform can leverage data from micromobility providers to allow cities to: a) analyze scooter distribution and usage patterns, b) power curbside pricing and payments c) manage scooters to address city objectives such as equitable access and first/last mile solutions for transit.
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REPORT

Report Names	<i>Shared Mobility E-scooter Plan (November 2018).</i>
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OTHER COMMENTS

Potential Next Steps:	<p>Infrastructure Programs:</p> <ul style="list-style-type: none">• Allocate \$4 million to the Bicycle Program through the 2018 bonds which will be used to support bicycle/e-scooter infrastructure and parking throughout the City.• City should consider funding a State Highway Participation program so that the City can ensure that NCDOT projects have adequate accommodations for bicycles and e-scooters. <p>Parking:</p> <ul style="list-style-type: none">• Install bike/scooter corrals at light rail stops, at high-ridership bus stops, in center city, and at other popular e-scooter locations.• Consider implementing dynamic parking pricing to incentivize good parking behaviors. <p>Funding Critical Standalone Projects:</p> <ul style="list-style-type: none">• Consider identifying construction funding for the 5th/6th Street Cycletrack project as a critical standalone project for the safe operation of bicycles and e-scooters in our highest ridership district.• Allocate ongoing funding to implement the recommendations of the Uptown Connects study which would create a network of protected facilities for bicycles/e-scooters through Uptown.• Identify and fund other critical standalone projects in high ridership areas. <p>Update Policy/Design Focus:</p> <ul style="list-style-type: none">• Shift toward more buffered and protected bicycle/e-scooter lanes which provide a greater level of safety and comfort for all users• Consider increasing the "2 e-scooters per block face" limitation for deploying/rebalancing e-scooters, especially in Uptown and Transit Stations Areas.
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LOCATION: Miami, FL

Pilot/Program Name:	Miami Scooter Pilot Program
Pilot/Program Progress:	April 2019 to September 2019: First Pilot Program
City Manager of Pilot:	City of Miami
Existing E-scooter Companies:	Bird, Bolt, Jump, Lime, Lyft, Spin
E-scooters Previously Banned/Came without Authorization:	After Bird and Lime scooters came to Miami in April 2018, the City issued cease and desist letters to both companies stating that they were in violation of Florida's Statutes.

PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES

Fees:	<ul style="list-style-type: none">• Application Fee: \$50,000• \$1 per scooter per day (fee shall be designated for sidewalk area and or street improvements within pilot program area)• \$25 for any scooter the City has to remove from areas outside of District 2• Percentage of funds will be used to monitor and enforce the program, with the rest used exclusively on improving streets and sidewalks in District 2.
Device Cap/# of Operators Allowed:	<ul style="list-style-type: none">• Six companies are participating in the pilot program• Each company started with 50 scooters during the first two weeks, upon which they increased to max 100 scooters.
Supplemental Licenses/ Changes to Initial E-scooter Cap:	<ul style="list-style-type: none">• Operators may increase fleet size by 25% monthly if each company scooter exceeds 3 rides per day.• Operators may decrease fleet size if each scooter has less than 2 rides per day.

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none">• House Bill § 453• Miami, FL Code of Ordinances
E-scooter Legal Definition (State):	<u>Motorized Scooter:</u> "Any vehicle not having a seat or saddle for the use of the rider, designed to travel on not more than three wheels, and not capable of propelling the vehicle at a speed greater than 30 miles per hour on level ground."
E-scooter Legal Definition (City):	<u>Motorized Scooter:</u> "Device with an electric motor, designed to transport only one person, exclusively or in combination with the application of human power, which cannot attain a speed of more than 15 mph without the application of human power on a level surface."

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	No
Age Requirement (City):	18
Speed Limit (City):	15 mph

LOCATION: *Miami, FL*

Helmet (City):	<ul style="list-style-type: none"> • Not Required • Operators shall work with local businesses or other organizations to promote the use of helmets by persons operating motorized scooters through partnerships, promotional credits and other incentives.
# of Persons Allowed on E-scooters (City):	One
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> • Unique Identification number • Operator's name • Operator's local business address
Other Requirements (City):	<ul style="list-style-type: none"> • Motorized scooters shall at times give an audible signal before overtaking and passing such pedestrian
Violations/Non-Compliance (City):	<ul style="list-style-type: none"> • The police has the authority to issue citations to people who don't follow rules. • The City and/or MPA (Miami Parking Authority) may, without prior notice to the operator, remove motorized scooters that are visibly damaged or non-functional, or blocking the public right-of-way, or located outside the pilot program area, and take them to a MPA or other city facility for storage at the sole expense of an operator. The city and/or MPA shall charge a fee of \$25 per scooter for removal and storage. • If a company is not properly addressing problems, such as moving scooters blocking the right of way or responding to complaints, program participation can be reduced or revoked.

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • Park upright • Park on a sidewalk or other hard surface • Park beside a bicycle rack or at a city-owned location • Must be parked in a manner that is complaint with the applicable provisions of ADA
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • Scooters cannot block the right of way for pedestrians, loading zones, vehicles or emergency services, fire hydrants, transit facilities, passenger loading spaces/zones, valet parking service areas, railroad tracks/crossings, disabled or prohibited parking zones, street furniture that requires pedestrian access, window displays, building entryways, vehicular driveways • Bicycle docking stations located on city and or MPA property with an existing agreement. • On a block where sidewalk is at any point less than six feet in width, or on a block that does not have sidewalks • In a visibility triangle • Cannot park on private property without property owner's permission.
Rebalancing (City):	<ul style="list-style-type: none"> • Operator is required to rebalance scooter fleet on a daily basis

LOCATION: Miami, FL

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<ul style="list-style-type: none">• District 2 of the City of Miami• Scooter riders should use bike lanes where available and responsibly share streets and sidewalks with cars, bicycles and pedestrians.
Prohibited Areas of Operation (City):	<ul style="list-style-type: none">• Anywhere outside of District 2.• Sidewalks of Southwest 8th Street between 4th Avenue and Tamiami Canal Road.
Other Information:	If a scooter travels outside District 2, the scooter will slow down to indicate the user has crossed a boundary. The City will also monitor locations scooters not in use and pick up any scooters found outside District 2. Companies will be charged \$25 per scooter to get them back.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	Operators are required to implement marketing and targeted community outreach plans, at their own expense and to the satisfaction of the city, to promote the use of motorized scooters, particularly in low-income communities, and provide education regarding the rules, regulations, and laws applicable to riding, operating, and parking a motorized scooter, as well as safe , prudent, defensive and courteous operation.
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DATA COLLECTION & SHARING

Data Reports:	Real-time information all motorized scooters through API
Data Access/Platforms:	API (includes the point location and identification number of each scooter)

LOCATION: **Kansas City, MO**

Pilot/Program Name:	Active Transportation Pilot Program
Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>May 2019 to May 2020</u>: First e-scooter pilot program • <u>June 3, 2019</u>: Launched a pilot to provide two on-street hubs to park e-scooters and e-bikes.
City Manager of Pilot/Program:	City of Kansas City and a committee of inter-departmental staff (Public Works, Parks and Recreation, Office of the City Manager, City Planning and Development, Neighborhoods and Housing Services)
Existing E-scooter Companies:	Bird, Spin, RideKC
E-scooters Previously Banned/Came without Authorization:	Bird came to Kansas City in July 2018 without the City's authorization
Pilot Goals and Objectives:	<ul style="list-style-type: none"> • Streamlining the permitting and licensing process for e-scooter companies • Evaluating operations in all seasons, as well as during special events and emergency situations • Influencing the implementation of the new Bike KC Plan. • Establishing framework for rules and regulations for Shared Active Transportation companies in Kansas City
Other Relevant City/State Plans and Visions:	Bike KC Plan
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<ul style="list-style-type: none"> • Application Fee: \$250 • Annual Permit: \$15,000 • Per-vehicle Fee: \$1 per day per device
Application Process:	<ul style="list-style-type: none"> • City issued a RFP for Proposers to submit an offer, which is not a request for a competitive bid. • Proposal: any document, submittal, interview, presentation, discussion, negotiation, and everything and anything provided in response to this RFP regardless whether the submission is an oral or written submission. • Proposal require the following sections: Business/Firm Profile and Legal Structure, Experience, Personnel, Project Approach, Sustainability, Cost Proposal References, Technical and Functional Requirements, Other Required Documents.
Device Cap/# of Operators Allowed:	Start with 500 small vehicles per operator

LOCATION: *Kansas City, MO*

Supplemental Licenses/ Changes to Initial E-scooter Cap:	<ul style="list-style-type: none"> • Upon receipt of request, companies may be permitted to increase incrementally, with no more than 500 additional small vehicles to be permitted in a month. • A committee of inter-departmental staff uses the following criteria to determine if additional Small Vehicles will be permitted: <ul style="list-style-type: none"> ◦ Data received and supports request for increase, average ridership of 3 riders or more per-vehicle per day, payment received on time, equitable deployment of vehicles, communication with the City/Business Associations/Neighborhood Associations in the community, maintenance of equipment, response time. ◦ An additional 500 small vehicles will be granted to Companies if distributed to lower life expectancy zip code areas with proof of rebalancing throughout the day.
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E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	"Interim Operating Agreement for Implementation of a Shared Active Transportation Operation." (no formal regulations yet)
E-scooter Legal Definition (State):	n/a
E-scooter Legal Definition (City):	<u>Small Vehicle:</u> "Dockless and lock-to geofenced bikes, scooters, e-bikes, e-scooters, skateboards, and other small, wheeled vehicles designed specifically for shared-use and deployed by Shared Active Transportation companies."

