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Recommended Citation

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Last revised 4/5/2022

U.S. Micromobility Law (Major Road Work Ahead)*

Peter W. Martin[†]

Over the past decade electrically powered bicycles, stand-up scooters, skateboards, and more have burst onto the nation's streets and sidewalks. This blossoming of "micromobility" has taken place within physical and legal infrastructures ill-prepared for the change. Indisputably, most of the new types of individual motorized mobility fell outside established vehicle categories. The literal terms of existing law banned their use on all public rights of way, whether roadway, bicycle path, or sidewalk.

This paper surveys the ad hoc, largely industry-driven, and still-distressingly-incomplete adjustment of U.S. vehicle and traffic laws to accommodate and regulate the rapid spread of electrically-powered personal mobility devices. It also identifies some of the social costs of lawmakers' ignoring the phenomenon.

I. Introduction

The invention and development of the lithium-ion battery not only enabled a radical redefinition of the phone and an explosion of portable electronic devices, it fueled enormous innovation in the field of personal transportation. Most conspicuously it led to a new generation of electrically-powered automobiles, hybrid and plug-in. But it also made possible a diversity of smaller electric vehicles, some completely novel, others of types previously propelled solely by human energy and gravity. Over the past decade electrically powered bicycles, stand-up scooters, skateboards, and more have found a ready market and eager riders. Not all those riders have needed to be owners. Embedded technology combined with widespread smartphone ownership enabled well-funded start-ups to distribute large numbers of these novel electric vehicles across urban spaces, offering them for on-demand, short-term rental.

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All of this has taken place within physical and legal infrastructures ill-prepared for such change. The country's public thoroughfares and traffic laws entered the current era shaped around transportation flows consisting principally of: (1) automobiles and their relatives (smaller and larger), (2) bicycles, and (3) pedestrians. For each of those categories, the respective regulatory roles and rules of federal, state, and local governments were reasonably settled. Indisputably, the new types of individual motorized mobility did not fit. And since they did not fit, the literal terms of existing law banned their use on all public rights of way, whether roadway, bicycle path, or sidewalk.¹

This paper surveys the ad hoc, largely industry driven, and still-distressingly-incomplete adjustment of U.S. vehicle and traffic laws to accommodate and regulate the rapid spread of electrically-powered personal mobility devices. To appropriate a term used by transportation planners and administrators, it offers an introduction to the evolving field of U.S. "micromobility" law. The paper begins with a sketch of the turn-of-the-century law regulating vehicles and vehicular movement on public ways. The following section traces the legal adjustments that have since made Segways, then electric bicycles, followed by electric stand-up scooters "street legal" in a majority of states; and autonomous delivery devices, in a growing number. Section IV considers some of the consequences for individual riders and the public, generally, of legislative or administrative failures to address the full range of mobility devices now in use. Finally, the paper concludes with several observations about the importance and challenge of developing a more comprehensive, less ad hoc, approach to the regulation of individual, electrically powered, low-speed vehicles.

¹ Except as otherwise indicated the terms designating the different types and segments of public rights-of-way are employed throughout the paper as they are defined and used quite consistently in state and federal legislation. Importantly, the terms "road," "street," and "highway" are used interchangeably. The term "roadway" is used to refer to the portion of a road, street, or highway that is designed for use by vehicles, "bicycle lane," to refer to the portion designated for the primary or exclusive use of bicycles (and now in some places, micromobility devices), and "sidewalk" to refer to the portion of a road set aside for use by pedestrians. "Bicycle path" or "bikeway" indicates a public right-of-way that is separate from a road, street, or highway.

II. The Pre-Existing Legal Infrastructure: U.S. Vehicle and Traffic Law (circa 2000)

A. The Layers

As individuals move about on the country's shared public ways (its roadways, bikeways, sidewalks, pedestrian plazas, and paths) they, their actions, and any vehicles involved are addressed by multiple layers of law. That holds whether they are traveling by foot, wheelchair, auto, bicycle, horse, sled, or electrically powered skateboard.

The thickest of those layers is a composite of the statutes, ordinances, court decisions, and regulations of the state and local governments with jurisdiction over the space where the movement takes place. Since the earliest days of motorized vehicles, regulation of their use has been understood to be, predominantly, a state and local matter. Federal regulation of vehicles and their movement expanded over the twentieth century, but its scope remained more focused on vehicle design and manufacture than use – except, of course, in national parks, military bases, and other federal enclaves. Under existing legislation, agencies of the federal government have ample authority to insert themselves at the point of import, sale, or further distribution of the recent wave of powered mobility devices. To date they have exhibited little inclination to do so.²

Consequently, as innovative modes of electrically powered, individual locomotion emerged during the twenty-first century the states have been forced into the role of first responders. They have had to decide which types to allow on public ways, what safety features to require of them, and, if allowed, exactly where and how those types might be ridden, plus other terms and conditions of use. Thrust upon state legislatures have been such questions as: whether a new type of powered vehicle may be ridden (and parked) on public roadways, bicycle paths, or sidewalks, how it should be maneuvered in proximity to other forms of vehicular and pedestrian travel, how fast it ought to be driven, what age and other qualifications to require of operators, and, not least, the initial legal response and ultimate consequences in the event of a collision. Most states have passed significant regulatory authority on some of these matters along to local units of government. Almost universally addressed at the municipal level is whether to permit commercial firms to

² See *infra* p. 23.

distribute vehicles of any sort along public ways for short-term, on-demand rental and on what terms.

B. Federal Law – Focused Principally on Equipment Standards and Accessibility

1. *Vehicle and Traffic Law Initially Left to the States*

The impact of state-by-state motor vehicle regulation on interstate commerce could easily have supported any number of federal statutory measures, even during the earliest days of the automobile. Law enforcement concern over the interstate transportation of stolen vehicles stimulated a national response in 1919.³ Later federal enactments targeted the operation of “chop shops” – operations that facilitate the disposition of stolen cars⁴ – and the intentional destruction of vehicles employed in interstate commerce.⁵ Yet on such fundamental questions as whether an automobile driven from one state into another must be registered at once in the second or the degree to which a driver’s license issued by one state will allow the holder to drive in another, the states themselves have shaped nearly all the rules, first individually, and then through interstate compacts and other forms of coordinated action.

Under the Interstate Compacts for Highway Safety Resolution of 1958,⁶ Congress gave states blanket permission to form compacts in the area of traffic safety. By the resolution’s terms, traffic safety compacts do not, like those on other topics, require submission to Congress for individual approval. Since 1958 two have obtained widespread, although not universal, adherence.⁷ Nearly all states plus the District of Columbia have entered into a Driver License Compact.⁸ It provides for notification of the suspension of a driver’s license by one participating state to authorities in the others. It also calls for communication of out-of-state traffic violations to the jurisdiction in which the driver is licensed.⁹ (This information exchange has been facilitated by a National Driver Register established by

³ Act of Congress of October 29, 1919, ch 89, 41 Stat 324 (codified in its current form at 18 U.S.C. § 2312).

⁴ See 18 U.S.C. § 2322.

⁵ See 18 U.S.C. § 33.

⁶ Public Law No. 85-684, 72 Stat. 635 (Aug. 20, 1958).

⁷ See American Association of Motor Vehicle Administrators, Driver License Compacts, <https://www.aamva.org/Drivers-License-Compacts>.

⁸ See Driver License Compact, <http://apps.csg.org/ncic/Compact.aspx?id=56>. The exceptions are Georgia, Maine, Michigan, Tennessee, and Wisconsin. See *id.*

⁹ See *id.*

Congress in 1960,¹⁰ and later expanded.¹¹) Also widely adopted is the Nonresident Violator Compact. Its aim is to assure that out-of-state motorists receive non-discriminatory treatment in the enforcement of minor traffic violations.¹² A third compact, the Vehicle Equipment Safety Compact, was eclipsed by the shift to federally imposed safety standards under the National Traffic and Motor Vehicle Safety Act of 1966.¹³

2. Federal Motor Vehicle Standards

Pursuant to that legislation, a federal agency, the National Highway Traffic Safety Administration (NHTSA), has, for over half a century, set safety standards for most new motor vehicles sold in or imported into the U.S.¹⁴ By regulating the latest equipment offered for sale, over time this agency limits what can be driven on the nation's roads. Tire-pressure monitoring,¹⁵ electronic stability control systems,¹⁶ substantial capacity to withstand impact from the side,¹⁷ and head restraints¹⁸ are among the features that its standards now require in new autos. Motorcycles and mopeds must also meet NHTSA standards.¹⁹ The same federal agency tests and rates new car models on how they fare in a crash and issues recalls following a determination that a particular vehicle type or component has defects posing safety risks.²⁰

In 1981 NHTSA standardized the previously haphazard system of assigning unique identification numbers to motor vehicles sold in the U.S.²¹ As standardized, the vehicle identification number or VIN not only supports the federal agency's

¹⁰ Pub. L. No. 86-660, 74 Stat. 526. See Edward C. Fisher & Robert H. Reeder, *VEHICLE TRAFFIC LAW* 47 (1974).

¹¹ See *id.* The register is now maintained by a unit of the National Highway Traffic Safety Administration. See National Driver Register Act of 1982, Pub. L. No. 97-364, 96 Stat. 1741; National Driver Register (NDR), [https://one.nhtsa.gov/Data/National-Driver-Register-\(NDR\)](https://one.nhtsa.gov/Data/National-Driver-Register-(NDR)).

¹² See Nonresident Violator Compact, <http://apps.csg.org/ncic/Compact.aspx?id=142>.

¹³ See 15 U.S.C. § 1381.

¹⁴ That authority is now codified at 49 U.S.C. § 30111. The standards are set forth in 49 C.F.R. Part 571.

¹⁵ See 49 C.F.R. § 571.138.

¹⁶ See 49 C.F.R. § 571.126.

¹⁷ See 49 C.F.R. § 571.214.

¹⁸ See 49 C.F.R. § 571.202a.

¹⁹ See 49 C.F.R. §§ 571.122, 571.122a, 571.123.

²⁰ See generally Jerry L. Mashaw & David L. Harfst, *From Command and Control to Collaboration and Deference: The Transformation of Auto Safety Regulation*, 34 *YALE J. ON REG.* 167 (2017).

²¹ See 49 C.F.R. §§ 571.561 – 571.565.

responsibility to identify and recall models and components involved in repeated crashes and stolen vehicle tracing,²² but it facilitates state systems of vehicle titling and registration²³

The agency’s regulatory authority extends to all “motor vehicles,” a phrase defined by statute to embrace any “vehicle driven or drawn by mechanical power and manufactured primarily for use on public streets, roads, and highways, but [not including] ... a vehicle operated only on a rail line.”²⁴ Embedded in that definition are two important limits (in addition to the exclusion of street railways). The first (“mechanical power”) removes human or animal propelled vehicles (such as bicycles or horse-drawn carts) from the scope of the agency’s authority. The second (“primarily for use on public streets ...”) excludes motorized vehicles designed and marketed for off-road use (golf carts and dirt bikes, for example). They, along with bicycles and other non-motorized vehicles acquired and used by individual consumers are subject to the product safety jurisdiction of the Consumer Product Safety Commission.²⁵ Standards for fork-lifts and other powered vehicles used in industrial settings and for vehicles used in commercial agriculture are set by OSHA.²⁶

In theory, at least, federal motor vehicle standards concern the soundness and safety of vehicles and their equipment; state law governs use.²⁷ Federal law sets

²² National Highway Traffic Safety Administration, Vehicle Identification Numbers (VINs), [https://one.nhtsa.gov/Vehicle-Safety/Vehicle%E2%80%93Related-Theft/Vehicle-Identification-Numbers-\(VINs\)](https://one.nhtsa.gov/Vehicle-Safety/Vehicle%E2%80%93Related-Theft/Vehicle-Identification-Numbers-(VINs)).

²³ See, e.g., Kan. Stat. Ann. § 8-116; Okla. Stat. Tit. 47, § 1105.2.

²⁴ 49 U.S.C. § 30102(a)(7).

²⁵ The statutory division of authority between the Consumer Product Safety Commission and the National Highway Safety Administration draws this line. Specifically excluded from the spectrum of consumer products subject to regulation by the former are “motor vehicles” and “motor vehicle equipment” as defined in the statute setting out the mandate of the second. See 15 U.S.C. § 2052(a)(5)(C). For the unique history of the SPSC bicycle safety standards, see Bruce Epperson, *The Great Schism: Federal Bicycle Safety Regulation and the Unraveling of American Bicycle Planning*, 37 TRANSP. L. J. 73 (2010).

²⁶ See, e.g., 29 C.F.R. §§ 1910.178, 1928.51.

²⁷ With the Consumer Product Safety Commission’s standards for bicycles this distinction has allowed states to require lights on bicycles ridden at night even though they are not included in the CPSC’s bicycle standard. See *Forester v. Consumer Product Safety Commission*, 559 F.2d 774, 798 (D.C. Cir. 1977).

detailed standards for the seat belts in new cars.²⁸ State “buckle up” laws (induced by federal grant money used as a positive incentive²⁹ and a series of earlier more coercive measures³⁰) command their use.³¹

3. Use of Federal Highway Funds to Induce Changes in State Motor Vehicle Laws

Over the past century, federal grants to states and localities have had a powerful influence on the public infrastructure available for vehicular travel.³² In addition, from time to time Congress has used the threat of reducing or withholding federal highway money to pressure states into adopting and enforcing laws that bear on road safety. Most that have endured concern driving while impaired. The 1984 act which set a national drinking age of 21 took this form.³³ A federal statute, dating from 1998, requires states to have and to enforce prohibitions on driving a motor vehicle (employing that phrase in its broad sense) in which there is an open container of alcohol. It also induces them to have laws addressing repeat DUI offenders. Failure to comply can lead to a reduction in a state’s federal highway fund allocation.³⁴ A similar incentive formula presses states to pass laws revoking or suspending drivers’ licenses upon conviction of a drug offense³⁵ and setting a blood alcohol standard of .02 percent for drivers under the age of 21.³⁶

A number of past federal funding-backed mandates generated such strong resistance in the states that they were subsequently withdrawn. Most often, they left some trace behind. In 1974 Congress passed a uniform national speed limit of

²⁸ See 49 C.F.R. § 571.209. These standards and those for airbags were a target for Reagan era deregulation, an effort rebuffed by the U.S. Supreme Court in *Motor Veh. Mfrs. Ass’n v. State Farm Ins.*, 463 U.S. 29 (1983).

