

SCOOTING AROUND JERSEY: HOW NEW JERSEY MUNICIPALITIES CAN IMPLEMENT AND UTILIZE ELECTRIC SCOOTER SHARING PROGRAMS

Panagiotis Liapes

I. INTRODUCTION

Advancements in technology have given rise to what many call a “sharing economy”, which is a peer-to-peer economy that has revolutionized peoples’ daily lives by making tasks more convenient and resources more accessible.¹ However, this has come at the expense of conventional industries, institutions, and business models.² For example, taxi and lodging industries will never be the same after Uber and Airbnb rose to the top of their respective industries.³ Shared electric scooter (“e-scooter”) and electric-bicycle (“e-bike”) programs are part of a newer subset in today’s shared economy known as “shared micromobility.”⁴ This phenomenon offers state and local governments opportunities for increased user mobility, economic development, and environmental benefits.⁵ Nevertheless, governments face new challenges in land use zoning regulations and municipal planning.⁶

This comment will discuss the impacts that implementing e-scooter and e-bike programs can have on municipal zoning and land use regulations. Cities across America have started utilizing various electric-vehicle programs. However, this comment will focus on how New Jersey’s municipalities can maximize the utility that business-to-consumer dockless e-bike and e-scooter sharing programs offer. This

¹ See John J. Infranca, *The Sharing Economy and the Allocation of Urban Space*, 42 ZONING & PLAN. L. REP., no. 3, Mar. 2019, at 1.

² *Id.*

³ *Id.*

⁴ *Shared Micromobility in the U.S.: 2019*, NAT’L ASS’N OF CITY TRANSP. OFFICIALS, <https://nacto.org/shared-micromobility-2019/>. (last visited Apr. 3, 2021).

⁵ See generally SUSAN SHAHEEN, & ADAM COHEN, SHARED MICROMOBILITY POLICY TOOLKIT: DOCKED AND DOCKLESS BIKE AND SCOOTER SHARING (2019) [hereinafter SHAHEEN], <https://escholarship.org/content/qt00k897b5/qt00k897b5.pdf> (defining terminology, policies, and practices for cities integrating e-bike and e-scooter sharing programs).

⁶ Infranca, *supra* note 1, at 1.

comment will also analyze implementation methods used for dockless e-scooter sharing programs and offer tailored solutions for New Jersey municipalities.

Part II defines the sharing economy, shared mobility and shared micromobility, introduces dockless e-scooter and e-bike sharing programs. It concludes by exploring New Jersey's recent legislation legalizing the use of low-speed electric bicycles and scooters. Part III investigates the potential positive and negative effects these programs can have on New Jersey municipalities from a land use planning and zoning perspective. Part IV proposes a solution with the interests of the local government, its constituents, and service providers in mind. This comment only examines what zoning and land use considerations shared e-scooter and e-bike programs present to New Jersey. Other relevant topics like insurance, user privacy, liability, litigation strategies, and nationally scaled solutions are beyond the scope of this comment.

II. DEFINING TODAY'S WORLD

A. THE SHARING ECONOMY

Due to mobile technologies, location tracking, social media, and the internet today, we find ourselves living in a revolutionary economy known as a "sharing economy."⁷ This developing phenomenon has been characterized as "obtaining, giving, or sharing the access to goods and services, coordinated through community-based online service."⁸ The Great Recession, which forced people to reevaluate how to use limited resources, and the rapid development of mobile internet technology guided consumers away from traditional property market transactions.⁹ Today, sharing models predicated on renting and borrowing goods and

⁷ SUSAN SHAHEEN, ADAM COHEN, & ISMAIL ZOHDY, U.S. DEP'T TRANSP., SHARED MOBILITY: CURRENT PRACTICES AND GUIDING PRINCIPLES 1 (2016) [hereinafter ZOHDY], <https://ops.fhwa.dot.gov/publications/fhwahop16022/fhwahop16022.pdf> (explaining the sharing economy is "also referred to as peer-to-peer sharing, the mesh economy, and collaborative consumption").

⁸ Joseph P. Schwieterman & Mollie Pelon, *First Zipcar, Now Uber: Legal and Policy Issues Facing the Expanding "Shared Mobility" Sector in U.S. Cities*, 4 BELMONT L. REV. 109, 110 (2017) (quoting Juho Hamari, Mimmi Sjöklint, & Antti Ukkonen, *The Sharing Economy: Why People Participate in Collaborative Consumption*, 67 J. ASS'N FOR INFO. SCI. & TECH., no. 9, 2016, at 2047, https://www.researchgate.net/publication/255698095_The_Sharing_Economy_Why_People_Participate_in_Collaborative_Consumption).

⁹ ZOHDY, *supra* note 7, at 1.

2021]

COMMENT

423

services challenge the traditional model of buying and owning such essentials.¹⁰ This “sharing” occurs directly between peers or through platforms,¹¹ thereby reducing transactional friction and creating a highly flexible economic network that removes middlemen entirely and undercuts conventional employment arrangements.¹² The sharing economy is best depicted as a combination of distinct but related sectors because its participants can efficiently obtain diverse resources on demand, or create extractable value from otherwise inactive idle possessions or talents.¹³ For example, some sectors include peer-to-peer marketplaces like Airbnb, crowdfunding such as Kickstarter, and shared mobility like Lyft.¹⁴ The sharing economy as a whole, however, can offer cost savings, monetize underused resources, improve efficiency, and provide social and environmental benefits.¹⁵

B. SHARED MOBILITY

Before explaining what shared micromobility is, it is best to define shared mobility more generally. Shared mobility is one facet of the sharing economy.¹⁶ It is “the shared use of a motor vehicle, bicycle, or other low-speed transportation mode[.]”¹⁷ This innovative transportation strategy allows users short-term access to a transportation mode on an as-needed basis.¹⁸ Some notable examples of shared mobility are ridesourcing like Uber, carsharing like Zipcar, and personal vehicle sharing like Getaround.¹⁹ Shared mobility, once a foreign concept, has changed society’s “social and economic perspectives toward transportation, car ownership, and urban lifestyles” and plays a pivotal role in urban planning.²⁰

C. SHARED MICROMOBILITY

Shared micromobility is a subcategory of shared mobility composed of “[s]hared-use fleets of small, fully or partially human-

¹⁰ ZOHDY, *supra* note 7, at 1.

¹¹ *See* ZOHDY, *supra* note 7, at 1.

¹² Martucci, *supra* note 4.

¹³ Martucci, *supra* note 4.

¹⁴ ZOHDY, *supra* note 7, at 1.

¹⁵ ZOHDY, *supra* note 7, at 1.

¹⁶ ZOHDY, *supra* note 7, at 2.

¹⁷ ZOHDY, *supra* note 7, at 2.

¹⁸ ADAM COHEN & SUSAN SHAHEEN, PLANNING FOR SHARED MOBILITY 4 (2018) [hereinafter COHEN], <https://escholarship.org/content/qt0dk3h89p/qt0dk3h89p.pdf>.

¹⁹ *Id.* at 83.

²⁰ ZOHDY, *supra* note 7, at 2–3.

powered vehicles such as bikes, e-bikes and e-scooters.²¹ Through mobile apps or kiosks, users rent access to low-speed vehicles on an as-needed basis for shorter trips.²² A variety of service models help satisfy the changing and diverse needs of modern-day travelers.²³

With population density and environmental awareness continuously increasing, local governments must supply their constituents with equitable and environment-friendly transportation options.²⁴ Shared micromobility provides cities some of the most economical and efficient alternatives in the face of inadequate government transportation funding.²⁵ Shared micromobility is a relatively new concept, so data on its impacts is limited.²⁶ Regardless of this limited data, early documentation shows an increase in mobility and a reduction in automobile usage, which can help alleviate parking demand and traffic congestion, as well as decrease greenhouse gas emissions.²⁷

D. BIKESHARING AND SCOOTER SHARING

Two standard modes of transportation compose micromobility: bikesharing and scooter sharing.²⁸ Bikesharing services offer on-demand transportation by providing bicycles at various pick-up and drop-off points for roundtrip or one-way travel.²⁹ Frequent customers can gain access through an annual, seasonal, or monthly membership, while casual riders can pay per diem or per ride.³⁰ Service providers strategically deploy bicycles in a network throughout metropolitan regions, cities, neighborhoods, employment centers, and university campuses.³¹ Traditionally, bikesharing referred to manually pedaled

²¹ NAT'L ASS'N OF CITY TRANSP. OFFICIALS, GUIDELINES FOR REGULATING SHARED MICROMOBILITY 5 (2d ed. 2019) [hereinafter NACTO, REGULATION GUIDELINES], https://nacto.org/wp-content/uploads/2019/09/NACTO_Shared_Micromobility_Guidelines_Web.pdf.

²² *Id.*; SHAHEEN, *supra* note 5, at 1.

²³ SHAHEEN, *supra* note 5, at 1.

