

Micro-mobility Status and Insights from the U.S.

& Considerations for Policy Development

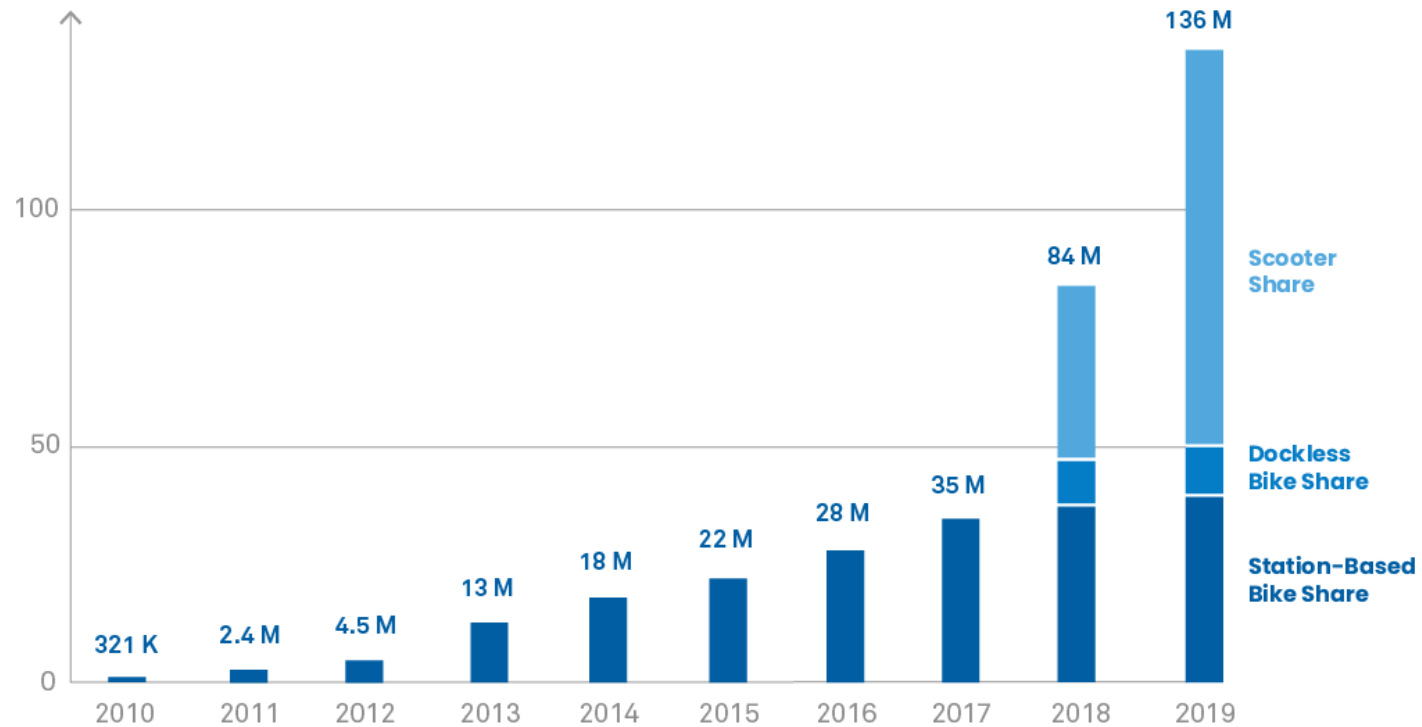


Johns Hopkins Center for Injury Research and Policy

Shared Scooter Use Trends

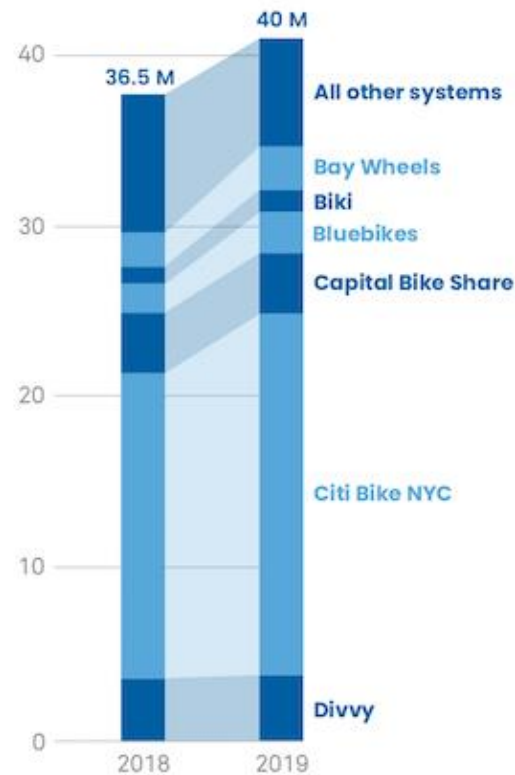