²⁹ See 23 U.S.C. § 153. The same provision encourages states to require motorcyclists to wear helmets. See *id.* Constitutional challenges to state buckle-up and motorcycle helmet laws have almost uniformly failed. See, e.g., *People v. Kohrig*, 113 Ill. 2d 384, 498 N.E.2d 1158 (1986) (holding state buckle-up law constitutional); *State v. Fetterly*, 254 Or. 47, 456 P.2d 996 (1969) (holding state motorcycle helmet law constitutional).

³⁰ See David Roos, *When New Seat Belt Laws Drew Fire as a Violation of Personal Freedom* (Aug. 31, 2020), HISTORY, <https://www.history.com/news/seat-belt-laws-resistance>.

³¹ All states except New Hampshire have some form of seat belt mandate. See IIHS/HLDI, *Seat Belts*, <https://www.iihs.org/topics/seat-belts#laws>.

³² See generally Congressional Research Service, *Federal-Aid Highway Program (FAHP): In Brief* (March 1, 2021), <https://crsreports.congress.gov/product/pdf/R/R44332>.

³³ See 23 U.S.C. § 158.

³⁴ See 23 U.S.C. §§ 154, 164; 23 C.F.R. §§ 1270.1 – 1270.9, 1275.1 – 1275.9.

³⁵ See 23 U.S.C. § 159.

³⁶ See 23 U.S.C. § 161.

55 as an emergency energy-saving measure.³⁷ It was widely disregarded by the public, under-enforced, and strongly opposed by some states. In the years that followed, Congress relaxed the condition twice, removing it completely in 1995.³⁸ An earlier federal requirement that states direct motorcyclists to wear helmets met a similar fate. It was eliminated in 1975.³⁹

Other incursions by the U.S. Congress into state vehicle law have been episodic and limited. A provision tacked onto a federal highway bill in 2005, at the behest of the car rental industry, preempts any state law imposing liability on those renting or leasing “motor vehicles” solely on the basis of their customers’ negligence.⁴⁰

The National Highway Traffic Safety Administration has also influenced the states through non-coercive persuasion. That has been its approach to traffic law adjudication. Fifty years ago, violations of state and local traffic rules were commonly treated as crimes – misdemeanors mostly, but felonies in the case of more serious offenses. In the early 1970s, implementing a recommendation of a National Advisory Commission on Criminal Justice Standards and Goals and a task force of its own,⁴¹ NHTSA began encouraging states to decriminalize most traffic offenses and transfer their adjudication to administrative officials.⁴² Close to half the states have made this change.⁴³ Even in those doing so, more serious offenses, such as DUI, driving an unregistered vehicle or without a valid driver's license, and reckless driving remain crimes.⁴⁴

³⁷ Emergency Highway Energy Conservation Act, Public Law No. 93-239, Jan. 2, 1974.

³⁸ See National Highway System Designation Act of 1995 § 205(d), Pub. L. No. 104-59, 109 Stat. 568 (Nov. 28, 1995).

³⁹ See Christopher Ogolla & Frederic Shaw, *Is the Repeal of Mandatory Motorcycle Helmet Legislation a Contributing Factor to Traumatic Brain Injury as a Public Health Problem?*, 14 MICH. ST. J. MED. & LAW 163, 189-90 (2010).

⁴⁰ 49 U.S.C. § 30106.

⁴¹ See Robert Force, *Administrative Adjudication of Traffic Violations Confronts the Doctrine of Separation of Powers*, 49 TULANE L. REV. 84 (1974).

⁴² See National Highway Traffic Safety Administration, Dept. of Transportation, *New Trends in Advanced Adjudication Techniques* (1974),

<https://www.ojp.gov/pdffiles1/Digitization/58495NCJRS.pdf>

⁴³ See Jordan Blair Woods, *Decriminalization, Police Authority, and Routine Traffic Stops*, 62 UCLA L. REV. 672, 698 (2015)

⁴⁴ *Id.* The 2000 Uniform Vehicle Code § 11-102 n. 72 provides optional language for states taking the decriminalization approach.

4. The ADA's Accessibility Requirements

For individuals with mobility impairments and all others traveling along sidewalks, especially those pushing, pulling, or riding on wheeled devices, the most significant federal mobility legislation is the Americans with Disabilities Act of 1990 (ADA).⁴⁵ While it had precursors, they were tied to federal funding.⁴⁶ The ADA's ban on discrimination against disabled individuals in the provision of public services contains no such limit and extends to the full range of activities carried out by states and local units of government.⁴⁷ As interpreted by the federal courts and the Department of Justice, its mandate applies to the construction, alteration, and use of the public right of way, including, importantly, public sidewalks.⁴⁸ The law propelled widespread introduction of curb ramps and the implementation of sidewalk standards facilitating the mobility of individuals with impairments, including those using wheelchairs and alternative wheeled devices, with and without motors. The ADA's private cause of action made it possible for individuals frustrated by failures in local implementation and federal enforcement to seek and obtain judicial relief.⁴⁹ In recent decades, such actions have targeted the official authorization or acceptance of sidewalk conditions that unreasonably interfere with use by the visually or mobility impaired.⁵⁰

As late as 1979, laws in only a handful of states addressed motorized wheelchairs, exempting them and those using them from requirements that applied to motor vehicles, generally.⁵¹ By the early part of this century a majority of states had

⁴⁵ 42 U.S.C. §§ 12101-12213

⁴⁶ The Architectural Barriers Act of 1968, 42 U.S.C. §§ 12101-12213, applied to accessibility barriers in federally funded facilities and buildings. The Federal-Aid Highway Act of 1973, 42 U.S.C. §§ 4151-4157, required all federally funded highway projects that involved sidewalks to include curb ramps.

⁴⁷ See 42 U.S.C. § 12132; *Frame v. City of Arlington*, 575 F.3d 432 (5th Cir. 2009) (en banc) (holding that “a city’s curbs, sidewalks, and parking lots constitute a service, program, or activity” covered by the ADA).

⁴⁸ See *id.* See also *Hamer v. City of Trinidad*, 441 F. Supp. 3d 1155 (D. Col. 2020); *Mote v. City of Chelsea*, 284 F. Supp. 3d 863 (E.D. Mich. 2018).

⁴⁹ See *Ability Ctr. of Greater Toledo v. City of Sandusky*, 385 F.3d 901 (6th Cir. 2004).

⁵⁰ See *Hamer v. City of Trinidad*, 441 F. Supp. 3d 1155 (D. Col. 2020); *Mote v. City of Chelsea*, 284 F. Supp. 3d 863 (E.D. Mich. 2018).

⁵¹ Those states were New York (which excluded “electrically driven invalid chairs ... operated or driven by an invalid” from its “motor vehicle” definition) and Nebraska (which also excluded “self-propelled invalid chairs”). See National Committee on Uniform Traffic Laws and Ordinances, TRAFFIC LAWS ANNOTATED 12 (1979). A few years later New York substituted the term “wheelchair”

either removed motorized wheelchairs from their definitions of “motor vehicle” or included them within the “pedestrian” category.⁵² A 2010 Department of Justice regulation interpreting the ADA explicitly directs state and local governments to allow the use of powered “wheelchairs and manually-powered mobility aids” in “areas open to pedestrian use.”⁵³ The Department’s earlier insistence that a community’s alteration of sidewalks or streets required the installation of curb ramps at affected intersections⁵⁴ rested on an understanding that wheelchairs, including those with motors belonged on sidewalks, not in the roadway.⁵⁵

C. State Vehicle and Traffic Laws

1. A Common Structure, Diversity in Detail

Because state and local vehicle and traffic laws figure so prominently, the rules governing the means and methods of individual, non-automotive, mobility vary significantly across the country. Some of the differences are a consequence of geography and climate. Florida does not regulate the use of snowmobiles; Michigan does, quite extensively.⁵⁶ Other differences can be attributed to demographic and cultural variables. Pennsylvania, home to significant Amish and Mennonite populations, provides clear legal guidance for those traveling in horse-drawn vehicles.⁵⁷ Many states do not. Arizona law allows residents in some of the state’s

and defined it expansively focusing not on the device itself but on the reason for its use. The new and still current definition extends to “any manual or electrically driven mobility assistance device, scooter, tricycle or similar device used by a person with a disability as a substitute for walking,” defining “electrically driven mobility assistance device” as “any wheeled, electrically powered device designed to enable a person with a disability to move from place to place.” N.Y. Veh. & Tr. § 130-a (added in 1985).

⁵² See, e.g., 1997 R.I. Pub. Laws 186; 2005 Mt. Laws 233; 1991 Ore. Laws 417; 2003 Wa. Ch. 141.

⁵³ 20 C.F.R. § 35.137.

⁵⁴ See 28 C.F.R. § 35.151(i).

⁵⁵ Department of Justice/Department of Transportation Joint Technical Assistance 1 on the Title II of the Americans with Disabilities Act Requirements to Provide Curb Ramps when Streets, Roads, or Highways are Altered through Resurfacing (July 8, 2013), <https://www.ada.gov/doj-fhwa-ta.htm>. Even so, in early 2021, the Alabama Supreme Court counted eight states (including Alabama) that had neither removed powered wheelchairs from their “motor vehicle” category nor granted them the same status as pedestrians. *Pruitt v. Oliver*, 331 So.3d 99 (Ala. 2021). at notes 7, 9, 10. (In Alabama and elsewhere “motor vehicles” are denied use of sidewalks. See Ala. Code § 32-5A-52.)

⁵⁶ See Mich. Comp. Laws § 324.82119; Mich. Dept. of Natural Resources, Michigan Snowmobile Regulations, https://www.michigan.gov/documents/dnr/SnowmobileRegs_268169_7.pdf.

⁵⁷ See 75 Penn. Cons. Stat. § 3103; Penn. Dept. of Trans., Horse and Buggy Driver’s Manual, PUB 632 (4-19), <https://www.dot.state.pa.us/public/PubsForms/Publications/PUB%20632.pdf>.

numerous retirement communities to drive ordinary golf carts on public streets.⁵⁸ New York bans them from public streets and highways altogether.⁵⁹ Florida leaves the decision up to its municipalities.⁶⁰

Over most of the past century a non-profit membership organization worked to bring a measure of consistency, along with a sharing of “best practices,” to this legal diversity through the publication and periodic revision of a Uniform Vehicle Code (U.V.C.). Like other “uniform” state laws this one merely offered a model, provisions recommended to state legislatures for their consideration.⁶¹ The U.V.C. both drew upon and influenced the codes of individual states. For all their differences, portions of most state vehicle and traffic laws can still be mapped onto some version of that model.⁶² On questions of statutory interpretation, individual

⁵⁸ See Sun City residents celebrate new golf-cart law (8/14/2014), azcentral, <https://www.azcentral.com/story/news/local/surprise/2014/08/14/golf-carts-rule-roads-sun-city/14095291/>; Ariz. Rev. Stat. § 28-101(33) (defined); Ariz. Rev. Stat. § 28-721(C) (use in an age-restricted community located in an unincorporated area); Ariz. Rev. Stat. § 28-2153(D)(7) (exempt from registration).

⁵⁹ New York’s Vehicle and Traffic Code contains no golf cart exemption. It does allow registration and restricted highway use of “low speed vehicles,” but ordinary golf carts do not qualify. See N.Y. Veh. & Traf. L. § 121-f; N.Y. Comp. Codes R. & Regs. tit. 15 § 102.10.

⁶⁰ See Fla. Stat. § 316.212.

⁶¹ The principal and most influential source of “uniform” laws recommended to the states for adoption is the National Conference of Commissioners on Uniform State Laws (the Uniform Law Commission or ULC), established in 1892. Until quite recently that body stayed away from vehicle and traffic law, leaving the field entirely to the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO). Since the demise of NCUTLO it has published two uniform laws in this field: a Uniform Certificate of Title Act in 2005 and a Uniform Automated Operation of Vehicles Act in 2019. See Uniform Law Commission, Certificate of Title Act, <https://www.uniformlaws.org/committees/community-home?communitykey=ef602e46-b990-4405-b789-3a44c5149cd3&tab=groupdetails>; Automated Operation of Vehicles Act, <https://www.uniformlaws.org/committees/community-home?communitykey=4e70cf8e-a3f4-4c55-9d27-fb3e2ab241d6&tab=groupdetails>. Neither has yet been adopted by a single state.

⁶² Due to the code’s periodic revision, state legislation based on successive versions can embody important points of difference. The definition of “bicycle” furnishes one example. A definition of “bicycle” was added to the Uniform Code in 1944. It was amended in 1968, and then again, significantly, in 1975. The 1979 annotated code counted two states that employed the then current version, eight states that used the 1968 version, nine that had stuck with the original, nineteen states with definitions following an altogether different pattern, and eleven with no comparable provision. National Committee on Uniform Traffic Laws and Ordinances, TRAFFIC LAWS ANNOTATED 1 – 3 (1979). Major consequences can flow from such differences.

state courts will, at times, turn to its provisions for guidance,⁶³ and the Federal Highway Administration’s Manual on Uniform Traffic Control Devices makes repeated reference to its terminology.⁶⁴

The original U.V.C. was prepared in response to a 1924 national conference convened by then Secretary of Commerce, Herbert Hoover, and approved by a successor conference two years later.⁶⁵ Burgeoning use of the automobile was the catalyst. Throughout the balance of the twentieth century, a National Committee on Uniform Traffic Laws and Ordinances (NCUTLO) carried the project forward, issuing occasional revisions of the recommended code and publishing annotated versions that arrayed state vehicle laws against its framework. NCUTLO comprised representatives of federal, state and local governmental units, together with a wide a diversity of private entities. The latter ranged from motor clubs and safety councils to automobile manufacturers and dealers.

In 2000, following publication of a “millennium edition,” of the U.V.C., NCUTLO ceased operations. In the years since, the very years during which a growing and diverse population of wheeled, electrically powered mobility devices have sought room on the nation’s roadways, sidewalks, and bicycle paths, the states and their municipalities have largely been left to address the terms and conditions of their use individually.⁶⁶ The only forces pressing for a common approach have been lobbying efforts by focused commercial interests, each promoting the use of a particular type of battery-powered device.

