



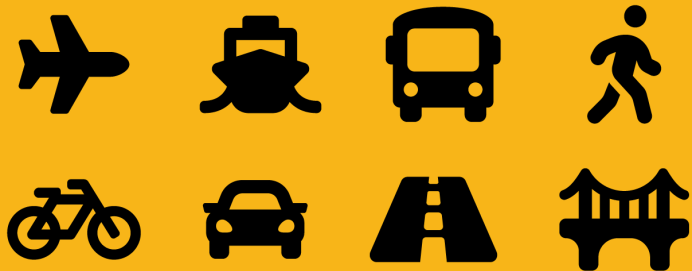
MDOT
in Motion



Micromobility in Maryland: Safety and Standards

MDOT Office of Active Transportation and Micromobility

June 30, 2026





Agenda

- On the Ground in Maryland
- Governing Devices: Shared Fleets vs Personally Owned Vehicles
- Data: Ridership and Crashes
- Work Ahead: Applying a Safe Systems approach to micromobility
- 2026 Micromobility work overview

Micromobility and Who Rides

Micromobility is a term for small, low-speed vehicles that are often powered by humans. E-micromobility refers to electric-powered devices, including electric-bicycles and electric scooters. Advances in e-micromobility have expanded active transportation in Maryland beyond traditional walking and biking, with e-micromobility devices commonly seen on college campuses, in use by people who are swapping traditional bikes for e-bikes to travel further, and delivery workers who depend on micromobility for their work and livelihood.

Micromobility usage is quickly growing throughout Maryland, and the continued evolution of micromobility devices, including shared micromobility programs (e.g., bikeshare & scooter share), have prompted jurisdictions in Maryland to tackle new questions around mobility, policy, and equity. Shared micromobility devices are available throughout the DC and Baltimore regions via Bikeshare and Dockless Scooter share systems and are used by a wide range of demographics, including low-income users benefiting from the [Capital Bikeshare for All](#) and [Baltimore City Dockless Vehicle](#) required access plans. Tourism locations from the Eastern Shore to Western Maryland have reported visitors operating rented micromobility, ranging from e-bikes to Segways and Golf Carts. In 2025, the largest shared systems in the state set ridership records: Capital Bikeshare, which serves DC, Maryland, and Virginia communities, recorded over 6.3 million trips and Baltimore City Dockless Vehicles surpassed three million trips, in addition to countless trips made on personally owned micromobility devices.

Maryland's Requirements for Micromobility

For the most common types, e-scooters and e-bikes, riders and those sharing the road should follow the laws summarized below and available at lookalivemd.org/laws. In parks, on sidewalks, and in shared spaces, micromobility users should yield to pedestrians and ride defensively around larger motor vehicles. *See Table 1 for a breakdown of micromobility types and their restrictions.*

Micromobility rider responsibilities:

- Obey all signs and signals
- Yield to pedestrians
- Equip vehicles with lights
- Riders under age 16 must wear helmets
- Park vehicles at racks or in a way that does not impede public facilities or sidewalks (leave 4 ft.)

Motor vehicle responsibilities:

- Only pass when it's safe to do so, and give at least 3 feet when passing
- When turning, yield to pedestrians and micromobility users
- Observe caution when opening car doors for passing micromobility users

For specific requirements, see Transportation Article ("TA") of the Maryland Code.

Where to Ride

Many forms of e-micromobility are legal to be ridden on roadways and on sidewalks unless locally restricted (*see Table 1 for restrictions*). Micromobility should be ridden in bicycle facilities where present or on the right side of roadways as practical. They are not allowed on controlled-access highways, including toll roads. Tampering with a vehicle can make it illegal for roadway use.

In most Maryland state parks, only class 1 e-bikes are allowed, but users should check park regulations in advance. Local park rules may differ. Both MTA and WMATA allow bicycles, e-bicycles, and scooters on all transit vehicles, when the designated spaces are not already full. Personally owned e-bikes and e-scooters weighing less than 50 lbs are allowed, but no gas-powered vehicles are allowed on transit vehicles. Learn more [HERE](#).

2050 Bicycle and Pedestrian Master Plan

Vision: Maryland will provide safe and convenient active transportation that supports equitable access for all.



4.5 Micromobility & Dockless Vehicle Recommendations

Several jurisdictions throughout Maryland have begun to incorporate emerging technology into active transportation by implementing or adapting to micromobility and shared vehicle programs. These programs can include docked vehicles as well as dockless vehicles, and the vehicle types are continuously evolving. At the time of this BPMP, the primary vehicle types in the market that are recommended for consideration in these programs, include:



e-Scooters (Bird)



e-Bikes (Spin)



Docked Bike Share (Capital Bikeshare)



Adaptive Vehicles (MedMart)

The two primary operating structures for shared micromobility programs are the permit structure and the service contract/memorandum of understanding structure. These structures are summarized in (Table 4).

TABLE 4: Primary Micromobility Operating Structures

PERMIT STRUCTURE	SERVICE CONTRACT/MEMORANDUM OF UNDERSTANDING STRUCTURE
<ul style="list-style-type: none"> Allows for multiple providers to operate in a geographic area. Allows for annual revisions to permit conditions. Typically issued through a competitive application process. 	<ul style="list-style-type: none"> Typically, only allows a single provider to operate in a geographic area. Provider is selected through a procurement process and typically enters into a multi-year contract.

Based on lessons learned from local implementation and best practices, MDOT has developed a framework for a Model Micromobility Permit & Program structure to guide local jurisdictions in implementing a program suitable to their community needs. The guidance incorporates best practices for permits and program structures, data tracking tools and equity metrics and practices. This framework is available in [Appendix G](#).



Shared Micromobility Fleets

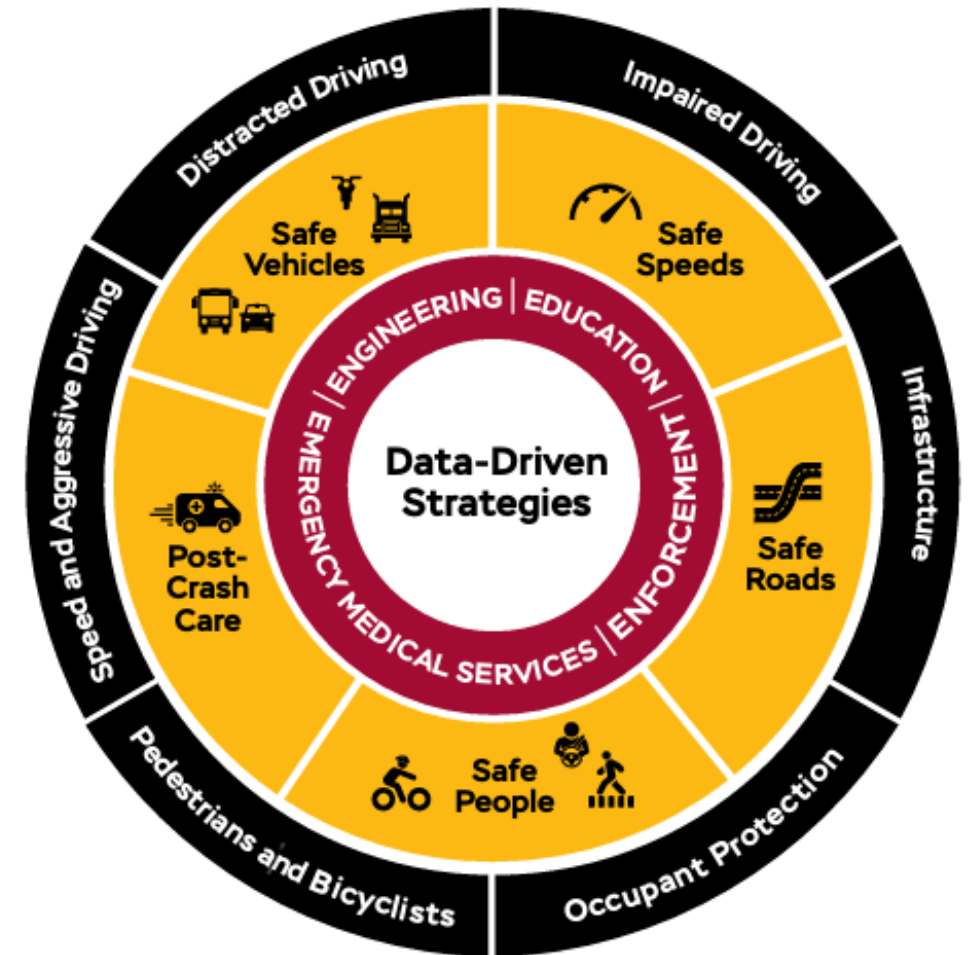


Personally Owned Micromobility Vehicles



Applying a Safe Systems Approach

- **Safe Vehicles:** Legal Vehicles meet safety standards
- **Safe Speeds:** Legal Vehicles have speed governors
- **Safe Roads:** Complete Streets provide safe facilities
- **Safer People:** Rider and Driver education teaches people to share the streets
- **Post Crash Care:** Work with law enforcement and first responders can provide better crash data about where and how crashes occur.