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	Not specified
Age Requirement (City):	Not specified
Speed Limit (City):	15 mph
Helmet (City):	Not required, but encouraged.
# of Persons Allowed on E-scooters (City):	Not specified
Requirements for Carrying Other Articles on E-scooters (City):	Not specified
Required E-scooter Safety/Accessory Requirement (City):	Not specified
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> • Unique Vehicle Identifier • 24-Hour Customer Service Phone Number • Signage that indicates permissible areas of operation and other rider safety information

LOCATION: *Kansas City, MO*

Other Requirements (City):	<ul style="list-style-type: none"> On days where inclement weather, rain and snow, is anticipated, companies will halt its Shared Active Transportation Operation. On days where snow is anticipated, companies shall remove its small vehicles from the right of way. Companies shall not hold the city liable for damage to small vehicles caused by city's snow removal operations. Companies shall embrace transparency in recycling efforts and recycle or otherwise dispose of small vehicles and small vehicle parts in an environmentally-friendly at end of life cycle.
Violations/Non-Compliance (City):	The City has right to terminate agreement with the operator with its Shared Active Transportation Operation threatens the safety and health of the city's residents and visitors.

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Frontage zone or furniture zone of the sidewalk Bike racks, bike corrals, scooter parking Park upright on hard surfaces Must be parked in a manner so as not to block the throughway zone of the sidewalk. Small vehicles must be parked closest to curb line on sidewalks less than 8 ft wide. On-street hubs for e-scooter parking.
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Must not park closer than 10 feet to street corner or ADA curb ramp, crosswalk or anywhere two pedestrian paths intersect. Not allowed to be parked in front of, on top of, or attached to sidewalk amenities and landscaping, such as seating areas, kiosks, ATMs, mailboxes, news racks, trash receptacles, benches, parklets, and planted areas or features. Must not be parked in such a manner as to impede or interfere with the reasonable use of any commercial window display or access to or from any building or access to or from off-street parking lots or garages.
Rebalancing (City):	<ul style="list-style-type: none"> Permitted operators are required to provide the city with a direct local contact for operator staff that are capable of rebalancing and relocating improperly parked vehicles. Any inoperable or unsafe small vehicle shall be removed from the right-of-way within 2 hours of notice by any means to the operator by any individual or entity, and shall be repaired before placing back into the city right-of-way. City may remove vehicles that interfere the right-of-way.
Other Information (City):	<ul style="list-style-type: none"> On June 3, 2019, Kansas City launched a pilot to provide two on-street hubs to park e-scooters and e-bikes.

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<ul style="list-style-type: none"> Streets, and where available, in bike lanes or bike paths and not on a Throughway Zone or areas designated by the city to be closed for Small Vehicle traffic Right of street lanes and should offer right of way to bicycle lanes on bike lanes/paths..
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LOCATION: *Kansas City, MO*

Prohibited Areas of Operation (City):	Sidewalks
COMMUNITY OUTREACH AND EDUCATION	
Community Outreach Plans/Methods:	<ul style="list-style-type: none"> • Permit requires operators to have a mandatory education plan for riders, including but not limited to media outreach, in-app notifications, pop up events. • Operator must conduct or assist in distributing an annual user survey to be conducted in collaboration with the city. • Operators are required to have targeted communication efforts on how low-income residents can best utilize services.
EQUITY PRACTICES AND POLICIES	
For un/under-banked and digitally impoverished individuals:	<ul style="list-style-type: none"> • Operators are required to have a user-friendly solution for low-income and/or unbanked users to pay for e-scooters
Subsidized Prices:	<ul style="list-style-type: none"> • Operators are required to adopt discounted rider fees for low-income residents for the purpose of serving last mile transportation from work, school, shopping, and other destinations. • Operators are required to provide cheaper ways for residents to utilize small vehicles, including but not limited to pay as you go options as well as app free cell phone access.
Neighborhood Service Availability/Rebalancing:	<ul style="list-style-type: none"> • The City has identified high priority zip codes that have the lowest life expectancy in the City. Operators are required to deploy, maintain and rebalance 20% of the permitted small vehicles in those zip codes.
DATA COLLECTION & SHARING	
Data Reports:	<ul style="list-style-type: none"> • Required to give a report once a month or upon request to the city, including a separate report on aggregate demographic data. • Data should be provided to the city in the General Bike Share Feed Specifications (GBFS) Format.
Data Access/Platforms:	API using city of Los Angeles' Mobility Data Specification data standard.

LOCATION: Detroit, MI

Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>July 2018</u>: Launched pilot sharing program for e-scooters • <u>October 2018</u>: Piloted with NACTO and SharedStreets on a comprehensive standard and analysis tool for mobility data on dockless scooters and bicycles. • <u>March 2019</u>: Launched a collaborative pilot with Charlotte, NC and Omaha, NE to use Passport's mobility platform to manage e-scooters more effectively.
City Manager of Pilot/Program:	DPW
Existing E-scooter Companies:	Bird, Lime, Spin, Boaz Bikes
E-scooters Previously Banned/Came without Authorization:	n/a

PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES

Fees:	No
Device Cap/# of Operators Allowed:	400-scooter cap per company; 1200 scooters allowed in total.
Supplemental Licenses/Changes to Initial E-scooter Cap:	n/a

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none"> • Michigan Laws §257 • Memorandum of Interpretation (Provides interpretation of the Detroit City Code as it pertains to e-scooters. It is not official law). This memorandum only applies to the right-of-way under the jurisdiction of the City of Detroit and does not reflect any interpretation from the State of Michigan or Wayne County.)
E-scooter Legal Definition (State):	<p><u>Electric Personal Assistive Mobility Device (Michigan Laws §257.13c):</u> "A self-balancing non-tandem 2-wheeled device, designed to transport only 1 person at a time, having an electrical propulsion system with average power of 750 watts or 1 horsepower and a maximum speed on a paved level surface of not more than 15 mph."</p> <p><u>Electric Skateboards (State's legal definition of electric skateboards includes e-scooters):</u> "A wheeled device that has a floorboard designed to be stood upon when riding that is no more than 60 inches long and 18 inches wide, is designed to transport only 1 person at a time, has an electrical propulsion system with power of no more than 2,500 watts, and has a maximum speed on a paved level surface of not more than 25 mph. An electric skateboard may have handlebars and...maybe designed to also be powered by human propulsion."</p>

LOCATION: Detroit, MI

E-scooter Legal Definition (City):	<u>Dockless Electric-Assisted Scooters (Memorandum of Interpretation):</u> "A co-linear two-wheeled single passenger vehicle that is equipped with a flat platform between the wheels upon which the passenger stands and a fixed waist-high handlebar above the front wheel, which the passenger uses for steering and balancing purposes. Scooters are equipped with a battery and electric motor, by which a Scooter can achieve speeds on flat surfaces in excess of 15 mph."
EQUIPMENT AND OPERATIONAL REQUIREMENTS	
Driver's License Required (City):	Yes
Age Requirement:	At least 18 years old
Speed Limit (City):	15 mph
Helmet:	Required 18 and under (State)
# of persons allowed on e-scooters (City):	One
Requirements on carrying other articles on e-scooters	
Required E-scooter Safety/Accessory Requirement (City):	Front and rear lights visible from a distance of at least 500 feet under normal atmospheric conditions at night and that stay illuminated for at least 90 seconds after the scooter has stopped. <ul style="list-style-type: none"> • Front/rear lights must be used between a half-hour before/after sunset (State).
Technology Requirement (City):	GPS
Information Requirement on E-scooter (City):	<ul style="list-style-type: none"> • Unique identification number • Company logo/other branding • Company's contact information for its public support service
Other Requirements (City):	<ul style="list-style-type: none"> • Person riding an electric personal assistive mobility device shall not ride more than two abreast except on a path or part of a roadway set aside for the exclusive use of those vehicles (State). • Shall not pass on the left of traffic moving in his or her direction in the case of a two-way street or on the left or right of traffic in the case of a one-way street, in an unoccupied lane (State). • Company required to schedule regular maintenance checks on not less than a monthly basis.

