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INNOVATION IN A LEGAL VACUUM: THE UNCERTAIN LEGAL LANDSCAPE FOR SHARED MICRO-MOBILITY

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ABSTRACT

The last few years have seen an explosion in the number and size shared micro-mobility systems (“SMMS”) across the United States. Some of these systems have seen extraordinary success and the potential benefit of these systems to communities is considerable. However, SMMS have repeatedly ran into legal barriers that either prevent their implementation entirely, confuse and dissuade potential users, or otherwise limit SMMS’s potential positive impact.

This paper reflects a detailed study of state laws relating to SMMS and the platforms commonly used in these systems. The study uncovered many inconsistencies with micro-mobility laws across the country. Currently, many states lack clear definitions for these emerging forms of transportation, which do not otherwise fit neatly in the categories contemplated by existing law. Several states lack clear, state-level policies, which has led to discrepancies between state and local regulations. Further, there are several areas of micro-mobility law that are sharply inconsistent between states. All of these differences leave users confused as to what the law is and may discourage them from riding.

A number of states are attempting to remedy inconsistencies and legislative silence by passing and proposing laws that regulate the use of electric bikes (“e-bikes”) and electric scooters (“e-scooters”), but even these efforts are unlikely to bring the consistency that is needed. Federal authorities should act to create uniform laws and work with states to adopt them, otherwise, the lack of a legal infrastructure may threaten to stifle the innovation and undermine SMMS’s promised returns.

INTRODUCTION¹

The first bike-share programs in the United States appeared in 2010 and

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since then micro-mobility sharing of electric bikes (“e-bikes”) and electric scooters (“e-scooters”) has greatly expanded.² The legal environment, however, has been slow to embrace these innovations, or even to address them. The success or failure of shared micro-mobility systems (“SMMS”) may turn on the legal environment in which they attempt to operate. This study surveyed the laws governing bicycles, e-bikes (bicycles equipped with electric motors to assist in propulsion), and e-scooters (stand-up kick scooters powered by an electric motor) in all fifty states and the District of Columbia, and created a searchable database summarizing these laws as they may affect SMMS. The survey revealed serious issues and challenges for SMMS, as the development of the legal landscape has failed to keep pace with shared micro-mobility innovations.

STRUCTURE OF THE SHARING SYSTEMS

Two separate models of SMMS have emerged. Some systems have fixed docking stations where bicycles are picked up and returned. Other systems are “dockless,” and use GPS systems and cell phone apps to help users locate available bicycles. The user can leave the bicycle in almost any location when the trip is completed, and the next user can find and claim it for its next use. While bike-share systems have been implemented using both docking and dockless systems, e-bike and e-scooter systems overwhelmingly favor the dockless approach. It is common to see multiple systems using different mobility devices in operation side-by-side in the same municipality, essentially competing with each other.³

These dockless systems raise additional challenges not seen in earlier docked systems. Docked systems typically require some level of municipal cooperation to provide land in ideal locations to place the docking stations as well as lengthy investments of time and capital to get the systems up and running. Dockless systems require none of these. Instead, they can pop-up in a city overnight with little to no notice to any government officials or the

Erin Hanson, Brandon Helgeson, Jacqueline Maurer, and Jamie Schwantes for outstanding research of the laws of all 50 states and of the District of Columbia, for populating the database, and for assistance in compiling the report and the early drafts of this paper.

2. Alex Baca, *What Cities Need to Understand About Bikeshare Now*, BLOOMBERG CITYLAB (April 24, 2018, 10:17 AM), <https://www.bloomberg.com/news/articles/2018-04-24/a-mostly-complete-taxonomy-of-bikeshare-so-far>.

3. SUSAN SHAHEEN & ADAM COHEN, UC BERKELEY: TRANSP. SUSTAINABILITY RESEARCH CTR., SHARED MICROMOBILITY POLICY TOOLKIT: DOCKED AND DOCKLESS BIKE AND SCOOTER SHARING (2019), <https://escholarship.org/uc/item/00k897b5#main>; NICOLE DUPUIS, JASON GRIESS & CONNOR KLEIN, NAT’L LEAGUE OF CITIES, MICROMOBILITY IN CITIES: A HISTORY AND POLICY OVERVIEW (Laura Cofsky ed., 2019), https://www.nlc.org/sites/default/files/2019-04/CSAR_MicromobilityReport_FINAL.pdf.

general public. This lack of notice and cooperation can lead to serious legal problems down the road.

Regardless of how the SMMS is structured, the legal regime that governs the use of the mobility – rules governing who can ride, where they can ride, how riders must be equipped, etc., as well as riders’ perception of those laws – can have an outsized impact on the success of the system. This project was aimed at ascertaining and analyzing these various laws across the country.

POTENTIAL BENEFITS OF SHARED MICRO-MOBILITY

SMMS serve a wide variety of purposes, including flexible mobility, emission reductions, individual financial savings, reduced traffic congestion, reduced fuel use, health benefits, improved multimodal transport connections, “last mile” connection to public transport, and equity (greater accessibility for minority and lower-income communities).⁴ Most of these objectives – with the exception of health benefits – are served equally well by e-bike and e-scooter sharing systems.

But while e-bikes and e-scooters cannot deliver the health benefits that would come from getting users to travel under their own power, they offer other benefits that traditional bicycles lack. These include (1) the ability to travel with minimal physical effort, (2) the ability to use without getting sweaty, (3) the capacity to travel longer distances or on hillier terrain, (4) the ability to use in all types of clothing (at least for e-scooters – which are compatible with dresses in a way that bicycles are not) and, (5) the promise of an entirely different level of fun. To the extent that these attractions lure people out of their cars, when traditional bicycles would not, these new micro-mobility sharing systems have the potential to generate societal benefits well beyond the promise of a basic bike-sharing system.

All of these benefits speak strongly in favor of SMMS, suggesting that local governments should be supportive of them. Indeed, some municipalities have invested heavily in these systems, subsidizing them, or otherwise committing public funds to their installation and operation. At the same time state and, to a lesser degree, local governments operate legal regimes that have the potential to undermine all these benefits, particularly where users receive confusing or mixed messages about what is legal and what is not.

4. Peter Midgley, Urban Mobility Advisor, Address at Global Consultation for Decision Makers on Implementing Sustainable Transport (2019), <https://sustainabledevelopment.un.org/content/documents/4803Bike%20Sharing%20UN%20DESA.pdf>; Benjamin Schneider, *What Keeps Bike Share White*, BLOOMBERG CITYLAB (July 14, 2017, 9:07 AM), <https://www.citylab.com/equity/2017/07/what-keeps-bike-share-white/533412>; James Woodcock, et al., *Health Effects of the London Bicycle Sharing System: Health Impact Modelling Study*, THEBMJ (Feb. 13, 2014), <https://www.bmj.com/content/348/bmj.g425>.