Governing Micromobility

MDOT

- Define vehicles and rules of the road – Micromobility Regulation Overview now available!
- Set standards for inclusive roadway design and parking on state roads and transit facilities
- Share information with local jurisdictions and stakeholders about best practice for shared fleets, education, vehicle maintenance and riding safely

Local Jurisdictions

- Permit shared fleets
- Set standards for inclusive roadway design and parking on local roads and facilities
- Disseminate information and enforce vehicle maintenance and riding safely

Micromobility in Maryland

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Micromobility Regulation Overview

More information about Micromobility in Maryland can be found in the [2050 Bicycle and Pedestrian Master Plan](#), published in 2024. Different roles MDOT plays in micromobility can also be explored below.

MDOT's Role in Micromobility



Defining vehicle types and legal uses

As new types of mobility arise and become more common, their place on the roadway



Accommodating micromobility in Complete Streets design standards and processes

The most common micromobility vehicles

MDOT's new Micromobility Webpage, source: [Micromobility in Maryland](#)

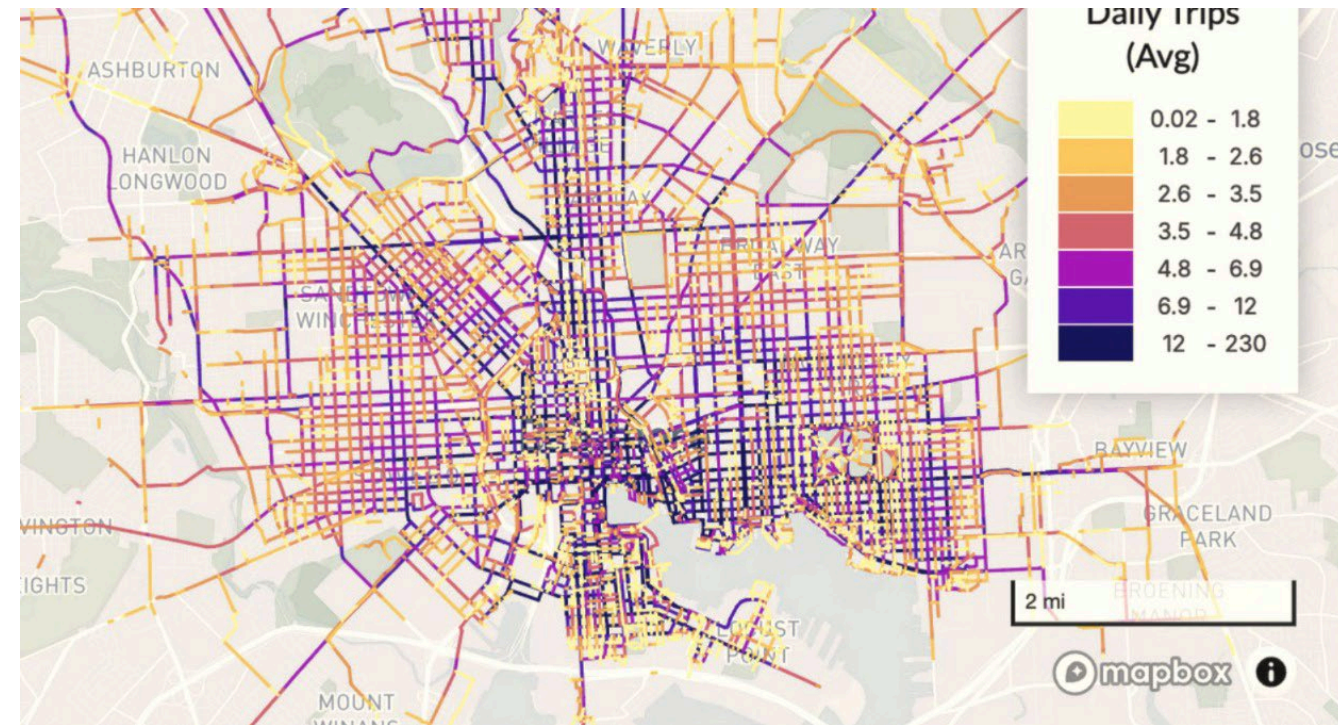
Micromobility Trends in Maryland

10 Jurisdictions with shared micromobility programs (bike and scooter share):

- Record ridership in 2025 and growing
- Data shows increase in ridership in underserved areas and through low-income equity plans

Tremendous growth in private vehicles ownership with high adoption rates from:

- Young people
- Older adults
- Delivery workers



Baltimore Dockless Ride data is publicly available at:

app.populus.ai/baltimore/public/routes

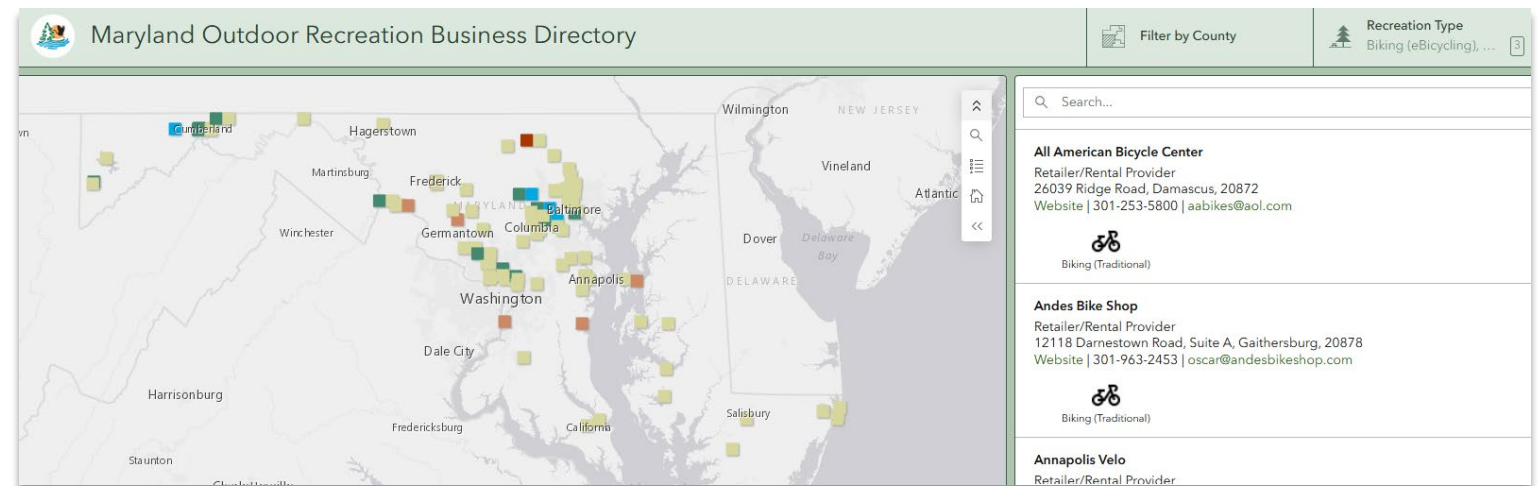
3,083,473 trips were recorded in 2025

Micromobility Safety Advisory Group

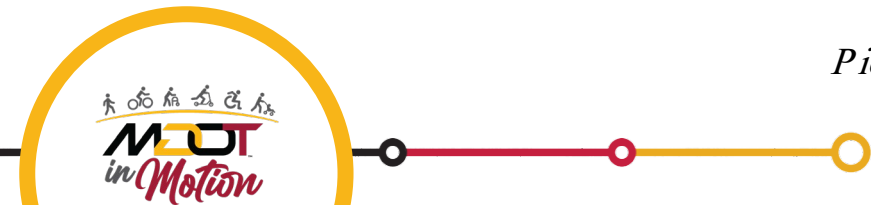
A Micromobility Safety Group will report back to the MVA Pedestrian and Bicycle Emphasis Area Team (PBEAT). The goal is to advise on a multidisciplinary approach to micromobility safety materials and education. Working group members should anticipate one meeting per month in 2026 to review and advise on materials.