LOCATION: *Detroit, MI*

Violations/Non-Compliance (City):	<p>Non-compliance of individual scooter users/companies:</p> <ul style="list-style-type: none">• Non-compliance of e-scooter company is determined when there are large numbers or particular patterns of violations associated with scooters of a single company.• Individual scooter user may be subjected to a misdemeanor penalty.• Both: Fine of \$500 and/or imprisonment not exceeding 90 days <p>Removing an obstruction:</p> <ul style="list-style-type: none">• City is authorized to remove an obstruction upon 24-hour notice to the owner of the obstructing item. City is authorized to store removed obstruction for 30 days and at which time the City can consider the item to be abandoned/ disposed.• If City cannot identify the individual who caused an obstruction, the City, without notice to the e-scooter operator, can relocate the scooter to a nearby publicly accessible location as a purely remedial measure to eliminate the obstruction.• The City might, with 24-hour notice to the e-scooter operator, remove an entire fleet of scooters if it collectively creates a public obstruction.
PARKING	
Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none">• Sidewalk – fully contained within the furniture zone• Parked upright and not positioned against or fastened in any way to other street amenities/objects.• Parked so as to provide not less than six feet of clearance across with width of the sidewalk to allow for unobstructed pedestrian flow along the sidewalk.• An electric skateboard equipped with handlebars may park on a highway or street at any location where parking is allowed for motor vehicles, may park at any angle to the curb or the edge of the highway, and may park abreast of another bicycle or electric skateboard equipped with handlebars (State).

LOCATION: *Detroit, MI*

Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • Any vehicular travel lane • Any sidewalk with pedestrian zone less than six feet wide and any block without a paved sidewalk • Area within the corner curb radius area of any sidewalk • Any within the corner of two intersecting sidewalk corridors, as determined by adjacent property lines • Areas within six feet of any crosswalk, bicycle rack, fire hydrant, grating, manhole cover, vault access lid, drinking fountain, any public art, driveway or curb cut, portion of an ADA Ramp, marked disabled parking space, marked loading or taxi zone, sidewalk café or other outdoor dining area, municipal parking station, any street furniture with the exception of existing bicycle racks • Area within ten feet of a point of ingress/egress from building/structure • Area within a bus stop (30 ft distance measured from bus stop sign in the direction counter to traffic flow, passenger waiting area, or bus layover and staging zone) • Area in which scooter could damage/interfere with use of pipes, vault areas, telephone or electrical cables/wires or other utility facilities • Areas subjected to repaving or other construction activities • Area in which scooter obstructs access to parked vehicles and obscures any traffic/regulatory/informational signs • Private property • Even if scooters follow parking specifications, scooters should not park in groups of more than ten scooters, and any two group of scooters are separated by at least 20 feet
GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE	
Permissible Areas of Operation (City):	<ul style="list-style-type: none"> • Scooter is used primarily in bike lanes, where such lanes are present, or in the rightmost lane of a roadway <ul style="list-style-type: none"> ◦ In bike lanes/roadways, scooter should follow traffic regulations applicable to motor vehicles and bicycles occupying the same space • Sidewalks <ul style="list-style-type: none"> ◦ Only if scooter gives right-of-way to pedestrians ◦ User should give an audible signal before overtaking and passing the pedestrian (State).
Prohibited Areas of Operation	<ul style="list-style-type: none"> • Electric personal assistive mobility device prohibited on highway or streets more than 25 mph. • Historic District (State) • Special charter city and a state park under the jurisdiction of the Mackinac Island State Park commission (State)
Other information:	The Department of Natural Resources may, by order, regulate the use of electric personal assistive mobility device or electric skateboards on all lands under its control (State).

LOCATION: Detroit, MI

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	To facilitate compliance with City code, companies should develop and implement a member education program to provide members with information about the safe operation of a scooter.
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	As offered by e-scooter companies
Subsidized Prices:	As offered by e-scooter companies
Neighborhood Service Availability:	100 of the 400-scooter cap must be deployed in neighborhoods outside Grand Boulevard to ensure equitable access.
Rebalancing:	To avoid obstructions created by the abundance of Scooter within the City's densest areas of pedestrian and vehicular traffic, scooters are relocated upon the conclusion of daily operations, so that not less than 25% of the number of scooters in the companies' fleets are located outside of the Grand Boulevard Area.

DATA COLLECTION & SHARING

Data Reports:	<ul style="list-style-type: none">• Companies should report the following types of data and metrics to assist the City in traffic management efforts:<ul style="list-style-type: none">◦ Scooter utilization rates, membership volumes, trip volumes, trip origins/destinations/distances/routes, parking compliance rates, scooter theft/vandalism◦ Complaints, accident/crash information◦ Scooter maintenance reports◦ Real-time Scooter locations and availability◦ Daily number of Scooters deployed outside the Grand Boulevard Area
Data Platforms:	Companies should distribute of interactive safety messaging, such as text messaging or push notifications through company's mobile platform

LOCATION: Detroit, MI

Other:

- Detroit Mayor, NACTO, SharedStreets partnered in October 2018 to pilot a comprehensive standard and analysis tool for mobility data on dockless scooters and bicycles. Pilot uses scooter data from Bird and Lime.
 - Resulting data standards and open source tools will allow other cities and private sector mobility operators to collaboratively manage streets and achieve key mobility, safety and equity goals, while protecting privacy.
 - Goal of the forthcoming dockless data standard will give cities a universal way to collect and aggregate critical information on the operator of scooters and bikes.
- Pilot to Create a Framework for Future Micro-Mobility Program
 - On March 19, 2019, Charlotte, Detroit and Omaha announced a collaborative pilot program to manage micromobility through sharing best practices and leveraging Passport's mobility platform. Passport is a company that creates products that aim to transform the way cities and agencies manage their operations – from parking to tooling and transit.
 - Passport's software platform will allow cities to analyze scooter distribution and usage patterns, power curbside pricing and payments, and manage scooters to address city-level objectives like equitable access and first/last mile solutions for transit.
 - These cities will apply parking principles, data analysis and a software platform to charge for scooter parking to balance the supply, demand and distribution of scooters.
 - Instead of capping scooter volumes or imposing flat fees, Passport's methodology and technology will allow cities to incentivize behavior by charging for curb space fairly across all modes of mobility.

LOCATION: Austin, TX

Pilot/Program Name:	Austin Dockless Mobility Program
Pilot/Program Progress:	<ul style="list-style-type: none">• <u>Feb 1, 2018</u>: Initiated dockless systems process• <u>April 26, 2018</u>: City Council adopted ordinance to authorize dockless scooter and bike share organizations to operate in the city• <u>May 1, 2018</u>: Began six-month pilot program• <u>November 9, 2018</u>: Adopted the Final Director Rules for Deployment and Operation of Shared Small Vehicle Mobility Systems• <u>May 23, 2019</u>: Adopted Rider Safety Ordinance.• <u>August 2019</u>: City Council will discuss two possible ordinances, one on creating franchise creation standards with regard to the regulation of shared Micromobility and another on scooter storage on sidewalks and in the right of way.
City Manager of Pilot/Program	Austin Department of Transportation
Existing E-scooter Companies:	Lime, Bird, Spin, JUMP, Lyft, OjO, VeoRide, Skip
E-scooters Previously Banned/Came Without Authorization:	Lime and Bird came to Austin in April 2019 without authorization from the Austin Department of Transportation.
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<ul style="list-style-type: none">• Per-vehicle Fee: \$30/unit• Performance Bond: \$100/unit
Device Cap/# of Operators Allowed:	Max 500 units per initial license

LOCATION: Austin, TX

Supplemental Licenses/ Changes to Initial E-scooter Cap:	<ul style="list-style-type: none"> Supplemental licenses may be issued in increments of 250 units outside of initial licensed area, provided that they meet the following criteria: <ul style="list-style-type: none"> All additional units shall be deployed outside of the Downtown Austin Project Coordination Zone (DAPCZ) as verified in real-time through API. Licensee must determine a specific geographic area, of at least 5 square miles in size, to deploy additional scooters. The performance bond is increased to \$100/unit to cover all units operated by the licensee. Director may permit additional units within a supplemental licensed area in increments of 250 units/type, provided the deployed units meet an average of three trips per day Director may issue supplemental licenses and expand allowable fleet size by an amount determined by the Director for strategies that promote or incentivize good parking or riding behaviors. Examples include: <ul style="list-style-type: none"> Ability to lock to fixed biking parking infrastructure Technology that enables the licensee to elicit specific behavior from riders, for an outcome that enhances safety and mobility Augment reality that uses digital interface to display virtual parking or no parking zones to riders Ability to govern speed and riding locations remotely If total number of deployed units within a license area does not maintain a minimum average of two trips/day, determined by monthly usage, the Director may relocate/remove a portion of the units.
Other information:	Austin Transportation Department hit the brakes on issuing new licenses to dockless mobility companies in Jan 2019 to reassess level of demand for e-scooters.
E-SCOOTER RELATED LAWS AND REGULATIONS	
Legal Documents	<ul style="list-style-type: none"> Austin's Rider Safety Ordinance No. 20190523-059 (to amend City Code §12-1 & §12-2); Final Director Rules for Deployment and Operation of Shared Small Vehicle Mobility Systems Senate Bill 549¹ (to amend Transportation Code § 551.351 & §551.352)
E-scooter Legal Definition (State):	<p><u>Shared Motor-Assisted Scooter (Texas SB No. 549):</u></p> <p>"A motor-assisted scooter that is rented for a fee. It is a self-propelled device with at least two wheels in contact with the ground during operation, a braking system capable of stopping the device under typical operating conditions, a gas or electric motor not exceeding 40 cubic centimeters, a deck designed to allow a person to stand or sit while operating the device, the ability to be propelled by human power alone, and does not include a pocket bike or a minimotorbike."</p>

¹ SB 549 is voted on by the Senate but it has not been voted by the House.