SHARED MICROMOBILITY RIDERSHIP GROWTH FROM 2010-2019,
IN MILLIONS OF TRIPS

Source: NACTO



Large City Phenomenon

STATION-BASED BIKE RIDERSHIP IN 2019
IN MILLIONS OF TRIPS

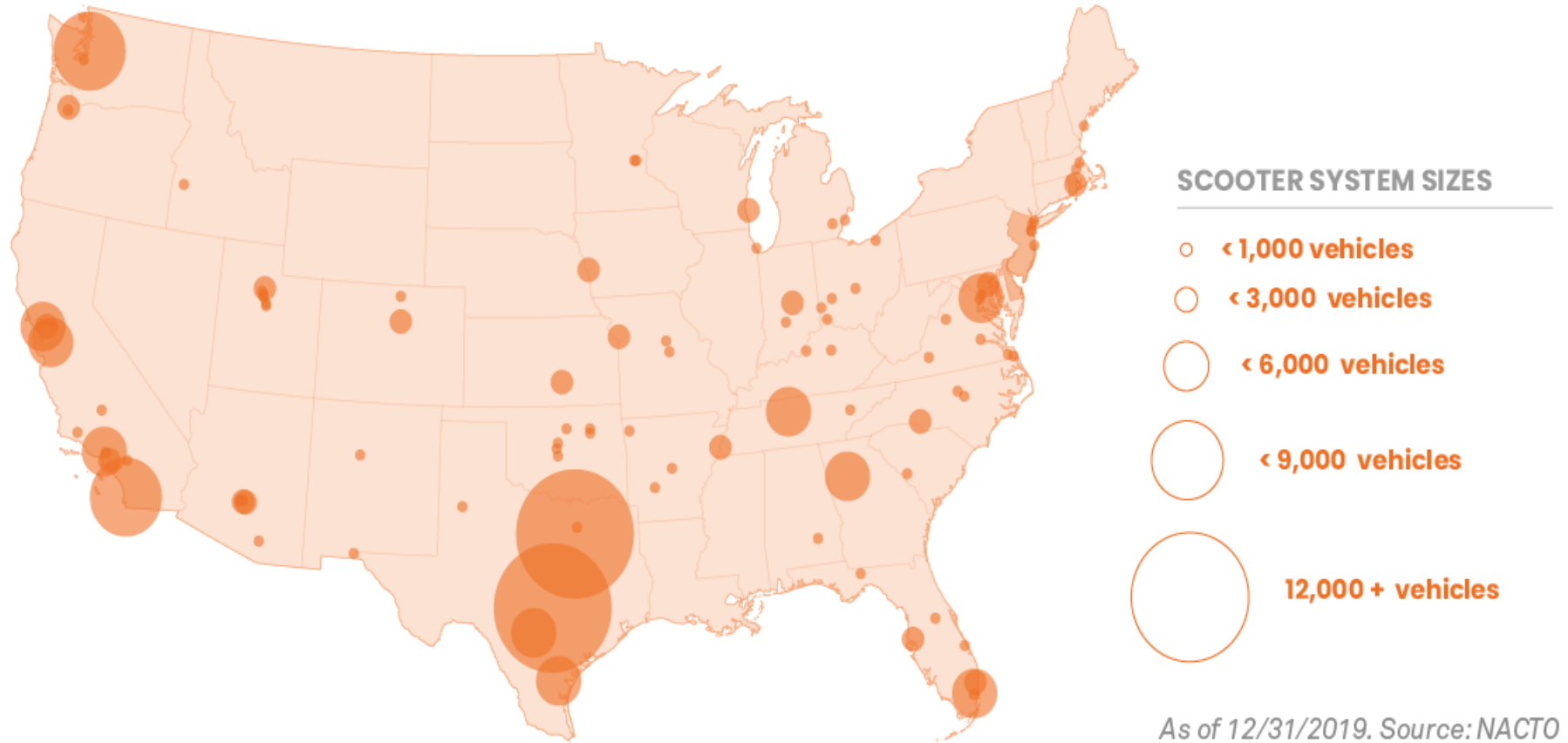


SCOOTER RIDERSHIP IN 2019
IN MILLIONS OF TRIPS



Source: NACTO