- Topics, Sources
- Draft Review
- Distribution Plans
- Legislative review

Upcoming dates:
June 22



Pictured: Md Dept of Natural Resources [Outdoor Recreation Business Directory](#)



Micromobility Safety Advisory Group

Members include:

- Local Jurisdictions
- MPO
- Advocates
- Law Enforcement
- Researchers
- MDOT
- MVA

March

- Identified topics

April

- Outlined materials

May

- Reviewed drafts and discussed distribution plan

June

- Legislative debrief

Micromobility Crash Data Analysis

Starting on January 1, 2024, crash reports filed in the Maryland ACRS system have additional non-motorist options. This provides 2 years (2024 & 2025) of crash data with micromobility fields as an option. The data are still imperfect, and additional training is needed for law enforcement to improve crash coding. The initial analysis includes 2024-2025 crash data to answer:

Crash Data	Purpose
Crash per vehicle type	Informs severity of safety issues
Who is involved	Informs targeted distribution of safety materials
Crash patterns – time of day/week / location (SHA context type)	Informs messaging, distribution and potentially engineering safety countermeasures
Risky behaviors	Informs targeted safety messaging

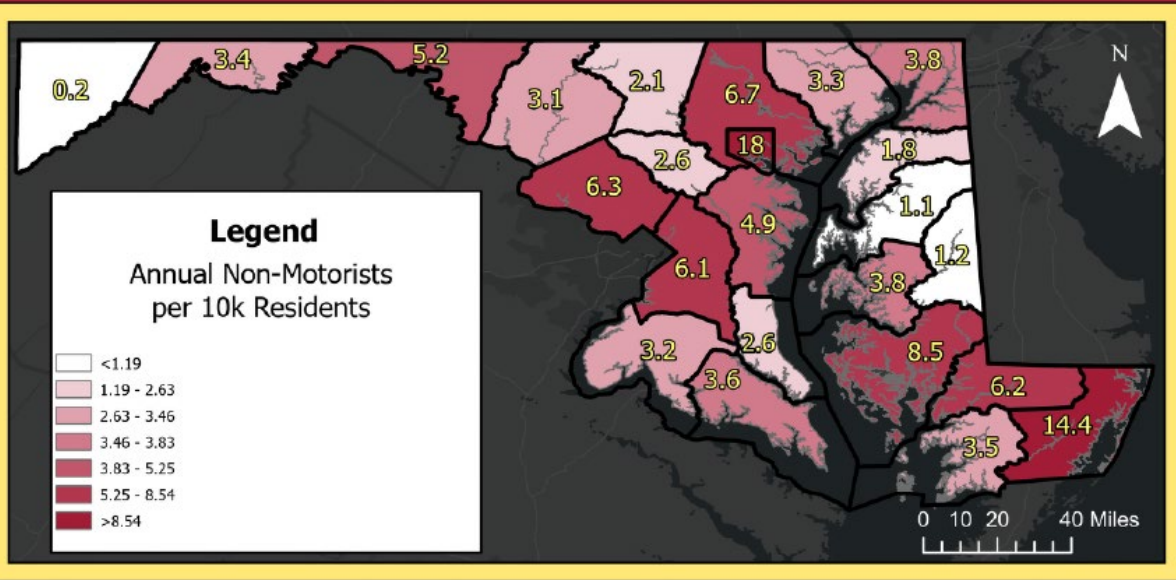
Restriction of Liability: The Washington College Geospatial Innovation Program makes no representations or warranties expressed or implied, with respect to the reuse of the data provided herewith, regardless of its format or the means of its transmission. There is no guarantee or representation to the user as to the accuracy, currency, suitability, or reliability of this data for any purpose. The user accepts the data "as is." This information is prepared for the purpose of identifying, evaluating, and planning safety improvements on public roads which may be implemented utilizing Federal-aid highway funds pursuant to sections 130, 144 and/or 148 of Title 23 of the United States Code.

Non-Motorists and Micromobility

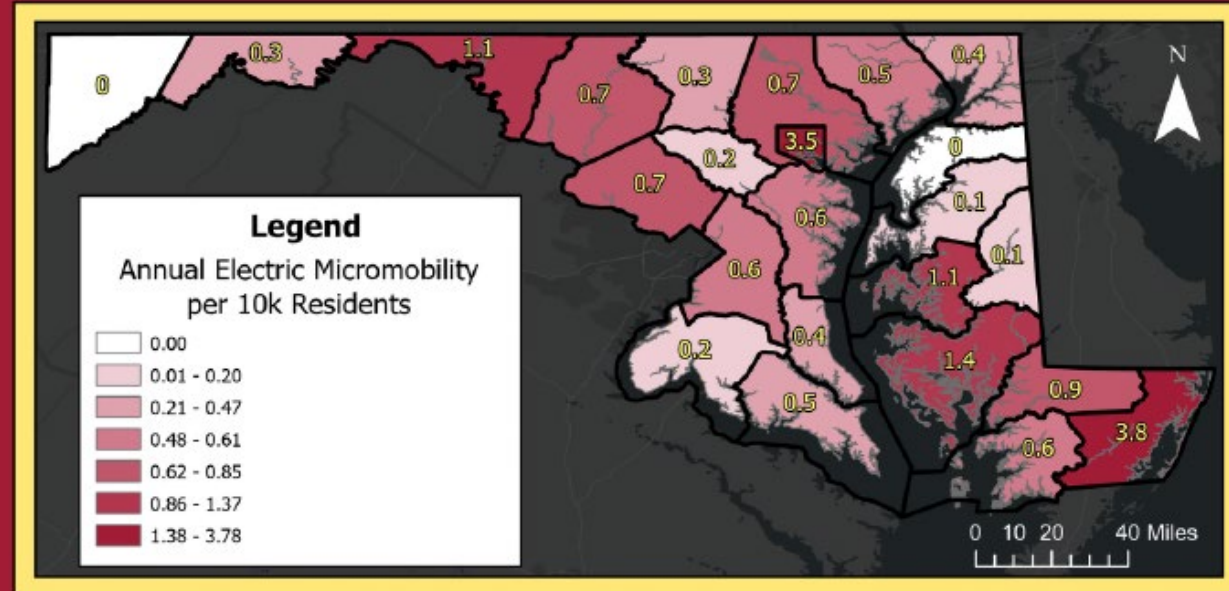
Crash Rates by Jurisdiction (2024-2025)

Source: Motor vehicle crash data is compiled from police crash reports submitted to the Maryland State Police (MSP) through the Automated Crash Reporting System (ACRS) and is subject to change. Data were extracted from the MDSP Public Tableau data download tool on 1/13/26.