LOCATION: Austin, TX

E-scooter Legal Definition (City):	<u>Micro-Mobility Device (Austin's Rider Safety Ordinance)</u> : "A scooter, skateboard, or other compact device designed for personal micromobility, either privately-owned, or part of a shared Micromobility service. It does not include 'electric personal assistive mobility devices' under Texas Transportation Code §551.201, or medical devices."
Other Information:	Potential adoption of <u>Senate Bill §549</u> – Key changes: <ul style="list-style-type: none"> • E-scooter riders must be 16 years old • E-scooters are banned from sidewalk use

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	Yes
Age Requirement (City):	No
Speed Limit (City):	20 mph
Helmet (City):	Required for under 18
# of Persons Allowed on E-scooters (City):	One (unless device is built for more than one person)
Required E-scooter Safety/Accessory Requirement (City):	<ul style="list-style-type: none"> • Brake • For units that operate at nighttime, a front light that emits white light and a red light and reflector at the rear of the unit (Austin references Section 551.104 of Texas Transportation Code).
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> • Unique identification number • Name of licensee • Licensee's contact information
Maintenance and Repair (City):	<ul style="list-style-type: none"> • Licensee shall be capable of remotely disabling the use of a unit should it be reported or found to have a safety, maintenance or other hazardous condition. Dockless units that are reported as unsafe or non-functional shall be immediately deactivated for rental and removed from operations until sufficiently repaired. • Licensee shall remove any unit that is not safe to operate within four hours of receipt of notice and shall not be redeployed until repaired. • Licensee is required to keep a record of maintenance activities with includes the unit ID number and maintenance performed.
Other Requirements (City):	<ul style="list-style-type: none"> • Users are prohibited to use a portable electronic device while operating micromobility devices. • Riders who cause injury to a person or damage to property to provide reasonable assistance and give their name and contact information.
Violations/Non-Compliance (City):	<ul style="list-style-type: none"> • \$20 on a first conviction • \$40 on a subsequent conviction

LOCATION: Austin, TX

PARKING

Permissible Parking Areas and Behaviors (City):	<p>Director's Final Rules indicate the following permissible parking areas and behaviors:</p> <ul style="list-style-type: none"> • Park upright • Hard surface (ex. concrete, asphalt) within the landscape/ furniture zone of a sidewalk so long as there is at least 3-foot pedestrian clear-zone • At a public bike rack • Any area designated by Parking Boxes <ul style="list-style-type: none"> ◦ Licensee is required to pay the City for costs associated with the installation/maintenance of Parking Boxes at a ratio of 5% of total fleet size.
Prohibited Parking Areas and Behaviors (City):	<p>The Safe Riding Ordinance indicates the following prohibited parking areas and behaviors:</p> <ul style="list-style-type: none"> • In a manner that obstructs pedestrian or vehicle traffic • In a space designate as a vehicle parking place or between two designated vehicle parking places • In a manner that obstructs transit stops, shelters, platforms • On any part of an accessibility ramp for persons with disabilities, or in any manner that would restrict the movement of persons with disabilities • In designated and marked special use zones (ex. commercial service zones, passenger loading zones, customer service zones and valet zones) • In a manner that obstructs fire suppression appurtenances, building entryways, exits, vehicular driveways • On or near railroad or light rail tracks or crossings • In a manner that obstructs street furniture that pedestrians access (ex. benches and parking pay stations) • On any private property without owner permission
Rebalancing (City):	<ul style="list-style-type: none"> • Reduction of the concentration of units within a specific area shall happen according to the following timelines: <ul style="list-style-type: none"> ◦ Reduction shall occur within four hours of receipt of notice on weekdays, 6am-6pm, not including holidays ◦ At all other times, reduction shall occur within ten hours of receipt of notice
Other Information (City):	<ul style="list-style-type: none"> • A person shall not attach or secure a micromobility device or bicycle to public or private property in a manner that may damage, impair, or render the property unusable • Licensee shall respond to complaints/obstructions within the following time frames: <ul style="list-style-type: none"> ◦ Sidewalk Obstruct of less than 3 feet (60 minutes) ◦ Travel and bicycle lanes (60 minutes) ◦ Transit stop obstructions (60 minutes) ◦ Environmentally sensitive area (60 minutes) ◦ Private property (2 hours) ◦ Rebalancing off-hours (2 hours) ◦ Other obstructions and nuisances (2 hours) ◦ Unauthorized portions of parks and trails (2 hours) ◦ Other unauthorized areas (2 hours)

LOCATION: Austin, TX

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	Allowed on bike lanes, vehicle lanes and sidewalks, and some trails (as designated by the Parks and Recreation Department) except during hours that riding is prohibited in streets.
Prohibited Areas of Operation (City):	<ul style="list-style-type: none">• Between vehicles traveling or standing in the same direction within marked lanes of a roadway or contrary to established traffic control devices.• Parks, publicly-accessible plazas subject to City license agreements with private property owners, off-street parking lots/garages, state owned land and/or facilities, campuses, other area outside of the City of Austin's public right-of-way.
Other Right-of-Way Requirements (City):	<ul style="list-style-type: none">• Rider shall obey the instruction of official traffic signals, signs, and other traffic-control devices applicable to vehicles, unless otherwise directed by a police officer.• Unless a bike lane is specifically designated otherwise, a rider travelling in a bike lane may not travel in the opposite direction of adjacent motor vehicles in the roadway.• A rider shall obey traffic signs that prohibit a right, left, or "U" turn, except when the rider dismounts from the micromobility device to make the turn. A rider who dismounts shall obey regulations applicable to pedestrians.• A rider exiting from an alley, driveway, or building shall yield the right-of-way to a pedestrian on a sidewalk/sidewalk area, or to a vehicle on a roadway.• Riders shall operate on sidewalks in a manner consistent with the ADA and shall yield right-of-way to pedestrians on sidewalks and cross walks.

OTHER PILOT PROGRAMS

Park Pilot Detail:	Pilot program allows use on some parkland trails
Park Pilot Area:	Johnson Creek, Shoal Creek (south of 15th street only), Northern Walnut Creek Trail, Southern Walnut Creek Trail.
Park Pilot Timeframe:	Jan 2019 to September 2019
Manager of Park Pilot:	Austin Parks and Recreation Department
Park Pilot Survey:	https://www.speakupaustin.org/e-trails/survey_tools/survey
Park Speed Limit:	10 mph

LOCATION: Austin, TX

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<ul style="list-style-type: none">• Licensee is required to participate in City of Austin initiatives that raise awareness for accessibility, mobility and the safety of pedestrians and mobility unit users.• Licensee is required to educate users on lawful and safe use of dockless mobility units.• Licensee should have visible language that notifies the user of City of Austin's 'Dockless Mobility Code of Ethics':<ul style="list-style-type: none">◦ Pedestrians First – People operating bicycles and scooters shall yield to pedestrians on sidewalks◦ Parking Responsibly – Units shall be parked in a secure upright position only in designated areas◦ Stay on Right-of-Way – Users shall not take units to areas where they are not authorized to operate◦ Right and Report – If you see a unit toppled over or parked improperly; help out by righting the unit and reporting the issue via 311.• Licensee is required to implement and submit a marketing and outreach plan to promote the use of dockless mobility in neighborhoods currently underserved by dockless mobility options (initially defined as less than 25 licensee units/ square mile, subjected to change).
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	Licensee is required to offer an affordable option for users to rent e-scooters that does not require users to access the service via a smartphone application for anyone with an income level at/below 200% of the federal poverty guidelines
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DATA COLLECTION & SHARING

Data Reports:	<ul style="list-style-type: none">• Complaint history report• Collision history report• Real-time and historical information for their entire fleet through API
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LOCATION: Austin, TX

Data Access/Platforms:	<ul style="list-style-type: none">• The Dockless Vehicle Trips dataset records trips taken in the city and is updated daily.• The Dockless Data Explorer (under construction) is a publicly available interactive tool that visually displays clusters where trips start and end. Statistics are available by day, and e-scooter/e-bike data can be separately queried.• The Dockless Reporting Dashboard provides monthly summaries for statistics, such as trip numbers, miles traveled, average distance traveled, average trip duration, and number of devices.• In developing these tools, Austin Transportation created the <u>Austin Dockless Application Programming Interface (API)</u>, a tool based on cloud technology that gives others fast and powerful access to dockless mobility data. The API acts as a geospatial interface to the Dockless Vehicle Trips dataset and powers the Dockless Data Explorer. Austin Transportation hopes that other transportation agencies can reuse this code to create their own interactive visualizations.
REPORTS	
Report Names:	<u>Dockless Mobility Community Survey Report (Feb 28, 2019)</u> <u>Dockless Electric Scooter-Related Injuries Study (April 2019)</u>

