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SOLVING THE FIRST MILE/LAST MILE PROBLEM: ELECTRIC SCOOTERS AND DOCKLESS BICYCLES ARE POSITIONED TO PROVIDE RELIEF TO COMMUTERS STRUGGLING WITH A DAILY COMMUTE

KELLY GROSSHUESCH*

INTRODUCTION

Commuters in cities across the United States struggle to find ease in their daily commute. Public transportation no longer provides residents with an adequate and reliable source of transportation.¹ For many commuters, getting to and from nodes of public transportation is difficult and a deterrent from using public or shared transportation instead of driving.² This, therefore, increases vehicle congestion and car emissions in cities. While multiple new technologies and innovations have emerged to attempt to help commuters with the trip to and from public transportation, most have fallen short.³ But two new innovations that have gained major popularity among consumers, electric scooters and dockless bike share programs, have stepped up to provide much-needed relief to consumers.⁴ Electric scooters and dockless bike shares give commuters the freedom they need to easily get to and from nodes of public transportation because they are not limited to certain locations in a city.⁵ However, many city

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¹ See, e.g., Linda Robertson, *Call it Metrofail: How to waste 20 hours a week riding the rails in Miami*, MIAMI HERALD (Oct. 12, 2017), <https://www.miamiherald.com/news/local/community/miami-dade/article178592976.html> [<https://perma.cc/3JKM-8RPR>].

² Hai Wang & Amedeo Odoni, *Approximating the Performance of a “Last Mile” Transportation System*, 50 TRANSP. SCI. 659, 659 (2016).

³ See, e.g., Steve LeBlanc, *Studies are increasingly clear: Uber and Lyft congest cities*, CHI. TRIB. (Feb. 25, 2015), <http://www.chicagotribune.com/bluesky/technology/ct-uber-lyft-congestion-20180225-story.html> [<https://perma.cc/ENY2-EXZK>].

⁴ See, e.g., Jonathan Maus, *People love scooters and they’re replacing car trips says City of Portland survey*, BIKE PORTLAND (Oct. 22, 2018), <https://bikeportland.org/2018/10/22/city-of-portland-releases-e-scooter-survey-results-291323> [<https://perma.cc/AJU9-LA6T>]; see also Ellen Schneider, *Dockless bikes and electric scooters could be on their way downtown*, JACKSONVILLE BUS. J. (Feb. 4, 2020), <https://www.bizjournals.com/jacksonville/news/2020/02/04/dockless-bikes-and-electric-scooters-could-be-on.html> [<https://perma.cc/2ZJV-J8EZ>].

⁵ See, e.g., *How to Ride*, BIRD, <https://www.bird.co/how> [<https://perma.cc/NTU7-NGP4>] (last visited Apr. 2, 2020).

governments have reacted adversely to electric scooters and dockless bikes, which has and will continue to harm commuters.⁶ Some cities have issued all out bans of the electric scooters, while others have filed lawsuits against e-scooter manufacturers and even threatened to sue commuters using the e-scooters.⁷ Further, other cities have over-regulated dockless bicycles to force them to leave the city.⁸ These measures will not only make life more difficult for commuters now, it could have a chilling effect causing new innovators to be hesitant to bring in a new transportation technology into cities in the future. This Note will argue that instead of banning the e-scooter and bicycle companies or regulating them out of existence, city government should be expending some of the resources spent on attempting to improve public transportation on helping the cities adapt to the new electric scooters and dockless bicycles. Spending some resources in this way would do more to help commuters make daily travel easier and quicker than using all resources to improve public transportation.

In this Note, I will describe the first mile/last mile problem and explain how it plagues commuters across the United States everyday. I will also illustrate how current transportation technologies available to commuters, such as ride sharing services and docking bicycle share programs, are lacking in their ability to solve the first mile/last mile problem effectively.

I will then explain that new transportation technologies have the ability to provide much needed relief to commuters struggling with the first mile/last mile problem. I will describe both e-scooter and dockless bike sharing programs and first explain how each technology works. Second I will discuss why they are able to effectively solve the first mile/last mile problem for city commuters. Next, this Note will explain how city officials reacted adversely to the sudden influx of dockless bicycles and e-scooters, such as filing lawsuits against the manufacturing companies or over-regulating the companies. I will argue that the way that city officials

⁶ See, e.g., Chris Cioffi, *2 Dockless Bike Companies Leaving DC, Citing Regulations*, NBC WASH. (July 25, 2018), <https://www.nbcwashington.com/news/local/Second-Dockless-Bike-share-Company-Rolls-Out-of-DC-Citing-Stringent--489149941.html> [<https://perma.cc/N683-Y8V3>]; Nick Williams, *City of Milwaukee files lawsuit against electric scooter company Bird*, MILWAUKEE BUS. J. (July 6, 2018), <https://www.bizjournals.com/milwaukee/news/2018/07/06/city-of-milwaukee-files-lawsuit-against-electric.html> [<https://perma.cc/P8KA-LT9X>].

⁷ Luz Lazo, *Dockless bike, scooter firms clash with U.S. cities over regulation*, WASH. POST (Aug. 4, 2018), https://www.washingtonpost.com/local/trafficandcommuting/dockless-bike-scooter-firms-clash-with-us-cities-over-regulations/2018/08/04/0db29bd0-9419-11e8-a679-b09212fb69c2_story.html?noredirect=on&utm_term=.ca0056049058 [<https://perma.cc/4VCX-T7E2>].

⁸ Cioffi, *supra* note 6.

have reacted to these new technologies is harmful to commuters because it does not allow for the efficient use of the technology and thus does not allow for the technology to help solve the first mile/last mile problem.

Finally, this Note will discuss how city and government officials should react to these incoming technologies to promote the safest and most efficient use by commuters. I will argue that because both e-scooters and dockless bicycles are essentially the same as regular bicycles that commuters own, e-scooters and dockless bicycles should be regulated in a way either the same as or similar to how cities regulate traditional bicycles. Next, I will argue that cities should expend resources on creating infrastructure, such as more bike lanes and bike racks, to allow commuters to take full advantage of e-scooters and dockless bicycles in a safe and efficient way to quell concerns of fellow residents. Lastly, I will look at a new ordinance passed by the Atlanta City Council and explain how it is a great illustration of a way cities can regulate e-scooters and dockless bicycles to ensure safety and overcome concerns voiced by city residents, while still creating enough flexibility for these technologies to grow and properly serve commuters in solving the first mile/last mile problem.

I. THE FIRST MILE/LAST MILE PROBLEM: THE GAP LEFT BY TRADITIONAL PUBLIC TRANSPORTATION

As populations grow across the United States, cities are expanding further into existing suburbs and the countryside, a phenomenon dubbed urban sprawl.⁹ This urban sprawl results in more cars on the road, as more people have to commute further in and out of the city for work and play.¹⁰ With increased traffic congestion, public transportation appears positioned to be the solution to many commuters' transportation problems. However, traditional public transportation, such as the subway, metro, and bus system, is no longer meeting commuters' needs.¹¹ For example, residents often describe public transportation as unreliable and tolerable at best.¹²

⁹ See John Chang, *The Problematization of Urban Sprawl in the United States* 5 (2006) (unpublished Master's thesis, Linköping University), https://pdfs.semanticscholar.org/8971/03a1c98944afb77d86a9997fb760e101de98.pdf?_ga=2.207725460.76462106.1585498427-2093079507.1585498427 [https://perma.cc/UD4K-32DT].