THIS STUDY

The research team set out to examine the relevant laws in all fifty states and the District of Columbia. It developed a list of questions related to sharing platforms, falling into nine categories: Definitions, Age Restrictions, Safety Equipment, Licensing Requirements, Where to Ride, Riding Under the Influence, Insurance Requirements, Sidewalk Clutter, and Shared Micro-Mobility Regulations. The research team then developed a database in Microsoft Access to facilitate the collection, storage and analysis of the state laws, and employed graduate students from the University Of Idaho College Of Law for the summer of 2019 to research the laws in each state and input them into the database.

The researchers used the LexisNexis legal database, Westlaw, and state-operated websites in each assigned jurisdiction to find the relevant laws. Since this is an emerging field of law, many states have legislation pending at various stages of the legislative cycle. For the purposes of this study, any laws that had been fully enacted by the state government were included as the relevant law, even if they had not yet gone into effect. Any laws that were pending in the state legislature or were awaiting the governor's signature were not considered for this study.

The research team met weekly to discuss any unclear laws and to ensure that similar situations were logged in a consistent manner. After the states were completed, researchers checked a sampling of each other's work to ensure that the data collection had been done in a consistent manner. Any and all discrepancies that were identified were raised for discussion, clarification, and ultimately harmonization.

DISCUSSION

Even the most cursory review of the data collected reveals some compelling conflicts and gaps in the legal and regulatory regime that governs micro-mobility-sharing systems in the United States. These legal deficiencies threaten the success of such ventures, and limit society's ability to achieve the myriad benefits that such innovations promise. Most of the examined laws regulate the use of micro-mobility (bikes, e-bikes, and e-scooters) and not sharing systems. While the problems discussed below do not apply exclusively to these shared systems, many of them are made exponentially more problematic because of the typical role shared mobility plays. The following discussion will highlight some of the largest legal problems and the specific difficulties they pose for the successful implementation of SMMS.

1. Legal Inconsistency/Ambiguity

The most prevalent legal problems the study revealed were the numerous

inconsistencies and ambiguities in the laws regulating the use of micro-mobility. Inconsistencies arise in a few distinct ways and each presents a slightly different problem to SMMS. Each of these inconsistencies is no more than a minor inconvenience to experienced riders who are either familiar with their local specifications, or know what kind of laws vary in different states and how to fill those gaps when riding in a new location. Anyone who has invested in a means of micro-mobility is likely to have invested some effort in learning the rules that govern its use. To misquote Socrates, they are wise because they know what they do not know.

However, the inexperienced or recreational rider, or the tourist, may be caught completely unaware of any variation or change in the law. Since these casual or inexperienced riders are the target market for most SMMS, inconsistent laws pose a potentially crippling impediment to their success. In our research laws were grouped into two categories. First, laws that are inconsistent with other laws in the same state, here called internal inconsistency. Second, laws that are inconsistent between states, here called external inconsistency – but perhaps better characterized as state-by-state variations in the law. Before addressing the external consistency issues, we will turn to the more acute problem of internal consistency: where even within a single state, sharp differences, ambiguities, and even conflicts exist in the applicable laws.

a. Internal inconsistency in the laws

While most laws are not facially inconsistent, several states' statutory schemes create confusion that unnecessarily burdens riders. E-scooters in Oregon, for example, are banned from sidewalks and prohibited from traveling faster than 15 mph. But simultaneously, mobility devices used in the street are prohibited from traveling in the roadway at less than the normal speed of traffic.⁵ Thus, if traffic flows at 25 mph, the scooter is required by law to travel no faster than 15 mph, but no slower than 25 mph.⁶ Even if there is a way to read these laws together consistently, it is certainly not clear at first glance. The resident who may want to use the new SMMS to help commute to work or the tourist who wants to use it to get around town cannot easily tell how fast or where they can ride.

Other issues can arise when a state does not clearly define e-bikes or e-

5. OR. REV. STAT. §§ 814.512-524 (2020) (Defining the offense of “unlawful operation of a motor assisted scooter.”).

6. The conflict is arguably reconciled OR. REV. STAT. § 814.520, which suggests that a rider may avoid liability for the separate offense of “improper operation of a motor assisted scooter” for driving too slowly if she keeps as close to the right edge of the roadway as possible. But because it is not clear whether “improper operation” is the same offense as “unlawful operation,” the legal requirements remain, at best, ambiguous. At worst we have an outright conflict.

scooters. Even when an e-bike or e-scooter is not defined by statute, it may fall within another statutory definition, such as motorcycle, moped, or more broadly, motor vehicle. This categorization can lead to more restrictive regulations of e-bikes and e-scooters, such as requiring driver's licenses, registration, or insurance. For example, New York does not define e-bike or e-scooter. Because motor vehicles are defined as "every vehicle operated or driven upon a public highway which is propelled by any power other than muscular power," e-bikes and e-scooters both fall within this category.⁷ New York state law also requires that every motor vehicle be registered in order to drive on public highways.⁸ However, as of 2019, the Department of Motor Vehicles did not allow for the registration of e-scooters or e-bikes, which appeared to render riding these devices in public illegal according to their website at the time.⁹ This is but one example of how bureaucratic operations can frustrate legislative actions. The inconsistency, in turn, is likely to result in user confusion.

Additionally, state laws can conflict with the laws of the state's own counties or municipalities. In an emerging field such as shared micro-mobility, some city ordinances conflict directly with their state law. Direct conflicts are likely to occur when a city chooses a position quickly and the state subsequently adopts a contrary position that is incompatible with the local law without allowing for local variation of the matter. While the state law presumably supersedes the local ordinance, the conflicting local law remains on the books. A couple of examples may illustrate.