²⁴ JULIA PARZEN, SHARED-USE MOBILITY CTR., SHARED-USE MOBILITY REFERENCE GUIDE 30 (Tim Frisbie ed., 2016), <https://sharedusemobilitycenter.org/wp-content/uploads/2016/10/Reference-Guide-Editsweb-version-10.24.2016.pdf>.

²⁵ *Id.*

²⁶ SHAHEEN, *supra* note 5, at 3.

²⁷ SHAHEEN, *supra* note 5, at 4; PARZEN, *supra* note 24, at 30.

²⁸ *See, e.g.*, SHAHEEN, *supra* note 5, at 3; *see also* NACTO, REGULATION GUIDELINES, *supra* note 21, at 5.

²⁹ SHAHEEN, *supra* note 5, at 3.

³⁰ ZOHDY, *supra* note 7, at 11.

³¹ SHAHEEN, *supra* note 5, at 3.

2021]

COMMENT

425

bikes, which require significant exertion.³² However, with the emergence of electric bikesharing (“e-bikesharing”), users can now travel farther and on more terrain without exerting considerable energy or perspiring.³³

There are three common bikesharing services: station-based systems; dockless systems; and hybrid systems.³⁴ Station-based systems consist of unattended kiosks or stations where users can rent a bicycle for one-way travel and return that bike to a different station.³⁵ Alternatively, dockless (or “free-floating”) systems allow users to pick-up any bike and drop it off anywhere within a predefined geographic region.³⁶ A hybrid system blends the two models and permits users to access any free standing or stationed bike and then drop it off at a station or non-station location.³⁷

Similarly, scooter sharing grants users “access to scooters by joining an organization that maintains a fleet of scooters at various locations.”³⁸ The two types of shared scooters are standing e-scooters and moped-style scooters.³⁹ Standing electric scooters are electrically propelled and are designed for standing riders.⁴⁰ Moped-style scooters, on the other hand, have a seated-design.⁴¹ Scooter sharing generally uses a dockless service model, which allows travelers to use any free-floating scooter for point-to-point or roundtrip travel without having to park the scooter in a designated parking area.⁴²

Both bikesharing and scooter sharing allow users to enjoy the benefits of owning a private e-bike or e-scooter without experiencing the burdens of ownership.⁴³ E-scooters and e-bikes can cost anywhere from several hundred dollars to several thousand dollars to purchase, depending on the product’s quality.⁴⁴ However, scooter sharing and

³² See ZOHDY, *supra* note 7, at 12.

³³ ZOHDY, *supra* note 7, at 12; *see also* COHEN, *supra* note 18, at 15.

³⁴ SHAHEEN, *supra* note 5, at 3.

³⁵ *See, e.g.*, SHAHEEN, *supra* note 5, at 3.

³⁶ *See, e.g.*, SHAHEEN, *supra* note 5, at 3.

³⁷ *See, e.g.*, SHAHEEN, *supra* note 5, at 3.

³⁸ SHAHEEN, *supra* note 5, at 3; *see also* PARZEN, *supra* note 24, at 11 (“Scooter sharing . . . makes fleets of motorized scooters available to users by the minute or hour.”).

³⁹ SHAHEEN, *supra* note 5, at 3.

⁴⁰ SHAHEEN, *supra* note 5, at 3.

⁴¹ *See* SHAHEEN, *supra* note 5, at 3 (explaining that moped-style scooters “generally [have] a less stringent licensing requirement than motorcycles designed to travel on public roads”).

⁴² *See* SHAHEEN, *supra* note 5, at 3.

⁴³ *See* COHEN, *supra* note 18, at 10, 14.

⁴⁴ *See, e.g.*, AMAZON, *Amazon Best Sellers*, <https://www.amazon.com/Best-Sellers-Sports-Outdoors-Adult-Electric-Bicycles/zgbs/sporting-goods/3405141> (last visited

bikesharing users only pay for the use of an e-bike or e-scooter.⁴⁵ To maximize the value of their purchase, owners must repair their e-bikes or e-scooters when damaged, whereas service providers cover the maintenance costs.⁴⁶ While traditional owners must park their personal property safely to avoid vandalism or theft, company and local rules provide a layer of protection for sharers.⁴⁷ Private owners must store and maintain their own vehicles, whereas renters do not because service providers are responsible for collecting, recharging, maintaining, and redistributing the vehicles.⁴⁸ Most importantly, those who use shared services can use rented electric vehicles for one-way or roundtrip transportation.⁴⁹ Owners are limited to roundtrip travel because, one can assume, they would want to have their electric vehicle at their convenience in the future. They do not have the luxury of taking one-way trips and leaving the vehicle behind without abandoning their property. The convenience and cost savings associated with these sharing services are frequently cited as ubiquitous reasons for transitioning away from owning to sharing.⁵⁰

Additional factors contribute to this societal shift away from conventional notions of vehicle ownership and transportation to the “growth and mainstreaming of shared [micromobility.]”⁵¹ For example, technological trends have increased people’s reliance on smartphones and internet-based transportation apps.⁵² “Smart mobility

Apr. 3, 2021); AMAZON, https://www.amazon.com/electric-bike/s?k=electric+bike&rh=n%3A1265458011%2Cp_36%3A17784044011&dc&qid=1616437439&rnid=17784038011&ref=sr_nr_p_36_6 (last visited Apr. 3, 2021); AMAZON, <https://www.amazon.com/electric-scooter/s?k=electric+scooter> (last visited Apr. 3, 2021); AMAZON, https://www.amazon.com/s?k=electric+scooter&i=outdoor-recreation&rh=n%3A1265458011%2Cp_36%3A17784044011&dc&qid=1616437847&rnid=17784038011&ref=sr_nr_p_36_6 (last visited Apr. 1, 2021).

⁴⁵ See COHEN, *supra* note 18, at 10; see also *How Much Does Lime Cost?*, LIME, <https://help.li.me/hc/en-us/articles/115004914208-How-much-does-Lime-cost-> (last visited Jan. 22, 2021); BIRD, <https://www.bird.co/how/> (last visited Jan. 22, 2021); *How to Find and Use a Bikeshare or Scootershare*, ZAGSTER, <https://www.zagster.com/riders> (last visited Apr. 3, 2021).

⁴⁶ See, e.g., SHAHEEN, *supra* note 5, at 3.

⁴⁷ See COHEN, *supra* note 18, at 14; see also *Do I Pay if the Vehicle is Stolen?*, LIME, <https://help.li.me/hc/en-us/articles/115004914668-Do-I-pay-if-the-vehicle-is-stolen-> (last visited Apr. 3, 2021).

⁴⁸ See COHEN, *supra* note 18, at 14; see also *All About Dropping off Tasks*, LIME, <https://help.li.me/hc/en-us/articles/360015605454-All-about-Serving> (last visited Apr. 3, 2021); *What is a Flyer*, BIRD, <https://help.bird.co/hc/en-us/articles/360038710212-What-is-a-Flyer> (last visited Apr. 3, 2021).

⁴⁹ See ZOHDY, *supra* note 7, at 4.

⁵⁰ See ZOHDY, *supra* note 7, at ix.

⁵¹ ZOHDY, *supra* note 7, at 7.

⁵² ZOHDY, *supra* note 7, at 8.

2021]

COMMENT

427

consumers”—travelers who make educated travel decisions by combining information from multiple sources—use affordable and capable intelligent transportation systems, and wireless, cloud and GPS technologies daily when choosing methods of travel and routes.⁵³ Real-time information and tools, like contactless payments facilitating multimodal transportation options at the tip of travelers’ fingers, enable people to adapt their mobility choices to their immediate needs.⁵⁴

Moreover, technology has created new labor and consumer trends that are impacting mobility and transportation.⁵⁵ Advancements in information technology used in the business world are increasing the rate and degree of workers telecommuting, thereby making traditional weekday commuting peaks less predictable.⁵⁶ E-commerce and telemedicine are directly impacting travel behavior as well.⁵⁷ The U.S. Census reported quarterly e-commerce retail sales for the second quarter of 2019 were \$1,361.8 billion, representing 10.7 percent of total sales.⁵⁸ Grocery and food delivery services, like AmazonFresh, Postmates, and UberEATS, are also reducing the need for travel.⁵⁹ In addition, telemedicine reduces the need for medical visits with tools like doctor video conferencing, web-based applications, e-transmitting diagnostic images, and remote patient monitoring.⁶⁰ These evolving trends, combined with mobile technologies and real-time travel information, encourage last-minute planning and flexible on-demand transportation without the need to own a means of transportation privately.⁶¹

As the need to own a bicycle or scooter, either manual or electric, has decreased, there has been an increase in bikesharing and scooter sharing.⁶² The National Association of City Transportation Officials (“NACTO”) found that people took eighty-four million shared

⁵³ ZOHDY, *supra* note 7, at 8–9.

⁵⁴ ZOHDY, *supra* note 7, at 8–9.

⁵⁵ ZOHDY, *supra* note 7, at 7.

⁵⁶ ZOHDY, *supra* note 7, at 7.