2. *Principal Elements of a Typical Turn-of-the-Century Vehicle Code*

The 2000 Uniform Vehicle Code and most of its contemporary state counterparts focused principally on and distinguished four modes of mobility: (1) automobiles and their larger relatives (trucks, vans, buses), (2) motorcycles and their like, (3) bicycles, and (4) pedestrians. Each of those categories was carefully defined,⁶⁷ with

⁶³ See, e.g., *Borelli v. Renaldi*, 336 Conn. 1 (2020); *State v. Montano*, 2018-NMCA-047, 423 P.3d 1 (deputy sheriff’s display of badge was not the same as being in uniform); *Epperson v. Utley*, 191 Neb. 413 (1974) (whether traveling at excessive speed forfeits the right-of-way).

⁶⁴ See, e.g., Federal Highway Administration, Manual on Uniform Traffic Control Devices §§ 1A.13, 3B.01, 9B.06 (2009).

⁶⁵ See Edward C. Fisher & Robert H. Reeder, *VEHICLE TRAFFIC LAW* 24 (1974).

⁶⁶ The same is true for post-2000 changes in road design that have implications for traffic rules. See *Noble v. State*, 357 P.3d 1201 (Alaska Ct. App. 2015) (whether turn signal requirements apply to roundabouts).

⁶⁷ See U.V.C. §§ 1-101 – 1-216 (2000).

the statutory definitions serving several core purposes. First, they separated pedestrians from motor vehicles physically. Where a sidewalk was available and its use practicable, pedestrians were forbidden to walk in the roadway.⁶⁸ (“Roadway” was defined as that portion of a highway “improved, designed or ordinarily used for vehicular travel, exclusive of the sidewalk, berm or shoulder”⁶⁹ and “sidewalk” as the portion, outside the roadway, “intended for use by pedestrians.”⁷⁰) In the absence of a sidewalk, pedestrians were directed to walk on a road’s shoulder or far edge and if the road was two-way, on the far left, moving against vehicular traffic.⁷¹ In general, sidewalks were reserved for pedestrians; driving a vehicle on one was forbidden with three exceptions.⁷² The first allowed vehicles using a driveway to pass over a sidewalk on their way to a roadway,⁷³ so long as they gave pedestrians the right of way.⁷⁴ A second allowed vehicles “moved exclusively by human power” (e.g., bicycles and tricycles, in-line skates, strollers, skateboards, and toy wagons) to travel along sidewalks.⁷⁵ The third, for “any motorized wheelchair,”⁷⁶ reflected the impact of the 1990 Americans with Disabilities Act, and the disability rights movement that culminated in its enactment. (Earlier versions of the Code contained only the first two exceptions⁷⁷ and, as previously noted, that remains true still of some state statutes.)

Under the U.V.C. and most state variants, important regulatory requirements attached to motor vehicles. With exceptions, motor vehicles had to be registered and to display tags reflecting that registration.⁷⁸ Motor vehicles not meeting state requirements could not be registered; those lacking registration could not be operated on public roadways.⁷⁹ Individuals operating motor vehicles on public roadways were required to be licensed⁸⁰ and to carry liability insurance.⁸¹ Drivers

⁶⁸ See U.V.C. § 11-506 (2000).

⁶⁹ U.V.C. § 1-186 (2000).

⁷⁰ U.V.C. § 1-193 (2000).

⁷¹ *Id.*

⁷² See U.V.C. § 11-1103 (2000).

⁷³ *Id.*

⁷⁴ See U.V.C. § 11-509 (2000).

⁷⁵ See U.V.C. § 11-1103 (2000).

⁷⁶ *Id.*

⁷⁷ See U.V.C. § 11-1103 (1979).

⁷⁸ See U.V.C. §§ 3-101 – 3-904 (2000).

⁷⁹ See U.V.C. § 3-701 (2000).

⁸⁰ See U.V.C. §§ 6-101 – 6-521 (2000).

had to comply with codified “rules of the road,”⁸² with speed limits,⁸³ and with traffic signs and signals – both human and automated.⁸⁴ Their motor vehicles had to meet state equipment standards (lights, brakes, turn signals).⁸⁵ Significant criminal penalties backed important public safety mandates, including prohibitions on operating a vehicle under the influence of alcohol or other drugs,⁸⁶ on driving recklessly,⁸⁷ and on leaving the scene of a collision.⁸⁸ License revocation was employed in serious cases, alongside criminal penalties, serving both a deterrent and a means of removing the hazard posed by repeat offenders.⁸⁹

3. Local Government Authority to Adjust or Add to the Statewide Rules

While the basic framework established by a motor vehicle code applied throughout the enacting state,⁹⁰ most states granted municipalities significant authority to apply and adapt the code’s general provisions and to add their own (not inconsistent) regulations “with respect to streets and highways within their jurisdiction.”⁹¹

4. Treatment of Smaller, Non-Automotive Modes of Motorized Transportation

Motorcycles and their less powerful relatives, mopeds and Italian-style motor scooters, faced requirements similar and in many respects identical to those applied to automobiles and their operators. The Uniform Code arrayed these non-automotive vehicles in nested categories. “Motorcycle” was its all-inclusive term for motor vehicles with two or three wheels and a saddle for the rider.⁹² “Motor-driven

⁸¹ See U.V.C. §§ 7-101 – 7-507 (2000). The Uniform Code imputed a driver’s negligence to the vehicles owner and also addressed the operation of the doctrine of contributory negligence in civil actions arising out of negligent operation of a vehicle. See U.V.C. §§ 9-201 – 9-202 (2000). Subsequent federal legislation shields those in the business of automobile rental or leasing from such liability. 49 U.S.C. § 30106 (adopted in 2005).

⁸² See U.V.C. §§ 11-301 – 11-705 (2000).

⁸³ See U.V.C. §§ 11-801 – 11-809 (2000).

⁸⁴ See U.V.C. §§ 11-103, 11-201 – 11-201 (2000).

⁸⁵ See U.V.C. §§ 12-101 – 12-415 (2000).

⁸⁶ See U.V.C. §§ 11-901 – 11-908 (2000).

⁸⁷ See U.V.C. § 11-909 (2000).

⁸⁸ See U.V.C. §§ 10-101 – 10-109 (2000). Recent years have seen the use of mobile phones and other electronic devices added to the list in many states.

⁸⁹ See *generally* U.V.C. §§ 6-201 – 6-215 (2000).

⁹⁰ U.V.C. § 15-101 (2000).

⁹¹ U.V.C. § 15-102 (2000). See, e.g., Colo. Stat. § 42-4-110.

⁹² See U.V.C. § 1-157.

cycles” was a subclass defined by limited power.⁹³ It, in turn, contained a “Moped” subclass cycles with no more than 2 horse power and a top speed of 30 mph.⁹⁴

5. Bicycles

The original 1926 Uniform Vehicle Code explicitly included bicycles (and “ridden animals”) within its vehicle definition.⁹⁵ That subjected their riders to all generally applicable rules of the road except those limited to “motor vehicles.” In the 1930 revision bicycles were removed from the “vehicle” category, along with all other devices “moved by human power.”⁹⁶ In 1975, perhaps in response to the resurgence of adult bicycle use, they and other human-powered devices were brought back into the U.V.C.’s “vehicle” definition.⁹⁷ Simultaneously the code provision banning the driving of vehicles on sidewalks was revised to allow those propelled “by human power.”⁹⁸ Throughout these revisions, persons operating bicycles (and other non-motorized vehicles) on public roadways were subject to the traffic rules that applied to other vehicles with one vague qualification. It excepted “those [rules] which by their very nature can have no application.”⁹⁹ In addition, the U.V.C. (and state codes following its model) set forth a number of rules focused solely on bicycle equipment and use: directing where and how bicycles should be ridden (“as far to the right as practicable” on roadways¹⁰⁰ with further restrictions on sidewalks¹⁰¹) requiring lights at night,¹⁰² prohibiting clinging to other vehicles,¹⁰³ or carrying objects that prevent having both hands available for control,¹⁰⁴ for example.¹⁰⁵

⁹³ See U.V.C. § 1-158.

⁹⁴ See U.V.C. § 1-154.

⁹⁵ National Committee on Uniform Traffic Laws and Ordinances, *TRAFFIC LAWS ANNOTATED* 26 (1979).

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* at 299.

⁹⁹ *Id.* at 316.

¹⁰⁰ U.V.C. § 11-1205 (2000).

¹⁰¹ U.V.C. § 11-1209 (2000). For the earlier treatment of bicycles on sidewalks, see National Committee on Uniform Traffic Laws and Ordinances, *Traffic Laws Annotated* 324-25 (1979).

¹⁰² U.V.C. § 12-702 (2000).

¹⁰³ U.V.C. § 11-1204 (2000).

¹⁰⁴ U.V.C. § 11-1207 (2000).

¹⁰⁵ For a recent survey of bicycle law, see Ken McLeod, *Bicycle Laws in the United States - Past, Present, and Future* 42 *FORDHAM URB. L.J.* 869 (2015).

6. Other Human-Powered Vehicles

Kick scooters, in-line and traditional roller skates, skateboards, roller skis, hand pulled wagons, personal shopping carts, strollers and baby buggies – all are “vehicles” as that term is defined in the typical state code. Just as is true of bicycles, some can be propelled at speeds that substantially exceed the pace of most pedestrians, especially on a downward slope. What rules apply to them? Do they belong on a sidewalk? Can they be taken into the roadway whenever and wherever bicycles are permitted? Are those using them subject to the rules that apply to pedestrians?

The common definition of “pedestrian” is limited to those “afoot.”¹⁰⁶ Even though feet are unquestionably involved in the use of roller skates and skateboards there would seem little doubt that while traveling on them the skater or boarder is operating a vehicle and, therefore, is not subject to such requirements as one directing pedestrians use the sidewalk where one is available.¹⁰⁷ That makes the roadway an option; however, since these are human-powered vehicles their users are, in most states, not denied the sidewalk.¹⁰⁸

Acknowledgment of the immense variety of human-powered vehicles appears in two U.V.C. provisions widely adopted by the states. The first is a broad prohibition on attaching oneself to a motor vehicle. Not limited to bicyclists, it typically applies as well to those riding a “coaster, roller skates, sled or toy vehicle.”¹⁰⁹ The second authorizes municipal governments to add their own local regulations of “persons upon skates, coasters, sleds and other toy vehicles” to those that apply statewide.¹¹⁰

7. Wheelchairs (Both Manual and Powered): A Special Case

While state vehicle codes define different vehicle categories predominantly by size, weight, power, and such other physical characteristics as number of wheels, they define wheelchairs principally by who is using them and why. New York’s paired

¹⁰⁶ U.V.C. § 1-168 (2000). *See, e.g.*, Kan. Stat. Ann. § 8-1589.

¹⁰⁷ U.V.C. § 11-506 (2000). *But see* Fla. Stat. § 316.2065(12) (prohibiting individuals “upon roller skates, or riding in or by means of any coaster, toy vehicle, or similar device, [to] go upon any roadway except while crossing a street on a crosswalk”); Mo. Rev. Stat. § 300.090 (same); R.I. Gen. Laws § 31-19-19 (same).

¹⁰⁸ U.V.C. § 11-506 (2000). *But see* Md. Code Ann., Transp. § 21-1103 (b)(2) (limiting bicycles, play vehicles, or unicycles to sidewalks “where allowed by local ordinance”).

¹⁰⁹ U.V.C. § 11-1204(a) (2000).

¹¹⁰ U.V.C. § 11-1502(a)(21) (2000).

statutory definitions illustrate that point at the extreme. Within the wheelchair category New York includes “any manual or electrically driven mobility assistance device, scooter, tricycle or similar device used by a person with a disability as a substitute for walking,” and defines “electrically driven mobility assistance device” as “any wheeled, electrically powered device designed to enable a person with a disability to move from place to place.”¹¹¹ The 2000 U.V.C. employs similar broad language but excludes devices capable of speeds in excess of eight miles per hour.¹¹² Connecticut’s statute removes wheelchairs from the “motor vehicle” category so long as they are “operated by persons with physical disabilities at speeds not exceeding fifteen miles per hour.”¹¹³ Kansas includes in the “pedestrian” category anyone using a “low powered, mechanically propelled vehicle designed specifically for use by a physically disabled person.”¹¹⁴

III. Twenty-First Century Battery-Powered Disruption

A. First Up: The Segway

With the disappearance of the National Committee on Uniform Traffic Laws and Ordinances, legislative initiative in this domain passed largely to commercial interests. Model laws dealing with several of this century’s new forms of powered mobility exist, but they have been drafted by the companies that make, sell, or rent the vehicles they cover, not by a consortium of states or others broadly concerned with transportation planning or traffic safety. This pattern was first established in the early 2000s by the company responsible for the Segway. Although that invention never achieved market success on the scale of the media excitement that preceded its introduction, the lobbying effort by the Segway legal team succeeded in creating a template that has since been adapted to cover other forms of powered micromobility. It contains two key elements: (1) the interpretation of a key federal statutory definition and (2) the amendment of two or three interrelated state statutory definitions.

1. An Initial Hurdle: The Federal Definition of “Motor Vehicle”

The National Highway Traffic Safety Administration’s responsibility for setting vehicle safety standards and mandating the national system of vehicle

¹¹¹ N.Y. Veh. & Tr. L. § 130-a (added in 1985).

¹¹² U.V.C. § 1-159 (2000).

¹¹³ Conn. Gen. Stat. § 14-1(59).