Sometimes a local law is more restrictive than a state law, so the discrepancy may not create a direct conflict. California state law, for example, identifies three classes of e-bikes and allows all to be ridden on sidewalks.¹⁰ West Hollywood, CA, however, recently banned the use of all classes of e-bikes on sidewalks.¹¹ In this situation, it is possible for both laws to be valid, depending on whether the state law is read to pre-empt local variation or not. If not pre-empted, the local, more restrictive law simply imposes higher standards than required by the state. Nonetheless, the

7. N.Y. VEH. & TRAF. LAW § 125 (McKinney 2020).

8. N.Y. VEH. & TRAF. LAW § 401 (McKinney 2020).

9. *Motorized devices that cannot be registered in New York*, N.Y. STATE DEP'T OF MOTOR VEHICLES, <https://web.archive.org/web/20190316092234/https://dmv.ny.gov/registration/motorized-devices-cannot-be-registered-new-york> (last visited July 25, 2020) (That agency site was recently changed to indicate that e-bikes may be operated "on some streets and highways in New York State," and e-scooters will receive the same treatment later this year). *Electric Scooters and Bicycles and Other Unregistered Vehicles*, N.Y. STATE DEP'T OF MOTOR VEHICLES, <https://dmv.ny.gov/registration/electric-scooters-and-bicycles-and-other-unregistered-vehicles> (last visited July 25, 2020).

10. CAL. VEH. CODE § 21207.5 (West 2020).

11. WEST HOLLYWOOD, CAL., MUN. CODE § 10.04.030 (2020).

inconsistency can create difficulties for riders. In King County, Washington, for example, adult users of bicycles are required to wear helmets, but elsewhere in the state they are not.¹² Once again, the SMMS user – *i.e.* an occasional or casual rider – is far more likely to be caught off guard.

Finally, state and local laws may define or classify mobility devices differently. For example, the city of Seattle defines e-bikes in a manner that does not mirror the three-category classification system for e-bikes adopted by the State of Washington.¹³ The definition provided by Seattle only encompasses what would be Class 1 and Class 2 e-bikes according to Washington State law, leaving Class 3 e-bikes outside of the city’s definition. This creates the potential for regulatory issues if Class 3 e-bikes are not considered e-bikes at all in Seattle, affecting riders’ abilities to ride on bicycle paths or be subject to other restrictions or protections offered to e-bike riders.

b. Externally inconsistent laws

The legal system has long grappled with the problem of state-by-state variations in the law. Some such variations have been celebrated, where local control has been hailed as a benefit of federalism. But there are limits to how and where such variation can or should be tolerated, and the problems of “external inconsistency” have at times demanded remedial attention. Sometimes the federal government has to step in and pre-empt the field, in order to achieve a desirable consistency in the law: examples include historically federal concerns, including bankruptcy,¹⁴ securities and banking regulation,¹⁵ immigration,¹⁶ and national security.¹⁷ Other times, states have chosen voluntarily to align their laws with each other’s: examples include the adoption of the Uniform Commercial Code.¹⁸ Similar efforts have

12. KING COUNTY, WASH., BD. OF HEALTH CODE § 9.10 (2018).

13. SEATTLE, WASH., MUN. CODE §11.14.055; WASH. REV. CODE ANN. § 46.04.169 (West 2020).

14. *See generally*, Oleksandra Johnson, *The Bankruptcy Code as Complete Preemption: The Ultimate Trump?*, 81 AM. BANKR. L.J. 31 (2007).

15. JAY B. SYKES, CONG. RESEARCH SERV., R45081, BANKING LAW: AN OVERVIEW OF FEDERAL PREEMPTION IN THE DUAL BANKING SYSTEM (January 23, 2018), <https://fas.org/sgp/crs/misc/R45081.pdf>.

16. *See generally*, 8 U.S.C.

17. *See, e.g.*, USA PATRIOT ACT, Pub. L. No. 107-56, 115 Stat. 272 (2001). In the 1990s, federal jurisdiction expanded to include violence against women. The inability to enforce restraining orders across state lines prompted Congress to federalize an area of law long reserved to the states. LISA N. SACCO, CONG. RESEARCH SERV., THE VIOLENCE AGAINST WOMEN ACT (VAWA): HISTORICAL OVERVIEW, FUNDING, AND REAUTHORIZATION, 3rd ed., (2019), <https://fas.org/sgp/crs/misc/R45410.pdf>.

18. States’ eagerness to facilitate commercial transactions for businesses within the state meant that states were happy to adopt a national standard, so interstate transactions could be more easily affected. At present 49 of the 50 states have adopted all or

yielded an overwhelmingly consistent motor vehicle code, making it easy for drivers to traverse the country without worrying that they will run afoul of obscure and idiosyncratic state laws. At the same time, some areas of law – such as Tort Law and Family Law – have been held to be squarely within the province of the states, where uniformity is not necessarily desirable as a matter of federalism.¹⁹ Justice Louis Brandeis famously praised this aspect of our federal system, noting that “a single courageous State may, if its citizens choose, serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country.”²⁰

The “laboratories of democracy” concept has borne fruit for micro-mobility use. The state of Idaho adopted in 1982 its “Idaho stop law” that allows cyclists to treat “stop” signs as if they were “yield” signs, and to treat red lights as if they were “stop” signs.²¹ The resounding success of this experiment has led other jurisdictions to follow suit.²²

At the same time, the patchwork of legal requirements for bicycle and other micro-mobility use in different states may sow confusion, particularly for travelers who may find themselves using bikeshare in different states, or in communities situated on a state border. Such issues arise, for example, on roads surrounding the Chipman Trail bike route, which connects Washington State University in Pullman, Washington (WSU), with the University of Idaho in Moscow, Idaho, eight miles east. At the start of a recent community-organized ride that started on the WSU campus, the riders had to be cautioned that they were in Washington now, and needed to stop at stop signs.²³ There, the ride was organized by a local cycling club who was

substantially all of the UCC. TRACEY GEORGE & RUSSELL KOROBKIN, SELECTIONS FROM THE RESTATEMENT (SECOND) CONTRACTS AND UNIFORM COMMERCIAL CODE, 4-5 (2019).

19. Tort reform laws are all over the map, with all kinds of different approaches taken in the various states. Family Law, of course, has become a battleground as these local variations – affecting the rights of interracial, same-sex, and polygamous unions, among others – have come under attack for perceived violations of constitutional guarantees. *See e.g.* Reynolds v. U.S., 98 U.S. 145 (1879); Loving v. Virginia, 388 U.S. 1 (1967); Obergefell v. Hodges, 576 U.S. 644 (2015).

20. New State Ice Co. v. Liebmann, 285 U.S. 262, 311 (1932).

21. Asmara M. Tekle, *Roll On, Cyclist: The Idaho Rule, Traffic Law, and the Quest to Incentivize Urban Cycling*, 92 CHI.-KENT L. REV. 549 (2017).