⁵⁷ ZOHDY, *supra* note 7, at 7.

⁵⁸ U.S. CENSUS BUREAU NEWS, U.S. DEP’T COMMERCE, CB19-117, 1 (2019).

⁵⁹ ZOHDY, *supra* note 7, at 7.

⁶⁰ ZOHDY, *supra* note 7, at 7–8.

⁶¹ *See* ZOHDY, *supra* note 7, at 8.

⁶² *See generally* NAT’L ASS’N OF CITY TRANSP. OFFICIALS, 84 MILLION TRIPS IN 2018, SHARED MICROMOBILITY IN THE U.S.: 2018 (2019) [hereinafter NACTO, 2018 REPORT], https://nacto.org/wp-content/uploads/2019/04/NACTO_Shared-Micromobility-in-2018_Web.pdf (recording the use of shared micromobility in the US, and finding users have taken 207 million trips on shared bikes and e-scooters since 2010).

micromobility trips in 2018.⁶³ The 2018 total is more than double the number of total trips in 2017.⁶⁴ Of the total trips made in 2018, nearly forty-six million were in some form of bikesharing, nearly thirty-seven million rides were station-based rides, and nine million trips were dockless trips.⁶⁵

The most notable shift in user behavior was the use of e-bikes and e-scooters. In 2018, e-scooters replaced bicycles as the preferred dockless mobility service.⁶⁶ After quickly proliferating across the country in 2017, dockless pedal bikes largely disappeared in 2018.⁶⁷ By the end of 2017, there were approximately forty-four thousand dockless pedal bikes on the ground across America.⁶⁸ However, in 2018 NACTO reported only three million dockless pedal bike trips; thirty percent of the total nine million dockless bikeshare trips.⁶⁹ E-bikes gained popularity, though, as people took nearly seven million trips in 2018.⁷⁰ Nonetheless, e-scooter rides totaled thirty-eight and a half million by 2018's end, and over 85,000 e-scooters were available in about one hundred American cities for public use.⁷¹ Recognizing this growing trend, major dockless bikeshare companies retooled their fleets over the year to focus on e-scooters, and ride-hail companies acquired shared micromobility companies.⁷² New e-scooter companies joined the growing market, like Bird and Lime.⁷³

Dockless and station-based e-bikes are the most frequently used micromobility vehicles measured by rides per vehicle per day.⁷⁴ NACTO found that people rode e-bikes twice as much when compared to pedal bikes after cities added them to their station-based fleets.⁷⁵ As such,

⁶³ NACTO, 2018 REPORT, *supra* note 62, at 2 (“Shared [m]icromobility encompasses all shared-use fleets of small, fully or partially human-powered vehicles such as bikes, e-bikes, and e-scooters.”).

⁶⁴ NACTO, 2018 REPORT, *supra* note 62, at 7.

⁶⁵ See NACTO, 2018 REPORT, *supra* note 62, at 4.

⁶⁶ NACTO, 2018 REPORT, *supra* note 62, at 5.

⁶⁷ NACTO, 2018 REPORT, *supra* note 62, at 5.

⁶⁸ Press Release, Nat’l Ass’n of City Transp. Officials, 84 Million Trips Taken on Shared Bikes and Scooters Across the U.S. in 2018 (Apr. 17, 2019), <https://nacto.org/2019/04/17/84-million-trips-on-shared-bikes-and-scooters/>.

⁶⁹ See NACTO, 2018 REPORT, *supra* note 62, at 4.

⁷⁰ See NACTO, 2018 REPORT, *supra* note 62, at 4 (counting six million trips on dockless e-bikes and 500,000 on station-based e-bikes).

⁷¹ NACTO, 2018 REPORT, *supra* note 62, at 4–5.

⁷² NACTO, 2018 REPORT, *supra* note 62, at 5.

⁷³ NACTO, 2018 REPORT, *supra* note 62, at 5.

⁷⁴ NACTO, 2018 REPORT, *supra* note 62, at 10; see also NACTO, 2018 REPORT, *supra* note 62, at 13 (“Rides per vehicle per day is an intensity metric used to show frequency of use for bike share systems.”).

⁷⁵ NACTO, 2018 REPORT, *supra* note 62, at 10.

bikeshare companies are now increasing the number of e-bikes in their fleets to meet the new demand for e-bikes.⁷⁶

Large urban cities such as Santa Monica, California, and Austin, Texas, have recently adopted e-scooters systems.⁷⁷ Companies continue to expand their presence in new markets across the country rapidly.⁷⁸ In a three month period in 2018, companies launched about twenty-six scooter sharing pilot programs in American cities.⁷⁹ Despite this rapid expansion, a major issue is many state motor vehicle codes do not define e-scooters, e-bikes, or their permitted uses.⁸⁰ This creates a “legal gray area” that complicates vendors’ expansion efforts into new cities as well as travelers’ lawful use of e-scooters and bikes.⁸¹ Companies are now lobbying states to pass legislation that legalizes e-scooter and e-bike use on streets, highways, roadways and bicycle paths.⁸² Some states have not embraced this trend in micromobility.⁸³ Several states have proposed or passed legislation that prevent city management of their own street activity through preemption.⁸⁴ As of January 2019, twenty-six state legislatures introduced over forty-four e-scooter bills.⁸⁵

E. NEW JERSEY’S CURRENT STANCE

On May 13, 2019, New Jersey Governor Phil Murphy signed legislation governing the use of low-speed e-scooters and e-bikes.⁸⁶ This new legislation clarifies New Jersey’s laws regarding e-bikes and creates new regulations for e-scooters.⁸⁷ In an effort to support New

⁷⁶ NACTO, 2018 REPORT, *supra* note 62, at 10.

⁷⁷ NACTO, 2018 REPORT, *supra* note 62, at 5.

⁷⁸ *See* NACTO, 2018 REPORT, *supra* note 62, at 5.

⁷⁹ NACTO, 2018 REPORT, *supra* note 62, at 5.

⁸⁰ NACTO, 2018 REPORT, *supra* note 62, at 14.

⁸¹ NACTO, 2018 REPORT, *supra* note 62, at 14.

⁸² NACTO, 2018 REPORT, *supra* note 62, at 14; *see also infra* text accompanying notes 102-03 for how New Jersey defines streets, highways, roadways, bicycle paths and sidewalks.

⁸³ NACTO, 2018 REPORT, *supra* note 62, at 14.

⁸⁴ NACTO, 2018 REPORT, *supra* note 62, at 14.

⁸⁵ NACTO, 2018 REPORT, *supra* note 62, at 14.

⁸⁶ Press Release, Office of the Governor, *Governor Murphy Signs Legislation Permitting Operation of Low Speed E-Bikes and Motorized Scooters* (May 13, 2019) (on file with the author) (“Primary sponsors of the bill were Senator Linda Greenstein, Senator Shirley Turner, Assemblyman Raj Mukherji, and Assemblyman Jamel Holley.”); *see generally* S. No. 731, 218th Leg., 2nd Reg. Sess. (N.J. 2019) (“An Act concerning low-speed electric bicycles and low-speed electric scooters, amending R.S.39:1-1, and supplementing Title 39 of the Revised Statutes.”).

⁸⁷ *New Law Legalizes E-Bikes and E-Scooters in New Jersey*, N.J. BICYCLE & PEDESTRIAN RESOURCE CTR. (May 15, 2019) [hereinafter *New Law Legalizes E-Bikes*], <http://njbikeped.org/new-law-legalized-e-bikes-and-e-scooters-in-new-jersey/>.

Jersey's innovation economy, this legislation encourages renting e-scooters and e-bikes for short-distance trips, which allows people to reach their destinations without a car.⁸⁸

Prior to amending Title 39, New Jersey classified e-bikes as motorized bicycles and required registration with the Motor Vehicle Commission ("MVC").⁸⁹ E-bikes existed in a "legal gray area" because the original law was drafted for gas-powered vehicles; the MVC would not register e-bikes.⁹⁰

After May 13, 2019, "[l]ow-speed electric bicycle," or a dockless Lime e-scooter, for example, was added and defined in Title 39.⁹¹ The amended statute reads as follows:

a two or three-wheeled vehicle with fully operable pedals and an electric motor of less than 750 watts, that meets the requirements of one of the following classifications: "class 1 low-speed electric bicycle" which means a low-speed electric bicycle equipped with a motor that provides assistance only when the rider is pedaling, and that ceases to provide assistance when the bicycle reaches the speed of 20 miles per hour; or "class 2 low-speed electric bicycle" which means a low-speed electric bicycle equipped with a motor that may be used exclusively to propel the bicycle, and that is not capable of providing assistance when the bicycle reaches the speed of 20 miles per hour.⁹²

The law also expanded the definition of motorized bikes, such as Delfast's Top 2.0 electric bike, to help distinguish low-speed e-bikes as their own class.⁹³ The amended statute redefined "Motorized bicycle" as:

a pedal bicycle having . . . an electric motor that is capable of propelling the bicycle *in excess of 20 miles per hour* with a maximum motor-powered speed of no more than 28 miles per hour on a flat surface. This term *shall not* include a low-speed electric bicycle or low-speed electric scooter as defined in this section.⁹⁴

Before Governor Murphy signed the bill, all motorized scooters, such as segways, were prohibited on public streets, except for mobility

⁸⁸ Press Release, Office of the Governor, *supra* note 86; *see generally* *New Law Legalizes E-Bikes*, *supra* note 87.