LOCATION: *Denver, CO*

Pilot/Program Name:	Denver Dockless Mobility Pilot Program
Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>May 2018</u>: Dockless e-scooter operators started deploying e-scooters without prior authorization from the City and County of Denver • <u>Early June 2018</u>: DPW suspended Lime and Bird to suspend their scooter operators • <u>Late June 2018</u>: Launch of Denver Dockless Mobility Pilot Program • <u>August 2019</u>: End of pilot program • <u>September 2019</u>: DPW anticipates starting a new and ongoing permit program in early September
City Manager of Pilot:	DPW
Existing E-scooter Companies:	Lime, Bird, Razor, Lyft, Spin
E-scooters Previously Banned/Came Without Authorization:	Yes. Providers (Lime & Bird) deployed dockless electronic scooters without prior authorization from the City/County of Denver in May 2018. DPW ordered Lime and Bird to suspend their scooter operations until e-scooter regulations were adopted. In June 2018, DPW confiscated all e-scooters from the public right-of-way, and gave Lime/Bird \$150 fines per scooter seized (cost could escalate to \$500-\$999 if same scooter was picked up multiple times).
Pilot Goals and Objectives:	<ul style="list-style-type: none"> • Test new innovations and their ability to meaningfully meet Citywide mobility goals (ex. Reduce single-occupant vehicle commute trips from 73% to 50% by 2030). • Implement programs that respect safety and infrastructure • Increase the percentage of people who have access to and take public transit • Provide accurate communication and guidance to public users of these services • Scale new services and vehicles responsibly based on performance metrics • Integrate new innovations seamlessly with the City's existing transportation system • Serve the communities that are most vulnerable while increasing their access to smart technology and new opportunities
Other Relevant City/State Plans and Visions:	Pilot program is an element of the existing Transit Amenities Program (TAP), which permits commercial activity on the right-of-way in exchange for amenities that support transit usage.
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<ul style="list-style-type: none"> • Application fee: \$150/permit application • Permit fee: \$15,000 • Performance Bond: \$30/deployed vehicle
Device Cap/# of Operators Allowed:	Five operators: 250 dockless vehicles each

LOCATION: Denver, CO

Supplemental Licenses/ Changes to Initial E-scooter Cap:	<u>Dynamic Fleet Sizing Policy:</u> <ul style="list-style-type: none"> If operators demonstrate a monthly average ridership of three rides/vehicles/day or greater, than their initial fleet size can increase by 25%. Beginning April 1, 2019, operators' permitted fleet sizes are assessed per three month period and can be reduced by 10% if operators demonstrate an average ridership of fewer than 2 rides/vehicle/day over the preceding 3-month period.
E-SCOOTER RELATED LAWS AND REGULATIONS	
Legal Documents	<ul style="list-style-type: none"> C.R.S. (Colorado Revised Statutes) D.R.M.C. (Denver Revised Municipal Code)
E-scooter Legal Definition (State):	<u>Electric Scooter (C.R.S. § 42-1-102 (a)):</u> "A device (I) weighing less than one hundred pounds; (II) with handlebars and an electric motor; (III) that is powered by an electric motor; and (IV) that has a maximum speed of 20 mph on a paved level surface when powered solely by the electric motor." <ul style="list-style-type: none"> E-scooter is not a "low-power scooter" or a "motor vehicle, but is a vehicle. Vehicle means a device that is capable of moving itself, or of being moved, from place to place upon wheels or endless tracks
E-scooter Legal Definition (City):	<u>Electric Mobility Scooter, EMS (D.R.M.C. §54-1(19.8)):</u> "Stand-up scooter with two tandem wheels, designed to transport only one person, and that is powered by an electric propulsion system having a top speed of no more than 20 miles per hour." <ul style="list-style-type: none"> Not a toy vehicle EMS is considered a vehicle
EQUIPMENT AND OPERATIONAL REQUIREMENTS	
Driver's License Required:	Yes (State); no requirement for city.
Age Requirement:	Prohibited under 18 (State); no requirement for city.
Speed Limit (City):	<ul style="list-style-type: none"> It is unlawful for any person to operate an EMS on a roadway or bicycle lane at a speed greater than is reasonable and prudent under the conditions then existing or in excess of the posted speed limit
Helmet Requirement:	Required under 18 (State)
# of Persons Allowed on E-scooters (City):	One
Requirements for Carrying Other Articles on E-scooters (City):	<ul style="list-style-type: none"> Unlawful for a person operating an e-scooter to carry any package, bundle, article that prevents the person from keeping at least one hand on the handlebars. <ul style="list-style-type: none"> Person operating an e-scooter shall keep at least one hand on the handlebars at all times (State).

LOCATION: *Denver, CO*

Required E-scooter Safety/Accessory Requirement (City):	<p>During dusk and dawn, e-scooters must have the following equipment:</p> <ul style="list-style-type: none"> • Lamp on the front that emits a white light visible from a distance of at least 500 ft to the front. • Red reflector visible for 600 ft to the rear. • Reflective material of sufficient size & reflectibility to be visible from both sides for 600 ft, a lighted lamp visible from both sides from distance of at least 500 ft. • Brakes that will enable rider to stop the e-scooter within 25 ft from a speed of 10 mph on dry/level/clean pavement (State). <p>EMS are prohibited from the following:</p> <ul style="list-style-type: none"> • Siren and whistle (State).
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> • Unique vehicle identifier • Visible contact information including a toll-free phone number and email address so that users/public can report issues or make relocation requests. • Operators are required to print and affix their own stickers identifying the vehicle as an approved/permitted participant.
Other Requirements (City):	<ul style="list-style-type: none"> • Person operating an EMS may not ride more than two abreast except in bicycle lanes: <ul style="list-style-type: none"> ◦ Person riding electric scooters two abreast shall not impede the normal and reasonable movement of traffic and shall ride within a single lane (State). • Person riding an electric scooter shall not attach the vehicle or the rider to any motor vehicle upon a roadway (State).
PARKING	
Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • May park on sidewalk as long as the e-scooter does not impede pedestrian right-of-way. • If painted zone is available at transit and bus stop, vehicle should be parked inside that zone. • Painted dockless parking zones are required to be installed and maintained by permitted operators. The number of parking zones is determined by DPW up to a rate of one zone per ten permitted fleet vehicles. <ul style="list-style-type: none"> ◦ Permitted operators are required to highlight all bus stop and station parking areas in their respective app/mobile/desktop platforms as well as geofence those locations to track parking behavior and compliance.
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • No-park zones are designated by the City and communicated to the operator at launch of pilot program. • 16th Street Mall and park maintained trails.

LOCATION: *Denver, CO*

Rebalancing (City):	<ul style="list-style-type: none"> • Permittee operators are expected to rebalance vehicles back to transit and bus stops throughout the day and reset the vehicles back to these locations no later than 7am each day. • Dockless vehicles parked near/at transit and bus stops by users or operator staff must follow proper parking guidelines and not block the right-of-way.
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GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<ul style="list-style-type: none"> • May be operated in any bicycle lane or in the roadway if max speed limit of roadway does not exceed 30 mph. • If no bicycle lane is available and roadway has a speed limit greater than 30 mph. • Person operating an electric scooter upon a roadway at less than the normal speed of traffic shall ride in the right-hand lane. <ul style="list-style-type: none"> ◦ On a one-way roadway with two or more marked traffic lanes, person may ride as near to the left-hand curb or edge of the roadway as judged safe by the rider (State).
Prohibited Areas of Operation (City):	<ul style="list-style-type: none"> • Sidewalks (prohibited since late August 2019). • 16th Street pedestrian and transit mall
Other Right-of-Way Requirements (State):	<ul style="list-style-type: none"> • Person riding an electric scooter shall signal when turning right or left during not less than the last 100 ft travelled before turning and while electric scooter is stopped and waiting to turn. A signal need not be given continuously if hand is needed to control/operate the e-scooter. • A person riding an electric scooter shall yield the right-of-way to any pedestrian and shall give an audible signal before overtaking and passing the pedestrian. • Person riding an electric scooter shall dismount before entering any crosswalk when required by official traffic control devices and local ordinances.

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	Each permitted operator is responsible for surveying users via their individual app/mobile platforms or via email at three-month intervals during the one-year pilot. Survey questions developed in coordination with DPW.
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	Program applicants must submit a plan detailing how their services will be available to those without smart phones or those who are under-banked or unbanked.
Subsidized Prices:	Program applicants must submit information about rate structures that are offered to all users, including daily/monthly/annual passes/subscriptions, discounted programs for students, youth, low-income/at risk populations, corporate groups or other categories.