22. Delaware has adopted the stoplight portion of the Idaho Stop, redubbing it the “Delaware Yield.” DEL. CODE ANN. tit. 21 § 4196A(c) (2020). Colorado State law specifically allows for local adoption of either the Idaho or Delaware models but does not adopt either at the state level. COLO. REV. STAT. § 42-4-1412.5 (2019). Oregon has adopted the limited Delaware model. OR. REV. STAT. §§ 814.414, 416 (2020). Arkansas has fully adopted the Idaho Stop. ARK. CODE ANN. § 27-51-1803 (2020). Washington has enacted legislation authorizing the Delaware version which will go into effect on Oct. 1, 2020. Increasing Mobility Through the Modification of Stop Sign Requirements for Bicyclists, 2020 Wash. Sess. Laws 6208.

23. The Tour de Lentil, associated with the annual Lentil Festival in Pullman

familiar with the differences and intricacies of the two states' laws, so the riders were able to prepare for the change in laws. However, if a solo rider or group of friends decided to take the bikes from WSU's campus bike sharing program along that same trail for a Saturday ride, they would be unlikely to know that the governing laws had changed on them mid-ride. Absent a reminder or notification of some kind they are unlikely to even think to look up the law to see if there was any discrepancy.

While the laws governing cars are largely consistent across the country, inconsistency persists in the laws applying to bicycle use and even more so in those governing e-bike and e-scooter use. This is a particular concern given that a significant number of users of such systems are travelers and tourists – people from outside the relevant jurisdiction and therefore ill-equipped to know local laws.²⁴ Similar problems emerged in the early days of automobiles, and the need for consistent laws governing motor vehicle transportation became apparent. A special committee was appointed at the federal level to draw up a uniform code – one that facilitated effective automobile use – and pressure was put on the state legislatures across the country to adopt it. This eliminated idiosyncratic rules that may have existed in different cities and states and allowed manufacturers to produce vehicles that were legal in every state.²⁵ Drivers could then have some confidence of the rules of the road when crossing state lines. While traffic laws are not entirely uniform in the U.S. (e.g. some states – including Washington, Oregon, and Idaho – allow left turns on red lights when the driver is turning *onto* a one-way street, for example), the exceptions are very few and largely minor. Even the traffic signals and signage have been made standard across jurisdictions.²⁶ Efforts to bring uniformity to the laws governing cycling – much less to the laws governing the use of e-bikes, e-scooters, or SMMS in general – have yet to bear fruit.

Washington, is a 50k/100k/150k ride that takes place every August. John Nelson, *Tour de Lentil Provides Challenging Ride Through the Palouse*, THE SPOKESMAN-REVIEW (Aug. 11, 2017), <https://www.spokesman.com/stories/2017/aug/11/tour-de-lentil-provides-challenging-ride-through-t/>. The Fondo on the Palouse, a “century” (100-mile ride) which starts in Moscow, Idaho, encounters similar issues, as its route straddles the Washington-Idaho border. *About the Fondo on the Palouse*, THE FONDO ON THE PALOUSE, <http://fondopalouse.org/> (last visited July 19, 2020).

24. VIRGINIA TECH, VIRGINIA TECH CAPITAL BIKESHARE STUDY: A CLOSER LOOK AT CASUAL USERS AND OPERATIONS 10 (2012), <https://ralphbu.files.wordpress.com/2012/01/vt-bike-share-study-final3.pdf>.

25. See J. Allen Davis, *The California Vehicle Code and the Uniform Vehicle Code* 14 HASTINGS L. J. 377 (1963).

26. This standardization occurred over time as automobiles became more widespread. Clay McShane, *The Origins and Globalization of Traffic Control Signals*, 25 J. OF URBAN HISTORY 379, 389 (1999), <https://sites.tufts.edu/carscultureplace2010/files/2010/09/McShane-traffic-signals-1999.pdf>.

Laws that dictate where each platform can and cannot be ridden, “where to ride” laws, present particularly troublesome external inconsistency. Most states allow bicycles to be ridden on the sidewalk or the street so the rider can choose to ride where they feel the most comfortable. However, e-bikes and e-scooters, the primary platforms for dockless SMMS, are restricted much more and far less consistently. E-bikes are burdened slightly, as in about half of states they cannot be ridden on sidewalks. E-scooters, as the newest platform on the scene, are treated the most inconsistently. Over a third of states do not have any regulation at all regarding where e-scooters are allowed.²⁷ In those states that do address e-scooters, about half allow them to be ridden on the street and half do not. A handful of states prohibit e-scooter use on the shoulder of the road or the bike lanes. Twenty-three states allow e-scooters to be ridden on sidewalks while six prohibit their use there; the remaining states are silent on the issue. If an individual purchases one of these platforms, especially an e-scooter, it is reasonable to expect that they would look up the rules for the use of their new device in their own state.²⁸ However, it seems far less likely that the typical SMMS user would know the details about where they are allowed to ride or take the time to research the question, even if it were easy to find answers, which it often is not. Further, many riders who do not know where they can ride may forgo using the SMMS altogether because of their questions.

Other types of laws also raise external inconsistency issues. For instance, helmet laws vary dramatically in various states (see Figure 1). In over 20 states, there is no requirement that anyone wear a helmet when using a bicycle, an e-bike, or an e-scooter. Many states impose helmet requirements on bicycle riders under a certain age. Six states require helmets for all users of e-bikes.

27. See *infra* Section 2.b. and Figure 4.

28. A neighbor of author David Pimentel, however, acquired a motorized scooter in 2019, and after a discussion with a police officer, is now afraid to ride it anywhere. The police officer was unable to advise him where, *or whether*, such a vehicle could be used in the city limits.

FIGURE 1 – Mandatory Helmet Laws

Helmets are required . . .