¹¹⁴ Kan. Stat. Ann. § 8-1446.

identification numbers is limited to “motor vehicles” as defined in 49 U.S.C. § 30102(a)(7). A critical phrase in that definition confines the category to vehicles “manufactured primarily for use on public streets, roads, and highways.” The agency does not set standards for power mowers, construction equipment, or off-road recreational vehicles.¹¹⁵ The Segway’s inventor, Dean Kamen, envisioned his powered two-wheeled platform being used in pedestrian space alongside motorized wheelchairs, including the gyro-stabilized wheelchair from which the Segway was derived.¹¹⁶ Early in 2001, the company’s law firm secured an advisory opinion from NHTSA’s chief counsel. It agreed with the firm’s conclusion that the Segway was not a “motor vehicle” subject to the agency’s regulatory authority. That interpretation rested on the location of Segway’s intended use (sidewalks, not the roadway), its limited speed (“less than 20 mph”), and its unusual configuration.¹¹⁷

The importance of the latter two factors had already been articulated in a number of prior NHTSA interpretive opinions involving other powered vehicles with two or three wheels. A foundational agency interpretation, issued in 1969, had concluded that powered “mini-bikes” were not “motor vehicles.”¹¹⁸ In doing so, it set out a multi-factor test. Under that test neither the manufacturer’s intent that mini-bikes be used off-road nor the fact that they possessed the operational capability of being ridden on public thoroughfares was determinative. Mini-bikes were, NHTSA ruled, not motor vehicles so long as they failed to meet the requirements of nearly all states for lawful operation on “public streets, roads, and highways”¹¹⁹ and were not, in fact, being operated on them in significant numbers.¹²⁰ Subsequent, advisory opinions concerning motorized kick scooters qualified the second factor, taking the position that even if such vehicles “regularly use the public roads” they would “not

¹¹⁵ See Letter from Jacqueline Glassman, NHTSA, to Tim Lau, Importhookup, Jan. 7, 2005, ; letter from Erika Z. Jones, Chief Counsel, NHTSA, to Ward W. Reeser, Caterpillar Tractor Co., Aug. 8, 1988, <https://www.nhtsa.gov/interpretations/2793o>.

¹¹⁶ See Bob Metcalfe, More than a wheelchair, the IBOT is on the move (Nov. 26, 1999), <http://www.cnn.com/TECH/computing/9911/26/ibot.idg/>.

¹¹⁷ See Letter from John Womack, Acting Chief Counsel, NHTSA to Eric Rubel, Arnold & Porter, dated Aug. 3, 2001, <https://www.nhtsa.gov/interpretations/07-26-01rubelltrspw>; Steve Kemper, CODE NAME GINGER 302 (2003).

¹¹⁸ See Appendix A - Interpretations, 34 Fed. Reg. 15416 (Oct. 3, 1969).

¹¹⁹ In this and subsequent NHTSA invocations of the statutory phrase “public streets, roads, and highways” it appears to be viewing it as limited to the roadway portion and not extending to the sidewalk.

¹²⁰ See *id.*

be considered 'motor vehicles' if [they] have a maximum attainable speed of 20 miles per hour (mph) or less and an abnormal configuration which readily distinguishes them from other vehicles.”¹²¹ (In the agency’s view, such a low speed would keep the vehicle “from being operated in normal moving traffic.”)¹²² Add a seat to a powered scooter, however, and, in NHTSA’s view, it became a “motor vehicle” subject to its standards. The reason?

[A seat makes the scooter] indistinguishable from a moped, which is an on-street vehicle that we have long interpreted as a motor vehicle. Although most mopeds have chain drives, pedal starters, and lower-mounted engines, we do not think that these distinctions are important. The seated rider on the power scooter appears to other traffic to be riding a moped.¹²³

The Segway raised no concern about such confusion.

2. *The Second: 50 State Motor Vehicle Codes*

Building on its federal regulatory success, the Segway team launched a nationwide lobbying campaign targeting state vehicle codes. There, a critical challenge for the company arose from the comprehensive definitions of “vehicle” and “motor vehicle” found in the laws of all fifty states. The Uniform Vehicle Code defined a “vehicle” as “[e]very device in, upon or by which any person or property is or may be transported or drawn upon a highway, excepting devices used exclusively upon stationary rails or tracks.”¹²⁴ It defined “motor vehicle” as “[e]very vehicle which is self-propelled, and every vehicle which is propelled by electric power obtained from overhead trolley wires but not operated upon rails, except vehicles moved solely by human power and motorized wheelchairs.”¹²⁵ With a degree of variation already described, most states followed that basic model. For a company that wanted to sell Segways for use on public sidewalks and streets, the breadth of those definitions posed two problems. First, the typical state statute, like the U.V.C., banned “motor vehicles” or even all “vehicles” not moved “exclusively by human power” (motorized

¹²¹ See Letter from John Womack, Acting Chief Counsel, NHTSA to Mr. Andrew Grubb Steve's Moped & Bicycle World, dated June 12, 1995, <https://www.nhtsa.gov/interpretations/aiaam5561>.

¹²² See Letter from Jacqueline Glassman, Chief Counsel, NHTSA to Mr. Amir Ambar, Winbel, Inc., dated Nov. 26, 2003, https://isearch.nhtsa.gov/files/Winbel_scooter_v5.html.

¹²³ See *id.*

¹²⁴ U.V.C. § 1-215 (2000).

¹²⁵ U.V.C. § 1-156 (2000).

wheelchairs excepted) from public sidewalks. Second, the types of motor vehicles that could be driven on public roadways were, typically, subject to registration, driver's license, and insurance requirements. The vehicle code amendment proposed by the Segway team sought to shield the invention from all of the above. The simplest way to do that was to exclude the Segway quite specifically from the statutory "motor vehicle" definition. The name they gave the proposed excluded category, "electric personal assistive mobility device" (EPAMD) encouraged association with an accepted one, powered wheelchairs; however, its definition was not confined to use by disabled persons. Ultimately, forty-two states plus the District of Columbia amended their traffic laws to remove EPAMDs from their statutory definitions of "motor vehicle."¹²⁶ Some did so directly;¹²⁷ others accomplished the same result through the underlying definition of "vehicle."¹²⁸ Concern about use on roadways with heavy traffic did prompt a number to attach restrictions on where EPAMDs could be ridden and on a rider's age.¹²⁹ In most cases the statutory changes allowed Segways onto sidewalks, sometimes with the proviso that their riders yield the right-of-way to pedestrians.¹³⁰ The Segway motor vehicle carve-out, the critical definition of "electric personal assistive mobility device," was tightly drawn. While there were slight variations from state to state in other details, to qualify as an EPAMD a device had to have "two non-tandem wheels" and be "self-balancing."¹³¹ Those requirements had one clear purpose and effect, to limit the exception to this singular patent-protected product¹³² while keeping other electrically powered mobility devices, importantly electric bicycles and electric scooters, within state "motor vehicle" statutory definitions. (Although the original Segway had a handlebar, that was not a component of the EPAMD definition. This had the unforeseen consequence, over a decade later, of allowing

¹²⁶ See Governors' Highway Safety Association, Segway Laws (2008), https://web.archive.org/web/20080719044309/http://www.ghsa.org/html/stateinfo/laws/segway_laws.html.

¹²⁷ See, e.g., Fla. Stat. Ann. § 316.003(46); Minn. Stat. Ann. § 169.011(42)(b); Utah Code Ann. § 41-6a-102(40)(b).

¹²⁸ See, e.g., N.C. Gen. Stat. § 20-4.01(49); Wis. Stat. Ann. § 340.01(74).

¹²⁹ See, e.g., Fla. Stat. § 316.2068; Minn. Stat. § 169.212; Utah Code Ann. § 41-6a-1116; Va. Code Ann. § 46.2-908.1.

¹³⁰ See, e.g., Mich. Comp. Laws § 257.660(6).

¹³¹ See, e.g., Mich. Comp. Laws § 257.13c.

¹³² See U.S. Patent No. 8,830,048; U.S. Patent No. 10,370,052B2; Jordan Golson, *Segway has gotten a bunch of products banned in the US for infringing on its patents*, THE VERGE, May 16, 2016, <https://www.theverge.com/2016/3/16/11246676/seaway-patent-itc-geo-banned-import>.

the popular consumer product colloquially known as a hoverboard to qualify. As a consequence, hoverboards had a clear legal path onto the sidewalks of most states.¹³³)

B. Close Behind: Electric Bicycles

In 2002 the manufacturers of electrically powered bicycles sought and obtained passage of a federal statute that secured, for a defined set of their products, the same regulatory treatment that agency interpretation had granted the Segway but consistently withheld from vehicles that resembled mopeds.¹³⁴ Public Law No. 107-319, codified at 15 U.S.C. § 2085, removed “low-speed electric bicycles” from the comprehensive definition of “motor vehicle” in 49 U.S.C. § 30102(a)(7) and brought them within the regulatory authority of the Consumer Product Safety Commission, subject to that agency’s standards for conventional, human-powered bicycles. The act preempted inconsistent state product safety requirements,¹³⁵ but left all regulation of electric bicycle use with the states.¹³⁶ To qualify (and avoid classification as a motorcycle or motor-driven cycle subject to National Highway Traffic Safety Administration standards¹³⁷) a device had to have two or three wheels and fully operable pedals, be powered by an electric motor of less than 750 watts, and be incapable of a speed greater than 20 mph “when powered solely by such a motor” (on a paved level surface with a rider weighing 170 pounds).¹³⁸

Although it blocked more stringent state equipment standards, the federal statute did not by itself achieve any change of status under state vehicle and traffic codes.

¹³³ It also set off a patent dispute, ultimately resolved by a Chinese competitor’s purchase of the Segway company. *See* Curt Woodward, Segway acquired by Chinese competitor, months after alleging patent infringement, *Beta Boston* (April 15, 2015), <http://www.betaboston.com/news/2015/04/15/segway-acquired-by-chinese-competitor-months-after-alleging-patent-infringement/>.

¹³⁴ *See* Letter from John Womack, Acting Chief Counsel, NHTSA to Mr. Andrew Grubb Steve's Moped & Bicycle World, dated June 12, 1995, <https://www.nhtsa.gov/interpretations/aia5561>

¹³⁵ *See* 15 U.S.C. § 2085(d).

¹³⁶ *See* Electric Bicycle Law Basics, https://peopleforbikes.cdn.prismic.io/peopleforbikes/29e81dec-5c0b-4b61-a41d-864384d3aecc_E-Bike-Law-Primer_June_2021.pdf.

¹³⁷ *See* Letter from Anthony M. Cooke, Chief Counsel, NHTSA to Darby Crow, Crow Cycle Co., dated April 17, 2008, <https://www.nhtsa.gov/interpretations/07-007541as>.

¹³⁸ 15 U.S.C. § 2085(b). The statute’s definition of maximum speed was drawn verbatim from the 2001 NHTSA interpretation concluding that EPAMDs were not “motor vehicles.” *See* Letter from John Womack, Acting Chief Counsel, NHTSA to Eric Rubel, Arnold & Porter, dated Aug. 3, 2001, <https://www.nhtsa.gov/interpretations/07-26-01rubelltrspw>.

Under state statutes, low-speed electric bicycles remained “motor vehicles,” typically, in the same category as mopeds, motor scooters, and light weight motorcycles. Without registration and license plates and unless ridden by a licensed operator they could not lawfully be operated on public roadways. Moreover, as motor vehicles, they were barred from sidewalks.

To address the state law impediment, an industry group prepared a model law and proceeded to press for its adoption by state legislatures. Pushed by the growth in consumer interest, more and more states have adopted that model’s framework, with or without modification.¹³⁹ Employing the EPAMD template, the industry statute removes qualifying electric bicycles from a state code’s “motor vehicle” category and all associated requirements. It specifically exempts them from the state’s financial responsibility, driver’s license, registration, certificate of title, off-highway vehicle, and license plate requirements.¹⁴⁰ Instead, its provisions treat electric bicycles as equivalent, in terms of a rider’s rights and duties, to conventional bicycles.¹⁴¹ For equipment requirements, the model simply incorporates those established by the Consumer Product Safety Commission.¹⁴² The statute subdivides covered electric bicycles into three classes. The first two have a maximum power-assisted speed of 20 mph, being differentiated according to whether the rider must pedal to engage the motor. The third class has a higher power-assisted maximum (28 mph when powered by both pedal and motor) and is subject to additional restrictions.¹⁴³ These include a minimum age,¹⁴⁴ the

¹³⁹ peopleforbikes, Model Electric Bicycle Law with Classes, https://peopleforbikes.cdn.prismic.io/peopleforbikes/3686d20b-5695-47c1-b0c7-ffe06402be55_Model-eBike-Legislation-Jan2020.pdf. As of April, 2019, sixteen states had adopted a version. Email from Morgan Lommele, Director of State and Local Policy, PeopleForBikes to the author, April 19, 2019. By February 2022, the count had risen to 36. See Ashley Seaward, Model Electric Bicycle Laws Now in 36 States, <https://www.peopleforbikes.org/news/model-electric-bicycle-laws-now-in-34-states>.

¹⁴⁰ Model Electric Bicycle Law with Classes § 202.

¹⁴¹ *Id.* § 201.

¹⁴² *Id.* § 201.

¹⁴³ As NHTSA has interpreted the 2002 statute placing low-speed electric bicycles under the regulatory authority of the Consumer Products Safety Commission, these faster electric bicycles are still not “motor vehicles” because the rider must continue to pedal. See Letter from Anthony M. Cooke, Chief Counsel, NHTSA to Howard Seligman, Velosolex America, LLC, dated Sept. 17, 2007, <https://www.nhtsa.gov/interpretations/07-001825as>. The federal statute’s cap of 20 mph applies to electric bicycles “when powered *solely* by ... a motor.” 15 U.S.C. § 2085(b) (emphasis added). On the other hand, NHTSA considers electric bicycles or scooters with greater potential speed that are held to the 20 mph cap by means of a governor or an adjustable setting as failing to meet the statutory

mandatory wearing of a helmet,¹⁴⁵ and possible local government limitation of use on bicycle paths.¹⁴⁶ These faster electric bicycles must also be equipped with a speedometer.¹⁴⁷

C. 2018: Electrically-Powered Standup Scooters (Available for On-Demand Rental)

1. *Federal Highway Traffic Safety Administration Motor Vehicle Standards No Longer a Concern*

The Congressional decision to remove low speed electric bicycles from the class of motor vehicles subject to NHTSA regulation, prompted that agency to revise its approach to all small vehicles with two or three wheels. It moved to a simple speed threshold. Under a "tentative interpretation" that has guided NHTSA's exercise of its statutory mandate since 2005, two- or three-wheeled vehicles with "a maximum speed capability of less than 20 mph" are not consider motor vehicles "regardless of on-road capabilities."¹⁴⁸

NHTSA's adoption of this "bright line rule" left all low-speed scooter equipment safety issues to the Consumer Products Safety Commission. While the CPSC had a set of existing bicycle standards to which electric bicycles were subjected by the 2002 legislation placing them under that agency's jurisdiction,¹⁴⁹ it had (and still has) no regulations governing scooters.

