U.S. Department of Transportation
Federal Highway Administration

U.S. DOT Micromobility Activities & Resources

The U.S. Department of Transportation (U.S. DOT) is advancing research on the rapidly evolving field of micromobility. The Federal Highway Administration (FHWA) Office of Planning, Environment, and Realty (HEP) is the lead convener on the topic. Within HEP, the Office of Human Environment (HEPH) leads an Internal U.S. DOT Micromobility Working Group with participants in offices across U.S. DOT to coordinate on the following research projects and initiatives. These efforts are designed to further the state of the practice and promote collaboration with internal and external stakeholders.

Recent Publications

The Basics of Micromobility and Related Motorized Devices for Personal Transport
http://pedbikeinfo.org/resources/resources_details.cfm?id=5200

E-Scooter Management in Midsized Cities in the United States
http://pedbikeinfo.org/resources/resources_details.cfm?id=5201

Improving Access and Safety for Shared Micromobility Users in Santa Monica, CA
https://www.fhwa.dot.gov/livability/case_studies/santa_monica/

Micromobility Fact Sheet
https://www.fhwa.dot.gov/livability/fact_sheets/mm_fact_sheet.cfm

USDOT Micromobility Activities Handout
https://www.fhwa.dot.gov/livability/resources/mm_dot_activities.cfm

FHWA Micromobility Activities Handout
https://www.fhwa.dot.gov/livability/resources/mm_fhwa_activities.cfm

Micromobility: A Travel Mode Innovation
https://highways.dot.gov/public-roads/spring-2021/micromobility-travel-mode-innovation

Interactive Bikeshare and e-Scooter Map
https://data.transportation.gov/stories/s/fwcs-jprj

Effects of COVID-19 on Docked Bikeshare Ridership
https://maps.dot.gov/BTS/dockedbikeshare-COVID/

Effects of COVID-19 on Bikeshare (Docked and Dockless) and E-scooter Operations
https://data.bts.gov/stories/s/Docked-and-Dockless-and-E-Scooter-System-Changes-2/kar5-6dpn/

Curbside Inventory Report
https://www.fhwa.dot.gov/livability/fact_sheets/curbside_inventory_report.pdf

Internal FHWA Research

2019 FHWA Internal Micromobility Memo
This memo focuses on how micromobility could be better integrated in programmatic activities among multiple FHWA Offices. It provides critical questions for future research; examines the Federal vs. State/local roles in providing oversight; identifies existing knowledge and knowledge gaps; and proposes next steps.

Micromobility and Children Research
This report examines child usage and injuries from micromobility devices, and whether Safe Routes to School activities are addressing micromobility.

2020 Cross-Federal Micromobility Research Considerations Report
This report and memo (internal and shared with federal agencies) features interviews from nine other Federal agencies who are involved in micromobility. This effort helped share research activities and help identify potential gaps in research.

External Resources

TCRP Research Report 230: Micromobility and Transit
https://www.trb.org/Main/Blurbs/182556.aspx

NABSA 2020 Shared Micromobility State of the Industry Report
https://nabsa.net/about/industry/

PBIC "Shifting Streets" COVID-19 Mobility Dataset
https://www.pedbikeinfo.org/resources/resources_details.cfm?id=5235

GHSA Understanding and Tackling Micromobility: Transportation's New Disruptor
https://www.ghsa.org/sites/default/files/2020-08/GHSA_MicromobilityReport_Aug31Update.pdf

Micromobility Policy Atlas
https://learn.sharedusemobilitycenter.org/atlas/?

NACTO Shared Micromobility in the U.S.: 2019
https://nacto.org/shared-micromobility-2019/

NACTO Guidelines for Regulating Shared Micromobility
https://nacto.org/sharedmicromobilityguidelines/

Austin Public Health Dockless Electric Scooter-Related Injuries Study
https://www.austintexas.gov/sites/default/files/files/Health/Epidemiology/APH_Dockless_Electric_Scooter_Study_5-2-19.pdf

Understanding Micromobility Safety Behavior and Standardizing Safety Metrics for Transportation System Integration

- Micromobility Coding Poster: https://www.roadsafety.unc.edu/wp-content/uploads/2020/09/MicromobilityCoding_Poster_v2_FINAL.pdf

- List of E-Scooter Fatalities: https://www.roadsafety.unc.edu/wp-content/uploads/2021/05/escooter_fatalities_Apr_2021.pdf

