



Micromobility Webinar Q&A Responses

Laws/Ordinances

If they are going to be considered motor vehicles for some purposes, shouldn't they be for all and require licensing of users similar to a drivers license? there are rules of the road that users need to know.

McMahon: In Virginia these are considered "vehicles" and subject to the rules of the road, but not "motor" vehicles and subject to licensing. As a professional planner specializing in multimobility, I would argue that requiring licensing for using micromobility devices adds unnecessary barriers to entry for a relatively low impact and low cost mode. We don't require people riding bikes or skateboards to get drivers licenses either, and in fact, in the interest of traffic mitigation, environmental impacts, and pedestrian safety, we would rather people use these small devices than drive a car anyway. These devices are low speed, low weight, compared to vehicles that typically require licenses (cars, motorcycles, mopeds) which are high speed and high weight.

Are there minimum age requirements to use across the board among providers? With much of the micromobility riding taking place in urban areas on streets with vehicles, what's your thoughts on the need for licensing people to ride these devices? I believe some cities and States require moped riders to have a license because it's not just a license for the vehicle but to operate on roadways.

McMahon: See response to the previous question. Some jurisdictions have a minimum rider age. CA has a state law that requires riders to have a driver's license. The American Academy of Pediatrics does not recommend that children under 16 ride e-scooters and that includes children riding in tandem with an adult. E-scooters are designed for single-rider use.

I work on micromobility in suburban areas in the Portland, OR region. Since trips go beyond city boundaries, how do we get cities to work together to create consistent regulations throughout the same region?

McMahon: Great question! We in the DC region have not fully succeeded in what you are asking, however, we have been running regional meetings to coordinate on the topic, and as ordinances were developed, there have been many opportunities for staff to model their work after one another and learn from past lessons. My experience has been that each jurisdiction likes to be able to respond to the specific demands of its constituents, so sometimes variability results from those demands rather than staff simply going their own way. This would be an area where high level regulations from the state would help with consistency.



How common are bans? I was in Singapore studying this topic last year and then they banned PMDs on sidewalks- personal mobility devices

McMahon: Some communities ban where these devices may be ridden, but there is no standard.

Data

How did you look at data for eScooter crashes as there is no ICD-10 code?

McMahon: Refer to the GHSAs micromobility report (The Safety of Micromobility Section beginning on page 9) for crash data information & sources.

Given the response that policy should be data driven as well as lack of data inclusive beyond crashes involving vehicles, is there any collaborative effort or push for a national database with standard data elements and collection protocols as well as standardization and implementation of "odometers" or possible black boxes?

Hoff: Improvements to existing national data collection efforts include the changes to person type coding in NHTSA's crash databases (non-motor vehicle occupants on personal conveyances, motorized or not motorized) and the ICD-10-CM 2021 Addenda which includes more specific codes covering electric scooters, segways, hoverboards, and micro-mobility pedestrian conveyances not identified. These changes will improve both national and state data collection efforts. A combination of crash, EMS, and hospital data already exist, we just need to make and wait for improvements which will accurately identify the road user and environment for which safety countermeasures can be applied. Further improving future crash data, micromobility is an area being addressed in the next update to MMUCC (Model Minimum Uniform Crash Criteria), a resource many states refer to when updating crash report forms and systems. I have heard discussions of a national non-motorists or micromobility-type data system, and perhaps we will see something new in data collection with the next Authorization, but currently there is no direct effort I am aware of.

The idea of black boxes in the crash sense is interesting. This would have to be an effort led and implemented by the micromobility providers. The micromobility providers do have GPS and trip data that would be the "odometer" in aggregate. The providers have been very collaborative in sharing this information with state and federal governments, research organizations, and others. For personally-owned micromobility devices, I'm not sure if there is any data collection equipment, but also an interesting idea.

Chang: We have not seen a collective effort to standardize and report telemetry data derived from shared micromobility vehicles. However, at Lime, we are keen to identify ways to make this data useful to the extent possible to support efforts to improve safety for all.



Follow-up to previous question, we don't have exposure data for micromobility on a macro level, would you think that having a standardized collection and reporting of miles traveled and a device to collect would help?

Hoff: Having exposure data absolutely helps in every sense. Just as we collect vehicle miles traveled, providers collect and share number of trips and trip distances. With this information, at least for e-scooters, we are actually further ahead collecting exposure information than we are collecting exposure information for walkers or pedalcyclists. Without exposure, we will never fully understand the risk.

Chang: Yes, exposure data is extremely important. We work with many researchers to support their studies by providing this type of information. There have been efforts to standardize the definition of a trip and methods to use this type of data, including those developed by the New Urban Mobility Alliance (NUMO) and the Mobility Data Collaborative.

When looking at safety data on accidents/fatalities, do we see a significant difference in instances with personal-use vehicles and transit or other service vehicles (like taxis)?

McMahon: Arlington's SMD Pilot evaluation report has some good discussion of this. The TL;DR is that these numbers are not truly apples to apples so it is difficult to make direct comparisons, BUT, the numbers of crashes and injuries for scooters appeared during our pilot to be much more like pedestrian or bicycle involved crashes and injuries than like car crashes or injuries over roughly the same time period. Our research team found qualitatively that normalized measures of e-scooter crashes are lower than pedestrian crashes but higher than bike crashes.

Infrastructure

Is there an interest among municipalities and DOTs to create a micromobility-centric (bikes, scooters, etc.) infrastructure that is segregated from the traditional road network that primarily serves automotive traffic? -- or create micromobility streets only?