	For Adults	For Children under . . .	For Adults	For Children under . . .	For Adults	For Children under . . .
	Bicycles		E-Bikes		E-scooters	
AL		16	All	All		19
AK						
AZ						
AR				21		
CA		18	All	All		18
CO				18		
CT		15				
DE		18		18		18
DC		16				
FL		16				
GA		16	All	All		
HI		16				
ID						
IL						
IN				18		
IA						
KS						
KY						
LA		12	All	All		17
ME		16				
MD		16		16		16
MA		16	All	All	All	All
MI				18		19
MN						18
MS						
MO						
MT						
NE						
NV						
NH		16		18		
NJ		17		17		17
NM						

NY		14				
NC		16			All	All
ND				18		
OH			All	All		
OK						
OR		16		16	All	All
PA		12		12		
RI		16		16		
SC						
SD				18		18
TN		16	All	All		
TX						
UT				21		
VT						
VA						
WA						
WV						
WI						
WY						

Laws requiring helmet use can be particularly burdensome for bike-sharing systems because the typical user does not carry a helmet with her/him.²⁹ Attempts to share helmets along with bikes have not been well received by the public, presumably because of concerns about the cleanliness of shared helmets.³⁰ Some speculate that the failure of Seattle’s first bike-share venture was due to the strictures of the mandatory helmet law there;³¹ more recent success with SMMS in Seattle may be due to local police’s decision to relax their enforcement of King County’s mandatory helmet laws.³²

29. Gigi Douban, *A Pothole for Bike-Sharing Programs: Helmets*, MARKETPLACE MORNING REPORT (Sep. 4, 2015), <https://www.marketplace.org/2015/09/04/business/pothole-bike-sharing-programs-helmets/>; David Gutman, *Will Helmet Law Kill Seattle’s New Bike-Share Program?*, SEATTLE TIMES (Dec. 19, 2016), <https://www.seattletimes.com/seattle-news/transportation/will-helmet-law-kill-seattles-new-bike-share-program/>; Emily Elias, *Helmets Pose Challenge For Vancouver Bike Share Program*, CBC (July 19, 2013) <https://www.cbc.ca/news/canada/british-columbia/helmets-pose-challenge-for-vancouver-bike-share-program-1.1379433>.

30. Gutman, *supra* note 29.

31. *Id.*

32. David Gutman, *Helmets may be Seattle Law, but Many Bike-Share Riders Don’t Wear Them*, SEATTLE TIMES, (Aug. 9, 2017), <https://www.seattletimes.com/seattle-news/transportation/helmets-may-be-seattle-law-but-many-bike-share-riders-dont-wear-them/>.

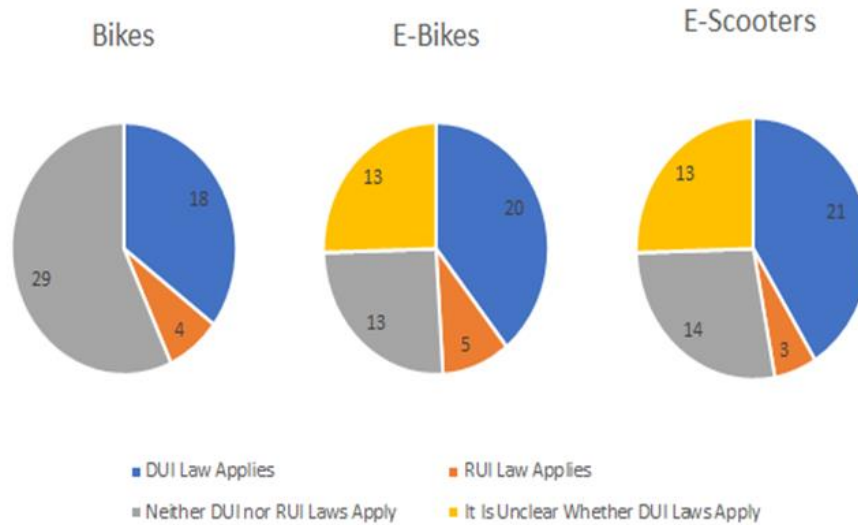
The “instructions” commonly provided by the micro-mobility sharing services are unhelpful on this score, as they may simply tell the user to wear a helmet, without indicating whether the helmet is required by law (e.g. the instruction video for Bird scooters, inside the Bird app, includes a “Bring your own helmet” instruction, without further elaboration to clarify whether this is a legal requirement or just a prudent recommendation).³³ This uncertainty can serve as a deterrent to would-be riders.³⁴

E-bike and e-scooter riders also face uncertainty about the application of Driving Under the Influence (“DUI”) laws. In many states, it is not at all clear whether the e-bikes and e-scooters qualify as “motor vehicles” for purposes of DUI statutes. A small handful of states have attempted to clarify this by passing separate laws governing Riding Under the Influence (“RUI”), which explicitly apply to micro-mobility users. These laws typically impose lesser punishments for RUI than the state imposes for DUI violations, which makes sense since an intoxicated driver is endangering the lives of others (pedestrians, car passengers, etc.) at a level far beyond the dangers posed by an intoxicated e-scooter rider. A general breakdown of state law treatment of these issues is shown in Figure 2.

33. App: Bird, *How to Ride*, (Bird Rides, Inc.) (available on Google Play or the Apple App Store), www.bird.co/how/.

34. Ronald W. Pimentel, Michael B. Lowry, David Pimentel, Amanda K. Glazer, Timothy W. Koglin, Grace A. Moe, & Marianna M. Knysh, *If You Provide, Will They Ride? Motivators and Deterrents to Shared Micro-Mobility*, 6 INT’L J. BUS & APPLIED SOC. SCI. 26, 31 (2020).

FIGURE 2 – “Riding Under the Influence” Legislation*



*A few states have both RUI laws specifically applicable to micro-mobility, and separate DUI laws that apply equally to micro-mobility, introducing potential for contradiction and inconsistency (see discussion of such issues above). The states that fall into both the DUI and the RUI categories are depicted in the “RUI Law Applies” section of the pie charts above.

Naturally, some level of inconsistency is necessary. Not every community has the same needs, and the laws that are appropriate in New York City may not be appropriate in Moscow, Idaho (pop. 24,000). However, a common foundation of legal rules for micro-mobility use, short of complete uniformity, is important if those transportation modalities are to take hold in American cities. For instance, some kind of baseline system that applies broadly but allows for limited local variation based on the specific needs of the location, where those local variations could be clearly demonstrated to potential riders, would go a long way to solving both internal and external inconsistency issues.

2. (Lack of) Awareness of the law

Even if inconsistent laws were aligned, micro-mobility users still might not know what the laws are. Someone who is unaware of the law will have difficulty complying with it and, as noted above, the uncertainty may scare riders off altogether.

a. Ignorance and (mis)perception of the applicable laws

It is far from clear, even for a lawyer trained to interpret statutes, which existing laws may apply to a particular mode of micro-mobility. In some states, the term “pedestrian” is interpreted to include bicyclists on sidewalks, so laws that give pedestrians the right-of-way simultaneously give bicyclists the right-of-way.³⁵ In thirty-five states, the word “vehicle” is interpreted to include bicycles, which lumps bicycles in with other vehicles and subjects them to the laws governing vehicular traffic.³⁶

As for e-bikes and e-scooters, the problem is even more difficult. Because most of these laws were passed before e-bikes and e-scooters came on the market, laws cannot reflect the legislature’s intention concerning them. Pullman, Washington, requires that all scooters be equipped with a “muffler,” for example, in an ordinance that must have been drafted during an era of gas-powered scooters;³⁷ it is, of course, a ridiculous requirement to impose on virtually silent e-scooters. Even the most well-informed user is left to wonder whether an e-bike is a “motor-driven cycle” within the meaning of the statute, for example, or whether an e-scooter is a “motor vehicle.” Exacerbating the problem, there does not appear to be any consensus or consistency, state-by-state, on what these terms mean.