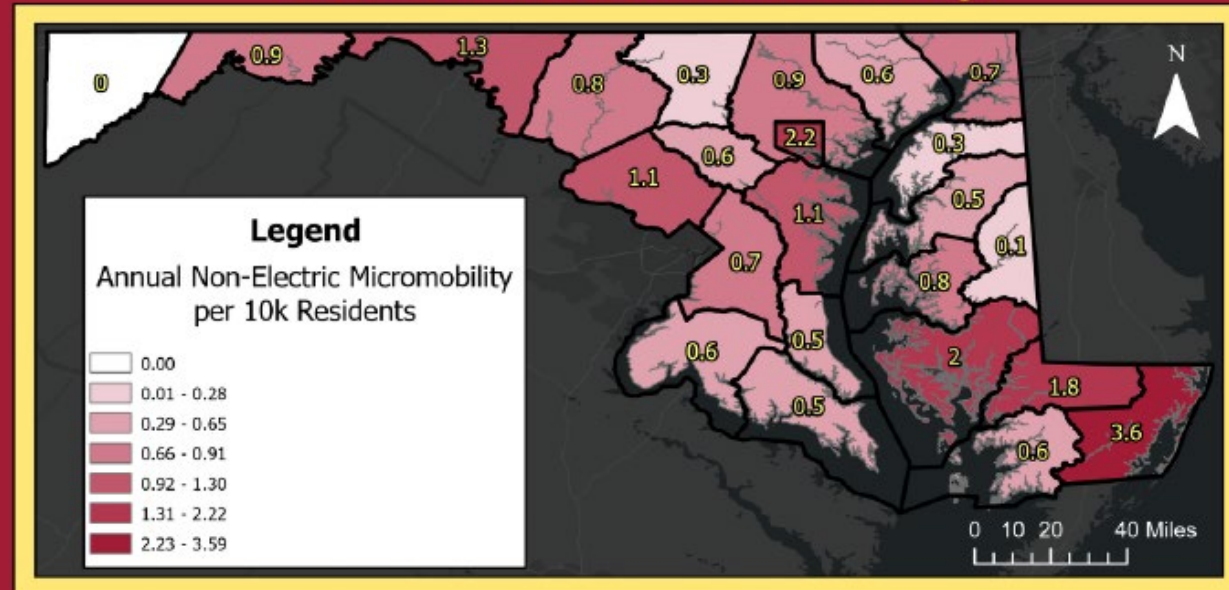
Non-Motorists



Electric Micromobility



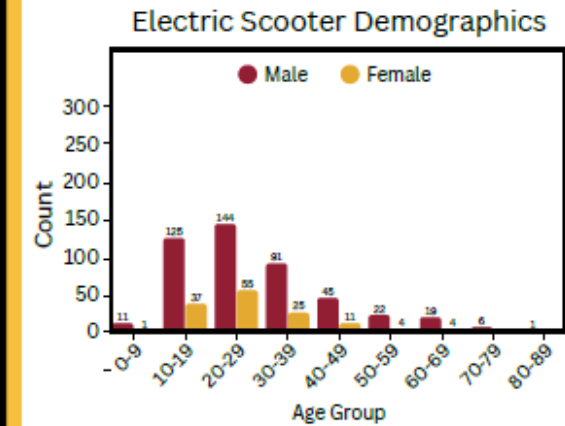
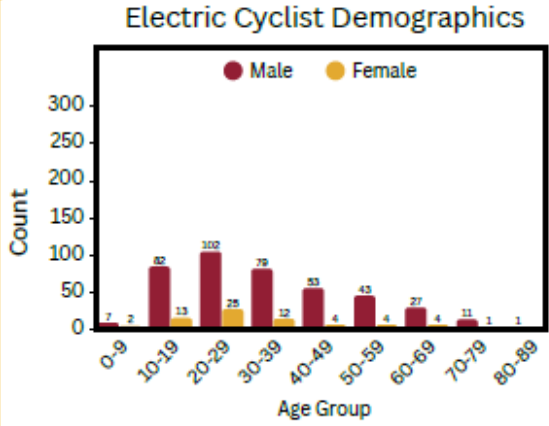
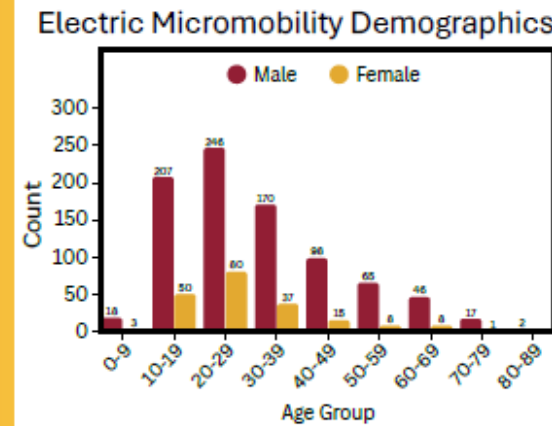
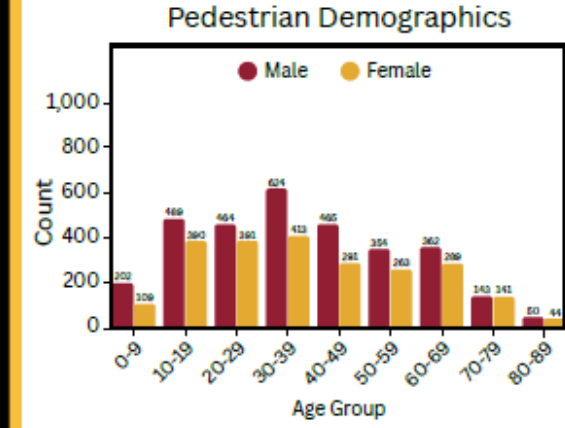
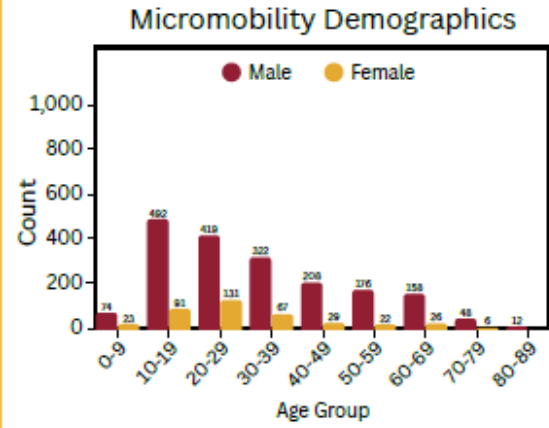
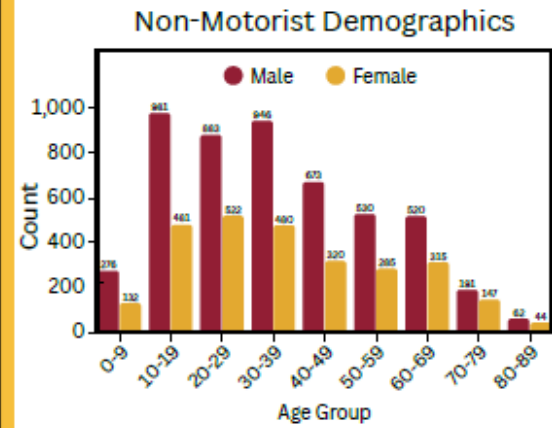
Non-Electric Micromobility



Source: Motor vehicle crash data is compiled from police crash reports submitted to the Maryland State Police (MSP) through the Automated Crash Reporting System (ACRS) and is subject to change. Data were extracted from the MDSP Public Tableau data download tool on 1/13/26.