¹⁰ See Joe Cortright, *Driven Apart: How sprawl is lengthening our commutes*, CITY REP. (Aug. 17, 2017), <http://cityobservatory.org/driven-apart-how-sprawl-is-lengthening-our-commutes/> [https://perma.cc/W5NZ-7GFU]; see also John Holtzclaw, *Designing Cities to Reduce Pollution: New Studies in Chicago, LA and San Francisco*, SIERRA CLUB (June 1997), <https://vault.sierraclub.org/sprawl/articles/designing.asp> [https://perma.cc/9CSW-7JYV].

¹¹ See Robertson, *supra* note 1.

¹² See *id.*

One of the major side effects of reliance on public transportation can be characterized as the first mile/last mile problem.¹³ The first mile/last mile problem refers to the first/last leg of a commuter's trip, from either home or work to a node of public transportation or vice versa.¹⁴ The first or last leg of a commuter's trip is often the most difficult, as public transportation cannot take commuters exactly where they desire to go, and sometimes walking or driving from the node of public transportation to the final destination is not feasible.¹⁵ The difficulty in traveling to and from nodes of public transportation is one of the main obstacles that can cause commuters to avoid public transportation.¹⁶ A few new technologies and innovations have popped up in an attempt to fill the void left by public transportation in the first/last mile. Unfortunately, many of these new innovations have not been able to adequately address the first mile/last mile problem for commuters.

A. *Ride-Sharing Services Have Not Provided an Adequate Solution to the First Mile/Last Mile Problem*

In recent years, ride-sharing apps such as Uber and Lyft have become extremely popular.¹⁷ However, these services have not proven to be an adequate solution to the first mile/last mile transportation problem.¹⁸ Ride-sharing services function as cell phone applications that match individuals looking for rides to drivers near them.¹⁹ When a rider opens the application, the rider is prompted to type in the address of their desired location, and the rider will be matched with a driver based on location.²⁰ Uber and Lyft claim that they work alongside public transportation and serve to connect commuters to nodes of public transportation.²¹ But, this has not proved true, as some commuters now use ride-sharing services

¹³ Wang & Odoni, *supra* note 2, at 659, 661.

¹⁴ *Id.* at 659.

¹⁵ Stigo, *The Last Mile—the term, the problem and odd solutions*, MEDIUM (Oct. 4, 2017), <https://medium.com/the-stigo-blog/the-last-mile-the-term-the-problem-and-the-odd-solutions-28b6969d5af8> [<https://perma.cc/3RAE-F85M>].

¹⁶ Wang & Odoni, *supra* note 2, at 659.

¹⁷ See Jeremy Bowman, *The 4 Most Popular Ride-Sharing Services of 2018*, MOTLEY FOOL (Dec. 24, 2018), <https://www.fool.com/investing/2018/12/24/most-popular-rideshare-services-of-2018.aspx> [<https://perma.cc/K47Z-AG2J>].

¹⁸ LeBlanc, *supra* note 3.

¹⁹ See, e.g., *How to use the Uber app*, UBER, <https://www.uber.com/about/how-does-uber-work/> [<https://perma.cc/94RJ-WH3F>] (last visited Apr. 2, 2020).

²⁰ *Id.*

²¹ LeBlanc, *supra* note 3.

in place of public transportation, not jointly with public transportation.²² Because more commuters are leaving public transportation and turning to travel by car using ride-sharing services, there are more cars on the road, which will cause higher amounts of traffic congestion and even more car emissions being produced.²³ Therefore, ride sharing services do more to clutter the roads than to help commuters travel to and from nodes of public transportation.²⁴

B. Docking Bike-Sharing Programs Have Fallen Short in Bridging the Gap Created by Public Transportation

Another innovation created in an attempt to bridge the gap in the first and last mile of commuting and provide efficient transportation options for commuters are docking bike share programs.²⁵ Docking bike shares are bicycles that exist throughout cities in docking kiosks that commuters can rent out and pay by the hour.²⁶ Commuters can retrieve these bicycles from docking stations that are placed throughout the city.²⁷ The bicycles are locked into the docking station and can be unlocked by paying for the bicycle at the docking kiosk.²⁸ The first thirty minutes of a commuter's ride are free, after which, the commuter will be charged per thirty-minute increment until the bicycle is locked back into a docking station.²⁹ These bicycles are marketed for use on short, one-way trips,³⁰ and they are thus an option for commuters traveling to and from a node of public transportation. However, docking bike shares fall short of solving the first mile/last mile problem. Similar to traditional nodes of public transportation, docking stations are only located at certain points of the city.³¹

²² REGINA R. CLEWLOW & GOURI SHANKAR MISHRA, INST. OF TRANSP. STUDIES, U. CAL., DAVIS, DISRUPTIVE TRANSPORTATION: THE ADOPTION, UTILIZATION, AND IMPACTS OF RIDE-HAILING IN THE UNITED STATES 24–25 (Oct. 2017), http://www.reginaclewlow.com/pubs/2017_UCD-ITS-RR-17-07.pdf [<https://perma.cc/GWQ6-8PMB>].

²³ *See id.* at 29–30.

²⁴ *See* Conner Forrest, *Why Uber and Lyft are actually making your morning commute worse*, TECHREPUBLIC (July 27, 2018), <https://www.techrepublic.com/article/why-uber-and-lyft-are-actually-making-your-morning-commute-worse/> [<https://perma.cc/3LWU-88MJ>].

²⁵ *See Experience Metro DC on Two Wheels*, CAPITAL BIKESHARE, <https://www.capitalbikeshare.com/how-it-works> [<https://perma.cc/5FF4-CP5D>] (last visited Apr. 2, 2020).

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ *Id.*

³⁰ *Id.*

³¹ *System Map*, CAPITAL BIKESHARE, <https://secure.capitalbikeshare.com/map/> [<https://perma.cc/5DYZ-BC92>] (last visited Apr. 2, 2020).

Because these bikes must be returned to a docking station, commuters are limited to where they can travel to while using docking bike shares.³² Therefore, this technology does not deliver the necessary freedom to solve the first mile/last mile problem.³³

While one study found that commuters are more likely to use docking bike shares when they are located near a node of public transportation,³⁴ not all nodes of public transportation are located near a docking station. Further, commuters are limited in where they can go with the bikes after they get off public transportation.³⁵ Overall, docking bike shares are not a sufficient solution to commuters' struggles in the first and last mile of their trip, as they do not provide necessary flexibility to travel to a resident's preferred destination.

II. NEW TECHNOLOGIES CAN SUCCESSFULLY BRIDGE THE GAP LEFT BY PUBLIC TRANSPORTATION

While past innovations have been unable to make the first and last mile of commuters' trips easier, a few new technologies are positioned to fill the gap. Two new technologies that have been able to provide relief to commuters in the first and last legs of their daily commute are electric scooters and dockless bike sharing programs.