⁸⁹ *New Law Legalizes E-Bikes*, *supra* note 87.

⁹⁰ *New Law Legalizes E-Bikes*, *supra* note 87.

⁹¹ *New Law Legalizes E-Bikes*, *supra* note 87.

⁹² N.J. STAT. ANN. § 39:1-1 (2019).

⁹³ *See generally* *New Law Legalizes E-Bikes*, *supra* note 87.

⁹⁴ N.J. STAT. ANN. § 39:1-1 (emphasis added).

2021]

COMMENT

431

scooters to assist the disabled.⁹⁵ However, the new law added another new vehicle type to Title 39 classified as “low-speed electric scooters.”⁹⁶ The amended statute now defines a “low-speed electric scooter” 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.”⁹⁷ Similar to the new motorized bicycle definition, the amended definition for motorized scooters expressly excludes low-speed e-bikes and e-scooters.⁹⁸

The new law also supplemented these new definitions by adding a new section to Title 39, which governs the use of low-speed electric bikes and scooters.⁹⁹ Operators of these now-legal low-speed electric vehicles must follow the same laws applicable to non-motor-assisted pedal bicycle riders.¹⁰⁰ For example, users are not required to register low-speed electric bikes or scooters with the MVC, “furnish proof of insurance, or have a driver’s license.”¹⁰¹ The new section now permits riding low-speed electric bikes and scooters “on the streets,¹⁰² highways,¹⁰³ roadways,¹⁰⁴ and bicycle paths of [New Jersey] . . . and may be parked on a sidewalk provided that the [vehicle] does not impede the normal movement of pedestrian or other traffic upon the sidewalk.”¹⁰⁵

⁹⁵ *New Law Legalizes E-Bikes*, *supra* note 87; *see also* A. 1810, 218th Leg., (N.J. 2018) (enacted) (“Motorized scooter” means . . . scooters, mini-scooters, sport scooters This term shall not include: electric personal assistive mobility devices, . . . motorized wheelchairs, mobility scooters or similar mobility assisting devices used by persons with physical disabilities, or persons whose ambulatory mobility has been impaired by age or illness.”).

⁹⁶ *New Law Legalizes E-Bikes*, *supra* note 87.

⁹⁷ N.J. STAT. ANN. § 39:1-1.

⁹⁸ *Id.* (excluding low-speed e-scooters and e-bikes within the definitions of “motorcycle” and “motor vehicle”).

⁹⁹ *See* N.J. STAT. ANN. § 39:4-14.16 (2019).

¹⁰⁰ *New Law Legalizes E-Bikes*, *supra* note 87; *see also* § 39:4-14.16(g) (“Except as otherwise provided by this section, all statutes, . . . rules, and regulations applicable to bicycles . . . shall apply to low-speed [e-bikes and e-scooters], except those provisions which by their very nature have no application to low-speed [e-bikes and e-scooters].”).

¹⁰¹ § 39:4-14.16(f).

¹⁰² New Jersey defines “street” the same as highway. *See infra* text accompanying note 103 for the definition of highway.

¹⁰³ New Jersey defines “highway” as “the entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.” N.J. STAT. ANN. § 39:1-1 (2019).

¹⁰⁴ New Jersey defines “roadway” as the “portion of a highway improved, designed, or ordinarily used for vehicular travel, exclusive of the berm or shoulder.” N.J. STAT. ANN. § 39:1-1.

¹⁰⁵ § 39:4-14.16(a).

Riders must also follow normal traffic laws as applied to motor vehicles, such as obeying traffic signs and following the flow of traffic.¹⁰⁶

Furthermore, it is important to note the deference this state law gives to local governments. When the bill was first proposed in 2018, sidewalks were included in the list of areas where riders could operate low-speed electric bicycles and scooters.¹⁰⁷ However, the bill was redrafted and replaced “sidewalks”¹⁰⁸ with “roadways.”¹⁰⁹ Sidewalks were ultimately omitted from the areas where the State expressly permits riding low-speed e-bikes and e-scooters.¹¹⁰ Instead, New Jersey deferred to municipalities to govern operations on their local sidewalks and trails.¹¹¹ More broadly, local governments retain the ability to prohibit low-speed e-bikes and e-scooters within their jurisdiction under the new law, despite their state-wide legalization.¹¹² As for motorized bicycles, the state prohibits their use on public and interstate highways divided by a median or with a speed limit of fifty miles per hour or higher.¹¹³ Motorized scooter use is categorically prohibited “upon any public street, highway or sidewalk[,]” except for operators with a mobility-related disability authorized by law.¹¹⁴

Shortly after Governor Murphy legalized e-scooters and e-bikes in New Jersey, the City of Hoboken launched New Jersey’s first e-scooter sharing program.¹¹⁵ Hoboken residents and tourists tested Lime’s standing scooters, and Ojo’s moped-style e-scooters during a six-month

¹⁰⁶ § 39:4-14.16(g)-(h) (“A low-speed electric bicycle or low-speed electric scooter shall be considered a motor vehicle to the extent required by 23 U.S.C. § 154.”).

¹⁰⁷ See A. 1810, 218th Leg., (N.J. 2018) (enacted) (“A low-speed electric bicycle, as defined in R.S.39:1-1, may be operated on the streets, highways, sidewalks, and bicycle paths of this State.”).

¹⁰⁸ New Jersey defines “sidewalk” as “that portion of a highway intended for the use of pedestrians, between the curb line or the lateral line of a shoulder, or if none, the lateral line of the roadway and the adjacent right-of-way line.” Compare § 39:1-1 (defining sidewalk) with *supra* text accompanying note 104 (defining roadway).

¹⁰⁹ Compare A. 1810, 218th Leg., (N.J. 2018) (enacted) (including sidewalks and omitting roadways) with § 39:4-14.16(a) (omitting sidewalks and including roadways).

¹¹⁰ See § 39:4-14.16(a).

¹¹¹ *New Law Legalizes E-Bikes*, *supra* note 87; see, e.g., § 39:4-14.16(e).

¹¹² See § 39:4-14.16(d) (“A low-speed electric bicycle or low-speed electric scooter may be operated on bicycle paths, except that a local government entity or State agency may prohibit the operation of low-speed electric bicycles or low-speed electric scooters on bicycle paths under its jurisdiction.”).

¹¹³ See N.J. STAT. ANN. § 39:4-14.3(a) (2003).

¹¹⁴ See N.J. STAT. ANN. § 39:4-14.12(a) (2007).

¹¹⁵ *New Jersey’s First E-Scooter Pilot Kicks Off With Lime Launch in Hoboken*, LIME (May 21, 2019), <http://v1.li.me/second-street/new-jersey-first-e-scooter-pilot-lime-launch-hoboken>.

2021]

COMMENT

433

pilot program ran from May through November 2019.¹¹⁶ Metuchen, New Jersey quickly followed Hoboken and became the first New Jersey town to pilot an e-bike sharing program, provided by Lime as well.¹¹⁷ In August 2019, Asbury Park, New Jersey, partnered with Zagster to pilot New Jersey's second e-scooter sharing program.¹¹⁸ Jersey City adopted ordinances legalizing and regulating e-scooters in August 2019; however, the city has yet to enter into a contract with a vendor.¹¹⁹ New Brunswick has recently partnered with Veo to provide e-scooter sharing throughout the city, including Rutgers University, after adopting similar legislation in late October 2019.¹²⁰ Unlike these northern New Jersey cities, some southern municipalities like Atlantic City and Ocean City remain hesitant to welcome e-bike and e-scooter programs into their jurisdictions.¹²¹

III. PROACTIVE GOVERNMENT THINKING

Local governments are playing catch-up as sharing programs grow in popularity.¹²² Municipalities reactively pass new regulations and evaluate their effectiveness on the fly because cities “have struggled to anticipate challenges and opportunities and to balance divergent

¹¹⁶ *Electric Scooters*, HOBOKEN, N.J.: PARKING & TRANSP. (last visited Apr. 3, 2021), <https://www.hobokennj.gov/resources/electric-scooters>.

¹¹⁷ Katie Kausch, *Metuchen First NJ Town to Have E-Bike Sharing Program*, EDISON-METUCHEN, N.J. PATCH (May 16, 2019, 9:40 AM), <https://patch.com/new-jersey/edison-metuchen/metuchen-first-nj-town-have-e-bike-sharing-program>.

¹¹⁸ See Kendra Nelson, *Asbury Park Launches E-Scooter Program*, N.J. BICYCLE & PED. RES. CTR. (Sept. 5, 2019), <http://njbikeped.org/asbury-park-launches-e-scooter-program/>.