Potential users of SMMS being unaware of the laws governing the mobility presents two separate problems. The first is that users may unwittingly violate the law. They may assume that e-scooters are legal on sidewalks, and ride them there, illegally disrupting pedestrian traffic and unwittingly subjecting themselves to liability. The second concern is that the uncertainty itself will be a deterrent to use of the mobility. A potential user may be tempted to rent a scooter or a bike but may err on the side of caution and avoid using the device altogether when unsure of whether it’s legal to ride without a helmet, or to ride without a driver’s license, or to ride on the running path that goes through the park or along the river. A July 2019 survey of users and non-users in the Northwest suggest that uncertainty about the law can significantly discourage use of SMMS.³⁸ Uncertainty about where it is legal to ride provides at least a slight deterrent effect for 74% of potential users (See Figure 3).

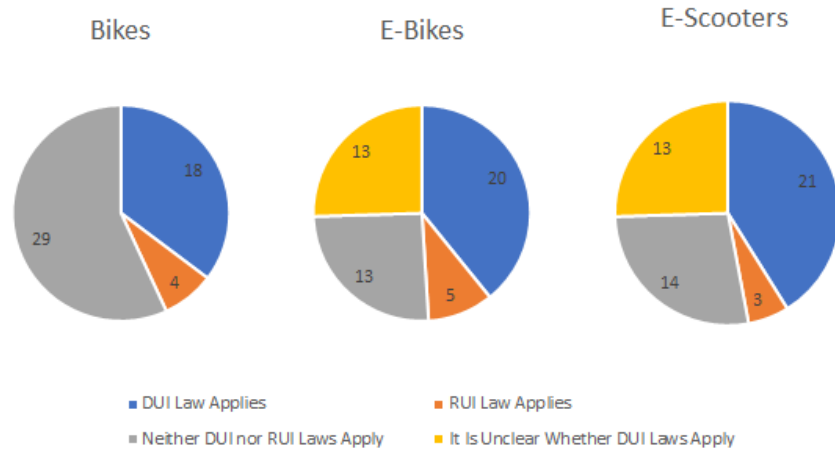
35. *E.g.* MICH. COMP. LAWS § 257.660c (2020).

36. *E.g.* OR. REV. STAT. § 814.400 (2020).

37. Pullman, Wash., Code § 12.11.020(8) (2019).

38. Pimentel, *supra* note 34, at 31.

FIGURE 3 – Deterrent Effect of Legal Uncertainty



b. Statutory silence

The lack of legislation in many jurisdictions leaves both the purveyors of SMMS and their customers in the dark about what is legal and what is not. The laws are reasonably comprehensive as they apply to bicycles, but significant gaps exist for newer technologies, particularly e-scooters, which do not fit so easily into pre-existing categories. While some states are already working to get laws on the books that govern the use of such mobility, many more legislatures either have failed to perceive a need or have been unwilling or unable to muster the political will or material resources to respond to it. Figure 4 shows the conspicuous gaps which exist in several states’ legislation regarding where riders can use various devices, particularly e-scooters. It unrealistic to expect states to have comprehensive legal regimes in place regarding these newer devices; it is understandable that legislatures may have trouble keeping up with new technologies. However, SMMS will be hamstrung in any states that fail to grapple with basic issues, such whether these devices can be ridden on their sidewalks, or on their streets, or on both, or on neither.

FIGURE 4 – Where to Ride Table

	Sidewalks	Shoulder	Traffic lane	Bike path	Sidewalks	Shoulder	Traffic lane	Bike path	Sidewalks	Shoulder	Traffic lane	Bike path
	Bicycles				E-Bikes				E-scooters			
AL	N	Y	Y	Y	Y	Y	Y	N	N			
AK	Y	Y	Y	Y			Y				Y	
AZ		Y	Y	Y		Y	Y	Y	Y	Y		Y
AR	Y	Y	Y	Y	Y	Y	Y	Y				
CA	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
CO	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
CT	Y		Y	Y	N		Y	Y				
DE	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	
DC	Y		Y	Y	N		Y	N	Y			
FL	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
GA	N	Y	Y	Y	N	Y	Y	Y				
HI	Y	Y	Y	Y	Y	Y	Y	Y				
ID		Y	Y	Y	Y	Y	Y	Y				
IL	Y	Y	Y	Y	N	Y	Y	Y				
IN		Y	Y	Y		Y	Y	Y		Y	Y	Y
IA		Y	Y			Y	Y					
KS	N	Y	Y	Y	N	Y	Y	Y	N	Y	N	Y
KY	Y	Y	Y	Y						Y	Y	Y
LA	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y
ME		Y	Y	Y		Y	Y			Y	Y	
MD	N	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
MA	Y		Y	Y	N		Y	N	N		Y	Y
MI	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MN	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MS	Y	Y	Y	Y								
MO	Y	Y	Y		N	Y	Y					
MT	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
NE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NV	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
NH	N		Y	Y	N		Y	Y	N		Y	N
NJ		Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
NM		Y	Y	Y								
NY	N	Y	Y	Y	N	N	N	N	N	N	N	N
NC			Y	Y	N		Y				Y	

ND	Y	Y	Y	Y	Y	Y	Y	Y				
OH	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
OK		Y	Y	Y		Y	Y	Y		Y	Y	Y
OR	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y
PA	Y	Y	Y	Y	Y	Y	Y	Y				
RI	Y	Y	Y	Y		Y	Y	Y				
SC	Y	Y	Y	Y								
SD	Y	Y	Y	Y	N	Y	Y	Y	N	N	Y	
TN	Y	Y	Y	Y	N	Y	Y	Y				
TX	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
UT	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
VT	Y	Y	Y	Y	N	Y	Y	N				
VA	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y	Y
WA	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y
WV		Y	Y	Y								
WI	Y	Y	Y	Y		Y	Y	N				
WY		Y	Y	Y	N	Y	Y	Y				

c. Emerging legislation

By 2019, new laws were in the works in a number of states. New York’s legislature introduced a bill that defined “bicycles with electric assist” and “electric scooters,” stipulating that e-bikes are subject to the same regulations as bicycles while e-scooters are subject to new regulations laid out in the bill.³⁹ The Hawaiian legislature introduced two separate bills to govern the use of these devices. The first set a minimum age of fifteen for e-bike riders, and included e-bikes within the definition of bicycles, thus subjecting them to most of the same regulations that govern non-motorized bicycles.⁴⁰ The second defined “electric foot scooters,” set a minimum riding age of fifteen, and subjected e-scooters to many of the same laws that govern bicycles.⁴¹ Similarly, Alaska introduced a bill that defined e-bikes without a classification system, and clarified that they are *not* motor vehicles or subject to any registration requirements.⁴²