2. *A Different Approach to State Law: On-Demand Rental, Build the Market, Force Law to Follow*

While powered standup scooters had been on the U.S. market and a limited presence on U.S. roadways for over a decade, in 2018 electric scooters began appearing on the streets of the nation's urban areas in numbers that could not be ignored. Moreover, their distribution in public space for on demand, short term rental, represented a very different approach to legal impediments. Following the

criterion. See Letter from Anthony M. Cooke, Chief Counsel, NHTSA to Damian J. Pelegriano, President, Top Cargo Inc., dated Jan. 16, 2009, <https://www.nhtsa.gov/interpretations/07-26-01rubelltrspw>.

¹⁴⁴ Model Electric Bicycle Law with Classes § 301 (sixteen).

¹⁴⁵ *Id.* § 302.

¹⁴⁶ *Id.* § 208.

¹⁴⁷ *Id.* § 303.

¹⁴⁸ See National Highway Traffic Safety Administration, Department of Transportation, Two- and Three-Wheeled Vehicles, 70 Fed. Reg. 34810 (June 15, 2005). This interpretation continues to reflect the agency's position. See National Highway Traffic Safety Administration, Importation and Certification FAQs, Group 2: Motorcycles and Scooters, <https://www.nhtsa.gov/importing-vehicle/importation-and-certification-faqs-0>.

¹⁴⁹ See 15 U.S.C. § 2085(a).

Uber, Lyft, and Airbnb strategy, Bird, Lime, and their early “scooter-share” competitors endeavored to build consumer demand without pausing over the legal issues, trusting that popular success would force lawmakers to respond.¹⁵⁰ It helped that the first two companies pursuing this business model, Bird and Lime, were based in California where the vehicle code already contained a “motorized scooter” category,¹⁵¹ to which the state’s “financial responsibility, registration, and license plate requirements” did not apply.¹⁵² However, the scooter-share companies did not limit themselves to California. Bird’s founder hailed from Wisconsin and in late June 2018, his company placed a hundred or more of its rental, powered scooters on Milwaukee sidewalks.¹⁵³ The city threatened to impound them and fine riders. Bird persisted; the city sued.¹⁵⁴ Milwaukee’s legal position rested on two points. First, any commercial activity occupying public sidewalks (restaurant tables, newspaper vending machines, and so on) required a city license. Bird did not have one. Second, under state law, electric scooters fell within the motor vehicle category. Wisconsin law prohibited driving motor vehicles on sidewalks. Nor were roadways an option since these vehicles failed to meet state requirements for motor vehicle registration. The parties settled. Bird withdrew.¹⁵⁵ The following year, Wisconsin amended the state’s motor vehicle law to allow electric scooters to use its streets and roads, subject to additional local regulation. The legislation specifically authorized local governments to regulate or prohibit the short-term rental of electric scooters and the use of electric scooters on sidewalks or bicycle paths within their jurisdiction.¹⁵⁶ In the summer of 2019, electric scooters from Bird, Lime and others

¹⁵⁰ See Umair Irfan, Electric scooters’ sudden invasion of American cities, explained, Vox, <https://www.vox.com/2018/8/27/17676670/electric-scooter-rental-bird-lime-skip-spin-cities>.

¹⁵¹ Cal. Veh. Code § 407.5.

¹⁵² Cal. Veh. Code § 21224. The California statute did require (as it still does) that those operating scooters have a driver’s license or learner’s permit. Cal. Veh. Code § 21235(d).

¹⁵³ See James B. Nelson & Mary Spicuzza, Bird scooters arrive in downtown Milwaukee, but city attorney says they’re illegal to use on streets, sidewalks, Milwaukee Journal Sentinel (June 28, 2018), <https://www.jsonline.com/story/news/local/2018/06/28/its-illegal-ride-bird-scooters-were-dropped-off-downtown/741208002/>.

¹⁵⁴ See Wisconsin Public Radio, Milwaukee Dockless Scooters Case To Be Heard In Federal Court (July 13, 2018), <https://www.wpr.org/milwaukee-dockless-scooters-case-be-heard-federal-court>.

¹⁵⁵ See Wisconsin Public Radio, Bird Electric Scooter Company Voluntarily Pulling Out Of Milwaukee (Aug. 6, 2018), <https://www.wpr.org/bird-electric-scooter-company-voluntarily-pulling-out-milwaukee>.

¹⁵⁶ 2019 Wis. Act 11 (codified at Wis. Stat. § 349.237).

returned to Milwaukee, licensed by the city under a pilot program.¹⁵⁷ Later, a similar scenario played out in Honolulu, where the city resisted the introduction of rental electric scooters in the absence of state legislation granting them legal status on state thoroughfares.¹⁵⁸ The necessary law did not pass until 2021.¹⁵⁹

In other states with vehicle codes no less forbidding, cities yielded to company persuasion and consumer demand and allowed the introduction of rental scooters anyway. The Atlanta, Georgia, city council adopted an ordinance in 2019 providing for the operation of “shareable dockless mobility devices in the city.”¹⁶⁰ The category is defined as including “e-scooters” (although not “e-bicycles”).¹⁶¹ No state legislation recognizes such devices. Under Georgia law they remain “motor vehicles.”¹⁶² An amendment that would have added “electric scooters” to a list of exclusions from the “motor vehicle” category, alongside “electric bicycles” and “electric personal assistive mobility devices,” while subjecting them to local government regulation, passed the Georgia Senate in February 2020, only to fail of enactment in the Georgia Assembly.¹⁶³ Numerous cities in Ohio including Cincinnati,¹⁶⁴ Cleveland¹⁶⁵ and the capital, Columbus,¹⁶⁶ allowed scooter rental

¹⁵⁷ See Keith Schubert, Milwaukee learning from other cities' woes while rolling out e-scooters, Milwaukee Journal Sentinel (July 22, 2019), <https://www.jsonline.com/story/news/local/milwaukee/2019/07/22/milwaukee-looks-learn-other-cities-e-scooter-introduction/1754546001/>

¹⁵⁸ See Andrew Gomes, Rental scooter company Lime suspends service in Honolulu, Star Advertiser (May 18, 2018), <https://www.staradvertiser.com/2018/05/18/breaking-news/rental-scooter-company-defies-mayor-keeps-operating/>.

¹⁵⁹ See 2021 Hi. Act. 174.

¹⁶⁰ Atlanta, Georgia, Code of Ordinances Article X.

¹⁶¹ *Id.* § 150-400.

¹⁶² Georgia's code contains the standard broad definition. Ga. Code § 40-1-1(33).

¹⁶³ Georgia Senate Bill 159, 2020, <https://www.legis.ga.gov/api/legislation/document/20192020/189446>. See David Wickert, Georgia Senate Passes Electric Scooter Legislation, government technology (2/5/2020), <https://www.govtech.com/transportation/georgia-senate-passes-electric-scooter-legislation.html>.

¹⁶⁴ See Cincinnati, Ohio, Code of Ordinances §§ 501-1-E3, 506-4; City issues interim guidelines for electric scooter companies and riders, WCPO (Aug. 8, 2018), <https://www.wcpo.com/news/local-news/hamilton-county/cincinnati/city-issues-interim-guidelines-for-electric-scooter-companies-and-riders>

¹⁶⁵ See Cleveland, Ohio, Code of Ordinances, Chapt. 517; Robert Higgs, Cleveland to allow electric scooter rentals this summer, targeting key parts of the city for pilot program (Dec. 6, 2019), <https://www.cleveland.com/cityhall/2019/06/cleveland-to-allow-electric-scooter-rentals-this-summer-targeting-key-in-parts-of-the-city-for-pilot-program.html>.

companies to put electric scooters on their streets during 2018, 2019, and 2020. Yet it was not until April of 2021 that an act of the state legislature authorizing use of “low speed micromobility devices” on Ohio roadways took effect.¹⁶⁷ Before that change, no matter what an Ohio city’s ordinances said, electric scooters met the state definition of “motor vehicle” and did not belong on its streets or sidewalks.¹⁶⁸ Brookline, Massachusetts, authorized a shared electric scooter program in 2019 in the face of unchanged state law.¹⁶⁹

While share operations brought this new type of mobility device to the attention of city and state law makers, the scooters, in a range of configurations, had for some years been available for individual purchase, long term rental, and short-term rental from fixed facility shops focused on recreational use and the tourist market. The pandemic and rising gasoline prices have only increased the demand. Comprehensive legislation at state and local levels must, as a consequence, address individual rider use as well as the terms on which public spaces (sidewalks and roadways) can be used by enterprises offering them for on demand rental.¹⁷⁰

3. A Threshold Challenge: Defining the Category

Pressed by constituents, share-system lobbyists, and municipalities to sort out the legal status of electric scooters, legislatures have lacked federal regulatory guidance. The typical scooter wheel configuration, front and back rather than “non-tandem,” disqualified them as “electric personal assistance mobility devices.” The course the Federal Highway Traffic Safety Administration had taken after Congress

¹⁶⁶ See Columbus, Ohio, §§ 2101.116, 2101.186, 2101.59; Rick Rouan, Columbus sets rules for motorized scooters, *The Columbus Dispatch* (Aug. 28, 2018), <https://www.dispatch.com/news/20180828/columbus-sets-rules-for-motorized-scooters>; Emily Bamforth, Bird electric scooters now in Columbus: What are they, are they legal and could they come to Cleveland? (July 13, 2018), https://www.cleveland.com/entertainment/2018/07/bird_electric_scooters_now_in.html.

¹⁶⁷ Ohio Rev. Code Ann. §§ 4501.01, 4511.514 (added by 2019 Ohio HB 295).

¹⁶⁸ See *City of Lakewood v. El-Hayek*, 142 Ohio Misc. 2d 129 (Lakewood Mun. Ct. Dec. 29, 2006)..

¹⁶⁹ See Brookline, Mass., Shared Electric Scooter Pilot Program, <https://www.brooklinema.gov/1573/E-Scooter-Share-Pilot-Program>; Kellen Browning, ‘A wild ride’: Brookline grapples with high demand, headaches as electric scooter pilot zips along, *Boston Globe* (July 26, 2019), <https://www.bostonglobe.com/metro/2019/07/26/wild-ride-brookline-grapples-with-high-demand-headaches-electric-scooter-pilot-zips-along/QWJMclyrpCjf2xrxLifwlK/story.html>.

¹⁷⁰ A recent amendment of the Alabama Code fails on this score. It adds “scooters and hoverboards” to the state’s Motor Vehicle and Traffic Laws, but only when they are part of a “shared micromobility device system.” See Ala. Code §§ 32-1-1.1(65) & (66), 32-19-2.

stripped it of jurisdiction over electric bicycles pointed toward the Consumer Product Safety Commission as the pertinent federal agency. But whatever these new devices were, their lack of operable pedals prevented them from qualifying as electric bicycles, subject to and in compliance with CPSC standards which state legislation could incorporate by reference.

State EPAMD and electric bicycle statutes did, however, provide the pattern. Adapting their approach to this new category of mobility device required, first, a definition – one that could be added to the list of exceptions from the broad definition of “motor vehicle,” thereby, shielding electric scooters, like EPAMDs and qualifying electric bicycles from registration, equipment, license, insurance and any other “motor vehicle” requirements that lawmakers deemed inappropriate. A definition was also needed to provide the scope for equipment and operating regulations suited to the characteristics of the new category.

Clarity was essential. The common name for the devices, “scooter,” permitted easy confusion for it had long been used to identify vehicles in the style of the Italian Vespa, which most state vehicle laws included within the motorcycle category. Some ride-on devices used by individuals with mobility impairments are also commonly referred to as “scooters.” Typically state codes treat those as the equivalent of electric wheelchairs. The vehicles in question were neither. Nor were they the subject of a model statute. One potential concern in framing any definition was that it might include mobility devices raising significantly different issues. Already on the road in California (legally under its vehicle code)¹⁷¹ were electrically powered skateboards, controlled by hand-held remote. Should these be lumped together with electric scooters or, following California’s approach, should electric scooters be defined in terms that excluded skateboards?¹⁷² Most states limited their new electric scooter category to devices that had two (or at most three) wheels and handlebars.¹⁷³ Having four wheels with no handlebar, electric skateboards did not qualify, nor did electrically powered unicycles which appeared on the market and California roads and sidewalks as early as 2011.¹⁷⁴ In 2015, the California

¹⁷¹ See Cal. Veh. Code §§ 313.5, 21290 – 21296.

¹⁷² Compare Cal. Veh. Code § 313.5 with Cal. Veh. Code § 407.5.

¹⁷³ See, e.g., Ariz. Code § 27-51-1902; Conn. Gen. Stat. § 14-1; Ind. Code § 49.4; Kan. Rev. Stat. § 8-126.

¹⁷⁴ See Electric Unicycle, Wikipedia, https://en.wikipedia.org/wiki/Electric_unicycle#Commercialisation.

legislature gathered those together with electric skateboards under a separate “electrically motorized board” definition, with accompanying regulatory provisions.¹⁷⁵

The first electric scooters offered by shared-system companies had no seat, but the market evolved. Later entrants, sensing an important niche, introduced scooters designed to allow the rider to sit. For them, definitions that required a “platform designed to be stood upon when riding” posed a potential challenge. This led some states (and localities) to make it clear that while a platform was required, the presence of a seat did not exclude a device from the new electric scooter category¹⁷⁶ or even that a device designed solely for a seated rider could qualify.¹⁷⁷ Were scooters with the capacity to carry both operator and a passenger to be included or should the definition limit scooters to single-person devices? There were also questions of speed and size – maximum weight, length, and width. Should the definition include a top speed below the 20 mph cap set by the FHSA and, if so, measured how? Should lights be required? Turn signals? Brakes? If so, of what capability? There was no national consensus on any of these points, and the representatives of the major share-system companies were satisfied so long as their inventory was covered. As new entrants in the rental or retail sales market sought competitive advantage with different features – a seat or a third wheel – their vehicles often failed to fit comfortably within early statutory definitions.¹⁷⁸

4. State Equipment and Operational Capability Requirements

The Consumer Product Safety Commission regulations for bicycles and qualifying electric bicycles impose an important set of safety standards. They require brakes shown by testing to be capable of bringing the device and a 170 pound rider to a full stop in fifteen feet,¹⁷⁹ reflectors of specified placement, color, and capability,¹⁸⁰ and key components that can withstand defined levels of force or stress.¹⁸¹ Anyone selling, distributing, or importing bicycles that fail to comply with those standards

¹⁷⁵ See Cal. Veh. Code § 313.5.