A. *Electric Scooters Have Solved the First Mile/Last Mile Problem for Commuters Because They Provide Necessary Freedom of Destination*

Since the introduction of electric scooters, commuters in most major cities across the United States have joyfully taken advantage of this new technology in their daily commutes.³⁶ Electric scooters have popped up, seemingly out of nowhere, in cities through manufacturers, such as Bird, Lime, and Skip.³⁷ These e-scooters work in tandem with riders' cell phone

³² See *id.*

³³ See *id.*

³⁴ Bryan Barnett-Woods, *When bikeshare stations are near Metro, more people use them . . . especially if they're outside of DC*, GREATER GREATER WASH. (Nov. 23, 2016), <https://ggwash.org/view/43620/when-bikeshare-stations-are-near-metro-more-people-use-them-especially-if-theyre-outside-of-dc> [<https://perma.cc/42MQ-2KSM>].

³⁵ See CAPITAL BIKESHARE, *supra* note 31.

³⁶ See Maus, *supra* note 4.

³⁷ See Umair Irfan, *Electric scooters' sudden invasion of American cities, explained*, VOX (Sept. 7, 2018), <https://www.vox.com/2018/8/27/17676670/electric-scooter-rental-bird-lime-skip-spin-cities> [<https://perma.cc/R8YC-GGR3>].

applications.³⁸ When a rider opens the app they see a map showcasing all the e-scooters nearby the rider's location and at what percentage the e-scooter is charged.³⁹ When a rider finds a scooter to ride, the rider can open the app and use the camera function to scan the QR code located on the scooter to unlock it.⁴⁰ Once the scooter is unlocked, the rider is free to kick up the kick-stand and ride anywhere in the city the rider wants.⁴¹ The system charges users \$1 per ride, plus an additional fifteen cents per minute.⁴² When the rider has arrived at the desired destination, the app instructs the rider to place the scooter on a sidewalk, but out of the way of pedestrian traffic, and re-scan the QR code to lock the scooter.⁴³

The minimal rider restrictions put on these e-scooters allow them to provide much-needed relief to commuters in both short trips and during the first and last miles of their trips. Commuters are able to pick up e-scooters around the city and leave them directly outside the desired destination.⁴⁴ Further, one electric scooter company, Bird, plans to launch a service where commuters can request an e-scooter to be delivered to their doorstep in the morning for an easy start to their daily commute.⁴⁵ Thus, electric scooters give commuters the freedom they need to travel exactly where they want within a city.

Additionally, electric scooters can provide a much quicker option than ride-sharing services or walking. The e-scooters can travel, on average, about fifteen miles per hour.⁴⁶ E-scooters are also ridden in bike lanes.⁴⁷ This allows them to bypass the congestion of vehicular traffic and travel far faster than walking. Therefore, electric scooters cut down on time and stress in a commuter's trip to a node of public transportation. Moreover, while electric scooters do use energy to be charged nightly,⁴⁸

³⁸ *How to Find Vehicles*, BIRD, <https://help.bird.co/hc/en-us/articles/360005118052-How-to-Find-Vehicles> [<https://perma.cc/8YPX-LECC>] (last visited Apr. 2, 2020).

³⁹ *See id.*

⁴⁰ *See id.*

⁴¹ *See id.*

⁴² Hannah Sparling, *Bird electric scooters: What you need to know*, CINCINNATI ENQUIRER (July 26, 2018), <https://www.cincinnati.com/story/news/2018/07/26/bird-scooters-how-do-bird-scooters-work/840724002/> [<https://perma.cc/8CFW-CRUP>].

⁴³ Brett Helling, *Definitive Guide to Bird Electric Scooter Rental*, RIDESTER (Aug. 29, 2018), <https://www.ridester.com/bird-scooters/> [<https://perma.cc/AC3B-QJWQ>].

⁴⁴ *Id.*

⁴⁵ Megan Rose Dickey, *Bird unveils custom electric scooters and delivery*, TECHCRUNCH, <https://techcrunch.com/2018/10/04/bird-unveils-custom-electric-scooters-and-delivery/> [<https://perma.cc/VBP4-339C>] (last visited Apr. 2, 2020).

⁴⁶ *See Sparling, supra note 42.*

⁴⁷ *See BIRD, supra note 5.*

⁴⁸ *See Sparling, supra note 42.*

they are more sustainable in the long run than driving to work or using ride sharing services, as they serve as an alternative to driving or taking Lyft or Uber, and thus decrease the amount of cars on city roads.⁴⁹

B. Dockless Bike-Sharing Programs Have Proven More Popular and a Better Solution to the First Mile/Last Mile Problem than Docking Bike Programs

A second service that has emerged to provide relief to commuters is dockless bike share programs, with the most common companies being Ofo, LimeBike, and “Jump” Bike.⁵⁰ Unlike the docking bike shares, these dockless bicycles do not have to be put into a docking station to return them.⁵¹ Dockless bike shares work in a similar way to electric scooters.⁵² Riders can find the bicycles all over the city by using the cell phone application that corresponds with the company’s dockless bikes.⁵³ Similar to the e-scooters, the bicycle apps will show riders where the bikes are located in that area.⁵⁴ Once a rider arrives at the bicycle, it can be unlocked by either scanning the bicycle’s QR code with a cell phone or by typing in a code to the bicycle’s keypad.⁵⁵ After unlocking the bike, riders are able to ride the bike anywhere in the city, and once the rider is done with the bike, it can be locked by leaving it out of the walkway on the sidewalk and either re-scanning the QR code or re-entering the code into the bicycle’s key pad.⁵⁶ Additionally, there are two types of dockless bicycles. The first type of dockless bicycle is a traditional pedal bike, like Lime Bike.⁵⁷ Jump

⁴⁹ See Irfan, *supra* note 37.

⁵⁰ Mark Harris, *The Bike Share War Is Shaking up Seattle Like Nowhere Else*, WIRED (June 14, 2018), <https://www.wired.com/story/the-bike-share-war-is-shaking-up-seattle-like-nowhere-else/> [<https://perma.cc/W5EZ-7M7W>].

⁵¹ See *What is Dockless Bike Share*, ALTA, <https://altaplanning.com/dockless-bike-share/> [<https://perma.cc/S2TV-DZ62>] (last visited Apr. 2, 2020).

⁵² See Luis Gomez, *Dockless bikes, scooters are all over San Diego. Here’s how they work*, SAN DIEGO UNION-TRIB. (Mar. 16, 2018), <https://www.sandiegouniontribune.com/opinion/the-conversation/sd-dockless-bikes-san-diego-how-do-they-work-20180316-htmistory.html> [<https://perma.cc/AG6Z-TWAA>].

⁵³ See Mike Higdon, *How to Use LimeBike, Reno’s First Dockless Bike Share Program*, RENO GAZETTE J. (May 14, 2018), <https://www.rgj.com/story/life/2018/05/14/how-use-lime-bike-renos-first-dockless-bike-share-program/609335002/> [<https://perma.cc/96UQ-UF79>].

⁵⁴ *Id.*

⁵⁵ *Id.*; see *Mobile Instructions*, NICERIDEMN, <https://www.niceridemn.com/mobile-instructions> [<https://perma.cc/L4RB-XFZL>] (last visited Apr. 2, 2020).