Micromobility Projects Underway at U.S. DOT

Lead Agency	Project Name	Project Summary
FHWA Office of Human Environment (HEPH)	Phase III Micromobility Research and Coordination	Volpe is working with HEPH to leverage the two prior phases of research and coordination in Phase III. Volpe will generate a comprehensive Micromobility Research Roadmap comprising a public-facing synthesis of content from prior deliverables and five Research Needs Statements aligned with the Phase II Priority Research Agenda. In addition to the Research Roadmap, Volpe will develop an initial literature review for the Equity priority research topic and assist HEPH with planning for implementation of the Roadmap in coordination with other FHWA subject matter experts and/or Federal partners.
FHWA (HEPH)	Electric Bicycle (E-bike) Trends, Impacts, and Opportunities: literature review, case studies	FHWA is advancing research on e-bikes to better understand trends and impacts, and how jurisdictions around the country are managing them. This research includes a literature review that covers the legislative and regulatory context for e-bike operations (highlighting state, local, and international practices); information on ridership trends, safety, equity, accessibility, trails, freight use, emissions, and identify additional research needs; and 9 case studies from cities across the country to delve deeper into the implementation of e-bikes deployment in different contexts.
FHWA Office of Transportation Management	Integrating Emerging Mobility into Transportation Management	This reference document will provide information on integrating various forms of shared mobility and mobility on demand concepts into State DOT and MPO transportation plans, programs, and systems operations and management.

FHWA Office of Federal Lands	The Future of E-Bikes on Public Lands: How to Effectively Manage a Growing Trend	The objective of this research is to identify and inventory of existing and potential impacts related to e-bike use on public lands, followed by an analysis of the data to inform science-based decision-making and management processes for land managers.
ITS JPO	Mobility on Demand (MOD) Special Studies – Opportunities and Challenges of Shared Micromobility Infrastructure	This study will evaluate shared micromobility opportunities as a MOD tool with an emphasis on safety risks/challenges and infrastructure. It will summarize strategies that can be employed to reduce risk and increase the potential for these modes with an eye toward infrastructure.
ITS JPO	Impact of New Transportation Providers on the Transportation System	This research effort will address these questions: 1) What impacts are ridehailing services (like Uber/Lyft) and micromobility having on transit ridership? 2) What federal roadblocks are impeding the deployment of new transportation providers (especially ridehailing and micromobility)?
ITS JPO	Multimodal and Accessible Travel Standards Assessment	This research provides a framework to inform the selection and prioritization of standardization work, funded by the JPO and others, needed to support the development, testing, and deployment of multimodal and accessible travel systems. Key deliverables include an inventory of on-going standards work in multimodal and accessible transportation and a roadmap for development of multimodal and accessible travel standards.
OST	Developing Scalable Models for Safety Insights and Improvements Using E-Scooter Exposure Data: Phase II	OST will work with Populus to obtain data related to micromobility exposure at the road segment level. Based on the route information and available incident data, the contract will examine safety issues, safety risk rates, risk characteristics, and e-bike/e-scooter route selection. The contract will partner with 3 case study cities to perform the work.

Other Projects Supported by U.S. DOT

U.S. DOT Liaison	Project Name	Project Summary
FHWA (HEPH) & Tuner-Fairbank Highway Research Center	National Science Foundation Smart & Connected Communities - IRG Making Micromobility Smarter and Safer	The objectives of this project are to (a) use new methods to gather better data on what determines pedestrian and micro-mobility risk, (b) create tools that deliver more integrated solutions in collaboration with industry micro-mobility partner Bird, and (c) test the tools in the service of the needs of the real communities of New Brunswick and Highland Park, NJ. These tools will explicitly integrate both the social and technology solutions to improve safety.
FHWA (HEPH)	NCHRP 20-05/Topic 52-13 "Micromobility Policies, Permits, and Practices"	The objective of this synthesis is to document policies, permits, and practices that state departments of transportation (DOTs) are engaged with in regard to micromobility. Information gathered includes (but is not limited to): The role of DOTs with regard to micromobility; State definitions of micromobility; DOT policies and regulations; Policies and procedures regarding integration and competition between other mobility options; and Data collection, monitoring, and evaluation efforts. Information will be collected through literature review, a survey of DOTs, and follow-up interviews with selected agencies for the development of case examples. Information gaps and suggestions for research to address those gaps will be identified.
FTA	TCRP B-47 "Impact of Transformational Technologies on Underserved Populations"	This research examines how new and existing technology-enabled mobility services impact a community's capacity to meet the mobility needs of all residents. The study will focus on how a communitycan ensure traditionally underserved residents benefit from technology-enabled mobility services. The project will also provide transportation policymakers with data to analyze the impacts of new technologies on travel behavior, effective strategies for maintaining equitable multimodal transportation, and recommended practices for developing metrics to monitor and maintain inclusive mobility.