LOCATION: Denver, CO

Neighborhood Service Availability:	<ul style="list-style-type: none">• Opportunity areas: Each operator has the option to increase initial fleet size to 350 dockless vehicles if 100 of total fleet size are committed to stay in designated opportunity areas.• High priority opportunity area: called out as a subset of the Opportunity areas simply to provide information to operate where the greatest number of vulnerable populations may be located.• For operators to increase their fleet size, half of the quantity of increase must start each day in designated opportunity areas.
Rebalancing:	<p>Vehicles participating as part of the Opportunity Area Incentive are required to be relocated back to designated Opportunity Areas at least once per day to maintain the necessary ratio.</p> <ul style="list-style-type: none">• Geofencing and incentives: Permitted operators are encouraged to incentivize users to return vehicles to transit and bus stops through geofencing tactics (i.e. not allowing a user to end their trip/metered time outside of designated transit and bus stop areas).

DATA COLLECTION & SHARING

Data Reports:	Each permit holder is responsible for providing real-time data feeds via API/monthly reports to the City and County of Denver displaying trip information.
Data Access/Platforms:	Users can access real-time data such as e-scooter availability and safety guidelines/requirements through mobile platforms.

REPORTS

Report Names:	<i>Denver Dockless Mobility Program: Pilot Interim Report</i> (February 2019).
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LOCATION: *Portland, OR*

Pilot/Program Name:	E-scooter Pilot Program 2.0 ²
Pilot/Program Progress:	<ul style="list-style-type: none"> • <u>July 2018 to November 2018</u>: First Shared Electric Scooter Pilot • <u>April 26, 2019 to April 26, 2020</u>: E-scooter Pilot 2.0
City Manager of Pilot:	PBOT (Portland Bureau of Transportation)
Existing E-scooter Companies:	Bolt, Lime, Spin, Razor, Shared
E-scooters Previously Banned/Came Without Authorization:	No
Pilot 2.0 Goals and Objectives:	<p>Pilot Goals:</p> <ul style="list-style-type: none"> • Increase the share of trips made using active and low-carbon transportation modes • Prevent fatalities and serious injuries • Improve pedestrian safety, accessibility, and convenience for people of all ages and abilities • Provide equitable transportation service • Reduce air pollution, including climate pollution <p>Pilot Objectives:</p> <ul style="list-style-type: none"> • Increase mode shift from automobiles, including single occupancy vehicle and private for hire • Reduce barriers and increase access to Shared Scooters by people with low incomes, people of color, and people with disabilities • Increase Permittee's employment of people with low incomes and people of color • Support safe riding and safe walking conditions, including reducing scooter sidewalk riding and improper parking • Quantify Permittees' scooter life cycle climate impacts, including scooter acquisition, replacement, and disposal • Attempt to reduce Permittee operational vehicle miles travelled from deployment, rebalancing and charging methods
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<ul style="list-style-type: none"> • Permit Application Fee: \$500 (non-refundable) • Per-Scooter Pilot Permit Fee: \$80 (non-refundable, prorated at \$20 per quarter) • Street Use Surcharge: \$0.25 • Right-of-Way Use Surcharge: Amount Varies by Location, ranges from \$0.20 to \$0.05

² First e-scooter pilot was done in 2018. PBOT decided to do a second pilot to address the challenges that emerged in the first pilot with innovative solutions. In pilot 2.0, PBOT specifically focuses on improving equitable access across the city and ensuring safe and legal riding and parking (Source: 2018 E-scooter Findings Report).

LOCATION: **Portland, OR**

Application Criteria:	<ul style="list-style-type: none"> • Safety: Support safe riding and safe walking conditions • Equity: Reduce barriers and increase access to Shared Scooters by people with low incomes, people of color, and people with disabilities. • Reduce Motor Vehicle Use; Reduce Air Pollution: Increase the number of trips shifted from automobiles; reduce barriers and increase access to Shared Scooters; Understand permittees' scooter life cycle climate impacts. • Overall: Meet objectives of pilot, commitment to collaboration and city partnerships <p>(Full Permit Application Evaluation Criteria attached below).</p>
Device Cap/# of Operators Allowed:	Director of PBOT may issue multiple independent permits for initial allotment of 250-1,250 shared scooters per Permittee.
Supplemental Licenses/ Changes to Initial E-scooter Cap:	PBOT may decrease or increase company's fleet size during three review periods (April 26 – June 30, July 1 – September 30, October 1 – December 31) based on the company's performance. Performance metrics include the following categories: safety, utilization, equity, reduce VMT, good partner. (Details about the performance metrics are attached below)

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none"> • Oregon Vehicle Code • TRN §15.01
E-scooter Legal Definition (State):	<p><u>Motor Assisted Scooter (O.V.C § 801.348):</u></p> <ol style="list-style-type: none"> 1. Is designed to be operated on the ground with not more than three wheels 2. Has handlebars and a foot support or seat for the operator's use; 3. Can be propelled by motor or human propulsion; and 4. Is equipped with a power source that is incapable of propelling the vehicle at a speed of greater than 24 miles per hour on level ground and; <ol style="list-style-type: none"> a. If the power source is electric, has a power output of not more than 1,000 watts
E-scooter Legal Definition (City):	<p><u>Shared Electric Scooter (TRN § 15.01: 3BB):</u></p> <ol style="list-style-type: none"> 1. Has handlebars and a floor board that is designed to be stood upon when riding and 2. Can be propelled by an electric motor or human propulsion 3. Is made available for rental or public share use in the public Right-of-Way by an Applicant or Permittee 4. May also have a seat

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	No
Age Requirement (City):	16
Speed Limit (City):	15 mph
Helmet (City):	Yes
# of Persons Allowed on E-scooters (City):	One

LOCATION: *Portland, OR*

Required E-scooter Safety/Accessory Requirement (State):	Approved lighting must be used when operating under limited visibility.
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> • Notice that helmet must be worn while riding • Notice that riding on sidewalks and Portland parks is prohibited • Permit sticker with unique identification number • Name of Permittee • Permittee's customer service information in a font size that meets or exceeds ADA standards • A notice about parking guidelines

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • In the sidewalk corridor and fully contained in the Furnishings Zone • Within a City-designated Scooter Parking Area • If the scooter includes a lock-to mechanism, it may be fastened to a bicycle rack in the right-of-way, with the scooter oriented parallel to the rack. • Scooters parked within the Right-of-Way shall be located in groupings with a combined length of no greater than 10 feet, immediately abutting one another. At least 20 feet must be left clear of scooters between groupings of Shared Scooters along the same block face.
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> • On sidewalks where the Furnishing Zone is less than 3 ft wide, or where there is no Furnishing Zone • Within a traffic island, median, traffic circle • Within five feet of any crosswalk, a bicycle rack (unless it has a lock-in mechanism), a fire hydrant, drinking fountain, any public art • Any driveway, alley, curb cut, any portion of an ADA ramp, a marked disabled parking space, a marked loading or taxi zone • Within a transit platform unless allowed by Portland Streetcar or TriMet • Within 30 ft of a bus stop or TriMet Lift stop • Within the corner of two intersecting sidewalk corridors • Where the unobstructed Through Pedestrian Zone is less than 6 ft • Where the scooter may cause damage to any landscaping and interfere with the use of pipes, vault areas, telephone, or electrical cables/wires or other utility facilities • On any grating, manhole cover or access lid • Where the scooter obstructs access to parked vehicles and obscures any fixed regulatory or informational sign • Within any PBOT designated "No Parking Zone" • Within City parks, unless otherwise posted, and pedestrian plazas • Scooters may not be fastened in any way to street furniture, public art, light, signal, utility pole or street trees

LOCATION: *Portland, OR*

Rebalancing (City):	<ul style="list-style-type: none"> Permittee's employees and contractors shall pull support and rebalancing vehicles all the way up to, and parallel with, the curb for scooter loading and unloading and shall not load/unload scooters in a vehicle or bicycle lane, or in a manner that impedes travel in these lanes.
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GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Permissible Areas of Operation (City):	<p>Geofencing:</p> <ul style="list-style-type: none"> Permit is only valid for operations within Portland's right-of-way Permittee must employ and maintain geofencing in areas specified by PBOT. PBOT may update geofencing requirements at any time. Geofencing must: <ul style="list-style-type: none"> Be displayed on the permittee's mobile and web application Prevent users from ending a trip in a no-parking zone Notify users that they are attempting to end a trip in a no-parking zone Notify users if they have entered a no-ride zone with PBOT-approved language
Prohibited Areas of Operation (City):	Prohibited to ride on sidewalks and Portland parks (Waterfront Park Trail, Eastbank Esplanade, Springwater Corridor)

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<p>Permittees shall provide a mechanism for users and non-Users/public to notify the Permittee of Shared Scooter safety and customer service issues</p> <ul style="list-style-type: none"> Permittee shall provide a 24-hour customer service number with translation services An online report form to report parking/maintenance/other issues
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	Permittee's application must include a User Equity Plan that provides a non-smart phone access option to rent e-scooters.
Subsidized Prices:	Permittee's application must include a User Equity Plan that includes a minimum discounted pricing option for low-income populations
Neighborhood Service Availability:	Permittees are required to deploy min of 15% of Permittee's available fleet each day in the historically underserved East Neighborhoods as defined by the City of Portland's 2035 Comprehensive Plan.
Rebalancing:	Applicant must submit an economic opportunity plan for hiring and contracting with individuals from historically underserved communities, including people with low-incomes, people of color, and people with disabilities. Applicants should provide details of existing partnerships with workforce development agencies in Portland.