¹⁷⁶ See, e.g., Fla. Stat. § 316.003(44).

¹⁷⁷ See, e.g., Hi. Rev. Stat. §§ 249-1, 291-C-1; Nev. Rev. Stat. § 482.0295.

¹⁷⁸ See, e.g., Andrew J. Hawkins, Spin is testing remote-controlled electric scooters to prevent blocked sidewalks, *The Verge*, Jan. 27, 2021, <https://www.theverge.com/2021/1/27/22252156/spin-scooter-remote-control-tortoise-segway> (three wheels).

¹⁷⁹ See 16 C.F.R. § 1512.5(b)(1).

¹⁸⁰ See 16 C.F.R. § 1512.16.

¹⁸¹ See 16 C.F.R. §§ 1512.11-1512.14

violates federal law and is potentially subject to civil and criminal penalties.¹⁸² For motorcycles, including those commonly referred to as motor scooters or mopeds, detailed equipment safety standards are set by the National Highway Traffic Safety Administration (NHTSA).¹⁸³ No comparable federal product safety standards exist for electric scooters, however defined.¹⁸⁴ (Although the CPSC has not issued standards, the hazards posed by the lithium ion batteries, in general, and electrical systems powering and controlling mobility devices have received the agency’s attention and led to some recalls,¹⁸⁵ cautionary guidance to consumers,¹⁸⁶ and participation in the development of voluntary industry standards.)¹⁸⁷

It has, therefore, fallen to the states or their local governments, to impose any requirements focused on braking ability, visibility, stability, the durability of structural elements, or safety of the electrical components. To date, most state electric scooter statutes have failed to address these issues.¹⁸⁸ Along with safety standards, NHTSA also prescribes the attachment of unique vehicle identification

¹⁸² See 15 U.S.C. §§ 2068(a)(1), 2069, 2070.

¹⁸³ See, e.g., 49 CFR § 571.122a (motorcycle braking systems); 49 CFR § 571.123 (motorcycle controls and displays). Like the federal bicycle standards these focus on the point of manufacture, sale, or import and are backed by civil penalties. See 49 U.S.C. §§ 30112, 30165.

¹⁸⁴ This is not because of lack of statutory authority. The definition of “motor vehicle” that underlies the National Traffic Safety Administration’s authority to set standards is amply broad: “a vehicle driven or drawn by mechanical power and manufactured primarily for use on public streets, roads, and highways.” 49 U.S.C. § 30102(a)(7). The American Society for Testing and Materials reports work on a “voluntary” standard. See ASTM, New Specification for Commercial Electric-Powered Scooters for Adults, <https://www.astm.org/DATABASE.CART/WORKITEMS/WK70724.htm>.

¹⁸⁵ See, e.g., CPSC, Smart Balance Wheel Self-Balancing Scooters/Hoverboards Recalled by Salvage World Due to Explosion and Fire Hazards (Nov. 14, 2017), <https://www.cpsc.gov/Recalls/2018/Smart-Balance-Wheel-SelfBalancing-ScootersHoverboards-Recalled-by-Salvage-World-Due-to-Explosion-and-Fire-Hazards>; CPSC, Pacific Cycle Recalls Schwinn Electric Scooters Due to Fall and Injury Hazards (Dec. 13, 2021), <https://www.cpsc.gov/Recalls/2022/Pacific-Cycle-Recalls-Schwinn-Electric-Scooters-Due-to-Fall-and-Injury-Hazards>.

¹⁸⁶ CPSC, Serious Injury or Death Can Occur if Lithium-Ion Battery Cells Are Separated from Battery Packs and Used to Power Devices (Jan. 8, 2021).

¹⁸⁷ See CPSC, Batteries, <https://www.cpsc.gov/Regulations-Laws--Standards/Voluntary-Standards/Topics/Batteries>.

¹⁸⁸ Exceptions include Texas where the category’s definition specifies a braking system “capable of stopping the device under typical operating conditions.” Tex. Transp. Code § 551.351(A)(1)(ii). A similar non-specific brake system requirements is imposed by Kentucky. See Ken. Rev. Stat. § 189.010(26)(D) (“a brake adequate enough to stop and park the device”). California specifies brakes “that will enable the operator to make a braked wheel skid on dry, level, clean pavement. Cal. Veh. Code § 21235(a). Ohio’s e-scooter legislation contains minimum light and reflector requirements for scooters ridden “at night.” See Oh. Rev. Stat. §4511.514(B)(3).

to covered “motor vehicles.”¹⁸⁹ State motor vehicle titling and registration requirements build on that system.¹⁹⁰ Nothing like it applies to either electric bicycles or electric scooters, and few states have established an alternative.¹⁹¹ A handful authorize local governments to impose registration requirements on them.¹⁹²

5. Relationship of the Regulations Governing Electric Scooters to Those that Apply to Electric Bicycles

The industry’s model electric bicycle legislation seeks to achieve equivalence with conventional bicycles on a state’s roadways and sidewalks (same “rights and duties”). Arizona’s “electric standup scooter” statute follows that basic pattern.¹⁹³ Most of the other early scooter statutes do as well, but add further restrictions. Commonly, these include operator age limits. Arkansas and Kentucky set a minimum age of sixteen;¹⁹⁴ Hawaii, fifteen;¹⁹⁵ Minnesota, twelve;¹⁹⁶ Utah, eight.¹⁹⁷ California requires that operators have a driver’s license or learner’s permit.¹⁹⁸ A few states impose a requirement that riders wear helmets.¹⁹⁹ Some impose speed limits lower than the maximum speed of the device.²⁰⁰

Common are limits on where electric scooters may be ridden. A few state statutes prohibit their operation on sidewalks, at least in the absence of a local ordinance to the contrary.²⁰¹ Many do not. The majority simply impose the same rules of the

¹⁸⁹ See 49 C.F.R. § 565.2.

¹⁹⁰ See U.V.C. § 3-104 (2000).

¹⁹¹ The Arkansas electric scooter statute requires that scooters carry a unique identification number. See Ark. Code § 27-51-1903. Hawaii has established a system of state-wide electric scooter registration. See Hi. Rev. Stat. § 249-35.

¹⁹² See Cal. Veh. Code § 21225 (motorized scooters). Curiously, Colorado allows local governments to impose a registration requirement on electric bicycles (and bicycles) but not on electric scooters. See Colo. Rev. Stat. § 42-4-111(1).

¹⁹³ See Ariz. Rev. Stat. § 28-819; Ken. Rev. Stat. § 189.289.

¹⁹⁴ See Ark. Code § 27-51-1903.

¹⁹⁵ See Hi. Rev. Stat. § 249.

¹⁹⁶ See Minn. Stat. § 169.225.

¹⁹⁷ Utah Code Ann. § 41-6a-1115(2).

¹⁹⁸ See Cal. Veh. Code. § 21235(d).

¹⁹⁹ Prior to a 2018 amendment California required that all riders wear helmets. See Cal. Assem. Bill No. 2989, 2018. Its statute now imposes that requirement only on individuals under the age of 18. See Cal. Veh. Code § 21235(c).

²⁰⁰ See Ark. Code § 27-51-1903 (15 mph).

²⁰¹ See Minn. Stat. § 169.225; N.Y. Veh. L. § 1282(7); Or. Rev. Stat. § 814.524.

road on electric scooters that they apply to bicycles (and electric bicycles). This amounts to a requirement that scooters be ridden in a bicycle lane where one is available and otherwise along the side of the roadway. California directs riders making a left turn from that position to stop, dismount, and cross as a pedestrian.²⁰² Most states allow electric scooters to turn left following the same pattern as bicycles and other vehicles.²⁰³ Some exclude scooters from particular categories of roads, defined by speed limit, the lack of a bicycle lane, or limited access.²⁰⁴ Many authorize local governments to adjust some of these parameters. Commonly, permission to ride scooters on bicycle and multi-use paths rests upon decisions by the public bodies or agencies with jurisdiction.²⁰⁵

6 Relationship of Regulations Governing Electric Scooter and Electric Bicycle Use to Those that Apply to Mopeds and Vespa-style Scooters

Under New York law, a two-wheeled powered vehicle with a seat, capable of no more than 20 mph can, potentially, be treated as a “limited use motorcycle,” a “bicycle with electric assist,” or an “electric scooter.” The category into which it is placed carries major consequences. Neither overall size and weight nor wheel diameter are factors. To be categorized by New York as a motorcycle, a device must be certified by the manufacturer as meeting NHTSA standards. As a motorcycle, albeit one with limited speed, the vehicle must be registered and display plates. Its rider must hold a license. With greater speed (and in other states, even at this speed)²⁰⁶ insurance is required. In New York, so long as the vehicle is a “limited use motorcycle” capped at 20 mph, it is not.²⁰⁷ However, all of New York’s general “motor vehicle” laws including its DUI and driving while texting statutes apply.²⁰⁸ If the vehicle has operable pedals, it can qualify as a bicycle with electric assist so long as it meets the Consumer Product Safety Commission’s standard. If it fits this category, no license or registration is required, although a rider must be at least sixteen.²⁰⁹ As a bicycle with electric assist, its operation is subject to a more

²⁰² See Cal. Veh. Code § 21229.

²⁰³ See, e.g., Md. Code Ann., Transp. § 21-1205(a)(1).

²⁰⁴ See Cal. Veh. Code § 21235(b).

²⁰⁵ See, e.g., Cal. Veh. Code § 21230; Ind. Code § 13.6; La. Rev. Stat. § 32:300.1.1.

²⁰⁶ See Genuine Scooter Co., SCOOTER AND MOTORCYCLE LAWS BY STATE, <http://www.genuinescooters.com/scooter-state-laws.html>.

²⁰⁷ See N.Y. Dept. of Motor Vehicles, Register a Moped, <https://dmv.ny.gov/registration/register-moped>.

²⁰⁸ See N.Y. Veh. & Traf. L. §§ 1176, 1225-c, 1225-d.

²⁰⁹ See N.Y. Veh. & Traf. L. § 1242(2).

restrictive set of rules of the road.²¹⁰ With or without pedals, a device can qualify as an electric scooter. If it does, no license or registration is required, although the rider must be at least sixteen.²¹¹ No Consumer Product Safety Commission requirements apply.

7. The Applicability of DUI, Reckless Driving, Phoning-while-Driving, Leaving-the Scene of a Crash Statutes to Electric Bicycles, Electric Scooters (and EPAMDs)

Important state prohibitions, some induced by federal funding incentives, apply to “motor vehicles” but not bicycles. These include DUI statutes and more recent laws focused on distracted driving (driving while phoning, texting, or operating any handheld electronic device). DUI statutes typically make it unlawful to “operate a motor vehicle”²¹² or more expansively to “operate or be in actual physical control of a motor vehicle”²¹³ while intoxicated. Provisions prohibiting reckless driving or requiring drivers involved in an accident to remain at the scene, often take the same form.²¹⁴ New York’s prohibitions on driving while using a handheld phone, texting, or having both ears covered with earphones connected to an audio device, are, similarly, limited to those “operating a motor vehicle.”²¹⁵ Removal of electric bicycles and electric scooters from the statutory definition of “motor vehicle” places them outside such provisions.²¹⁶ (In states where prohibitions like these are framed in terms of all “vehicles” and micromobility devices are removed only from the “motor vehicle” category but not that more comprehensive one, this result need not follow.²¹⁷)

8. Share Systems, Local Regulation versus Uniform State-Wide Rules

When the ride-share companies, Uber and Lyft, muscled onto the nation’s urban scene, their dependence on state-licensed and regulated automobiles and the

²¹⁰ See N.Y. Veh. & Traf. L. §§ 1242 –1243.

²¹¹ See N.Y. Veh. & Traf. L. §§ 1280 –1289.

²¹² See, e.g., Conn. Gen. Stat. § 14-227a; Iowa Code § 321J.2.

²¹³ See, e.g., Ariz. Code § 5-65-103; Ken. Rev. Stat. § 189A.010.

²¹⁴ See, e.g., Conn. Gen. Stat. § 14-224(a); Mass. Ann. Laws ch. 90, §§ 24(2)(a), 24(2)(a½)

²¹⁵ See N.Y. Veh. & Tr. L. §§ 1225-c, 1225-d, 375(24-a).

²¹⁶ See, e.g., *State v. Greenman*, 825 N.W.2d 387 (Minn. Ct. App. 2013); *State v. Brown*, 801 N.W.2d 186 (Minn. Ct. App. 2011). The federal statute requiring states to adopt and enforce an “open container” laws contains the classic sweeping definition of “motor vehicle,” presumably reaching all electrically powered micromobility devices, without regard to their classification under state law. See 23 U.S.C. § 154.

²¹⁷ See, e.g., Fla. Stat. §§ 316.003(46), 316.003(106), 316.193, 316.027. Cf. *State v. Greene*, 283 Ore. App. 120, 388 P.3d 1132 (2016); *People v Rogers*, 438 Mich. 602, 475 N.W.2d 717 (1991).

insurance issues they posed led many, if not most, states to respond with legislation that removed nearly all regulatory authority over the activity from municipalities. The Texas law on ride-share operations leaves no space for additional local oversight or control.²¹⁸ New York's grants more populous communities the option of banning ride-share operations altogether, but does not permit them to layer requirements on top of those imposed by the state.²¹⁹

By contrast, state statutes addressing bicycle, electric bicycle, and electric scooter share operations have, in general, left local governments in full control. Beyond the basic parameters set by state law for the type of vehicle (who can ride, characteristics of the devices, where, in general terms, they may be ridden), core questions are left to cities, villages, towns, and, in some cases, counties. In nearly all states local governments have the authority to add restrictions to those imposed by state law on these devices (sometimes with specified exceptions).²²⁰ New York's statute authorizes local governments to be more permissive as well. It allows them to permit operation of electric bicycles and electric scooters on roadways with speed limits in excess of 30 mph and on sidewalks (from which they would otherwise be barred).²²¹

D. The Status of Other Electrically Powered Personal Mobility Devices

Currently navigating the streets and sidewalks of many U.S. cities are a variety of battery-powered personal mobility devices that do not belong there according to the provisions of the state's vehicle and traffic code. In some states, still, these include electric scooters; in a few, electric bicycles. In states that allow electric bicycles and electric scooters on public roadways, devices of those general types that fail to meet the relevant statutory definitions – whether due to maximum speed,²²² number of wheels (too few or too many), lack of handlebars, or some other feature – also fall in

²¹⁸ See Tex. Occ. Code § 2402.003.