⁵⁶ See Higdon, *supra* note 53; *How It Works*, OPEN SOURCE BIKE SHARE, <https://opensourcebikeshare.com/how-it-works> [<https://perma.cc/5ND6-XG6W>] (last visited Apr. 2, 2020).

⁵⁷ See Higdon, *supra* note 53.

produces a second type of dockless bicycle, an electric-assist bicycle, which has an electric motor that provides assistance in peddling.⁵⁸

Similar to electric scooters, these bicycles provide great relief to commuters. They are a better option for commuters than docking bike shares, as they give commuters more freedom in their daily commute because much like electric scooters, dockless bicycles can be picked up and left anywhere a commuter wishes to go in the city.⁵⁹ Additionally, they are more accessible for commuters than owning a bicycle and riding it to public transportation, as they do not require the commuter to keep track of the bicycle all day.⁶⁰ The commuter can drop off the bicycle, lock it, and then go on throughout the day without worrying about the bicycle.

III. CITY COUNCILS' REACTIONS TO NEW TRANSPORTATION TECHNOLOGIES HARM COMMUTERS

While commuters have embraced electric scooters and dockless bikes as new forms of transportation,⁶¹ many cities and city officials have had exactly the opposite reaction.⁶² Cities have cited pedestrian safety and clutter on sidewalks as two of the main reasons for their hatred of the e-scooters and dockless bikes, specifically complaining that riders are using these innovations in a dangerous way by riding them on the sidewalks, and that riders are cluttering the sidewalks by leaving the bikes and e-scooters in the way of walkers once the ride is complete.⁶³

⁵⁸ See Jonathan Wolfe, *Pedal-Assist Dockless Bikes Roll Out in the Bronx*, N.Y. TIMES (July 30, 2018), <https://www.nytimes.com/2018/07/30/nyregion/dockless-bikes-bronx-jump.html> [<https://perma.cc/B3Q4-826K>].

⁵⁹ See ALTA, *supra* note 51.

⁶⁰ See *Why Use HOPR Bike Share When You Already Own a Bike?*, HOPR (Nov. 29, 2018), <https://gohopr.com/2018/11/why-use-hopr-bike-share-when-you-already-own-a-bike/> [<https://perma.cc/PH66-SGNH>].

⁶¹ See Frank Chichiare, *Dockless Bike Share is Popular, New Infrastructure Needs to Catch Up*, SEATTLE TRANSIT BLOG (June 7, 2018), <https://seattletransitblog.com/2018/06/06/dockless-bike-share-popular-now-infrastructure-needs-catch/> [<https://perma.cc/DWG8-3D89>]; see also Cathy Bussewitz, *Electric Scooters Like Bird and Lime Are Now More Popular than Docked Bikes in the US*, BUS. INSIDER (Apr. 18, 2019), <https://www.businessinsider.com/shared-electric-scooters-surge-overtaking-docked-bikes-2019-4> [<https://perma.cc/EH45-FM2W>].

⁶² See, e.g., Nick Williams, *Milwaukee's lawsuit against scooter startup Bird moves to federal court*, MILWAUKEE BUS. J. (July 16, 2018), <https://www.bizjournals.com/milwaukee/news/2018/07/16/milwaukees-lawsuit-against-scooter-startup-bird.html> [<https://perma.cc/3UBT-ZYSU>].

⁶³ Julia Buckley, *E-Scooters Suddenly Appeared Everywhere, but Now They're Riding Into Serious Trouble*, CNN (Nov. 22, 2019), <https://www.cnn.com/travel/article/electric-scooter-bans-world/index.html> [<https://perma.cc/HUZ4-6Z97>].

Because of these concerns, many cities have severely cracked down on electric scooters and dockless bicycles in a variety of ways.⁶⁴ Miami, Florida, for example, kicked out the companies that dropped e-scooters into the city through cease and desist letters.⁶⁵ Milwaukee, Wisconsin, on the other hand, has filed suit against one of the electric e-scooter manufacturers and has threatened to ticket pedestrians that are using the electric scooters.⁶⁶ In addition, Washington, D.C., used heavy regulations to force dockless bicycles out of the city.⁶⁷

Although most cities see the regulation of electric scooters and dockless bikes as a way to take care of a nuisance,⁶⁸ the regulations described above actually do a great harm to commuters today and will continue to harm commuters in the future.

A. *Cities Have Retaliated Against Electric Scooters by Outlawing Them Within City Limits*

One of the ways cities have responded to electric scooters being introduced into the population is by retaliating and outlawing the e-scooters within the city limits.⁶⁹ This is possibly the most harmful way to deal with the new technology. In the short time that electric scooters have been serving commuters, they have proven to be a helpful resource for residents in the first and last legs of their daily commute.⁷⁰ By outlawing electric scooters, cities like Miami have completely denied commuters access to an innovative technology that can greatly assist riders in their daily commute.⁷¹

⁶⁴ See, e.g., Williams, *supra* note 62.

⁶⁵ See Rob Wile, *Scooter Companies Pulling Out of Miami Just Weeks After Making Their Debut*, MIAMI HERALD (June 21, 2018), <https://www.miamiherald.com/news/business/technology/article213523839.html> [<https://perma.cc/J54C-DTM2>].

⁶⁶ See Diana Dombrowski, *City of Milwaukee Files Lawsuit Over Bird Scooters*, MILWAUKEE J. SENTINEL (July 7, 2018), <https://www.jsonline.com/story/news/2018/07/07/city-milwaukee-took-legal-action-friday-against-bird-rides-inc-company-responsible-dropping-off-100/765332002/> [<https://perma.cc/S8J7-7UTF>].

⁶⁷ See Luz Lazo, *Dockless bike, scooter firms clash with U.S. cities over regulation*, WASH. POST (Aug. 4, 2018), https://www.washingtonpost.com/local/trafficandcommuting/dockless-bike-scooter-firms-clash-with-us-cities-over-regulations/2018/08/04/0db29bd0-9419-11e8-a679-b09212fb69c2_story.html?noredirect=on&utm_term=.ca0056049058 [<https://perma.cc/RQ8D-TKPX>].

⁶⁸ See Buckley, *supra* note 63.

⁶⁹ See, e.g., Wile, *supra* note 65.

⁷⁰ See Robinson Meyer, *Unfortunately, the Electric Scooters Are Fantastic*, ATLANTIC (May 31, 2018), <https://www.theatlantic.com/technology/archive/2018/05/electric-scooters-are-the-cargo-shorts-of-transportation/561440/> [<https://perma.cc/RK5E-V8QZ>].

⁷¹ See Wile, *supra* note 65.

Some cities have turned to filing suit against e-scooter manufacturers, after asking the manufacturer to remove the e-scooters from the city.⁷² After telling Bird, an e-scooter manufacturer, to remove their scooters from the city yielded no results, Milwaukee filed a lawsuit against Bird.⁷³ The lawsuit states that Bird violated a Wisconsin state law by bringing the motorized scooters into the state for use before registering them correctly.⁷⁴ Further, the suit states that Wisconsin does not have regulations that would make registering electric scooters legally even possible.⁷⁵ The lawsuit cites a Wisconsin state law that would require Bird to pay the City of Milwaukee \$200 per use of the Bird e-scooters within city limits.⁷⁶

Lawsuits, such as the one filed by the City of Milwaukee, illustrate two points. First, cities are being rigid on not allowing these new technologies into their borders to help commuters. Second, cities are not willing to work with manufacturers on creating new regulations or laws to help commuters use these new technologies safely.⁷⁷ The City of Milwaukee does not seem interested in working with Bird as they move forward; the City does not even have a proper regulation for Bird to register its e-scooters under.⁷⁸ This does not show an intent to work with the manufacturer to find solutions that would allow commuters access to motorized scooters.