The wave of new legislation presents both challenges and opportunities for SMMS. If the laws passed aid the implementation and operation of SMMS or facilitate the platforms that they use, then SMMS may be well on their way to becoming a permanent fixture of American cities. Additionally,

39. S.B. 5294 (N.Y. 2019). The bill was vetoed by the Governor in December 2019.

40. H.B. 812 (Haw. 2019).

41. H.B. 754 (Haw. 2019).

42. H.B. 123 (Alaska 2019).

states have the opportunity to see what laws are the most successful and to copy them, laying the groundwork for a more consistent, if not entirely uniform system. One example is the three-tiered e-bike classification system. This system was first implemented in California in 2015 and has since been adopted almost completely in twenty-five other states, making it by far the most common classification system.⁴³ A consistent and coherent classification system is a prerequisite to any unified e-bike laws that could come in the future. However, advocates (including SMMS providers) must act quickly to lobby for favorable laws, as it will become much harder to implement favorable laws after states have enacted barriers.

3. Laws addressing shared micro-mobility implementation and use directly

Some states have adopted laws that focus on sharing systems, recognizing the difference between regulating e-bike or e-scooter use and regulating the businesses or systems set up to share them. As of this writing, Alabama is the only state that has comprehensive shared micro-mobility law that covers bicycles, e-bikes, and e-scooters. Four other states, Arkansas, Nevada, Utah, and Washington, have enacted statewide regulations concerning e-scooter sharing systems exclusively. However, most states' statutory schemes are either silent on this issue or leave the regulation of these systems to the local government.

Without any laws regulating the sharing systems directly, many problems are likely to arise which are specific to SMMS. One such problem is the "pop-up" SMMS start-ups. Without statewide regulations in place, SMMS providers may be able to enter a market more or less overnight with no warning to the local government. This presents a number of problems, many of which have already been discussed. These problems can be prevented with simple state-wide schemes which include regulations for startup procedures that allow SMMS to operate but require additional cooperation between the providers and the cities they serve.

Even when states do enact SMMS-specific laws, another issue emerges: shared micro-mobility laws that differ from the existing laws. For example, Alabama defines a "scooter" as:

- [A] device weighing less than 100 pounds that satisfies all of the following:
- (a) [h]as handlebars and an electric motor;

43. Claudia Wasko, *Why More States Need to Adopt the Three-Class Ebike System*, BOSCH, <https://www.bosch-ebike.com/us/everything-about-the-ebike/stories/three-class-ebike-system/#> ("In 2015, California was the first state to adopt this '3-Class' approach, and since then, 25 other states followed suit: Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Maine, Maryland, Michigan, New Hampshire, New Jersey, Ohio, Oklahoma, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.").

- (b) [i]s solely powered by the electric motor or human power; [and]
(c) [h]as a maximum speed of no more than 20 mph on a paved level surface when powered solely by the electric motor.⁴⁴

By this definition, an e-scooter would qualify simultaneously as a “scooter” and as a motor vehicle in the Alabama Code.⁴⁵ Conversely, the definition for a “shared micromobility device” is a type of transportation device, including a scooter that is used in a shared micro-mobility device system.⁴⁶ The “shared micromobility device[s]” are subject to the same laws and regulations as a bicycle, and not a motor vehicle.⁴⁷ As a result, scooters that are privately owned are subject to rules and regulations pertaining to motor vehicles, such as licensing requirements, while scooters that are used within a SMMS are subject to a different set of rules and regulations, including an exemption from the licensing requirement.

4. Parking and Storage

While there are several deficiencies in the laws governing SMMS (including the absence of them), the research painted a more encouraging picture about the problems of parking and storage. One of the most common complaints about dockless systems is the concern that the bicycles, e-bikes, or e-scooters get left in inconvenient places.⁴⁸ Accordingly, the research team looked at the laws governing the problem.

Part of the concern is one of untidy or unsightly clutter, but the greater concern is about obstructing sidewalks and other thoroughfares of pedestrian traffic, creating a nuisance and a safety-related tripping hazard, as well as limiting access to the sidewalk for people with disabilities.⁴⁹ While this concern often prompts critics to call for banning SMMS,⁵⁰ most states already have statutes that address the issues of clutter or obstruction, and the problem is simply a matter of finding a way to enforce these laws in the

44. ALA. CODE § 32-1-1.1(60) (2020).

45. ALA. CODE § 32-1-1.1(33) (2020).

46. ALA. CODE § 32-1-1.1(64) (2020).

47. ALA. CODE § 32-19-2(d) (2020).

48. See e.g. Seattle Times Editorial Bd., Opinion, *Hold Bike-Share Vendors Accountable*, SEATTLE TIMES (Sep. 5, 2019), <https://www.seattletimes.com/opinion/editorials/hold-bike-share-vendors-accountable/>; Quemuel Arroyo, *Op-ed: Where Do We Put All Those Dockless E-Scooters?*, STREETS BLOG NYC (Feb. 4, 2020), <https://nyc.streetsblog.org/2020/02/04/op-ed-where-do-we-put-all-those-dockless-e-scooters/>; Elizabeth Chou, *LA Looks to Improve Parking of Dockless Scooters and Bikes. Here's How*, L.A. DAILY NEWS (Oct. 22, 2019), <https://www.dailynews.com/2019/10/22/la-looks-to-improve-parking-of-dockless-scooters-and-bikes-heres-how/>.

49. See Arroyo, *supra* note 48.

50. Leif Reigstad, *The Rise and Fall of Dockless Bike Sharing in Dallas*, TEXAS MONTHLY, (Aug. 7, 2018), <https://www.texasmonthly.com/news/rise-fall-dockless-bike-sharing-dallas/>.

context of shared bikes, e-bikes, and e-scooters. Alabama, the state with the most comprehensive statewide shared micro-mobility legislation, specifically prohibits shared micro-mobility devices from being parked in a manner that impedes normal pedestrian movement.⁵¹ However, many other states that currently lack shared micro-mobility legislation already have laws that prohibit all vehicles or specific micro-mobility devices from impeding pedestrian and other traffic. Still others list specific locations where such vehicles can and cannot be parked or delegate such decisions to local authorities. In total, thirty states already have statutes preventing micro-mobility devices from being strewn on or about the sidewalks.