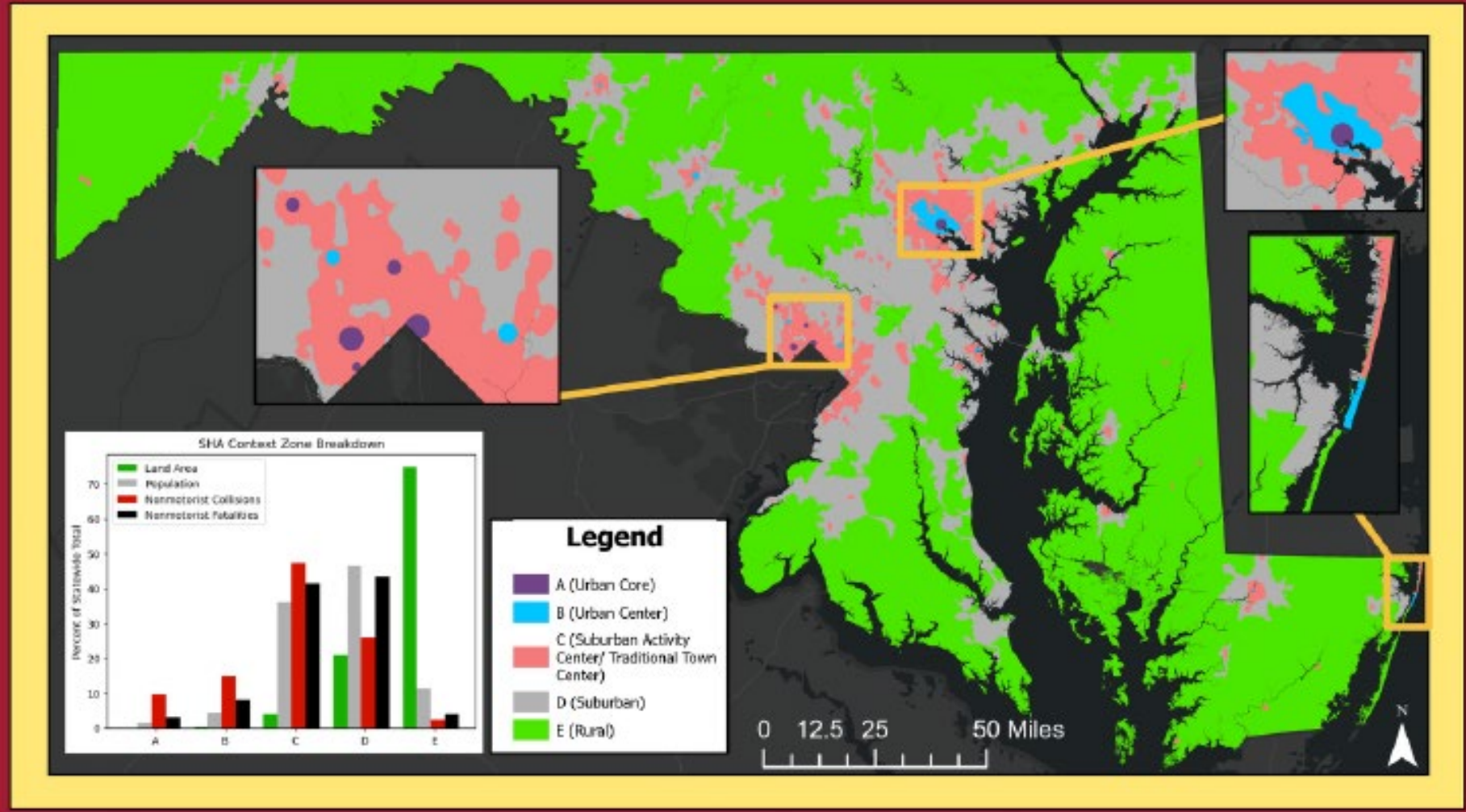
Non-Motorist Age and Sex Charts

Source: Motor vehicle crash data is compiled from police crash reports submitted to the Maryland State Police (MSP) through the Automated Crash Reporting System (ACRS) and is subject to change. Data were extracted from the MDSP Public Tableau data download tool on 1/13/26.



Breakdown by SHA Context Zones

Source: Motor vehicle crash data is compiled from police crash reports submitted to the Maryland State Police (MSP) through the Automated Crash Reporting System (ACRS) and is subject to change. Data were extracted from the MDSP Public Tableau data download tool on 1/13/25.