In addition to filing suit against the e-scooter manufacturer, the City of Milwaukee has warned commuters that it will fine any individual riding a Bird scooter \$98.80.⁷⁹ Riders will be fined regardless of whether they are following the rules set forth in Bird's Terms of Use, as the fines are issued based solely on the e-scooters' "illegal" status.⁸⁰ In other words, riders will be fined even if they are riding the e-scooter in a safe way.⁸¹ This further shows that the city is unwilling to work with manufacturers and commuters to allow commuters to ride the e-scooters in a safe way that can assist with the daily commute.⁸² Instead, cities seem more concerned with retaliating against the e-scooter manufacturers for

⁷² See Dombrowski, *supra* note 66.

⁷³ See *id.*

⁷⁴ See Molly Dill, *Bird Scooters Illegal to Operate on Milwaukee Public Streets and Sidewalks*, BIZTIMES (June 28, 2018), <https://biztimes.com/bird-scooters-illegal-to-operate-on-milwaukee-public-streets-and-sidewalks/> [<https://perma.cc/VQR3-EG6Y>].

⁷⁵ See *id.*

⁷⁶ See Williams, *supra* note 62.

⁷⁷ *Id.*

⁷⁸ See Dill, *supra* note 74.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ See Williams, *supra* note 62.

⁸² See *id.*

bringing in electric scooters without first asking the city government than listening to commuters and attempting to work out a way that e-scooters can be used in a safe or effective way.⁸³

B. Cities Have Used Excessive Regulations to Force Dockless Bike Shares Out of the City Limits

Instead of completely outlawing dockless bikes, some cities have taken a different approach to force the bike sharing programs out of the city limits: over-regulation.⁸⁴

Most cities that do allow dockless bike sharing programs to operate within the city limits have imposed a cap, limiting the amount of bicycles a company is allowed to introduce into the city.⁸⁵ Dockless bicycle sharing companies complain that the United States places far more restrictive caps on the number of bicycles allowed per company and far more regulations, in general, than any other country.⁸⁶ For example, Washington, D.C., permits each dockless bike share company to introduce 400 bikes into the city, while the *Washington Post* noted that Milan, which is similar in size to Washington, D.C., allows 8,000 bicycles.⁸⁷ Two dockless bike companies, Mobike and Ofo, cited the restrictions of number of units instituted by Washington, D.C., as the reason for having to leave the city.⁸⁸ When explaining their reasons for departing the city, Mobike stated that this “cap killed any chance of density and cost efficiency for the company.”⁸⁹ Caps placed on dockless bike share companies inhibit companies from gaining a sufficient market share to efficiently run their operations and thus force the companies to cease operations in the city.⁹⁰

Another type of regulation cities use to strategically force dockless bicycle shares out of city limits is by charging dockless bike companies

⁸³ See, e.g., Suzane Spencer & Katie DeLong, ‘Pure Arrogance:’ City Officials Warn Bird Scooters Illegal in Milwaukee; Operators Subject to a \$98 Fine, FOX 6 NOW (June 28, 2018), <https://fox6now.com/2018/06/28/city-officials-warn-bird-scooters-illegal-in-milwaukee-operators-subject-to-98-fine/> [<https://perma.cc/T8KK-5KGU>] (providing statements from a City of Milwaukee alderman that show anger towards scooters and rigid refusal to work with scooter companies).

⁸⁴ See Lazo, *supra* note 67.

⁸⁵ See *id.*

⁸⁶ See *id.*

⁸⁷ *Id.*

⁸⁸ See Cioffi, *supra* note 6.

⁸⁹ Jordan Pascale, *Two Dockless Bikeshare Companies Have Left D.C., One Citing Tight Regulations*, WAMU (July 25, 2018), <https://wamu.org/story/18/07/25/two-dockless-bike-share-companies-left-d-c-citing-tight-regulations/> [<https://perma.cc/AL9S-BG8A>].

⁹⁰ See *id.*

a large fee to register and a fee for every bicycle they introduce into the city.⁹¹ For example, Seattle has agreed to allow four dockless bike sharing companies to introduce 5,000 bicycles each into the city, so long as they pay a \$250,000 annual fee.⁹² A Chinese-based company, Ofo, is one of the four companies to receive this offer.⁹³ However, Ofo scoffed at Seattle's offer and called the annual fee "exorbitant."⁹⁴ The company further explained that they want to keep fees down for commuters, as they only charge a rate of \$1 per ride.⁹⁵ Such a large annual fee alongside a cap on the amount of bikes they are allowed to introduce into the city makes it difficult for the company to keep costs down for riders while still operating efficiently.⁹⁶

Some officials explain the caps placed on the number of bicycles per company as a way for cities to ensure that there is not a rush of bicycles into the city, which they claim is not sustainable.⁹⁷ Cities have cited events in China, where too many companies rushed to introduce dockless bicycles into the market and many bicycles ended up unused, cluttering streets and parks everywhere, as reasoning for placing caps on the bicycles.⁹⁸ However, the caps many of the United States cities are placing on the dockless bicycles are far stricter than many other cities across the globe.⁹⁹ Additionally, the annual fees seem to be larger than necessary, and the cities that have implemented them have not explained what the money will be used for.¹⁰⁰ Therefore, cities are being more restrictive than has proven necessary in the regulations placed on dockless bicycles and are seriously harming commuters. When the dockless bicycle companies are unable to exist efficiently in the city they will either leave completely, or raise prices for commuters.

IV. CITY GOVERNMENTS SHOULD CHANGE THEIR APPROACH WHEN RESPONDING TO THE INTRODUCTION OF E-SCOOTERS AND DOCKLESS BICYCLES

The way many cities across the United States have responded to the introduction of dockless bicycles and electric scooters is harmful not

⁹¹ See Lazo, *supra* note 67.

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ See Lazo, *supra* note 67.

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ See *id.*

only for commuters currently grappling with first mile/last mile transportation issues, but also for future commuters who will deal with similar issues. The introduction of e-scooters and dockless bicycles seemed to send shock waves across the country, and city governments and officials seemed to respond rashly, instead of honestly attempting to work out a solution with these companies. Instead of reacting in this way, city officials should look to current manual bicycle regulations as examples of how to regulate e-scooters and dockless bicycles. Additionally, city government should work with these technology companies and expend resources to create infrastructure to support the efficient use of the e-scooters and dockless bicycles. Finally, cities should look toward a new ordinance passed by the Atlanta City Council as an illustration of how to regulate e-scooters and dockless bicycles to quell concerns but provide necessary flexibility to allow the new technology to properly serve commuters facing the first mile/last mile problem.