²¹⁹ See N.Y. Gen. Mun. L. § 182. See generally Joseph T. Theall, *NOTE: Dear Ms. Councilwoman, "What Can You Do About Uber in the City?": The Role of Local Governments in the Post-Regulatory Landscape of Transportation Network Companies*, 54 SUFFOLK U. L. REV. 251 (2018); National League of Cities, *City Rights in an Era of Preemption: A State-by-State Analysis* (2018), <https://www.nlc.org/resource/city-rights-in-an-era-of-preemption-a-state-by-state-analysis/>.

²²⁰ See, e.g., Kan. Rev. Stat. § 8-113(c); Nev. Rev. Stat. § 484A.469.

²²¹ See N.Y. Veh. & Tr. L. § 1282.

²²² Growing numbers of electric bicycles and electric scooters of great power and speed that have escaped NHTSA regulation by being marketed for "off road" use can be spotted moving along public roadways of all kinds.

this category. In nearly all states that is true of electrically powered skateboards and single-wheeled devices, with or without gyro stabilization. There are exceptions. Both are encompassed by California’s “electrically motorized board”²²³ and Michigan’s “electric skateboard”²²⁴ categories. Arizona and Virginia also authorize use of motorized skateboards on public ways. The Arizona statute requires at least two wheels, thereby excluding single-wheeled devices.²²⁵ Virginia’s definition, which combines electric skateboards and scooters, does not.²²⁶

E. Next Up: Micro Delivery Devices

In early 2019 delivery robots debuted at a U.S. university. Traveling along campus sidewalks at around 4 mph without an operator on board these vehicles brought pizzas, salads, and sodas to hungry students.²²⁷ As separate enclaves with their own regulatory regimes, universities provided an attractive test environment. Over the next two years, autonomous delivery devices weighing less than 100 pounds fully loaded spread to at least twelve other campuses.²²⁸ In December 2019, California’s Department of Motor Vehicles approved their use, as well as the use of larger and faster autonomous delivery vehicles, along public roadways.²²⁹ By February 2022, legislation in 19 states and the District of Columbia permitted “personal delivery devices” to travel along sidewalks and in streets on roughly the same terms as pedestrians. The larger vehicles approved by California for roadway use do not qualify, but the maximum weight of the devices permitted under these recent statutes range up to 550 pounds unloaded.²³⁰ Width, length, and height are not specified. Typically, “personal delivery devices” are allowed to move at up to 10

²²³ Cal. Veh. Code § 313.5

²²⁴ Mich. Comp. Laws § 257.13f.

²²⁵ Ariz. Rev. Stat. § 28-101(50)(b)(ii). Arizona also allows municipalities to ban both e-scooters and e-skateboards. Lumping the two together, Tucson has done so. *See* Tucson, Ariz., Code of Ordinances § 20-30.

²²⁶ Va. Code Ann. § 46.2-100.

²²⁷ *See* Mary Lee Clark, There are robots on campus—here’s what you need to know (Jan. 22, 2019), George Mason University, <https://www.gmu.edu/news/2019-01/there-are-robots-campus-heres-what-you-need-know>.

²²⁸ *See* Starship Enterprises, FAQ, <https://www.starship.xyz/contact/faq/>.

²²⁹ *See* California Authorizes Light-Duty Autonomous Delivery Vehicles (Dec. 17, 2019), <https://www.dmv.ca.gov/portal/news-and-media/california-authorizes-light-duty-autonomous-delivery-vehicles/>.

²³⁰ *See* Colo. Rev. Stat. § 24-38.5-302(15)(d).

mph on sidewalks and in other pedestrian spaces,²³¹ up to 20 mph where they are allowed on public roadways.²³²

Although the National Highway Traffic Safety Administration has been involved in the regulation of autonomous vehicles designed for highway use, it has neither monitored nor regulated the development of these special-purpose vehicles designed for low speed operation as robotic load-carrying pedestrians. The Consumer Product Safety Commission, to which NHTSA has deferred on regulation of electric scooters and similar forms of personal mobility, has little ground to assert regulatory authority over a product that is neither bought nor rented by a consumer but instead employed by commercial entities to make deliveries. To date, the states have been totally on their own in setting safety standards for these devices, regulations, if any, aimed at minimizing the risk to those who must share public rights-of-way, whether roadways, sidewalks or bike lanes, with them. Some have passed that responsibility on to their municipalities.²³³

IV. Inevitable Consequences of Lawmakers' Failing to Address Widespread Use of Devices that Are not "Street Legal"

A. General Public Confusion and Inconsistent, Even Discriminatory, Enforcement

The demand for personal powered mobility devices has moved far more rapidly than federal and state lawmakers or public understanding. In growing numbers, small electrically powered vehicles that fall under a jurisdiction's "motor vehicle" definition, but are neither registered nor eligible for registration, are being ridden on public roadways and sidewalks of every state and major municipality. To many members of the general public, including some riders of those devices, and to many law enforcement personnel, the non "street legal" vehicles appear indistinguishable from recently legalized electric bicycles and electric scooters.

Under the typical vehicle and traffic code, driving an unregistered vehicle on a public roadway is a punishable offense.²³⁴ The same is true of operating any motor vehicle on a sidewalk.²³⁵ For the rider of an unsanctioned device, fines and

²³¹ See, e.g., N.C. Gen. Stat. § 20-175.16(b)(2).

²³² See, e.g., Utah Code § 41-6a-1119(2)(a)(ii).

²³³ See, e.g., N.C. Gen. Stat. § 20-175.17; Utah Code § 41-6a-1119(8)(a).

²³⁴ See *Commonwealth v. Eliason*, 353 Pa. Super. 321, 509 A.2d 1296 (1986).

²³⁵ See, e.g., *Roldan v. Flores*, 2016 Cal. App. Unpub. LEXIS 7428 (Oct. 5, 2016).

impoundment, even arrest and search, are threats.²³⁶ Since other laws are likely to command higher priority for state and local police, there is a high risk of inconsistent, biased, and pretextual enforcement. The record of bicycle and electric bicycle law enforcement furnishes ample grounds for concern on that score.²³⁷

B. Spillover into the Tort System

High stakes consequences are likely to follow in the event of injury or death. If the operator of a device is riding, unlawfully, on a sidewalk and collides with a pedestrian or unlawfully within a bike lane and collides with a cyclist, causing harm to the other, the violation is likely to be treated as evidence of negligence. The same is likely to be true when harm results from a shared-system vehicle's being parked in violation of state or local law. Should a collision occur on a roadway and the operator of the electric scooter or electric skateboard be injured or killed, any claim against the driver of the automobile, bus, or truck involved will be compromised if the micromobility device was being operated unlawfully.

According to the *Restatement of Torts (3d)* and courts in a majority of states, when an injury is caused by conduct that violates a statute and is of the sort the statute was passed to prevent that conduct is "negligent per se."²³⁸ Under most

²³⁶ In 2001, the U.S. Supreme Court rejected a claim that to arrest and jail an individual for commission of a minor traffic violation (failure to wear a seat belt, punishable by a fine of not more than \$50) violated the "right to be free from unreasonable seizure" established by the Fourth Amendment. *Atwater v. City of Lago Vista*, 532 U.S. 318 (2001). And in *Virginia v. Moore*, 553 U.S. 164 (2008) the Court held that arresting an individual for a traffic violation (driving without a valid license) committed in the presence of law enforcement (even when arrest was not supported by state law) did not violate the Fourth Amendment nor did the subsequent search.

²³⁷ See, e.g., L.A. sheriff's deputies use minor stops to search bicyclists, with Latinos hit hardest (LA Times, Nov. 4, 2021), <https://www.latimes.com/projects/la-county-sheriff-bike-stops-analysis/>; ACLU of Michigan Settles "Biking While Black" Case; Teens Finally Given Closure, AM. CIVIL LIBERTIES UNION (May 30, 2006), <https://www.aclu.org/racial-justice/aclu-michigan-settles-%E2%80%9Cbiking-while-black%E2%80%9D-case-teens-finally-given-closure> (discussing a lawsuit based on a memo that instructed officers to pull over black youths on bicycles); Michael Andersen, Communities of Color Bear the Brunt of Sidewalk-Biking Enforcement, PEOPLE FOR BIKES (Oct. 21, 2014), <http://www.peopleforbikes.org/blog/entry/communities-of-color-bear-the-brunt-of-sidewalk-biking-enforcement>; Kyle Swenson, Biking While Black is a Crime, MIAMI NEW TIMES, Oct. 31, 2013, <http://www.miaminewtimes.com/2013-10-31/news/biking-while-black-fort-lauderdale/full/> (examining selective enforcement of a bicycle registration law).

²³⁸ See RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL AND EMOTIONAL HARM § 14; Barbara Kritchevsky, *What Does Law Have to Do with it? The Jury's Role in Cases Alleging Violations of*

circumstances, in most jurisdictions, the violation does not compel a finding of negligence but merely furnishes evidence of it, allowing the fact-finder (judge or jury) to determine that the violation was a cause of the collision.²³⁹ Whatever form the doctrine takes, a finding that the individual operating or parking a micromobility device on a public way (roadway, sidewalk, park path) was in violation of state or local law can work to the disadvantage of the rider in one of two ways. If the injury has been suffered by another (pedestrian, cyclist, operator of a “street legal” powered device of any sort) a finding of negligence can lead directly to personal liability for large sums. If the rider is injured, a finding of negligence can block or reduce the amount of recovery from the other party.²⁴⁰

A recent appeal decided by the Alabama Supreme Court is illustrative. The issue arose from a motorist’s defense of contributory negligence to a claim for damages caused by his collision with an electrically-powered wheelchair. The plaintiff was struck from behind by the defendant’s automobile while operating his six wheeled motorized chair (maximum speed – 5 mph). The crash occurred as the plaintiff prepared to make a left turn into his apartment complex from a road that had no sidewalk or crosswalk. The plaintiff, forced to this form of mobility because of cerebral palsy, was on his way home from a church supper in mid-April between 8 and 9 p.m. According to the court:

[His] wheelchair was equipped with a seat belt, two six-beam flashlights on the footrest, two flashing red bicycle lights on the back of his arm rests, some red reflectors on the back of the wheelchair, and an orange vest with reflective yellow tape that was draped over the back²⁴¹

Had the plaintiff been riding a bicycle or using a manually propelled wheelchair his suit would not have faced the obstacle posed by Alabama’s vehicle code. It defined

Law, Custom, and Standards, 71 ARK. L. REV. 45, 72 (2018); Nora Freeman Engstrom, *The Automobile’s Tort Legacy*, 53 WAKE FOREST L. REV. 303, 322, 324 (2018).

²³⁹ See, e.g., *Klanseck v. Anderson Sales & Service, Inc.*, 426 Mich. 78 (1986).

²⁴⁰ Tort litigation arising out of traffic accidents generated a late twentieth century shift in many states from “contributory negligence,” the liability approach in which a plaintiff’s negligence precludes any recovery, to “comparative negligence,” in which it reduces it according to the parties’ respective culpability. See Nora Freeman Engstrom, *The Automobile’s Tort Legacy* 53 WAKE FOREST L. REV. 303 (2018); Gary T. Schwartz, *Contributory and Comparative Negligence: A Reappraisal*, 87 YALE L.J. 697 (1978).

²⁴¹ *Pruitt v. Oliver*, 331 So.3d 99, 102 (Ala. 2021).

“motor vehicle” in the typical sweeping terms. Moreover, unlike the codes of a vast majority of states, it did not (and still does not) exclude motorized wheelchairs and their equivalents from that definition nor include those using one within its definition of “pedestrian.”²⁴² (At the time, it also contained no electric bicycle or electric scooter exception so the plaintiff’s legal situation would have been no different had the case involved one of them.) Then and now Alabama law requires “motor vehicles” operated on its roadways to have “a rearview mirror, a horn, brakes, [and] brake lights.”²⁴³ The plaintiff’s chair lacked all four. Alabama also requires that a reflective triangle of a specified size and shape be displayed by slow-moving vehicles.²⁴⁴

Because the Alabama statute defined pedestrians as persons traveling “afoot,” the appellate court, rejected the defendant’s argument, which had been accepted by the trial court, that the plaintiff should be found contributorily negligent for his failure to follow “pedestrian” rules of the road. (Alabama directs pedestrians to travel in the left lane against traffic when they are on roads with no sidewalk or shoulder.²⁴⁵ Had the plaintiff been in the left lane, the trial court reasoned, the collision could not have occurred.)

The plaintiff sought to have the wheelchair considered an “electric personal assistive mobility device” or EPAMD. So viewed the state’s “motor vehicle” requirements would not apply, and the plaintiff’s actions would be consistent with the associated operating rules. But the Alabama Code’s definition of the EPAMD category like those elsewhere effectively limited the category to Segways (and hoverboards).²⁴⁶

The Alabama Supreme Court considered itself compelled to conclude that the plaintiff was injured while operating a “motor vehicle,” one that failed to meet state requirements. Fortunately for the plaintiff, that conclusion did not translate directly into a finding of contributory negligence. The question the court sent back for a determination at trial was whether the lack of any or all of the required “motor

²⁴² Ala. Code § 32-1-1.1(15.1).

²⁴³ *Pruitt v. Oliver*, 331 So.3d 99, 113 (Ala. 2021).

²⁴⁴ Ala. Code § 32-5-246. Bicycles and other “devices moved by human power” are excluded from the statutory definition of vehicle and consequently do not carry this requirement. Ala. Code § 32-1-1.1(87).

²⁴⁵ Ala. Code § 32-5A-215(c).

²⁴⁶ Ala. Code § 32-1-1.1(15.1).

vehicle” safety features on the plaintiff’s wheelchair “proximately caused the accident.”²⁴⁷ (Most jurisdictions that have adopted a comparative negligence approach, one in which a plaintiff’s negligence does not bar recovery but can reduce it, require a similar causal connection or finding.²⁴⁸) Nonetheless, because the plaintiff’s device was not “street legal” his liability claim faced a major obstacle that would not have been there had he been operating an EPAMD or bicycle.