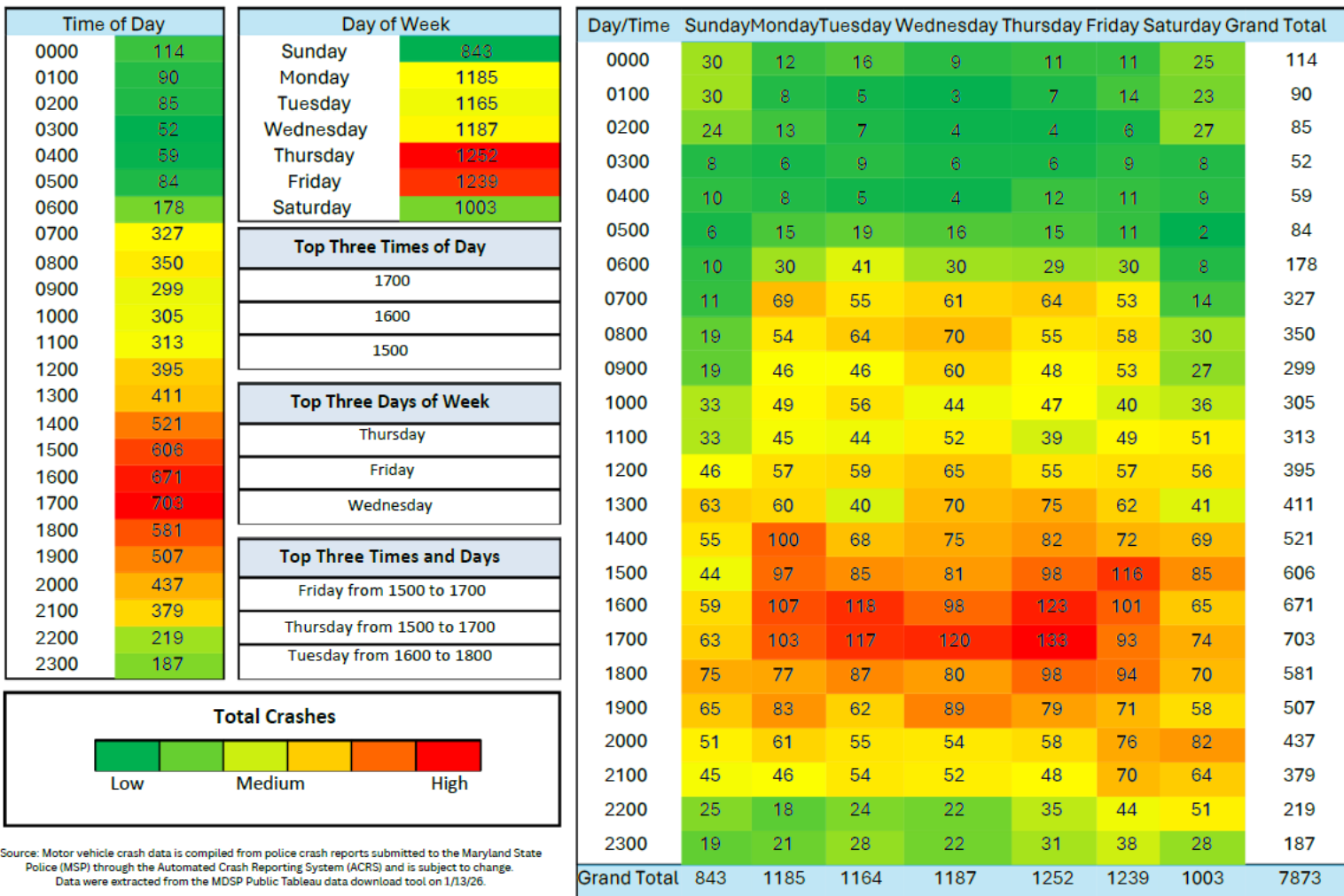


Crash Hour and Location

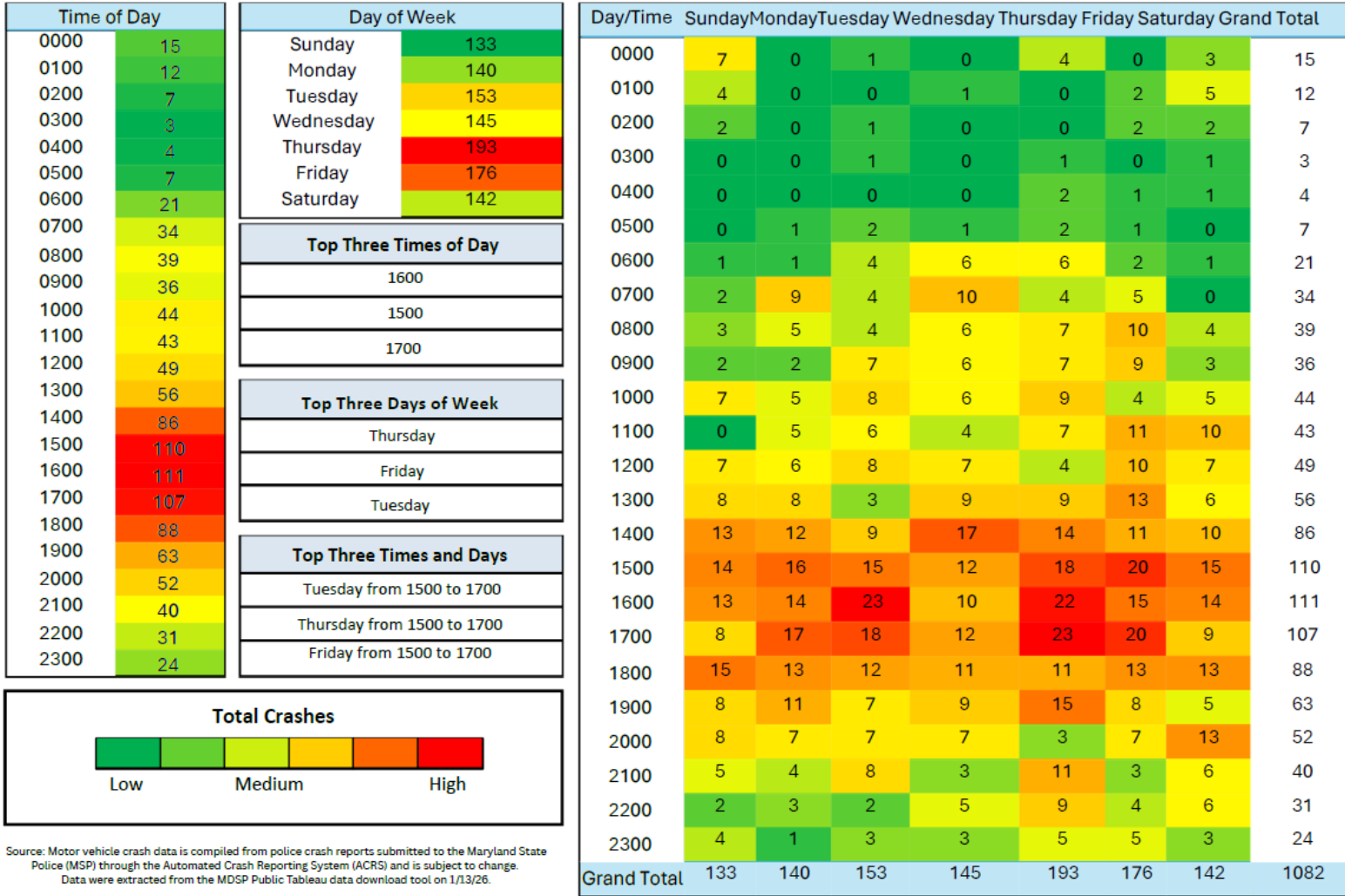
	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300
Intersection - Marked Crosswalk	3	0	3	1	2	3	10	20	23	21	25	20	27	30	30	42	49	61	30	32	26	20	12	13
Travel Lane - Other Location	6	4	6	4	0	1	6	14	18	15	18	20	24	24	19	35	39	41	36	25	21	14	16	8
Intersection - Other	4	5	1	1	0	6	6	12	9	15	12	12	9	21	36	31	49	32	31	21	20	15	9	7
Shoulder/Roadside	3	4	1	0	1	2	6	13	8	7	13	5	9	8	23	24	23	28	15	14	6	11	5	5
Intersection - Unmarked Crosswalk	1	1	3	0	0	1	3	6	3	5	8	3	13	15	26	21	17	19	18	16	10	4	5	0
Other	2	2	0	1	1	0	1	1	2	7	7	5	6	8	8	16	14	24	14	18	7	8	5	3
On-Street Bike Lanes	2	2	1	1	0	1	2	3	6	5	5	5	2	4	10	4	10	8	9	2	4	3	3	1
Sidewalk	1	0	0	0	0	0	3	5	4	3	6	9	7	9	11	7	9	6	1	5	2	2	1	
Driveway Access	0	1	0	0	0	1	0	3	1	5	5	3	6	7	5	7	14	7	7	3	4	4	2	1
Unknown	3	1	1	0	0	0	1	1	2	3	0	4	2	2	5	7	10	8	3	6	7	2	1	3
Midblock - Marked Crosswalk	0	0	0	0	0	0	0	3	0	0	0	2	2	1	2	2	6	2	4	1	1	0	0	0
Shared Lane Markings	0	0	1	1	0	0	0	1	0	1	0	1	3	1	3	1	4	1	2	0	1	1	0	0
Non-Trafficway Area	0	0	0	0	1	1	0	0	1	1	0	0	1	2	1	2	1	3	1	2	1	0	0	0
Separated Bike Lanes	0	0	0	0	0	0	0	1	1	0	0	0	2	1	1	2	1	2	2	1	0	0	0	0
Off-Street Trails/Sidepaths	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	3	0	1	3	1	0	0	0	0
On-Street Buffered Bike Lanes	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	2	1	2	0	0	1	0	0	0
Shared-Use Path or Trail	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	1	1	0	1	0
Signed Route (no pavement marking)	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1	0	3	0	1	0	0	0	0	0
Median/Crossing Island	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0

Day and Time Comparison

Non-Motorist Crashes



Electric Micromobility Crashes



Micromobility Users in Crashes

2,337

Micromobility Users in Crashes

69

In Distracted Crashes

8

In Impaired Crashes

Injury Severity	Count
No Apparent Injury	342
Possible Injury	460
Suspected Minor Injury	1223
Suspected Serious Injury	285
Fatal Injury	27

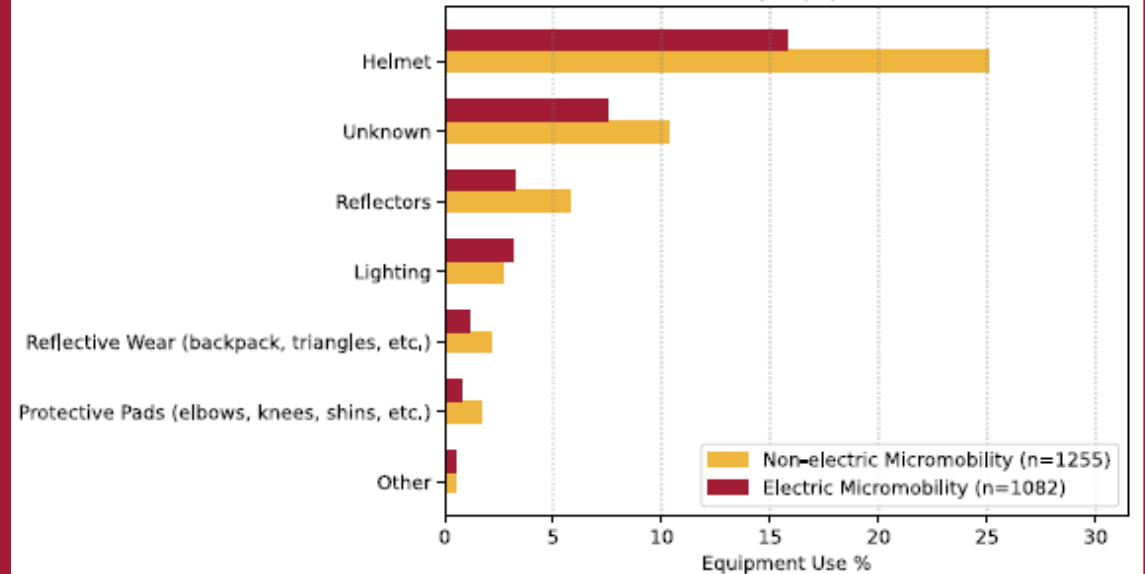
Top Ten Non-Home Zip Codes

City	Individuals
21202	77
21201	69
21217	36
21218	29
20852	26
21231	25
20910	23
21230	22
20742	22
21842	22