A. *Electric Scooters and Dockless Bike-Shares Operate Similarly to Personally Owned Bicycles, so They Should Be Regulated as Such*

Most cities have ordinances and regulations for manual, individual owned bicycles.¹⁰¹ Personal bicycle regulations can be generally grouped into three categories: (1) moving regulations, (2) nonmoving regulations, and (3) penalties. Moving regulations vary from city to city, but, in general, most cities require bicycles to be operated on the street and in bike lanes if one is available.¹⁰² Additionally, it is common for a city to regulate the speed at which bicycles may travel, for example, requiring cyclists to maintain a speed that is “reasonable and prudent under the conditions then existing.”¹⁰³ In general, most cities have moving violations regarding safety of bicycle riding, requiring cyclists to wear helmets when riding (and reflective gear or lights at night), to ride single file in the bike lane and keep to one person per bicycle and to yield to pedestrians at crosswalks.¹⁰⁴ Nonmoving violations regulate where cyclists may

¹⁰¹ WASH. AREA BICYCLIST ASS'N, POCKET GUIDE TO BIKE LAWS IN THE DISTRICT OF COLUMBIA (2018), <https://www.waba.org/wp-content/uploads/2018/08/2018-Law-Guide.pdf> [<https://perma.cc/PZ58-WGSM>].

¹⁰² See, e.g., CHI., ILL., MUN. CODE § 9-52-010 (2009).

¹⁰³ CHI., ILL., MUN. CODE § 9-52-030 (2009).

¹⁰⁴ CHI., ILL., MUN. CODE §§ 9-52-040-050, -80(a), -090(b) (2009); WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 10–11, 19, 30.

keep bicycles when they are not in use.¹⁰⁵ Most cities generally require bicycles to be secured to some kind of pole or infrastructure, and require the cyclists to ensure that the “bicycle does not obstruct or unduly impede traffic or pedestrian movement.”¹⁰⁶ Additionally, while some cities previously required bicycle owners to register bikes with the city (similar to requiring residents to register motor vehicles), many cities have done away with that requirement.¹⁰⁷ Finally, many cities have penalties in place for cyclists that violate these laws.¹⁰⁸ It is common for cities to place fines on cyclists riding bicycles on the sidewalk or in between lanes of traffic on the street.¹⁰⁹ Chicago places a \$250 fine on cyclists who disobey this law and Washington, D.C., places a \$25 fine for cyclists who ride on the sidewalk.¹¹⁰ Further, some cities have imposed fines for cyclists whose bicycles are obstructing traffic (either while moving or nonmoving).¹¹¹

Cities should regulate dockless bicycles and e-scooters the same way they regulate bicycles. Dockless bicycle sharing programs and electric scooters are similar to manual bicycles owned by residents in many ways.¹¹² They are all meant for transportation (mainly on bike lanes), have the ability to travel at the same speed (about fifteen miles per hour), are used to travel similar distances, and can be used to help solve the first mile/last mile problem.¹¹³ City governments should regulate e-scooters and dockless bikes in the same way they regulate bicycles, by providing (1) moving regulations, (2) nonmoving regulations, and (3) assigning penalties to riders who do not comply.¹¹⁴ City governments can mitigate safety concerns regarding e-scooters and dockless bicycles by implementing moving regulations, requiring that these vehicles be operated on the street (in bike lanes if available) and can ensure enforcement by enforcing small fines on commuters who refuse to comply. In areas where bike lanes are not prevalent and riding in the street would be dangerous,

¹⁰⁵ See, e.g., CHI., ILL., MUN. CODE § 9-52-070 (2007); WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 34.

¹⁰⁶ WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 34.

¹⁰⁷ *Id.* at 14.

¹⁰⁸ See, e.g., CHI., ILL., MUN. CODE § 9-52-010(d) (2009); WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 28.

¹⁰⁹ See, e.g., CHI., ILL., MUN. CODE § 9-52-010(d) (2009); WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 28.

¹¹⁰ See, e.g., CHI., ILL., MUN. CODE § 9-52-010(d) (2009); WASH. AREA BICYCLIST ASS'N, *supra* note 101, at 28.

¹¹¹ CHI., ILL., MUN. CODE §§ 9-52-010(d), -070 (2009).

¹¹² See BIRD, *supra* note 5; Higdon, *supra* note 53.

¹¹³ See Higdon, *supra* note 53.

¹¹⁴ See CHI., ILL., MUN. CODE § 9-52-030 (2009); WASH. AREA BICYCLIST ASS'N, *supra* note 101.

cities should carve out exceptions and allow riders to use these vehicles on the sidewalk. Additionally, city officials can quell concerns of parked e-scooters and dockless bicycles clutter¹¹⁵ by implementing nonmoving regulations, requiring the vehicles to be parked in a way that does not obstruct pedestrian traffic and should list acceptable places to secure bicycles and e-scooters, such as to a street sign, and warn of unacceptable places to secure the vehicles, such as next to a fire hydrant. Again, cities can better ensure compliance with the regulations by imposing fines on either the commuters or the e-scooter and dockless bicycle companies who do not comply. By setting forth simple, common sense rules on how and where commuters may use dockless bicycles and e-scooters and adding teeth to the regulations with penalties and small fines, cities can eliminate current concerns regarding these vehicles, while still allowing them to remain in the city as important transportation tools to commuters.

Therefore, cities should look to bicycle regulations already in place as a model for how to regulate dockless bikes and electric scooters, instead of passing harsh regulations as a rash reaction to the introduction of the e-scooters and dockless bikes.

B. Cities Should Expend Resources on Creating New Infrastructure to Support the Efficient Use of E-scooters and Dockless Bicycles

Because dockless bicycles and electric scooters can provide much-needed relief to commuters traveling short distances in urban areas, instead of only placing heavy regulations on these new technologies, city councils and state legislatures should expend resources to facilitate the use of e-scooters and dockless bikes by commuters. Cities should expend resources to create new infrastructure to assist in safe and efficient use of these new transportation technologies. A lot of the central complaints and concerns residents and city officials voice about the dockless bikes and electric scooters¹¹⁶ can be solved or mitigated though cities working with the technology companies and commuters to expend resources and create the infrastructure necessary for efficient use of these technologies.

Most complaints city residents and city officials have regarding the introduction of e-scooters and dockless bicycles center around safety

¹¹⁵ See Adam Vaccaro, *Cities grappling with scooter outbreak*, BOS. GLOBE (Aug. 2, 2018), <https://www.bostonglobe.com/metro/2018/08/02/cities-grappling-with-scooter-outbreak/ZKUXWGnje9tn1RjCZEmkEM/story.html> [<https://perma.cc/77JG-XCM7>].