The Alabama vehicle and traffic code was, and still is, an outlier in its failure to address the distinctive legal issues faced by users of wheelchairs and other powered mobility assistance devices.²⁴⁹ Arguably, its vehicle code violates the Americans with Disabilities Act. However, the state’s categorical approach to regulating the use of its roadways and sidewalks is utterly typical. The challenge of applying existing traffic laws to those employing the many new types of electrically-powered vehicles in the context of a tort action is no different from that faced by the Alabama Supreme Court in this case. Collisions and subsequent attempts to recover for injuries will force attention to the discrepancy between existing vehicle categories and the devices now moving about the nation’s streets and sidewalks, even if law enforcement and city officials ignore it.

In 2018 the Alabama legislature added electrically powered scooters and “shared micromobility devices” to the defined terms in its motor vehicle code, specifying the terms of their use.²⁵⁰ In 2021 it added electric bicycles, removing them from the “motor vehicle” category.²⁵¹ It has yet to address the legal status of powered wheelchairs. Under Alabama law as interpreted by the state’s highest court they (unlike electric bicycles) remain subject to all the statutory requirements imposed

²⁴⁷ *Pruitt v. Oliver*, 331 So.3d 99, 110-111 (Ala. 2021).

²⁴⁸ See, e.g., *Klanseck v. Anderson Sales & Service, Inc.*, 426 Mich. 78, 86-89 (1986); *Kubasinski v. Johnson*, 46 Mich. App. 287 (1973).

²⁴⁹ Justice Mendheim’s decision presents a detailed survey of all fifty states. He concludes that the vehicle codes of only seven other states both fail to contain specific provisions addressing wheelchair use and define “pedestrian” in terms that exclude wheelchair users. By his count, the vast majority of states include individuals in wheelchairs in their definitions of “pedestrian.” Others have specially tailored provisions that apply to wheelchairs or exclude them from their definition of “motor vehicle.” *Pruitt v. Oliver*, 331 So.3d 99, 110-11 (Ala. 2021).

²⁵⁰ See Alabama Act 2019–437, adding new definitions to Ala. Code § 32-1-1.1 and a new § 32–19–2 governing the operation of shared micromobility devices and systems. It contains no provision for scooters not part of a shared system.

²⁵¹ See Alabama Act 2021–134, adding “electric bicycle” to Ala. Code § 32-1-1.1’s roster of defined terms and a new § 32–5A–267 setting out the rules for their lawful use.

on “motor vehicles.” Worse yet, as “vehicles” they would appear to be banned from Alabama’s sidewalks.²⁵²

C. Uninsured Liability

Whether operating an electrically-powered micromobility device of a type and in a jurisdiction and place where the law allows it or under prohibited conditions, any mishap resulting in injury to the rider or another will, in all likelihood, expose an insurance gap. If the operator of the device is covered by an automobile insurance policy, the scope of coverage will almost certainly not reach loss or liability arising from the use of such smaller powered vehicles. States with “no fault” regimes typically allow personal injury recovery by individuals covered by an automobile policy who are struck by an automobile while they are traveling as pedestrians or cyclists.²⁵³ However, that coverage does not apply, while the covered individual is using another “motor vehicle.”²⁵⁴ Although there is no assurance that state motor vehicle code definitions will be read into insurance legislation or policies, if the mobility device falls in a category that has been removed from a state’s “motor vehicle” definition and the operator is covered by an automobile policy, there is, at least, some possibility of recovery under the same conditions as a cyclist or pedestrian. The liability coverage of the typical automobile policy would almost certainly not extend to injuries caused by a covered individual while riding an electric bicycle, electric scooter, or similar micromobility device, whether or not “street legal.”²⁵⁵

A bicycle rider or skate-boarder who causes harm to another may have liability coverage under a homeowner’s or renter’s policy. Both types of insurance frequently cover not only loss or damage to a residence and personal property but also provide liability insurance for some, although not all, claims and lawsuits brought against the insured seeking compensation for accidental bodily injury or damage to property. The primary focus is on damage suffered on the insured premises, but many such policies extend coverage to liability arising out of the insured’s personal

²⁵² See Alabama Code § 32-5A-52.

²⁵³ See Or. Rev. Stat. Ann. § 742.520.

²⁵⁴ See Underwriters Ratings Board, New York Mandatory Personal Injury Protection, Form No. BA 12, Other Definitions (c), at 3 (2001).

²⁵⁵ A common personal auto policy form refers throughout to “autos.” While it extends that term to include pickups and vans, it explicitly excludes “Any vehicle ... [w]hich has fewer than four wheels.” See Insurance Services Office, Inc., Form No. PP 00 01 01 05, EXCLUSIONS, at 4 (2003).

(as opposed to business or commercial) activities that take place elsewhere. The availability of coverage of this sort for a micromobility device mishap is, needless to say, contingent on: (1) the rider's being covered by a homeowner's or renter's policy and (2) the use of the device falling within the policy's definition of covered personal activities. In any event, the fact that the device fits within a broad definition of "motor vehicle" is, once again, likely to pose a problem. Typically, policies of this type exclude liability arising out of the use of a "motor vehicle."²⁵⁶ As to electric bicycles or electric scooters that a state has removed from its vehicle code's "motor vehicle" category it would be possible to contend that the exclusion does not apply. Depending on the policy's exact language, however, the insurer could plausibly contend that its use of the term "motor vehicle" in this context is broader than, and independent of, the statutory definition of the same phrase.²⁵⁷ A provision recently added to the California motorized scooter statute requires that contracts for scooter sales warn the buyer, in large type, that existing insurance policies "may not provide coverage for accidents involving use of the scooter."²⁵⁸

Those injured or causing injury while riding a device rented from a shared-system company are in no better position. Under the terms and conditions that the major companies impose on their customers, renters assumes all risks, agree to hold the company harmless, and commit to binding arbitration of all disputes with the company.²⁵⁹

V. Concluding Observations

The sale and rental of a growing variety of electrically powered personal mobility devices is a large scale national phenomenon. Despite their differences, these vehicles share characteristics that are attractive to users, and to public officials responsible for metropolitan transportation planning. They do not burn fossil fuel. In terms of energy use and space required, they are a far more efficient way to move

²⁵⁶ See Insurance Services Office, Inc., Form No. HO 00 03 05 11, EXCLUSIONS, at 17-18 (2010) (2003).

²⁵⁷ See generally Insurance Information Institute, Spotlight on: e-scooters and insurance (Feb. 20, 2019), <https://www.iii.org/article/spotlight-on-e-scooters-and-insurance>.

²⁵⁸ Cal. Veh. Code § 407.5(c) (effective Jan. 1, 2022)..

²⁵⁹ See Bird Rental Agreement, Waiver of Liability and Release (July 6, 2020), <https://www.bird.co/agreement/>; Lime User Agreement, <https://www.li.me/user-agreement> (last visited Feb. 14, 2022); Lyft Rideable Rental, Waiver of Liability and Release Addendum (Sept. 9, 2020), <https://s3.amazonaws.com/api.lyft.com/static/terms-scooter-bike.html>.

individual travelers short distances than even the smallest automobile. The space they require when parked is much less. Offered through shared systems, they can be positioned to fill gaps between public transit and a traveler's starting point, destination, or both.

On the other hand, except for the intrepid, their usefulness is limited to fair weather. The cold temperatures, snow, and ice experienced during winter in some parts of the country render their use unpleasant and, in varying degrees, unsafe. Extreme heat and heavy summer storms also limit their use. Finally, because of the physical demands and risks they place on the operator, electric bicycles, scooters, skateboards, and unicycles are neither attractive nor suitable alternatives to an automobile or public transit for a sizable portion of the population.

The safety risks posed by these vehicles for both operator and other members of the public sharing the same space warrant serious attention from the federal agencies charged with setting standards for all vehicles destined for roadway use. Between them, the National Highway Traffic Safety Administration and Consumer Product Safety Commission have ample statutory authority to regulate the design and construction of these new devices.²⁶⁰ While the former backed away from this field during an era when its enthusiasm for standard-setting was low and small, slow speed devices seemed a distraction, electrically powered vehicles capable of speeds no greater than 20 mph have, over the last decade, become “street legal” on many of the nation’s roadways and therefore comfortably within the U.S. Code’s “motor vehicle” definition upon which FHSA’s regulatory authority is grounded. That agency’s parent, the Department of Transportation, has recently awakened to the importance of “walking, biking, ... [and] rolling” as modes of individual mobility.²⁶¹ Able to offer states funding for infrastructure changes and improvements, it is in an ideal position to guide and coordinate state micromobility regulation.²⁶²

Like the public infrastructure designed to facilitate movement around and between the nation’s cities, towns, and villages, the state laws governing that movement still remain largely configured around automobiles and their larger relatives, on the one hand, and pedestrians on the other, with limited accommodation of bicycles. Fitting

²⁶⁰ See *supra* p. ____.

²⁶¹ See generally Department of Transportation, National Roadway Safety Strategy (Jan. 22, 2022), <https://www.transportation.gov/NRSS>.

²⁶² See 49 U.S.C. §§ 30102(a)(7), 30111.

motorized delivery robots, skateboards, standup scooters, bicycles into this framework has largely been accomplished by following the path of the nearly extinct Segway²⁶³ and creating arbitrarily defined exceptions to state motor vehicle statutes, each with its own set of operating rules.

Both equipment standards and regulation of use should apply with reasonable consistency across device types, without distinctions based on features that have little or no bearing on functional capability or safety while attending to those like wheel size, stability, braking, electrical and control systems that do. In the absence of the National Uniform Committee on Uniform Traffic Laws and Ordinances, there is a need for some other entity to take on the role that organization fulfilled during the twentieth century – drafting model traffic and vehicle provisions that encourage greater uniformity across the country and sharing best practices among the fifty states. Plausible candidates include the Uniform Law Commission²⁶⁴ and the Governors Highway Safety Association.²⁶⁵ Climate, degree of urbanization, quality of existing infrastructure for bicycles and other forms of low-speed individual vehicular mobility, along with other factors will inevitably lead to differences in how states regulate the use of these devices and argue for states granting local governments substantial authority to add their own requirements.

To date, the established pattern of state automobile, motorcycle, and moped legislation has largely been rejected for this twenty-first century wave of individualized mobility devices. Yet the underlying regulatory challenges that earlier pattern addressed remain largely unanswered. These include the need for some effective means of screening the individuals who are allowed to control the vehicles and for facilitating the identification of sellers and buyers, owners and renters, who violate the rules that govern their use. The practice of licensing automobile, motorcycle, and moped drivers provides an accepted means of assuring that the operators of such vehicles have sufficient age, visual and physical capacity, knowledge of the applicable rules, and operational skill to be entrusted with their use in public space. It also furnishes a mechanism for taking hazardous operators off the road. Registration of individual vehicles, reflected in a publicly displayed

²⁶³ See NPR, *After Nearly Two Bumpy Decades, The Original Segway Will Be Retired In July* (June 23, 2020), <https://www.npr.org/2020/06/23/882536320/after-nearly-two-bumpy-decades-the-original-segway-will-be-retired-in-july>.

²⁶⁴ See Uniform Law Commission, <https://www.uniformlaws.org/aboutulc/overview>.

²⁶⁵ See GHSA, <https://www.ghsa.org/>.

tag, is a universally employed means of enabling law enforcement personnel to distinguish “street legal” vehicles from those that are not and to identify the owners accountable for their use. Those moving about on vehicles propelled solely by their own muscular power (whether bicycle, skates, or skateboard) are neither screened nor tagged. However, it is far from obvious that powered devices, capable of speeds of 20 mph or more, most of which must be balanced, should be allowed in shared public space without any operator screening or a means by which those violating the applicable rules of the road can readily be identified. That becomes increasingly clear as nominally “off road” counterparts with way too much power and speed to be “street legal,” but visually indistinguishable from those that are, become available.²⁶⁶ Already the record is clear; even “street legal” electric bicycles, electric scooters, and their like can pose a serious risk to the rider and to others.²⁶⁷

Every state has an agency with personnel, systems, and expertise focused on screening and regulating the vehicles permitted to move along the jurisdiction’s roadways and the individuals authorized to operate them. The indicia of authorization they issue – vehicle tags and operators’ licenses – make it possible for state and local law enforcement personnel to identify authorized devices and drivers and distinguish them from those that don’t belong. If the laws governing micromobility devices are to be widely understood, followed, and effectively enforced, comparable institutional means must be found.

²⁶⁶ For example, the ONYX RCR can be set to electric bicycle power and speeds but can also travel at up to 60 mph. *See* Micah Toll, ONYX RCR First ride: Flying fast on this 60 mph electric moped, *electrek* (March 5, 2020), <https://electrek.co/2020/03/06/onyx-rcr-first-ride-60-mph-electric-moped/>. The Fiido Beast is an electric scooter that can travel at up to 30 mph. *See* Micah Toll, Fiido Beast seated & standing 30 mph electric scooter launches, offers choose-your-own ride style, *electrek* (March 23, 2022), <https://electrek.co/2022/03/23/fiido-beast-seated-standing-30-mph-electric-scooter-launches-offers-choose-your-own-ride-style/>. The Segway Company has begun selling an electric scooter capable of 43 mph. *See* Kate Kozuch, Segway's new scooters are alarmingly fast — and there's a new electric skateboard, *tom’s guide* (March 03, 2022), <https://www.tomsguide.com/news/segways-new-scooters-are-alarmingly-fast-and-theres-a-new-electric-skateboard>.

²⁶⁷ *See, e.g.*, U.S. Consumer Product Safety Commission, *Micromobility Products-Related Deaths Injuries and Hazard Patterns 2017-2020* (2021), <https://www.cpsc.gov/content/Micromobility-Products-Related-Deaths-Injuries-and-Hazard-Patterns-2017-2020>; Kevin Farley, Matthew Aizpuru, Jacob Wilson et al., *Estimated Incidence of Electric Scooter Injuries in the US From 2014 to 2019* (2020), *JAMA Network Open*, 2020;3(8):e2014500, <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2770043>.

Major regulatory catch-up is needed. It will require focused and ongoing attention at both the state and federal level.