71

Headed to
School

Micromobility Equipment Use



289

Headed to
Transit

Crash Data Report – Major Takeaways

Crash Data	Purpose
Crash per vehicle type	<ul style="list-style-type: none"> While crashes are falling for people walking, they are rising for micromobility and especially e-micromobility and scooters <ul style="list-style-type: none"> <i>We can't contextualize this well because we don't know the increases in ownership or ridership</i>
Who is involved	<ul style="list-style-type: none"> Males are incredibly overrepresented in crashes, ages 10-19 are overrepresented Eastern Shore overrepresented, metro DC underrepresented
Crash patterns – time of day/week / location (SHA context type)	<ul style="list-style-type: none"> Suburban Activity centers and urban areas are overrepresented in crashes. Intersections remain the top conflict location, followed by travel lanes with no dedicated bike facility There are the most crashes during the afternoon rush hour (3-7:00pm)
Risky behaviors	<ul style="list-style-type: none"> Lower rates of impairment as a factor than with pedestrian or motor vehicle crashes E-micromobility users have lower use of protective equipment



Current Topics & Resources



Social Media & Outreach Plan

Topic	Social Media Topics/Graphics	Additional products
Micromobility Overview	<ul style="list-style-type: none"> - Legal e-bikes - Illegal e-motos - Where you can ride - Required equipment (helmets/lights) 	<ul style="list-style-type: none"> - Where you can ride pamphlet - Online FAQ & short FAQ pamphlet
E Vehicle Maintenance, Battery & Fire Safety	<ul style="list-style-type: none"> - Know where you can service your vehicle - E-battery safety - Look for a rating sticker - Altered vehicles are not street legal 	<ul style="list-style-type: none"> - Buyer checklist (postcard) - Store Checklist - E-battery safety sticker
Safe Riding — Best Practices for E Vehicles	<ul style="list-style-type: none"> - Riding impaired - Riding safely around pedestrians - Riding at night / low light - How drivers should interact with micromobility 	<ul style="list-style-type: none"> - Safety Quiz (riders and drivers) - Required equipment - Yield to pedestrians sticker
Crash Data — Safety Perspective	<ul style="list-style-type: none"> - Top risk behaviors - Top risk locations - Top crash day/times - Age groups involved in crashes - parents beware 	<ul style="list-style-type: none"> - Business card for law enforcement - Roll-call training for law enforcement (ppt) - <i>Crash reporting guidance</i>

Micromobility Regulation Overview

Intended for distribution to local partners, law enforcement, and advocates:

- Micromobility and who rides
- Requirements
- Where to Ride
- Maintaining E-micromobility and battery safety
- Common types of Micromobility (pictured to right)

Available at m dot.Maryland.gov/micromobility

Table 1: Common Types of Micromobility

Vehicle Characteristics	Requirements and Restrictions
Bicycle §11-104 Manual powered pedal bike, with 2 or three wheels and a rear drive train.	<ul style="list-style-type: none"> • Permitted on sidewalk unless prohibited by local ordinance • May not ride on roadway with a speed limit over 50 mph • May not carry passenger unless it is designed for and equipped with a seat for each passenger • Must be equipped with brakes and lights in low visibility
E-Bike §11-117.1 All e-bikes must be operable using pedals without the e-assist. Class 1 – bicycle with a motor of 750 watts or less, e-assist when pedaling; 20 mph max assist	<ul style="list-style-type: none"> • Bicycle requirements and restrictions apply
Class 2 – bicycle with a motor of 750 watts or less, e-assist throttle which functions without pedaling; 20 mph max assist	<ul style="list-style-type: none"> • Bicycle requirements and restrictions apply • Restricted use in state parks
Class 3 – bicycle with a motor of 750 watts or less, e-assist when pedaling; 28 mph max assist	<ul style="list-style-type: none"> • Bicycle requirements and restrictions apply
Scooter § 11-154.1 and E-Scooter §11-117.2 Two (2) wheeled device with handlebars which is designed to be stood on by the operator; 20 mph max.	<ul style="list-style-type: none"> • Bicycle requirements and restrictions apply
Electric Personal Assistive Mobility Device (EPAMD) TA § 21-101 Includes Segways and hoverboards; Non-tandem wheels; self-balancing; 15 mph max.	<ul style="list-style-type: none"> • Must ride on the sidewalk where present • May not ride on any roadway with a speed limit over 30 mph
Low Speed Vehicle §11-130.1 Four wheeled electric vehicle; 20-25 mph max.	<ul style="list-style-type: none"> • Requires title, insurance, and license to operate • May not ride on roadway with a speed limit over 30 mph
Golf Carts §21-104.2 Four wheeled vehicle; 20 mph max.	<ul style="list-style-type: none"> • Illegal on state roadways, may cross state roadways at intersections
Mopeds §11-134.1 Can be operated by pedals, low powered (1.5 horsepower max); 30 mph max. Moped does not include an electric bicycle.	<ul style="list-style-type: none"> • Requires title, insurance, and license to operate • Cannot be ridden without protective gear • May not ride on roadway with a speed limit over 50 mph
Motor Scooters §11-134.1 Non pedaled, seated vehicle with motor and automatic transmission; 30 mph max.	<ul style="list-style-type: none"> • Requires title, insurance, and license to operate • Cannot be ridden without protective gear • May not ride on roadway with a speed limit over 50 mph • May not carry passenger unless designed for and equipped with a seat for each passenger
Minibikes and Dirt Bikes §11-134.4 Motor vehicle with two-three wheels, not subject to registration under Title 13 of TA.	<ul style="list-style-type: none"> • Illegal on state roadways, retailer is responsible for telling purchasers this information

Please note the above information is a summary advisory and should not be taken as legal advice. For specific requirements and restrictions, see Transportation Article ("TA") of the Maryland Code.

POP QUIZ: Which one is road-legal?



Top Speed: 20 mph

Motor: 750 Watts

Safety Advertising:

- Battery certification included
- Class 2 e-bike with restrictions noted

Class 2 E-bike, allowed on most Maryland roadways, prohibited on many trails



Top Speed: 20 mph

Motor: 1800 Watts

Safety Advertising:

- High visibility lights
- Battery certification included

E-moto with motor 2.5x more powerful than an e-bike, may require title, license, registration, and insurance to operate on most Maryland roadways, prohibited on trails and bike facilities.

Micromobility Brochure

Additional FAQ will be added to the Micromobility website

Your Safety

What are the common dangers associated with e-micromobility vehicles? And what types of crashes are most common?

Common risks include distracted riding, interactions with motor vehicles, uneven pavement, sudden obstacles, and low-visibility conditions. Frequent crash types include loss of balance, intersection conflicts, and dooring incidents from parked cars.

What is MDOT doing to make e-micromobility safer?

MDOT is educating Marylanders about safe micromobility use and supporting safer streets through complete streets design, which improves conditions for all road users, including e-micromobility vehicles and riders. Campaigns are underway to educate people about legal vehicles and riding safely.

How do I report a crash involving e-micromobility vehicles?

- Life-threatening emergencies: Call 911.
- Accidents, Incidents and unsafe local roads: Call 311 or Use 311 App

To report an unsafe road or hazard to the Maryland State Highway Administration (MDOT SHA), use their online Customer Service Request form or call 301-513-7300 or 410-582-5650.