¹¹⁹ Marilyn Baer, *Jersey City Adopts Electric Scooter Laws*, HUDSON REPORTER (Aug. 16, 2019), <https://hudsonreporter.com/2019/08/16/jersey-city-adopts-electric-scooter-laws/>; Brianna Kudisch, *E-Scooters are Coming to Another N.J. Town and Cops Will be Patrolling on Them*, NJ.COM, (Oct. 29, 2019), <https://www.nj.com/union/2019/10/lime-scooters-are-coming-to-another-nj-town-and-cops-will-be-among-those-riding-them.html>.

¹²⁰ *Electric-Scooter Rental Program Arrives On The Streets Of New Brunswick*, WALKABLE PRINCETON (Sept. 3, 2020), <https://walkableprinceton.com/2020/09/03/electric-scooter-rental-program-arrives-on-the-streets-of-new-brunswick/>; Chuck O'Donnell, *New Brunswick Exploring Electric Scooter Sharing Program*, TAP INTO: HUB CITY HAPPENINGS (Oct. 26, 2019, 10:08 AM), <https://www.tapinto.net/towns/franklin-township/sections/hub-city-happenings/articles/new-brunswick-exploring-electric-scooter-sharing-program-6>.

¹²¹ Colt Shaw, *Asbury Park Embraces E-Scooters After New Law. Could the Rest of the Shore Follow Suit?*, PRESS OF ATLANTIC CITY (Aug. 13, 2019), https://www.pressofatlanticcity.com/news/local/asbury-park-embraces-e-scooters-after-new-law-could-the/article_e8ee22f3-557c-5d6a-a6be-eb01dbae3f5.html.

¹²² PARZEN, *supra* note 24, at 30.

goals[.]”¹²³ For example, Hoboken quickly brought in Lime scooters in hopes of reducing traffic and parking congestion, but there have been challenges enforcing safe and responsible riding.¹²⁴ Like with all new disruptive business models and technologies, there are challenges to mainstreaming dockless e-scooter and e-bikesharing.¹²⁵

Prior to addressing issues within transportation networks by implementing e-scooters, local governments need insight into the impacts these modern modes of travel have on public infrastructure.¹²⁶ Several cities across the country, including Hoboken, New Jersey, have gathered data from their completed pilot programs and published their findings.¹²⁷ Policymakers can use these pioneer cities as examples when planning for dockless electric micromobility in their jurisdictions.¹²⁸ Public and private agencies also publish policy guidelines and reports for local governments to reference.¹²⁹

Although before-and-after studies on the impacts of dockless e-scooter and e-bikesharing are limited, emerging empirical evidence suggests an interdependent synergy between these dockless modes of shared micromobility and various facets of urban planning.¹³⁰ “At its core, [municipal] planning is the process of managing land use, urban design, and infrastructure to protect the environment, enhance livability, and guide future growth.”¹³¹ E-scooter and e-bikesharing programs impact various facets of city planning like land use, zoning, and infrastructure.¹³² Understanding the roles and impacts of dockless e-bike and scooter sharing can help planners leverage the benefits and subdue the concerns to achieve long-term planning and policy goals.¹³³

¹²³ PARZEN, *supra* note 24, at 30.

¹²⁴ See generally *Let's Take a Quick Look at Hoboken After 24 Hours of E-Scooters*, HMAG (May 21, 2019), <http://hmag.com/lets-take-quick-look-hoboken-24-hours-e-scooters/>.

¹²⁵ ZOHDY, *supra* note 7, at 61.

¹²⁶ COHEN, *supra* note 18, at 23.

¹²⁷ See, e.g., CITY OF HOBOKEN, HOBOKEN SHARED E-SCOOTER PROGRAM END-OF-PILOT SURVEY (2019), https://assets.website-files.com/58407e2ebca0e34c30a2d39c/5dd570e833006067e38907ca_e-scooter%20survey.pdf; BALT. CITY DEP'T OF TRANSP., CITY OF BALTIMORE, DOCKLESS VEHICLE PILOT PROGRAM EVALUATION REPORT (2019), <https://transportation.baltimorecity.gov/sites/default/files/Pilot%20evaluation%20report%20FINAL.pdf>.

¹²⁸ See PARZEN, *supra* note 24, at 33; see also BALT. CITY DEP'T OF TRANSP., *supra* note 127 (exemplifying a pioneer city report that policymakers can look to for guidance).

¹²⁹ See generally, ZOHDY, *supra* note 7, at 61.

¹³⁰ COHEN, *supra* note 18, at 4; SHAHEEN, *supra* note 5, at 3.

¹³¹ COHEN, *supra* note 18, at 19.

¹³² COHEN, *supra* note 18, at 19.

¹³³ COHEN, *supra* note 18, at 23.

American land-use planning post-World War II centered around the sprawling, single-use, low-density community design, particularly in the suburbs.¹³⁴ These post-World War II principles “have been shown to inflict negative economic, health, and environmental impacts on communities.”¹³⁵ Increased awareness of these negative effects created an ideological shift in planning and development known as “New Urbanism.”¹³⁶ This approach to urban design means creating human-scaled communities, taking advantage of transit hubs, and combating the effects of separated land use and restrictive zoning such as excessive traffic, increased pollution, lack of accessibility, and reducing natural environments.¹³⁷ New Urbanism principles can be incorporated at all levels of development and include walkability, mixed-use and diversity, mixed housing, quality urban design, traditional neighborhood structure, increased density, green transportation, and sustainability.¹³⁸

Land use and transportation planning is a complex process that takes place at multiple levels of government.¹³⁹ Throughout the different levels of governments are master plans—also known as comprehensive or general plans—that express a community’s long-term goals and decision-making principles.¹⁴⁰ To properly implement dockless micromobility, master plans must account for these sharing programs so zoning regulations can reflect the programs’ presence in communities. For example, Seattle, Washington has a history of amending its comprehensive plan to incorporate “new technological innovations in transportation such as ... shared transportation options[.]”¹⁴¹ Seattle recently updated its comprehensive plan includes several policies related explicitly to shared mobility, like “[s]upport and plan for innovation in transportation options and shared mobility, . . . ,

¹³⁴ *What is New Urbanism*, CONGRESS FOR THE NEW URBANISM, <https://www.cnu.org/resources/what-new-urbanism> (last visited Apr. 3, 2021).

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*

¹³⁸ *Principles of Urbanism*, NEW URBANISM, <http://www.newurbanism.org/newurbanism/principles.html> (last visited Jan. 23, 2021).

¹³⁹ See generally ZOHDY, *supra* note 7, at 65.

¹⁴⁰ See Gary D. Taylor, *The Purpose of the Comprehensive Land Use Plan*, CMTY. PLAN. & LAND USE CMTY. OF PRACTICE (July 25, 2019), <https://community-planning.extension.org/the-purpose-of-the-comprehensive-land-use-plan/#:~:text=of%20a%20community,-,The%20comprehensive%20plan%2C%20also%20known%20as%20a%20general%20plan%2C%20master,that%20affect%20the%20local%20government>.

¹⁴¹ COHEN, *supra* note 18, at 58 (quoting CITY OF SEATTLE, DRAFT SEATTLE COMPREHENSIVE PLAN: TRANSPORTATION (2015), www.seattle.gov/dpd/cs/groups/pan/@pan/documents/web_informational/p2294962.pdf).

that can increase travel options, enhance mobility, and provide first- and last-mile connections for people.”¹⁴²

By amending comprehensive plans and including dockless electric vehicle sharing in the planning process, local New Jersey governments can use zoning codes and local ordinances to regulate land development and allocate public rights-of-way.¹⁴³ Concerning land use regulations, local governments can reduce the need for parking, incentivize parking substitutions, and permit greater floor-to-area ratios.¹⁴⁴ New Urbanism is premised on rezoning communities to permit and grow mixed-use developments, increase population density, and promote efficient use of limited resources and space.¹⁴⁵ Ideally, most things should be within a ten-minute walk of home and work on pedestrian-friendly and car-free streets.¹⁴⁶

Dockless e-scooter sharing promotes these New Urbanist ideals. Scooter and bikesharing work best in mixed-use neighborhoods and near transit hubs with high pedestrian traffic.¹⁴⁷ These services provide an efficient “option for the first-and-last mile of a short-distance trip, providing a link for trips between home and public transit and/or transit stations and the workplace that are too far to walk, as well as a many-mile alternative.”¹⁴⁸ Instead of driving to avoid the inconvenience of the first-and-last mile dilemma, municipal residents can use a shared service only or use multiple modes to conveniently travel from one end of town to another at a reasonable price. People can also use these shared vehicles for reasons other than commuting. For example, tourists can use them recreationally to explore more in less time, or residents can use them to go purchase an item from a store on a moment’s notice.