LOCATION: Portland, OR

Language Accessibility:	Permittee's application must include a User Equity Plan that includes printed materials about e-scooters in multiple languages.
Other Equity Practices:	Permittee should detail any additional efforts to reduce barriers and increase access to Shared Scooters for historically underserved communities, including people with low-incomes, people of color, and people with disabilities in permit applications.

DATA COLLECTION & SHARING

Data Reports:	<p>Permittee must:</p> <ul style="list-style-type: none">• Provide anonymized data regarding chargers and users at monthly intervals and regarding users and non-users/public reports at monthly intervals• Notify City and all required users of a known data security breach• Provide data identified by Director to verify compliance with requirements pursuant to this Rule
Data Access/Platforms:	API
Other Information:	<p>Permittee agrees:</p> <ul style="list-style-type: none">• That PBOT may use a third-party researcher/contractor to evaluate the pilot• To participate in the evaluation of pilot <p>A failure to comply with any provision of this section may result in the suspension or revocation of the permittee's permit.</p>

REPORTS

Report Names:	<i>2018 E-scooters Findings Report (PBOT)</i>
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LOCATION: Portland, OR

PBOT 2019 PERMIT APPLICATION EVALUATION CRITERIA

GOAL(S) SUPPORTED	OBJECTIVE(S) SUPPORTED	EVALUATION CRITERIA	SCORE AWARDED 0 = No response 1 (Poor) - 5 (Excellent)
SAFETY	Support safe riding and safe walking conditions	A plan to reduce improper parking and riding, including in-app education beyond requirements, street teams, and enforcement by the company	
		Demonstrates technology that detects and eliminates sidewalk riding and improper parking	
		Fully accessible app including TTY options for reporting issues	
EQUITY	Reduce barriers and increase access to Shared Scooters by people with low incomes, people of color, and people with disabilities	Seated scooters as part or all of their fleet (1 point for <25%; 2 points for 25%; 3 points for 50%; 4 points for 75%; 5 points for 100%)	
		No requirement for a driver's license to create an account, or allows users to verify age by using alternate forms of identification, such as a state-issued ID, passport, or passport card	
		App available for each of Portland's 10 Safe Harbor languages (1 point per 2 languages offered)	
REDUCE MOTOR VEHICLE USE; REDUCE AIR POLLUTION	Increase the number of trips shifted from automobiles; Reduce barriers and increase access to Shared Scooters	Evaluation of plan to provide an equitable e-scooter service, including education, marketing, and engagement with low-income, communities of color, non-English speaking, people with disabilities	
		Demonstrate economic opportunity plan with established agreements with workforce and CBO hiring partners. Commitment to hiring a percentage of workforce who are people of color, low-income, women, LGBTQA, people with disabilities.	
		Create parent/guardian waiver for riders 16-17 years old. (Aligns company rules with ORS minimum age requirements).	
OVERALL	Meet objectives of pilot, commitment to collaboration and city partnerships	Evaluation of lifecycle assessment report, if provided, that details how the Applicant is minimizing environmental impacts in their operations and supply chain. If no Life Cycle Assessment provided, evaluation of plan to provide one.	
		Applicant demonstrates innovative and/or effective strategies that address the main objectives of the pilot.	
		Applicant demonstrates a commitment to collaboration with the City and recognizes the importance of local control of regulation and management of the Public Right-of-Way.	
		Applicant's demonstrated customer service and issue response process.	

LOCATION: *Portland, OR*

PBOT 2019 PERFORMANCE METRICS TO DETERMINE FLEET SIZE INCREASE/DECREASE:

SAFETY	A Permittee who implements innovative technology or business practices that eliminate sidewalk riding may be eligible for an up to 20% allotment increase.
	A Permittee who implements innovative technology or business practices that eliminate improper parking may be eligible for an up to 20% allotment increase.
	A Permittee who organizes free safety workshops in partnership with a local nonprofit organization during the review period may be eligible for a 2.5% allotment increase per 10 documented event participants, up to a total of 15%.
UTILIZATION	A Permittee who meets or exceeds an average of 3-4 trips per scooter per day outside of East Portland may be eligible for an up to 35% allotment increase.
EQUITY	A Permittee who meets or exceeds an average of 2-3 trips per scooter per day in East Portland may be eligible for an up to 35% allotment increase.
REDUCE VMT	A Permittee who works with a third-party researcher or consultant to provide an analysis and verifiably demonstrates a reduction in operational vehicle miles traveled and climate impacts during the third review period may be eligible for an up to 35% allotment
GOOD PARTNER	increase. The allotment increase may be determined by the relative amount of the permittee's per scooter operational VMT to the aggregate per scooter VMT from all permittees submitting reports.
	A Permittee who demonstrates a commitment to collaboration with the City and recognizes the importance of local control of regulation and management of the Public Right-of-Way may be eligible for a 15% allotment increase.

LOCATION: San Francisco, CA

Pilot/Program Name:	SFMTA Powered Scooter Share Program
Pilot/Program Progress:	<ul style="list-style-type: none">• <u>October 15, 2018 to October 15, 2019</u>: Pilot Program• <u>October 15, 2019</u>: Plan to begin Permit Program
City Manager of Pilot/Program:	SFMTA
Existing E-scooter Companies:	Scoot and Skip
E-scooters Previously Banned/Came Without Authorization:	(SFMTA issued two 1-year permits)
Pilot Goals and Objectives:	<p>Mobility Guiding Principles:</p> <ul style="list-style-type: none">• Safety: The Pilot must be consistent with the City's goal for achieving Vision Zero and ensuring public safety and security.• Disabled Access: The public right-of-way must be maintained in a way that doesn't allow electric shared scooters to be a nuisance.• Equitable Access: Scooters must be made available in disadvantaged communities, and memberships must be affordable to people with low income.• Collaboration: Emerging Mobility Services and Technology providers and the City must engage and collaborate with each other and the community to prove the City and its transportation system.• Labor: Emerging Mobility Services and Technologies should support San Francisco's local hire principles, promote equitable job opportunities, and maximize procurement of goods and services from disadvantaged business enterprises.• Sustainability: Permittees must support sustainability, including helping to meet the City's GHG emissions reduction goals, promote use of all non-auto modes, and support efforts to increase the resiliency of the transportation system.• Transit: Powered scooter share must support, rather than compete with, public transit services, and must account for the operational needs of public transit and encourage use of high-occupancy modes.• Accountability: Under the Pilot, permittees must share relevant data so that the City and the public can effectively evaluate the powered scooter share systems' benefits to and impacts on the transportation system.
Other Relevant City/State Plans and Visions:	Vision Zero SF
PERMIT REQUIREMENTS FOR E-SCOOTER COMPANIES	
Fees:	<ul style="list-style-type: none">• Permit application fee (non-refundable): \$5,000• Annual permit fee: \$25,000• A public property repair and maintenance endowment due at the time of permit issuance: \$10,000

LOCATION: *San Francisco, CA*

Device Cap/# of Operators Allowed:	1,250 during the first six months of the pilot program, and a total of 2,500 during the remainder of the pilot program. <ul style="list-style-type: none">• No more than five Powered Scooter Share Permits shall be issued• Permit is valid for a year.
Supplemental Licenses/ Changes to Initial E-scooter Cap:	<p>Potential for original permittees to increase number of scooters after six months at the SFMTA's sole discretion to a max of 2,500 scooters total.</p> <p>SFMTA may increase permitted fleet size to 800 scooters once the permittee satisfies the following conditions:</p> <ul style="list-style-type: none">• Continued compliance with all permit terms and conditions• Maintain fleet at over 450 devices (of 625) for 25 days out of 30 consecutive rolling days• Satisfy all SFMTA Emerging Mobility Services and API data requirements• Deploy lock-to devices on 100% of fleet• Improve rider accountability efforts by implementing a safety complaint resolution process, increasing rider education around safety topics (particularly helmet use and sidewalk riding) and improving education around how to alert permittees when a collision occurs• Achieve at least 150 low-income income plan members <p>Reduction of permit size:</p> <ul style="list-style-type: none">• Any operator who fails to maintain a fleet deployment of at least 70% of their max permitted fleet for 25 days out of 30 consecutive rolling days is subject to reduction of their permitted fleet size to reflect actual deployment levels.• No operator's permitted fleet size will be reduced below 625 during the course of the 12-month pilot

E-SCOOTER RELATED LAWS AND REGULATIONS

Legal Documents	<ul style="list-style-type: none">• San Francisco Transportation Code• California Vehicle Code (C.V.C)
E-scooter Legal Definition (State):	<u>Motorized Scooter (C.V.C § 2989):</u> "2-wheeled device that has handlebars, has a floorboard that is designed to be stood upon when riding, and is powered by an electric motor or by a source other than electric power."
E-scooter Legal Definition (City):	<u>Powered Scooter (San Francisco Transportation Code § 901):</u> "Any two-wheeled device that has handlebars, has a floorboard that is designed to be stood upon when riding, and is powered by an electric motor or other power source. This device may also have a driver seat that does not interfere with the ability of the rider to stand and ride and may also be designed to be powered by human propulsion."