McMahon: In Arlington and the DC region there has been a concerted push to protect bike lanes in order to provide those corridors where micromobility users can feel safe on the roadway and not share with cars. Arlington has to-date not pursued total street closures for bike/walk/scooter modes - often in Arlington the corridors in highest demand are also transit streets and commercial streets, so complete closure for just micromobility would be more difficult logistically, and, on the flip side, trying to divert bikes and scooters to "alternate" specially closed routes is also less likely to be successful because those routes are not the most direct path to folk's destinations. One of the lessons we are learning from our program is that the network for micromobility is really everywhere - people need it to get from home to errands and any other activities, so all roads need to provide safe options, not just a few corridors. This



is one reason why Arlington's ordinance allows sidewalk riding where no protected bike lane is present - because the County acknowledges that some riders are just not going to be comfortable sharing the street with cars, and they shouldn't have to share with cars if they need to get around.

For the providers, do you see in the future any indication of need for use in suburban communities? A growth in micromobility devices and bicycles would change infrastructure plans in these areas.

Chang: Yes, we see micromobility as a viable mode of transport in a variety of settings, including suburban communities. In fact, we've long seen micromobility fulfilling the last mile trips to and from public transit. At Lime, we would be thrilled to help fill existing mobility gaps to decrease the need for the second car if not the first in suburban households.

Helmets

Are helmets required by law?

McMahon: It depends on the jurisdiction.

Do helmet requirements for micromobility depend on the jurisdiction? Or do the companies require a helmet to ride? Could the companies play a role in enforcing this, i.e. not activating the device without photo evidence of a helmet?

McMahon: Helmets are not required by providers, but they include information about the importance of wearing a helmet on the onboarding information on their apps. Some have also distributed free helmets at learn to rider events.

Chang: At Lime, we ask all our riders to wear helmets regardless of geographical location. We are constantly thinking of ways to make helmet wearing easier by providing free and discounted helmets along with other initiatives.

Why not require car drivers wear helmets then?

McMahon: Unlike bicyclists and scooter riders, motor vehicles are equipped with technology to protect occupants from head and other injury (i.e., seat belts, air bags).

Additional Topics

Electric scooters have been around since 2000 and are not a new item.

McMahon: Yes, but they didn't arrive in mass on city streets and college campuses until 2018.



What did Austin do to educate the Law Enforcement Community on the issues related to micromobility? This is not a standard area of training for officers typically.

McMahon: Refer to the GHSAs micromobility report (Officer Training, Resources & Support on page 29) for information about what Austin PD to train officers. Commander Eric Miesse may be contacted via email at eric.miesse@austintexas.gov

Relative to Arlington County's TDM work, are there any examples of employer-supported programs for shared scooters? Any partnerships between shared mobility operators and local transit agencies?

McMahon: Great question! So far in Arlington's TDM work, the main example of employer/business support for scooters has been through the provision of charging stations on private property. I'd suggest the providers chime in here to add detail, but my understanding is that so far the providers have not made corporate accounts available to employers (as they are for our regional bikeshare program, Capital Bikeshare) so there are some limits to how an employer could directly subsidize the scooter mode for employees. However, we do know that employers and residential/commercial buildings have expressed an interest in this, and their TDM programs are supported with information about all the modes, including the various scooter companies, so they have the best tools possible to promote to their audiences. As far as direct partnerships with transit agencies, there have been none yet in Arlington. At the outset of our pilot, there were anecdotal concerns that this mode would "steal" from transit ridership, but we found in our data, as Pam's report indicates, that e-scooter trips were on average about 1 mile long, compared to bikeshare's 2 miles and transit was even longer. Our survey indicated that scooter trips were more likely to replace walking trips, ride hailing trips, and even personal car trips than they were transit trips. This has suggested to us that these modes are more likely complements than competitors and could work together. COVID has slowed us down in experimenting with the possibilities.

I'd be interested in your assessment of the broader environmental impact of the use of these devices. Given the need to regularly round up, recharge, repair and return them to service, and the projected exponential growth post-pandemic of these devices, are they truly benign?

McMahon: In my opinion, these devices are worse for the environment than walking, and worse than using a personally-owned micromobility device, whether it be battery operated or not, but they are never going to be worse for the environment than driving a car. Although the initial burst in the industry resulted in some scary images of giant piles of discarded scooters in China, we never experienced such a deluge of product in the DC metro region. My gut instinct is actually that the longer term viability of the market sector for the businesses will require greater shelf life for the scooters, rather than less, and sensible government policy around waste reduction can also influence that (just like gas taxes and carbon taxes can influence the demand for those resources). The business models are even now changing with regard to resources dedicated to charging and rebalancing, and I think there is an important role for distributed charging stations in the future of these systems. It also helps if a local government policy does not require the scooters to all be taken off the street every night, as some



jurisdictions' policies require. That kind of policy, typically established in response to fears about the dangers of night riding and drinking and riding, has the (hopefully) unintended consequence of dramatically increasing the operating costs of the service and the (albeit off-peak, nighttime) miles of travel needed to gather up and then re-position the assets each day.

How could micromobility be expanded to be more equitable? Could you provide any micromobility examples which attempt to meet needs of people with physical disabilities. Are there any micromobility programs that have shared devices (wheelchairs or electric scooters?)

McMahon: In Arlington we have not yet seen providers roll out devices designed to address issues of physical ability equity. We do know providers have in place various versions of programs to address economic equity, and Arlington's policy has a geographic equity component. However, more needs to be done, and initial data suggest our geographic distribution requirements have easily been met.