The New Jersey municipalities pioneering the use of e-bike and e-scooter services in the state have a diverse range of characteristics. On one end of the spectrum is Hoboken, one of the most “densely populated and transit-rich communities in the United States[.]”¹⁴⁹ The city’s partnership with Lime offered residents and tourists a convenient travel option for short distances that decrease traffic and parking

¹⁴² CITY OF SEATTLE, SEATTLE COMPREHENSIVE PLAN 85 (2020), <http://www.seattle.gov/Documents/Departments/OPCD/OngoingInitiatives/SeattlesComprehensivePlan/CouncilAdopted2020.pdf>.

¹⁴³ See ZOHDY, *supra* note 7, at 65-66.

¹⁴⁴ ZOHDY, *supra* note 7, at 65-66.

¹⁴⁵ *Principles of Urbanism*, *supra* note 138.

¹⁴⁶ *Principles of Urbanism*, *supra* note 138.

¹⁴⁷ PARZEN, *supra* note 24, at 19.

¹⁴⁸ ZOHDY, *supra* note 7, at 25.

¹⁴⁹ HOBOKEN, N.J.: PARKING & TRANSP., *supra* note 116.

2021]

COMMENT

437

congestion.¹⁵⁰ Rather than take a car ride from one end of town to the other, one Lime ride can serve as a quicker and cheaper option.

Metuchen, on the other hand, is a suburban borough with less population density than cities like Hoboken and New Brunswick. However, Metuchen's city council found traffic congestion a growing problem.¹⁵¹ So, it partnered with Lime in 2018 to provide the town with dockless pedal bikes.¹⁵² After the partnership's success and the legalization of e-bikes in New Jersey, Lime incorporated e-bikes into Metuchen's fleet.¹⁵³ Metuchen Mayor Jonathan Busch believes that if Lime's bikes take only "a few cars off the streets of Metuchen, then it would be seen by many as a positive initiative."¹⁵⁴ As for Asbury Park's program, the city estimates its e-scooter program helped avoid approximately 5,056 car rides after only one month of use.¹⁵⁵ By reducing automobile dependency and promoting New Urbanist principles, dockless electric micromobility can create new opportunities and challenges. For example, cities have encountered curb space management obstacles as mobility options increase. The term "curb space management" refers to planning, designing, operating, and maintaining transportation policy that enables safe, convenient, and multimodal curb access for all transportation users.¹⁵⁶ A common dilemma is the public's rights-of-way and sidewalk safety.¹⁵⁷ Riders tend to use higher-speed streets and sidewalks in the absence of protected infrastructure, such as bike paths.¹⁵⁸ For example, when there is no designated bike lane on a roadway, riders drift towards the center of the road and avail themselves to ongoing car traffic. Alternatively, riders will occupy the center of sidewalks thus endangering pedestrians

¹⁵⁰ See generally CITY OF HOBOKEN, *supra* note 127 at 12-16 (reporting that car usage decreased when e-scooters were available).

¹⁵¹ See Nick Muscavage, *Metuchen Welcomes LimeBike to the Borough*, MY CENTRAL JERSEY (June 8, 2018, 8:00 AM), <https://www.mycentraljersey.com/story/news/local/middlesex-county/2018/06/08/metuchen-limebike/680545002/>.

¹⁵² *Id.*

¹⁵³ Kausch, *supra* note 117.

¹⁵⁴ Muscavage, *supra* note 152.

¹⁵⁵ Steve Strunsky, *Here's Why it's Now Easier to Find Parking in Asbury*, NJ.COM (Oct. 6, 2019), <https://www.nj.com/monmouth/2019/10/finding-parking-in-asbury-is-getting-easier-you-can-thank-e-scooters-for-that.html>.

¹⁵⁶ SHAHEEN, *supra* note 5, at 1.

¹⁵⁷ SHAHEEN, *supra* note 5, at 6.

¹⁵⁸ *E.g.*, PORTLAND BUREAU OF TRANSP., CITY OF PORTLAND, 2018 E-SCOOTER FINDINGS REPORT 24 (2018), <https://www.portlandoregon.gov/transportation/article/709719>.

using the sidewalk. When riders resort to using sidewalks, pedestrians report feeling less safe and improper parking increases.¹⁵⁹

As mentioned earlier, Seattle is a model city for incorporating shared mobility policies into its comprehensive plans.¹⁶⁰ The Seattle Department of Transportation designed curb space management guidelines to facilitate safe walking as a viable travel mode alone, as well as a facet of multi-modal mobility.¹⁶¹ The city classified sidewalks into three zones: the frontage zone;¹⁶² the pedestrian clear zone;¹⁶³ and the landscape/furniture zone.¹⁶⁴ Seattle restricts parking in the pedestrian clear zone and instructs users to park dockless bicycles in the landscaping/furniture zone or designated parking zones.¹⁶⁵

Other cities across the country, including Hoboken, have implemented parking and driving restrictions on e-bikes and e-scooters similar to Seattle.¹⁶⁶ Cities are also strategically marking designated parking areas on streets and sidewalks for the dockless vehicles, so riders are aware of proper parking areas.¹⁶⁷ In order to promote pedestrian safety and adequate parking, New Jersey municipalities must continue codifying local ordinances to govern dockless e-scootersharing and e-bikesharing.¹⁶⁸

¹⁵⁹ KEVIN FANG, ET AL., HOW AND WHERE SHOULD I RIDE THIS THING? “RULES OF THE ROAD” FOR PERSONAL TRANSPORTATION DEVICES 8 (2019), https://transweb.sjsu.edu/sites/default/files/1713-Fang-Agrawal-Hooper-Rules-Personal-Transportation-Devices_0.pdf.

¹⁶⁰ See SHAHEEN, *supra* note 5, at 14.

¹⁶¹ SHAHEEN, *supra* note 5, at 14.

¹⁶² See SHAHEEN, *supra* note 5, at 14 (“The Frontage Zone is the area between the property line and pedestrian clear zone.”).

¹⁶³ See SHAHEEN, *supra* note 5, at 14 (“The Pedestrian Clear Zone is the area of the sidewalk corridor that is specifically reserved for pedestrian travel.”).

¹⁶⁴ See SHAHEEN, *supra* note 5, at 14 (“The Landscape/Furniture Zone (including the curb) is defined as the area between the roadway curb and the front edge of the pedestrian clear zone. This zone buffers pedestrians from the adjacent roadway and is the appropriate location for . . . public transit shelters, stops, and platforms[.]” Furniture in this zone refers to benches, trash cans, or bus stops.).

¹⁶⁵ SHAHEEN, *supra* note 5, at 14.

¹⁶⁶ See, e.g., HOBOKEN, N.J.: PARKING & TRANSP., *supra* note 116 (“E-scooters must park at either bike racks or on the sidewalk in the furnishing zone (the area of the sidewalk closest to the curb that provides space for items such as bus shelters, benches, street trees, and utilities).”).

¹⁶⁷ See HOBOKEN, N.J.: PARKING & TRANSP., *supra* note 116 (“The City, in partnership with electric scooter operators, is gradually implementing designated scooter parking areas in the street or daylighting space at inbound legs of intersections. *Never park a scooter where it obstructs pedestrian access on sidewalks or at crosswalks.*”).

¹⁶⁸ See CITY OF ASBURY PARK, *Scooters*, <https://www.cityofasburypark.com/360/Scooters> (last visited Jan. 31, 2021) (“The rules and regulations for electric scooters are defined in ordinance 2019-27, adopted by the Asbury Park City Council on July 10, 2019.”).

2021]

COMMENT

439

Incorporating dockless e-scooters and e-bikes into comprehensive plans can also encourage integrating contemporary mobility options into public transit. Transportation planning based on revised comprehensive plans can serve long-term goals like parking and road decongestion, stimulating economic growth, and equitable usage of public resources. Transit-oriented development, a New Urbanism concept that emphasizes developing mixed-use land near existing or planned transit facilities, can resolve the first-and-last mile dilemma, while promoting connectivity in the long-term.¹⁶⁹

Governor Murphy has discussed how New Jersey's "Economic Development Authority will team up with [New Jersey] Transit to develop and [redevelop] land around its major train stations across the state."¹⁷⁰ Governor Murphy looked to New Brunswick as an example because of the recently developed 800,000 square feet surrounding its train station renovated into a transit-hub comprised of mixed-use residential, retail, and office buildings.¹⁷¹ New Brunswick recently partnered with Veo to conveniently connect visitors, students, and residents with its transit-hub.¹⁷²

Dockless electric vehicle sharing offers many potential benefits. However, for cities to enjoy them, there must be an infrastructure to support these dockless programs. Municipalities can amend developer regulations and zoning ordinances to promote the development of a supportive infrastructure.¹⁷³ Local governments do not need to carry the burden themselves if officials collaborate with private developers to integrate dockless electric micromobility programs.¹⁷⁴ Municipalities can encourage private developers to support long-term goals by reducing minimum parking requirements, incentivizing parking substitutions, and permitting structures with greater floor-to-area ratios.¹⁷⁵

¹⁶⁹ See FAIR SHARE HOUSING CTR., *Transit-Oriented Development*, <http://fairsharehousing.org/advocacy/transit-oriented-development/> (last visited Apr. 2, 2021).