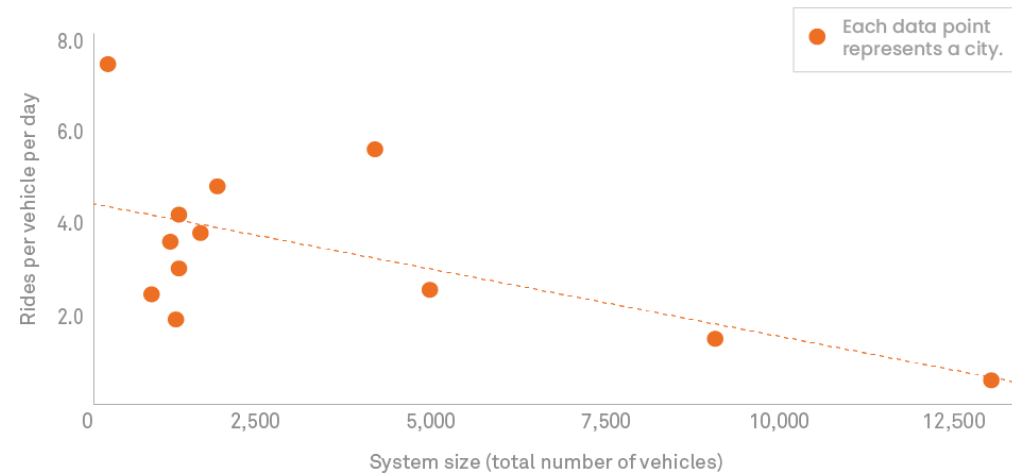
E-Scooter Systems



Micro-mobility Vehicle Utilization

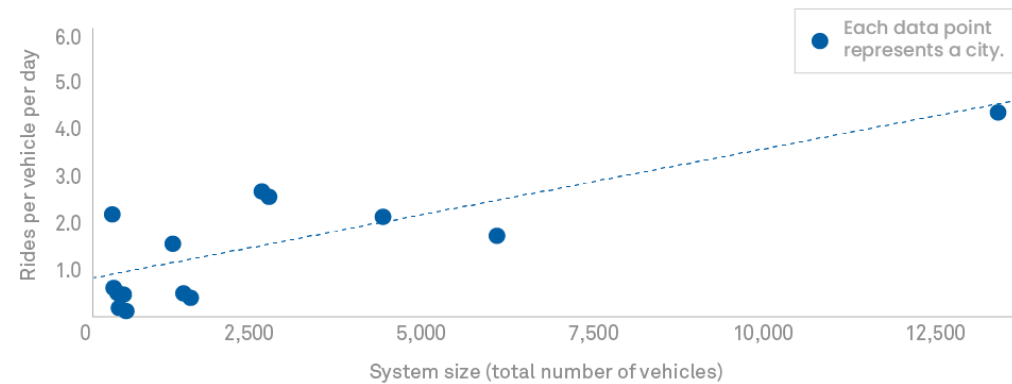
SCOOTER SHARE: RIDES PER VEHICLE PER DAY BY SYSTEM SIZE

Source: NACTO



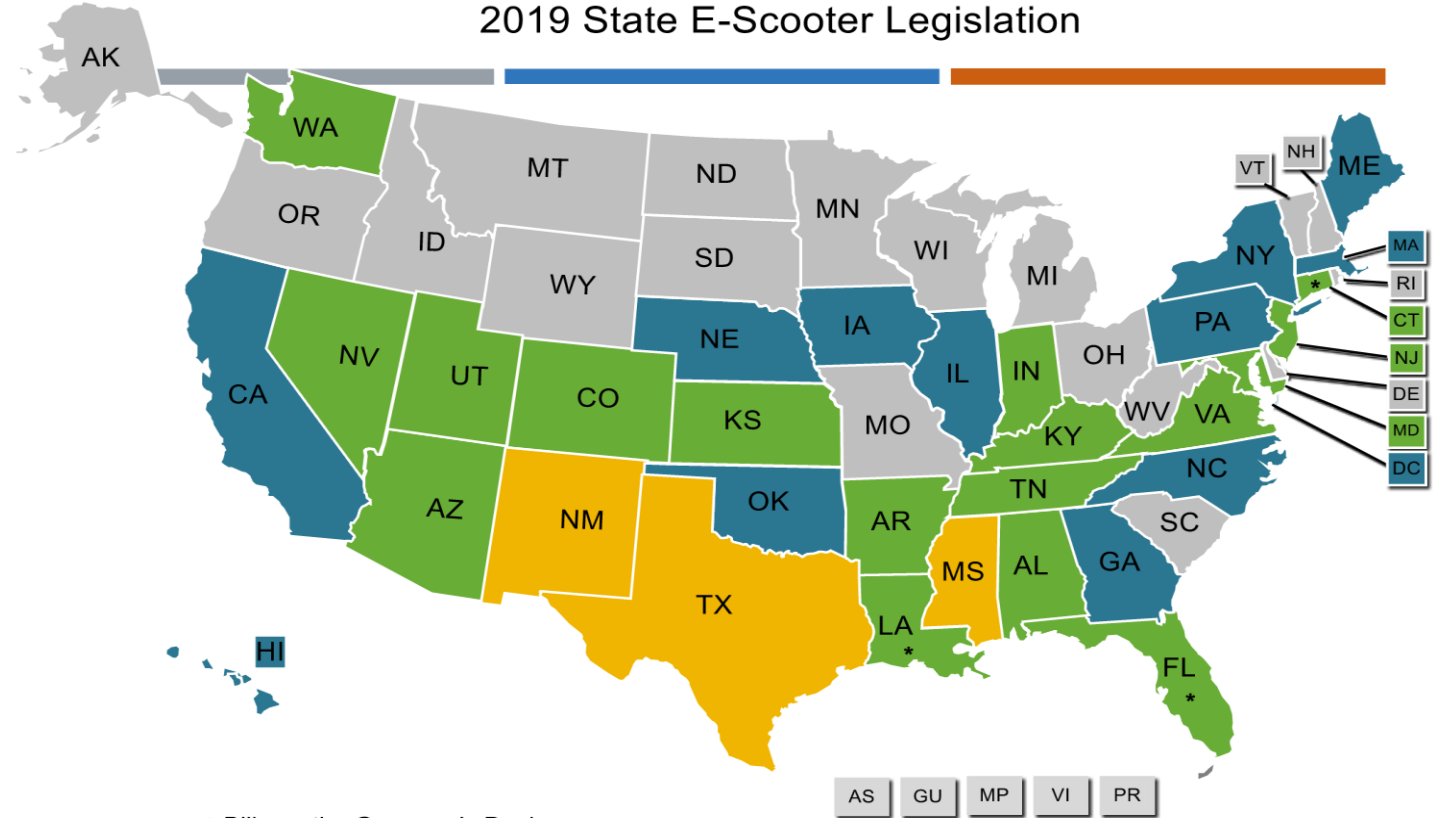
BIKE SHARE: RIDES PER VEHICLE PER DAY BY SYSTEM SIZE

Source: NACTO



E-Scooter Legislative Activity

2019 State E-Scooter Legislation



* Bills on the Governor's Desk

LEGEND	
■	States considering e-scooter legislation
■	Enacted e-scooter legislation
■	Failed e-scooter legislation
■	No state e-scooter legislation