Since laws preventing SMMS devices from cluttering the street are already in place, the problem may come from the difficulties of enforcement. Law enforcement may be hesitant to seize or ticket SMMS devices without clear directives. They are also likely even more hesitant to ticket a user who leaves them in an improper location because they plausibly may not know the requirements. Perhaps comprehensive SMMS laws such as those discussed above can help clarify these laws with regard to shared devices and enable law enforcement to manage the situation more effectively.

This problem may be one of perception more than reality. People are more likely to remember the few times they were walking down the sidewalk and had to step around an obstructing scooter or bicycle than they are to remember the countless times that they walked down the street without any such obstruction. Or they may remember an inflammatory picture they have seen in the press of unwanted and unloved bike-share bikes heaped in huge piles, and perceive a problem in the U.S., even though those pictures were taken in China.⁵² Indeed, despite conspicuous complaints about the clutter associated with shared micro-mobility,⁵³ a study in Spokane Washington found the problem to be at most minor (finding that 96% of e-scooters were parked in a “preferred area” and that 98% of them were parked upright).⁵⁴

5. Creating laws that favor bicycles and other micro-mobility to further promote SMMS

Laws that make bicycling, and other micro-mobility use easier will necessarily make SMMS more attractive to potential users; and laws that

51. ALA. CODE § 32-19-2(c) (2020).

52. *See generally*, DAN GARDNER, THE SCIENCE OF FEAR: WHY WE FEAR THE THINGS WE SHOULDN'T-- AND PUT OURSELVES IN GREATER DANGER (2008) (discussing the “availability heuristic”).

53. Reigstad, *supra* note 50.

54. TOOLE DESIGN, SPOKANE SHARED MOBILITY STUDY FINAL RECOMMENDATIONS 18 (2019), <https://static.spokanecity.org/documents/projects/shared-mobility/spokane-shared-mobility-report.pdf>.

burden the mobility-user will have the opposite effect. The Idaho stop laws, for example, make cycling vastly more efficient and attractive.⁵⁵ State laws that expect cyclists to adhere to the laws that govern motor vehicles, in contrast – failing to account for the fact that bicycles have different capabilities, needs, and safety concerns – impose heavier burdens on cyclists and place them at greater risk of harm.⁵⁶

As noted above, mandatory helmet laws may also be a barrier to SMMS success. While it is tempting to cling to these laws as a fundamental safety measure, such laws have been sharply criticized as counter-productive, from a safety perspective,⁵⁷ and for the implicit message that micro-mobility is very dangerous and therefore something to be avoided.⁵⁸ That message, as well as the victim-blaming message that responsibility for cyclist safety lies solely with the cyclist, rather than with the drivers who hit them, can only discourage ridership.⁵⁹

Laws that permit, or prohibit, riding bicycles on sidewalks or off-road paths and trails may have an impact as well. If people know that they can be cited for riding where they feel safe to ride, they may opt not to ride at all. For example, in a busy urban center, someone may be happy to ride an e-scooter on the sidewalk, but if they know that e-scooters are legal only in the street (as is the case in the states of Washington and California), they may stay off the scooter altogether.⁶⁰ Of course, the laws of states, such as Florida and South Dakota, that ban the use of scooters in the streets too, or of the twenty states that are silent on the subject, generate serious uncertainty about whether they can be used legally anywhere.

55. See Tekle, *supra* note 21.

56. David Pimentel, *Cycling, Safety, and Victim-Blaming: Toward a Coherent Public Policy for Bicycling in 21st Century America*, 85 TENN. L. REV. 753 (2018).

57. Luke Turner, *Australia's Helmet Law Disaster*, 64 IPA REVIEW 28, 28–29 (Apr. 2012), <http://www.vehicularcyclist.com/ozdisaster.pdf>; Craig Baird, *Bike helmets can make roads more dangerous for cyclists, says Bike Regina*, REGINA LEADER-POST (May 2, 2017), <https://leaderpost.com/news/local-news/bike-helmets-can-make-roads-more-dangerous-for-cyclists-says-bike-regina>; Sue Knaup, *Are Helmet Programs Scaring Kids Away from Bicycling?*, THE BIKE HELMET BLOG (Nov. 10, 2015), <https://www.bikehelmetblog.com/2015/11/are-helmet-programs-scaring-kids-away.html>.

58. Rosenthal, E., *To Encourage Biking, Cities Lose the Helmets*, N.Y. TIMES (Sept. 29, 2012), <https://www.nytimes.com/2012/09/30/sunday-review/to-encourage-biking-cities-forget-about-helmets.html>; Knaup, *supra* note 57.

59. Peter Walker, *The Big Bike Helmet Debate: "You Don't Make it Safe by Forcing Cyclists to Dress for Urban Warfare"*, THE GUARDIAN (Mar. 21, 2017), <https://www.theguardian.com/lifeandstyle/2017/mar/21/bike-helmet-cyclists-safe-urban-warfare-wheels>; Pimentel, *supra* note 56.

60. CAL. VEH. CODE § 21235(g) (Deering 2020); WASH. REV. CODE ANN. § 46.61.710 (LexisNexis 2020).

CONCLUSIONS

The wheels of transportation innovation turn much faster than the wheels of legislation. The legal system struggles, playing catch-up with industry changes. That alone does not necessarily constitute a problem. However, the lack of a legal infrastructure may threaten to stifle the innovation and undermine the potential benefits of SMMS in America. This comprehensive study of applicable laws exposes the gaps and inconsistencies in these laws and illustrates some of the impact of these legal deficiencies. The hope is that federal authorities may intervene, promulgating standardized legal rules for shared micro-mobility, as they have for automobiles, which would clarify and harmonize the scattershot approach heretofore taken. If the federal government is unwilling or unable (politically or otherwise) to act, perhaps interested parties – bicycling advocates, safety advocates, industry representatives, and regulators – can combine forces to produce a “uniform law,” one that states may be willing to adopt, much as they have the Uniform Commercial Code. The searchable database of the compiled state laws on this subject created in this study can support such efforts, as well as future research. In the meantime, innovators should be aware of and sensitive to how the variegated legal landscape may impact the results and the future of shared micro-mobility.