¹⁷⁰ Matt Arco, *Murphy wants 'transit hubs' at major N.J. rail stations. Here's his plans.*, NJ.COM (Oct. 1, 2019), <https://www.nj.com/politics/2019/10/murphy-wants-transit-hubs-at-major-nj-rail-stations-heres-his-plan.html> (explaining New Jersey will push development around stations in Newark, Trenton, Metro Park, Jersey City and Paterson).

¹⁷¹ *Id.* ("Transit hubs have worked effectively and been an important part of the economic model," Paladino said. "It can really change the tempo of that neighborhood.").

¹⁷² See *Electric-Scooter Rental Program*, *supra* note 120.

¹⁷³ COHEN, *supra* note 18, at 44-46.

¹⁷⁴ See PARZEN, *supra* note 24, at 31.

¹⁷⁵ See ZOHDY, *supra* note 7, at 65-66.

Where regulations require developers include parking in their developments due to limited space for parking, reducing these parking mandates can deter individuals from relying on automobiles where dockless e-scooter programs exist. For example, Indianapolis, Indiana amended their zoning codes to reduce the required minimum parking for developers up to thirty-five percent.¹⁷⁶ Cities can also incentivize developers' participation by further reducing parking minimums and permitting building more densely on sites if developers offer parking substitutes or transportation demand management ("TDM") measures.¹⁷⁷ Indianapolis offered various parking reduction incentives in its 2016 revised code, such as reducing the minimum "by two parking spaces for each electric-vehicle charging station provided" and reducing the minimum by a certain percentage based on the development's proximity to a public transit stop or center.¹⁷⁸ Developers who incorporate TDM measures and ultimately develop more land can build other amenities that attract additional business opportunities.¹⁷⁹ New Jersey municipalities looking to introduce dockless micromobility should amend their master plans and ordinances to incentivize development similar to Indianapolis.

Complete integration of these services also requires the protected infrastructure for safe use. Riders need suitable pathways and roads to use e-bikes and e-scooters safely. As mobility companies are eager to join communities, local governments can work with them to protect their residents. For example, when Spin, an e-scooter provider, "started its policy initiatives team, [it] met with community and government partners across the country to understand how the e-scooter boom could bolster the conversation around creating streets for people, not cars[.]"¹⁸⁰ Spin quickly realized that cities are grappling with the same issue.¹⁸¹ Cities need "safe and reliable places to ride and the funds to build" them.¹⁸² These needs gave rise to Spin's Safe and Livable Streets initiative; it is "an initiative to fund people-centric streets in partnership with the communities where Spin operates."¹⁸³ Spin currently funds and invests in local projects to help kick-start communities' efforts

¹⁷⁶ COHEN, *supra* note 18, at 46.

¹⁷⁷ ZOHDY, *supra* note 7, at 65-66.

¹⁷⁸ COHEN, *supra* note 18, at 46.

¹⁷⁹ COHEN, *supra* note 18, at 46.

¹⁸⁰ NABSA Communications, *Member Spotlight: Spin Collaborates with Communities on Safe and Livable Streets*, N. AM. BIKESHARE ASS'N: MEMBER FEATURE (Aug. 28, 2019), <https://nabsa.net/2019/08/28/spinspotlight/>.

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ *Id.*

2021]

COMMENT

441

towards this goal.¹⁸⁴ Partnerships with service providers can help municipalities pay for the engineering and construction needed to properly implement these beneficial programs. With the resources to build an electric vehicle-friendly infrastructure, cities can reduce the chances of craniofacial injuries to riders caused by damaged roads or bike paths.

Dockless e-scooter and e-bikesharing can also aid economic development in the form of cost savings, creating new employment opportunities, and monetizing underused resources.¹⁸⁵ Residents in both urban and suburban areas often lack access to a personal vehicle or efficient public transit, making even short trips a challenge. Dockless vehicles offer people affordable and convenient transportation connections to jobs, healthcare, recreational space, and everyday amenities.¹⁸⁶ As a transportation alternative, these services can help eliminate car ownership and reduce household transportation costs,¹⁸⁷ especially since millennials are less likely to own a car compared to older generations.¹⁸⁸ In Asbury Park, the transportation department reported fifty-four percent of trips were by people over the age of thirty, and thirty-three percent of riders said they would have driven their car absent the e-scooter program.¹⁸⁹

E-scooter and e-bikesharing programs operate differently than other modern mobility services because the vehicles are retrieved every night and recharged.¹⁹⁰ The fleet is then distributed throughout a city the next morning.¹⁹¹ Vendors employ individuals to collect, deploy, charge, maintain, address service requests, correct improper parking, and redistribute vehicles to ensure equitable user access.¹⁹² Companies hire a mix of independent contractors and regular employees to complete these tasks.¹⁹³ Throughout the day, vendor employees distribute e-scooters throughout the city based on user data.¹⁹⁴ To

¹⁸⁴ *Id.*

¹⁸⁵ COHEN, *supra* note 18, at 20.

¹⁸⁶ BALT. CITY DEP'T OF TRANSP., *supra* note 128, at 10.

¹⁸⁷ PARZEN, *supra* note 24, at 14.

¹⁸⁸ See Steven E. Polzin, Xuehao Chu & Jodi Godfrey, *The Impact of Millennials Travel Behavior on Future Personal Vehicle Travel*, 5 ENERGY STRATEGY REV., 59 (2014).

¹⁸⁹ Strunsky, *supra* note 155.

¹⁹⁰ See Strunsky, *supra* note 155.

¹⁹¹ PORTLAND BUREAU OF TRANSP., *supra* note 158, at 9; Strunsky, *supra* note 155.

¹⁹² PORTLAND BUREAU OF TRANSP., *supra* note 158, at 9, *see also* SHAHEEN, *supra* note 5, at 15, 17.

¹⁹³ PORTLAND BUREAU OF TRANSP., *supra* note 158, at 9.

¹⁹⁴ PORTLAND BUREAU OF TRANSP., *supra* note 158, at 9 (“During Portland’s four-month pilot for example, companies reported working with 1,533 independent contractors (primarily chargers) and paying \$643,000 in total wages to contractors.”).

create job opportunities and stimulate economic growth within communities, local governments should incentivize vendors to hire locally and only permit non-local hiring when all reasonable local hiring efforts have been exhausted.¹⁹⁵ For example, in Chicago, Illinois, vendors are encouraged to “identify, train and employ local residents that have been historically disadvantaged in participating in the local economy.”¹⁹⁶ Asbury Park also maintains a local staff that carries similar responsibilities as mentioned above.¹⁹⁷

Permitting vendors to operate within municipalities can potentially serve as a revenue stream for local governments.¹⁹⁸ Hoboken and Asbury Park have partnered with Lime and SPIN, respectively, effectively at no cost to taxpayers.¹⁹⁹ Already seen as a beneficial service within the community, Asbury Park officials believe:

[T]he programs may soon become revenue generators, with Hoboken set to announce a renegotiated deal with its operator, Lime, that will pay the city 35 cents for each trip, a share that could mean six-figure revenues based on the nearly 500,000 e-rides its program has generated since its launch last spring.²⁰⁰

Equity considerations also arise when implementing dockless e-bike and scooter sharing within communities.²⁰¹ On one hand, these services can significantly improve disadvantaged communities’ quality of life.²⁰² On the other hand, municipalities must ensure that everyone has equitable access to the sharing programs to fully realize the benefits the services have to offer.²⁰³ As discussed above, the vendors commonly maintain the vehicles that can serve as the method of transportation for the first-and-last mile.²⁰⁴ Economically depressed neighborhoods, often in urban areas, sometimes lack the public transit necessary to facilitate an efficient means of transportation in the absence of owning an automobile.²⁰⁵ These

¹⁹⁵ NACTO, REGULATION GUIDELINES, *supra* note 21, at 24.

¹⁹⁶ NACTO, REGULATION GUIDELINES, *supra* note 21, at 51 (“Vendors are encouraged to hire: (i) 75% of their staff from Chicago; and (ii) at least 30% of their staff from job training placement programs operating in Chicago.”).

¹⁹⁷ Shaw, *supra* note 121.

¹⁹⁸ See Strunsky, *supra* note 155.

¹⁹⁹ Strunsky, *supra* note 155.

²⁰⁰ Strunsky, *supra* note 155.

²⁰¹ See SHAHEEN, *supra* note 5, at 16-17.

²⁰² ZOHDY, *supra* note 7, at 28.

²⁰³ SHAHEEN, *supra* note 5, at 21.

²⁰⁴ ZOHDY, *supra* note 7, at 5.

²⁰⁵ PARZEN *supra* note 24, at 24-25.

dockless programs, however, can bridge the gap to offer a complete and efficient commute.