¹¹⁶ Kayla Matthews, *Regulating San Francisco's Electric Scooter Problem*, DRIVE (June 4, 2018), <http://www.thedrive.com/tech/20950/regulating-san-franciscos-electric-scooter-problem> [<https://perma.cc/DB26-WH8B>].

and clutter.¹¹⁷ One chief complaint voiced by some city residents is that the use of e-scooters and dockless bicycles on sidewalks is unsafe for pedestrians.¹¹⁸ While many e-scooter and dockless bicycle companies state that riders must use these technologies either on the road or in bicycle lanes, instead of on the sidewalk,¹¹⁹ some riders will likely feel uncomfortable riding on city streets that do not contain bike lanes or a designated spot for riding.¹²⁰ While many cities currently have some bike lanes, commuters across the country complain about inadequate infrastructure for bicycle riders, specifically lack of bike lanes, and the boom of commuters who are using bikes and e-scooters to get around the city is exacerbating this issue.¹²¹ Going forward, cities should direct some transportation funds to creating infrastructure for the commuters who use bicycles and e-scooters to travel. For example, the Washington, D.C., Department of Transportation (“DDOT”) “installed 3.7 miles of bike lanes across all four quadrants of the city, including 2.5 miles of protected lanes.”¹²² The DDOT has also promised to create ten miles of protected bike lanes by 2024, in response to the surge of residents using bicycles and e-scooters to commute.¹²³ Additionally, cities can work with the e-scooter and dockless bicycle companies to combine resources to incorporate more bike lanes in cities to allow for safer and more efficient use of

¹¹⁷ See *id.*

¹¹⁸ See *id.*

¹¹⁹ See BIRD, *supra* note 5.

¹²⁰ Sean Keenan, *Atlanta City Council OKs restrictions on dockless, shareable e-scooters, bikes*, CURBED ATLANTA (Jan. 8, 2019), <https://atlanta.curbed.com/2019/1/8/18173288/city-council-restrictions-bird-lime-shareable-e-scooters-last-mile> [<https://perma.cc/A6HB-KKGM>].

¹²¹ See, e.g., Chris Coffey & Lisa Capitanini, *Obstructed Chicago Bike Lanes Become Increasing Problem for Cyclists*, NBC CHI. (July 18, 2018), <https://www.nbcchicago.com/investigations/obstructed-chicago-bike-lanes-become-increasing-problem-for-cyclists-488543151.html> [<https://perma.cc/2DS8-BEYQ>] (stating that parked or unloading vehicles often obstruct bike lanes in Chicago); Andara Katong & Lizzie Stricklin, *Officials, advocates discuss dockless bike program at neighborhood meeting*, GW HATCHET (Mar. 28, 2018), <https://www.gwhatchet.com/2018/03/28/officials-advocates-discuss-dockless-bike-program-at-neighborhood-meeting/> [<https://perma.cc/9JVU-K8FG>] (explaining that given the new surge of residents using dockless bikes as transportation “there [are] not enough safe places to bike” in D.C.); Stephannie Stokes, *Group: Cars Are Blocking Atlanta’s Bike Lanes*, WABE (Feb. 26, 2018), <https://www.wabe.org/group-cars-block-atlantas-bike-lanes-time/> [<https://perma.cc/YJ5W-JW6W>] (illustrating that Atlanta’s current cycling infrastructure is inadequate because cars frequently drive and park in bike lanes, blocking them from use).

¹²² Luz Lazo, *D.C. promises to double 10 miles of protected bike lanes by 2024; advocates call goal ‘lackluster’*, WASH. POST (Oct. 25, 2018), https://www.washingtonpost.com/transportation/2018/10/25/dc-promises-double-miles-protected-bike-lanes-by-advocates-call-goal-lackluster/?noredirect=on&utm_term=.9f1c9529d684 [<https://perma.cc/5HHV-54QE>].

¹²³ *Id.*

bikes and e-scooters for transportation. Electric scooter company, Bird, announced their “Save Our Sidewalks” initiative last year, in which they vowed to donate \$1 per vehicle per day to be used for bike lanes and safety infrastructure.¹²⁴ While some cities have reported collecting this money from Bird, others say they have yet to see these funds.¹²⁵ Although it is unclear whether this program has been implemented fully across the United States,¹²⁶ cities should work with e-scooter and dockless bike companies to negotiate similar plans when deciding how to regulate the technologies, instead of strictly implementing harsh regulations. Building more bike lanes and better functioning bike lanes will allow commuters to effectively use these new transportation technologies to ease their daily commute.¹²⁷

A second major complaint residents voice is that e-scooters and dockless bikes create clutter on the sidewalk, as commuters leave them in the way of pedestrian foot traffic when the ride is ended.¹²⁸ City governments are also able to mitigate this concern by creating additional infrastructure, such as more bike racks on heavily traveled sidewalks or designated areas to place e-scooters and bikes on the sidewalk. The number of residents that use bicycles or e-scooters to commute has increased over the past years,¹²⁹ and therefore, the current infrastructure most cities have to store these e-scooters or dockless bikes when a commuter has completed a ride is inadequate.¹³⁰ Cities should also work in connection with e-scooter and dockless bike companies to require riders to place the e-scooter or bike in the bike rack or designated area before the commuter may complete the ride. Because e-scooter and dockless bicycle companies do not have complete and perfect control over where commuters

¹²⁴ Jim McPherson, *Bird's Challenge To Rivals Shows The Micro-Mobility Wars Have Begun*, FORBES (Apr. 3, 2018), <https://www.forbes.com/sites/jimmcperson/2018/04/03/the-micro-mobility-wars-have-begun/#785e9e9090c3> [<https://perma.cc/Z6EJ-LB7E>].

¹²⁵ Angie Schmitt, *Bird Quietly Ends a Much-Hyped Bike Lane Subsidy*, STREETS BLOG USA (Jan. 10, 2019), <https://usa.streetsblog.org/2019/01/10/bird-quietly-ends-a-much-hyped-bike-lane-subsidy/> [<https://perma.cc/2HTB-WRU9>].

¹²⁶ *Id.*

¹²⁷ See Keenan, *supra* note 120 (stating that riders will continue to operate e-scooters on sidewalks if they do not feel comfortable with the conditions on the road).

¹²⁸ Nicole Gelinas, *An E-Scooter 'Scourge'? Not So Fast*, GOVERNING (Sept. 2018), <http://www.governing.com/columns/transportation-and-infrastructure/gov-scooters-bird.html> [<https://perma.cc/C4KT-7QHP>].

¹²⁹ Katong & Stricklin, *supra* note 121; Stokes, *supra* note 121.

¹³⁰ David Whitehead, *Should D.C. put a bike rack on every street corner?*, GREATER GREATER WASH. (May 3, 2018), <https://ggwash.org/view/67497/should-we-put-a-bike-rack-on-every-corner-of-dc> [<https://perma.cc/XU6Y-N2PB>].

leave the vehicles when a ride ends, cities should implement a ticketing system for commuters seen leaving vehicles in the middle of the sidewalk after completing a ride. Creating additional infrastructure to store e-scooters and dockless bicycles when they are not in use and implementing a system to hold both the technology companies and riders accountable for misuse can serve to ease issues of e-scooters and dockless bikes cluttering sidewalks.