EQUIPMENT AND OPERATIONAL REQUIREMENTS

Driver's License Required (City):	Yes
Age Requirement (State):	At least 16

LOCATION: *San Francisco, CA*

Speed Limit (City):	15 mph
Helmet (City):	Under 18
# of Persons Allowed on E-scooters (State):	One
Requirements for Carrying Other Articles on E-scooters (State):	Prohibited to carry any package, bundle, article that prevents the operator from keeping one hand upon the handlebars.
Required E-scooter Safety/Accessory Requirement (City):	None
Technology Requirement (City):	GPS
Information Requirement on E-scooters (City):	<ul style="list-style-type: none"> Name and current contact information for the Operator Unique vehicle identifier
Other Requirements (State):	Prohibited to attach the motorized scooter or himself/herself while on the roadway, by any means, to any other vehicle on the roadway.
Violations/Non-Compliance (City):	The Director of Transportation reserves the right to revoke a permit for cause at any time upon written notice of revocation.

PARKING

Permissible Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Only park in the area of the sidewalk closest to the curb or in specifically-designated areas, such as bike racks Park scooters upright
Prohibited Parking Areas and Behaviors (City):	<ul style="list-style-type: none"> Do not obstruct pedestrian space, park at corners, on or in front of curb ramps/crosswalks/anywhere two pedestrian paths of travel intersect Do not park on narrow sidewalks less than 9 ft wide Do not park against building facades Do not obstruct access to bus stops, loading zones marked by a yellow/white curb, blue accessible parking spaces, fire hydrants, emergency exits, utility boxes Do not park in front of doors, driveways, ramps, stairs, handrails, blocking access to vehicle or bike lanes, near door entry systems, other access points Do not park scooters in front of, on top of, or attached to sidewalk amenities and landscaping. Within an hour after notification by the City, the Powered Scooter Share Operator shall remove all scooters that are improperly parked.

GEOGRAPHIC RESTRICTIONS ON E-SCOOTER USE

Prohibited Areas of Operation (City):	<ul style="list-style-type: none"> Highway with speed limit in excess of 25 mph (State). Sidewalks, except as may be necessary to enter or leave adjacent property
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LOCATION: San Francisco, CA

COMMUNITY OUTREACH AND EDUCATION

Community Outreach Plans/Methods:	<p>SFMTA directs prospective permittees to submit a community engagement plan with the following:</p> <ul style="list-style-type: none">• Summary of past community engagement efforts• Community engagement staffing plan• Detailed plan and timeline for gathering and responding to public input• Outreach Strategy for settling service areas and adjustments to deployment zones• Other suggestions for prospective scooter operators:• Establish a community advisory board or equivalent• Identify a local business partnership strategy• Establish a partnership plan to increase economic and cultural access• Culturally sensitive marketing plan• Local hire and recruitment plan
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EQUITY PRACTICES AND POLICIES

For un/under-banked and digitally impoverished individuals:	<ul style="list-style-type: none">• Waive any applicable scooter deposit and offer an affordable and discounted cash payment option to any user with an income level at or below 200% of the federal poverty guidelines.
Subsidized Prices:	<p>SFMTA may increase permitted fleet size to 800 scooters once the permittee satisfies the following conditions:</p> <ul style="list-style-type: none">• Achieve at least 150 low-income income plan members• Prior to the SFMTA further increasing the permitted fleet to 1,250 scooters, the permittee shall meet the following conditions:• Achieve a minimum of 500 low-income plan members• Maintain 20% device availability in Communities of Concern; or, 20% availability in southeast neighborhoods (25 days out of 30 days)• After June 15, SFMTA may consider increasing an operator's permitted fleet size beyond 1,250 scooters, subject to the max cap of 2,500 scooters for the pilot.• Any increase above 1,250 scooters shall require a promotional increase in the number of low-income plan members prior to increasing the fleet size (i.e., 1 new low-income plan member for every 2.5 additional scooters permitted).

LOCATION: *San Francisco, CA*

Neighborhood Service Availability/Rebalancing:	<p>Make Powered Scooters available to users in census tracts designated as “Community of Concern” by the Metropolitan Transportation Committee.</p> <ul style="list-style-type: none"> Each operator shall provide a proposed service area for approval by SFMTA <p>Prior to the SFMTA further increasing the permitted fleet to 1,250 scooters, the permittee shall meet the following conditions:</p> <ul style="list-style-type: none"> Provide equitable distribution of devices according to commitments made in each permittee’s application Maintain 20% device availability in Communities of Concern; or, 20% availability in southeast neighborhoods (25 days out of 30 days)
Language Accessibility:	Provide a multilingual website with languages determined by the SFMTA
Other Equity Practices:	Emerging Mobility Services and Technologies must be inclusive of persons with disabilities. Those who require accessible vehicles, physical access points, services, and technologies are entitled to receive the same or comparable level of access as persons without disabilities.

DATA COLLECTION & SHARING

Data Reports:	Submit aggregated user demographic data to the SFMTA on at least a monthly basis using anonymized keys.
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REPORTS

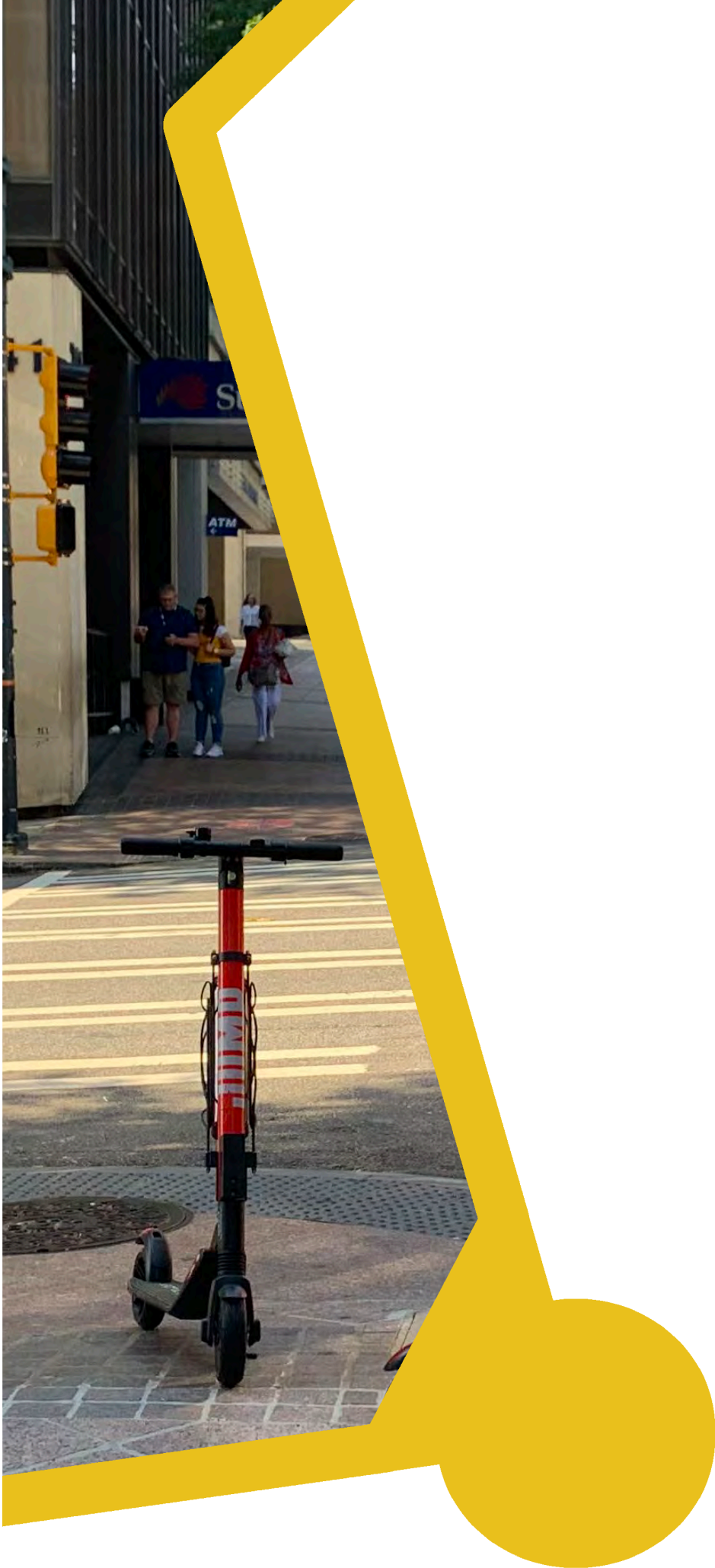
Report Names:	<ul style="list-style-type: none"> <i>Vision Zero SF Injury Prevention Research Collaborative (2019).</i> <i>SFMTA. Powered Scooter Share Mid-Pilot Evaluation (2019).</i>
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Credit: Charles Brown

CHAPTER XI

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