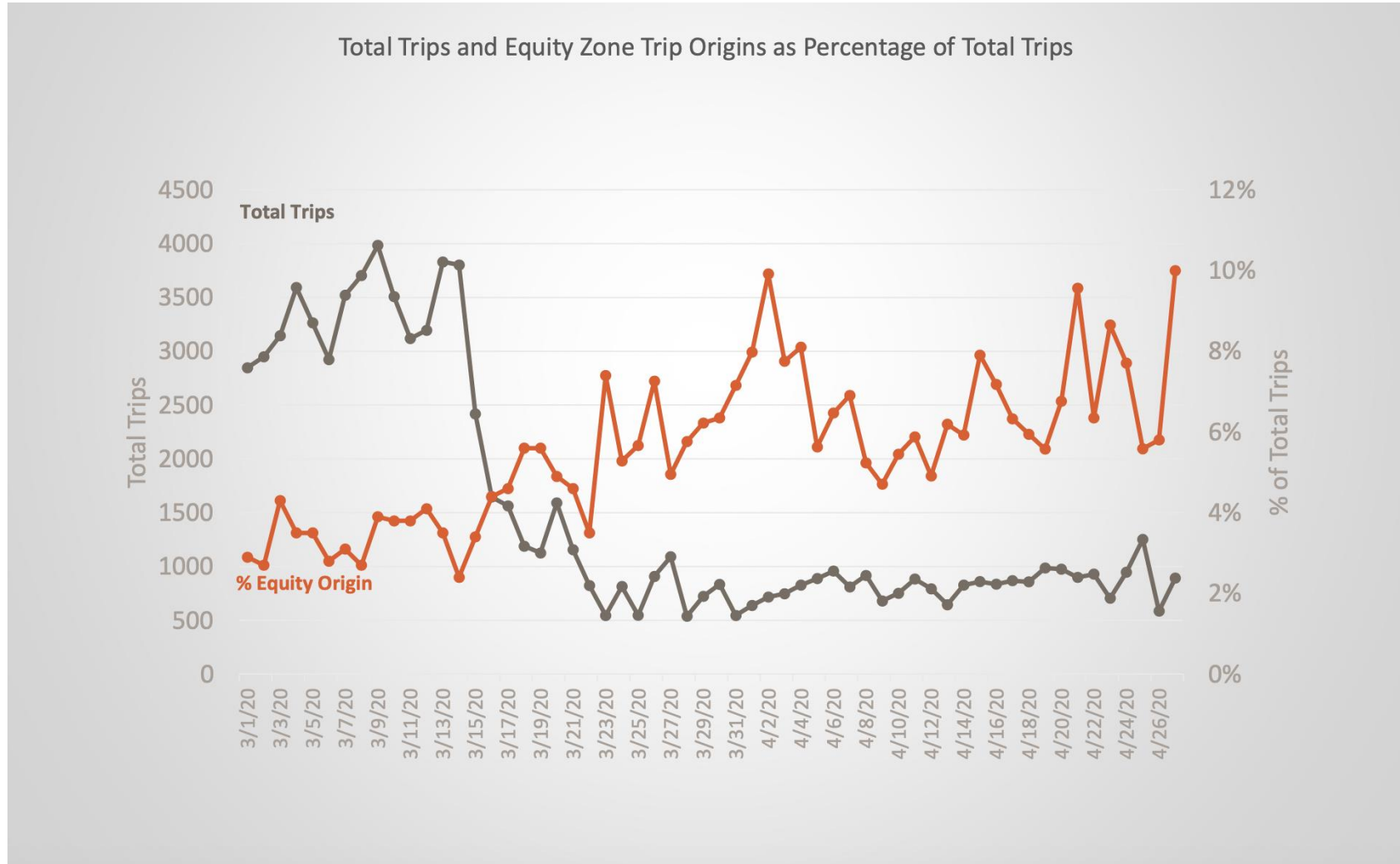
Legislative Trends

- Defining e-scooters
- Limiting speeds
- Setting a minimum operator age
- Requiring helmet use
- Addressing use on sidewalks and roads
- Balancing state and local regulatory authority

E-Scooter Injuries

- Data are scarce
- 2018-2019: 22 fatalities (Cherry, 2019)
- 2014-2018: 40,000 injuries (Namiri, 2020)
- Studies indicate:
 - More crash injuries from pavement condition than from striking cars (APH, 2019)
 - Pedestrians at risk (Trivedi, 2019)
 - E-bike injuries 3 times more likely to involve cars or pedestrians (DiMaggio, 2019)

Proportion of Use in Equity Zones



Pros and Cons

Pro:

- May fill a mobility gap
- May create a desirable modal shift
- May serve social purposes: e.g., access to jobs; social distancing

Con:

- Safety concerns
- Parking & space concerns
- Infrastructure needs: bike lanes

Next Steps?

- Model urban decision analysis
 - e.g, E-Scooter Scenarios: Evaluating the Potential Mobility Benefits of Shared Dockless Scooters in Chicago
- Model regulatory schemes
 - e.g., University of South Carolina School of Law

References

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- Cherry, C., Sandt, L., Shaheen, S., **Understanding micromobility safety behavior and standardizing safety metrics for transportation system integration, University of North Carolina Collaborative Sciences Center for Road Safety (2019)**
- Dockless Mobility: A Look into the Regulation of E-scooters, University of South Carolina School of Law, <https://docklessmobility.org/introduction/> (2019).
- DiMaggio, C. J., Bukur, M., Wall, S. P., Frango, S. G., & Wen, A. Y. (2019). Injuries associated with electric-powered-bikes and scooters: Analysis of U.S. consumer product data. *Injury Prevention*, doi:10.1135/ injuryprev-2019-043418
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