C. *City Governments Should Look to the New Ordinance Passed by the Atlanta City Council When Regulating E-scooters and Dockless Bicycles*

Atlanta city lawmakers recently passed a new ordinance that applies to dockless bicycles and electric scooters in the city.¹³¹ This ordinance serves as a great example of regulations on e-scooters and dockless bikes that are flexible enough for the technology companies to survive, while still effectively organizing and regulating the use of such technology to keep the city running efficiently and free of clutter.¹³²

The Atlanta regulations require each technology company to pay a flat fee of \$12,000 for a permit to allow that company to bring 500 vehicles (either e-scooters or dockless bicycles) into the city.¹³³ If any e-scooter or bicycle company wishes to bring more than 500 units into Atlanta, that company may do so, but will need to pay an additional \$50 per bicycle.¹³⁴ Similar to other regulations that place caps on units, this ordinance also places a cap on the number of units one company may bring into Atlanta.¹³⁵ However, the Atlanta regulation is far more flexible, as it allows a company to go over the set cap, so long as they pay a fee per vehicle they bring in.¹³⁶ Therefore, the Atlanta ordinance will still constrict the market, to eliminate concerns of too many vehicles being introduced to the city at one time and causing clutter, but the ordinance will give prospering e-scooter or dockless bicycle companies the ability to grow their revenue and business by paying to introduce additional vehicles into Atlanta.¹³⁷ This ordinance strikes a sustainable balance between

¹³¹ Keenan, *supra* note 120.

¹³² *See generally id.*

¹³³ Stephen Deere, *Atlanta City Council lays down law on scooters*, *AJC* (Jan. 7, 2019), <https://www.ajc.com/news/local-govt--politics/atlanta-city-council-lays-down-law-scooters/PK8s4IJDak0aiJSIAY6KHK/> [https://perma.cc/7RX8-DA49].

¹³⁴ *Id.*

¹³⁵ *Id.*

¹³⁶ *Id.*

¹³⁷ *Id.*

restricting the number of vehicles that may end up on city sidewalks, while providing the companies with enough flexibility to grow their business and keep these important transportation technologies on the streets for commuters.

Additionally, the Atlanta ordinance serves to mitigate safety concerns citizens express regarding e-scooter and dockless bicycle use.¹³⁸ Residents complain that e-scooters and dockless bicycles are left in the middle of sidewalks when commuters finish a ride, causing clutter and safety concerns for pedestrians.¹³⁹ To address that concern, the ordinance requires e-scooter or bicycle companies to verify that commuters leave the vehicle upright and out of the public way when the ride is complete.¹⁴⁰ Many of the e-scooter applications accomplish this by requiring users to take a photo of the location the scooter is placed before allowing the user to end the ride and thus stop payment.¹⁴¹ The Atlanta regulation goes a step further and states that the vehicle operator (e.g., Bird, Lime) will be required to pay \$1,000 a day if a patron does not place the vehicle out of public way.¹⁴² By placing additional onus on the technology companies,¹⁴³ the Atlanta ordinance serves a better chance of producing results when it comes to e-scooters and dockless bicycles causing clutter on sidewalks. To address general safety of e-scooters and dockless bicycles for riders, the Atlanta ordinance also regulates the speed at which electric scooters may travel, capping the maximum speed at 15 miles per hour.¹⁴⁴ The ordinance also requires users of these vehicles to be eighteen years of age, to ride the vehicles on the road, to stick to one patron per vehicle, and to refrain from cell phone use while operating the vehicles.¹⁴⁵

Overall, the Atlanta regulation is a great example of city officials focusing on specific concerns of city residents regarding these new technologies while still giving the technology manufacturers the flexibility to

¹³⁸ See Keenan, *supra* note 120 (describing the Atlanta city ordinance); Vaccaro, *supra* note 115 (laying out concerns voiced by city officials and residents).

¹³⁹ Whitehead, *supra* note 130.

¹⁴⁰ Keenan, *supra* note 120.

¹⁴¹ Nicole Lee, *Silicon Valley's scooter scourge is coming to an end*, ENGADGET (Apr. 19, 2018), <https://www.engadget.com/2018/04/19/san-francisco-scooter-invasion/> [<https://perma.cc/7WCK-ZTWQ>].

¹⁴² Keenan, *supra* note 120.

¹⁴³ *Id.*

¹⁴⁴ *Id.*

¹⁴⁵ Richard Elliot & Michael Seiden, *No scooters on sidewalks? City Council passes new ordinance*, WSB-TV ATLANTA (Jan. 7, 2019), <https://www.wsbtv.com/news/local/atlanta/city-council-passes-ordinance-banning-scooters-from-sidewalks/900641999> [<https://perma.cc/F3HG-2EDM>]; Keenan, *supra* note 120.

adapt to these same concerns themselves and keeping the important technology in the city to benefit commuters.¹⁴⁶ Other city governments should look toward Atlanta's new ordinance as an example of how to regulate e-scooters and dockless bikes to address pertinent concerns but still give these new technologies room to thrive for the benefit of commuters.¹⁴⁷

CONCLUSION

A major problem faced by commuters across the country has been dubbed the "first mile/last mile" problem.¹⁴⁸ The problem refers to how residents in major cities have a hard time commuting to work or school because the necessary node of public transportation is not near the individual's home or work.¹⁴⁹ Therefore, commuters must often find a way to travel a short distance to a node of public transportation, which unfortunately, is normally the most difficult part of an individual's commute.¹⁵⁰ Dockless bicycles and electric scooters are positioned to help many commuters across the country find ease in traveling the first or last mile of the commute to a node of public transportation.

Unfortunately, many cities, upset with the rush of e-scooters and dockless bicycles being introduced into city limits, rushed to pass ordinances to regulate these transportation technologies.¹⁵¹ The way city governments across the country have reacted to e-scooters and dockless bikes, such as filing lawsuits, banning them from the city, and over-regulating the technologies, will greatly harm commuters.¹⁵² These regulations have begun to force the e-scooters and dockless bikes out of operation in many cities,¹⁵³ therefore removing an important form of transportation being used and praised by many commuters traveling short distances within the city.¹⁵⁴

Instead of the harsh restrictions cities put on dockless bicycles and e-scooters, they should instead attempt to quell the concerns government officials and citizens have about these new technologies while still giving the e-scooter and bicycle companies enough room to grow and

¹⁴⁶ See Keenan, *supra* note 120.

¹⁴⁷ See *id.*

¹⁴⁸ See Wang & Odoni, *supra* note 2, at 659.

¹⁴⁹ Stigo, *supra* note 15.

¹⁵⁰ *Id.*

¹⁵¹ See Vaccaro, *supra* note 115.

¹⁵² See, e.g., Cioffi, *supra* note 6; Williams, *supra* note 62.

¹⁵³ Cioffi, *supra* note 6.

¹⁵⁴ See Maus, *supra* note 4.

remain in the city as a useful resource for commuters. City governments can do this by using regulations already in place for manual, personally owned bicycles as a guide for how to place lighter regulations on e-scooters and dockless bikes and how to add teeth in the form of small fines to ensure compliance with the regulations. Additionally, city officials should work with the e-scooter and bicycle companies to expend resources to implement infrastructure that can assist in the safe and efficient use of these new transportation technologies by riders. Finally, cities can look to the new ordinance passed by the Atlanta City Council as a great illustration of how to regulate e-scooters for safety while still allowing necessary flexibility for companies to remain in their cities and continue to meet an important need for commuters.¹⁵⁵

Overall, electric scooters and dockless bicycles are valued by commuters, as these technologies can help solve the first mile/last mile problem in a citizen's daily commute.¹⁵⁶ City officials should embrace e-scooters and dockless bicycles as a helpful tool for their constituents instead of attempting to drive them out of the city.

¹⁵⁵ Keenan, *supra* note 120.

¹⁵⁶ Stigo, *supra* note 15.