Furthermore, sharing programs connect people with recreational activities and public resources that lead to economic development.²⁰⁶ In the United States, land and water are subject to an ancient legal doctrine called the Public Trust Doctrine.²⁰⁷ This doctrine, codified by New Jersey, preserves the public's right to access beaches and oceans, among other things.²⁰⁸ Asbury Park, a Monmouth County beach town, sees a significant increase in population during summer months.²⁰⁹ One of the priorities of Asbury Park's e-scooter "program is to free up much sought-after car parking during the busy" summers when an influx of tourists arrive to use local beaches because "the booming waterfront is Asbury's most congested and parking-starved area[.]"²¹⁰ Asbury Park's Transportation Director, Mike Manzella, has stated that the e-scooters have provided people on the west side of town with "a way to get to the beach and waterfront[.]"²¹¹ First-month findings show that thirty-eight percent of riders in Asbury Park come from households with incomes totaling less than \$75,000, and seventeen percent are Hispanic or African-America.²¹² Manzella noted that these demographics typically "populate the west side and are often unable to take advantage of the ocean or other amenities several miles across town due to a lack of transportation."²¹³ By implementing dockless micromobility programs, municipalities can advance the Public Trust Doctrine's purpose and promote equitable access to beaches and oceans for the public because parking and transportation are more convenient for more people. More

²⁰⁶ See Strunsky, *supra* note 155.

²⁰⁷ N.J. DEP'T ENVTL. PROT., PUBLIC ACCESS IN NEW JERSEY: THE PUBLIC TRUST DOCTRINE AND PRACTICAL STEPS TO ENHANCE PUBLIC ACCESS 9 (2006), https://www.state.nj.us/dep/cmp/access/public_access_handbook.pdf.

²⁰⁸ See *id.* ("[T]he state has the responsibility to ensure adequate public access to and use of New Jersey's tidal waterways and their shores.").

²⁰⁹ See Stephen Stirling, *These N.J. Shore Towns Are About To See Their Populations Explode*, NJ ADVANCE MEDIA (May 14, 2019), https://www.nj.com/data/2018/05/these_nj_shore_towns_are_about_to_see_their_populations_explode.html ("About 16.5 percent of the population in [Monmouth County] we analyzed was seasonal."); see also MONMOUTH CTY. PLAN. BD., SUMMER COSTAL POPULATION STUDY 27 (2008), <https://www.co.monmouth.nj.us/documents/24/Coastal%20Pop%20Study%20Report.pdf> (reporting an increase of 54,759 people in Asbury Park on an average summer day, and an additional 56,932 additional people on a peak summer day).

²¹⁰ Nelson, *supra* note 118; Strunsky, *supra* note 155.

²¹¹ Strunsky, *supra* note 155.

²¹² Strunsky, *supra* note 155.

²¹³ Strunsky, *supra* note 155.

people can also reach the waterfront district and spend at local businesses, thus stimulating the local economy.

Similar to the Public Trust Doctrine, dockless micromobility promotes the goals of the Mount Laurel Doctrine. The doctrine “prohibits economic discrimination against the poor by the state and municipalities in the exercise of their land use powers[.]”²¹⁴ Dockless e-scooter and e-bikesharing can support affordable housing initiatives by decreasing the demand for parking and minimum parking requirements for new developments.²¹⁵ Studies demonstrate that an increasing number of New Jersey residents and businesses are relocating to more affordable states due to exorbitant housing costs.²¹⁶ Developing affordable housing near transit stops and transit-hubs will also reduce travel “costs for low-income workers, who spend more on transportation than any other need besides housing.”²¹⁷ Parking reduction policies and other forms of transit-oriented development “can help make housing more affordable by reducing per-unit costs and can encourage neighborhood redevelopment and revitalization by making it easier for developers to have positive cash flows and higher capitalization rates on real estate projects.”²¹⁸

On the other hand, micromobility can also impact people with disabilities. The parking of dockless e-scooters and e-bikes, properly or improperly, in the public rights-of-way can present challenges for people with disabilities when bicycles or scooters block curb or ramp access.²¹⁹ The combination of limited sidewalk space and parking infringes on pedestrians with disabilities’ right-of-way, making travel more inconvenient.²²⁰ Additionally, people with disabilities have reported feeling extremely unsafe when riders use sidewalks as pathways.²²¹

²¹⁴ *Mount Laurel Doctrine*, FAIR SHARE HOUSING CTR., <http://fairsharehousing.org/mount-laurel-doctrine/#the-fair-housing-act> (last visited Apr. 3, 2021) (The New Jersey Supreme Court, in *Mount Laurel I* (1975) and *Mount Laurel II* (1983), declared that municipal land use regulations that prevent affordable housing opportunities for the poor are unconstitutional and ordered all New Jersey municipalities to plan, zone for, and take affirmative actions to provide realistic opportunities for their “fair share” of the region’s need for affordable housing for low and moderate-income people.)

²¹⁵ COHEN, *supra* note 18, at 19.

²¹⁶ *Transit-Oriented Development*, *supra* note 169.

²¹⁷ *Transit-Oriented Development*, *supra* note 169.

²¹⁸ COHEN, *supra* note 18, at 44.

²¹⁹ SHAHEEN, *supra* note 5, at 17.

²²⁰ SHAHEEN, *supra* note 5, at 6.

²²¹ See SHAHEEN, *supra* note 5, at 6.

2021]

COMMENT

445

Two-wheeled e-scooters and e-bikes may prevent individuals from using the sharing services.²²² Without the availability of adaptive devices like tricycles, people with disabilities are without access to the benefits these programs offer.²²³ In response, public agencies may be able to expand access for people with disabilities by requiring a percentage of a fleet include adaptive devices and establishing incentives for the addition of adaptive devices into micromobility fleets.²²⁴ Additionally, operators that deploy adaptive bicycles as part of their fleets could be eligible for additional device permits that would allow vendors to distribute more scooters on the streets of a town.²²⁵ Prudent curb space management policy combined with education, outreach, and proactive enforcement is key to protecting people with disabilities' rights and access.²²⁶

Also, financial and technological barriers may prevent some individuals from using these beneficial services. Many services require a debit or credit card for payment through a smartphone.²²⁷ This can bar consumers who are under- or un-banked as well as low-income or rural households who may not be able to access or afford sufficient technology.²²⁸ For example, Washington D.C. requires dockless scooter and bikesharing programs to offer cash payment options and vehicles accessible without a smartphone to promote equitable usage amongst consumers.²²⁹ Nonetheless, these pay-per-minute services can sometimes be costlier than walking or public transportation for low-income households, so municipalities should require vendors to offer "discounted and subsidized programs for eligible low-income households" to help overcome affordability challenges.²³⁰ Thus, local governments should leverage their position in choosing service providers for the municipality to ensure equitable use for the whole public.

As a transportation alternative, e-scooters and e-bikes decrease the need for automobiles.²³¹ Early studies of transportation alternatives

²²² See SHAHEEN, *supra* note 5, at 17.

²²³ See SHAHEEN, *supra* note 5, at 17.

²²⁴ See *generally* SHAHEEN, *supra* note 5, at 17.

²²⁵ SHAHEEN, *supra* note 5, at 17.

²²⁶ See *e.g.*, SHAHEEN, *supra* note 5, at 17; NABSA Communications, *Collaborating with Disability Groups*, N. AM. BIKESHARE ASS'N: NABSA UPDATES (July 12, 2019), <https://nabsa.net/2019/07/12/collaborating-with-disability-groups/>.

²²⁷ SHAHEEN, *supra* note 5, at 16.

²²⁸ SHAHEEN, *supra* note 5, at 16.

²²⁹ SHAHEEN, *supra* note 5, at 16.

²³⁰ SHAHEEN, *supra* note 5, at 16.

²³¹ See *e.g.*, SHAHEEN, *supra* note 5, at 1.

show a reduction in greenhouse gas emissions.²³² Additionally, without the need for cars, more land can be used for parks and public spaces.²³³ Without the need to reserve parking spaces or build parking infrastructures for automobiles, municipalities can allocate resources to other needs because dockless electric vehicles require less space to park a higher concentration of e-bikes and e-scooters than traditional modes of transportation.²³⁴

IV. CONCLUSION

In conclusion, dockless electric scooter and bicycle sharing programs are novel and products of rapid technological advancements. With their rapid integration into society, local governments must keep up to prevent e-scooter and e-bike service providers from infiltrating communities without considering the well-being of the community and its constituents. Although these services offer environmental benefits and promote economic development, they also present safety concerns, enforcement issues, and equitable usage dilemmas. New Jersey legislation has legalized the use of low-speed electric scooters and bicycles but has given the local governments the autonomy to regulate the use to best fit their needs. Municipalities must also amend and adapt existing ordinances to implement these dockless electric vehicle programs and successfully maximize their benefits. With limited data, municipalities must continually study the effects of combining traditional methods of transportation, like public transit and motor vehicles, with e-scooters and e-bikes to promote the integration of innovative forms of shared micromobility.

²³² PARZEN, *supra* note 24, at 14.

²³³ PARZEN, *supra* note 24, at 14.

²³⁴ See PARZEN, *supra* note 24, at 14.