Contact Information



Maryland Department of Transportation

7201 Corporate Center Drive
Hanover MD 21076



Email

CompleteStreets@mdot.maryland.gov

For more information and additional frequently asked questions, please scan the QR code below or visit: www.mdot.maryland.gov/micromobility.



Your Quick Guide Starts Here!

e-Micromobility in Maryland

Navigating Micromobility With Confidence

www.mdot.maryland.gov/micromobility



Micromobility Brochure

Additional FAQ will be added to the Micromobility website



The Basics

Micromobility refers to small, low-speed vehicles typically powered by human effort, such as bicycles, and the emerging subset of electric powered small vehicles.

E-micromobility refers to the subset of electric or battery-powered versions of these vehicles, including electric bicycles and electric scooters.

E-moto vehicles refer to electric or battery-powered motorized vehicles with more powerful motors that exceed 750 Watts and/or that allow for assisted speeds over 28 mph, such as electric motorcycles, mopeds and dirt bikes. These are not considered micromobility vehicles.

For vehicle regulation information with legal references, please see the Micromobility Regulation Overview posted on the mdot.maryland.gov/micromobility webpage.

The Facts

How are e-bikes, e-scooters, and other small vehicles classified under Maryland law?

E-bikes, e-scooters, and other small micromobility vehicles are not treated as motor vehicles in Maryland. They follow the same rules of the road as bicycles, which means riders must obey all traffic signs and signals and share space responsibly with others. You do not need a driver's license, vehicle registration, or insurance to ride these devices, but you do need to ride predictably, stay alert, and follow the law to keep yourself and others safe.

Some small vehicles that look like e-bikes but have larger motors or can travel faster than 28 mph are classified as mopeds or low speed vehicles. These vehicles require registration and are commonly referred to as e-motos.

Where am I allowed to ride e-micromobility vehicles? Sidewalks? Bike lanes? In the road?

Legal e-micromobility vehicles can be ridden on bicycle lanes, trails, roadways, and sidewalks unless locally restricted. Ideally, micromobility vehicles should be ridden in bike lanes or on trails where available, or on the right side of roadways as practical. Use sidewalks only when the roadway isn't safe to ride or when traveling slowly with someone who needs the sidewalk, like a child or older adult.

Tip: Some parks and schools have specific restrictions for e-micromobility, so always check before you go.

What traffic rules should I follow?

Micromobility riders should follow the same traffic rules as people on bicycles. If you are not familiar with bike rules, a simple guideline is to ride in the direction of traffic and follow all signs and signals.

How can I be safe while riding?

To ride safely, stay alert, avoid distractions, never ride while impaired, and remember that each device is meant for one rider only. Stay aware of your surroundings and watch for hazards like potholes, debris, or other obstacles in the roadway.

Tip: Helmets are required for riders under 16 and recommended for everyone. All e-moto riders must wear a helmet.

How can I ride safely around pedestrians?

Pedestrians always have the right-of-way, and they may not expect to see you coming. Ride predictably, use clear signals, slow down in crowded areas, give an audible warning when passing, and keep a safe distance from others.

Tip: Match your speed to the environment—roughly 15 mph on trails, and closer to 8–10 mph where people are walking.

How should drivers interact with e-micromobility vehicles?



Drivers should check blind spots, use caution when turning or opening doors, give at least 3 feet when passing, and stay patient. Drivers should respect designated bike lanes and never drive or park in them.

How should riders interact with drivers?

Riders should use front and rear lights, wear bright or reflective clothing, and avoid riding in drivers' blind spots. When passing parked cars, stay at least 3 feet away to avoid the "door zone"—the space next to a parked car where an opening car door can hit a rider.





Micromobility Maintenance and Battery Safety

E-VEHICLE MAINTENANCE & BATTERY SAFETY

E-micromobility vehicles, such as e-bikes and e-scooters, provide expanded opportunities for active transportation in Maryland beyond traditional walking and biking. E-bikes and e-scooters allow users to travel further than they would using traditional bicycles. The expanded use of e-micromobility vehicles raises the need for public education related to vehicle maintenance, including battery and fire safety.

Three Classes of e-Bikes


 <p>CLASS 1 20 MPH Pedal-assist only Motor provides assistance up to 20 mph</p>	 <p>CLASS 2 20 MPH Throttle and/or pedal-assist Motor provides assistance up to 20 mph</p>	 <p>CLASS 3 28 MPH Pedal-assist only Motor provides assistance up to 28 mph</p>	 <p>E-MOTOS >28 MPH Throttle and/or pedal-assist Motor with more than 750 watts or vehicles that travel faster than 28 mph</p>
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
Identifying E-Bike Class


Maryland law requires that e-bikes have a permanently attached label that identifies the e-bike class, top assisted speed, and motor wattage. The sticker is usually located on the bottom of the frame. If you cannot identify it on your bike on the seat tube, review the manufacturer's information or contact the manufacturer or seller.

Source: Example of Generic Class Label via peopleforbikes.org

CLASS 2: 500W // 20MPH


a) 

b) 

c) 

Make Sure Your Bike and Battery are Certified!

When you shop for an e-bike, make sure the bike you buy has a Class 1-3 classification sticker and that your battery has a **UL 2849** sticker. These stickers ensure your bike will be road-legal in Maryland and that the bicycle's electrical system is safe. If you need a replacement battery pack, purchase a battery with **UL 2271** sticker and a Charger with a **UL 1310** sticker. Bicycles and batteries that meet these standards have passed rigorous testing for overcharging, extreme heat, and durability. When in doubt, contact a retail/repair shop qualified to work on e-bikes! **Look for the UL certification sticker!**



Battery Safety

E-bikes and e-scooters are powered by lithium-ion batteries. Lithium-ion batteries that are damaged or improperly used or stored cause a risk for overheating, fire, or explosion. Fires caused by lithium-ion batteries burn extremely hot and give off toxic gases, raising the need to proper care and maintenance of these batteries.

- Purchase devices, batteries, or charges that are UL certified.
- Find a qualified professional to repair electronic systems or batteries on your vehicle.
- Only use the battery and charger that came with the vehicle.
- Discontinue charging when the battery is fully charged.
- Only charge one battery at a time to avoid overloading the circuit.
- Store batteries at room temperature. Do not charge them at temperatures below 32° F or above 105° F.
- Do not store batteries in direct sunlight or hot vehicles and keep them away from children and liquids.
- Store e-bikes, e-scooters and their batteries away from exit doors or anything that can get hot and catch fire.
- If the battery becomes excessively hot, changes shape, or emits an odor, unplug it and stop using it immediately. Discontinue use of the battery and dispose of it properly.
- Do not leave charging batteries unattended or on the charger overnight.
- Do not store vehicles and their batteries away in the way of an exit or near anything flammable.

STOP using the e-bike or e-scooter if you notice any of the following:


-  Unusual Odor
-  Change in Color
-  Excessive Heat
-  Leaking
-  Smoking
-  Not Holding a Charge
-  Change in Shape

Maintenance Tips for E-Bikes

Before each ride, complete a quick **ABC** check:

- **A - Air:** Ensure tires are properly inflated.
- **B - Brakes:** Confirm brakes engage and stop the vehicle properly.
- **C - Chain/Components:** Check that moving parts and controls are functioning properly.

- When you need to replace parts, use e-bike replacement parts, including tires, brakes, and chain.
- Use a rag and gentle degreaser to clean your bike. Do not use high-pressure water on an e-bike or e-scooter, as this could damage the electrical system.
- When you clean your bike, inspect it. If you find loose wiring, take your e-bike to a bike shop for maintenance. Also check bolts to ensure they are tight.
- Find a qualified repair shop with licensed and insured mechanics.
 - **Do not attempt to maintain the motor systems, take your e-bike to a mechanic who is properly trained and insured to work on e-bikes.**
- Visit the Department of Natural Resources' **Outdoor Recreation Business Directory** to find an e-bike shop near you.



BUYER BEWARE!
Know your maintenance plan before you buy. Many e-bikes purchased online or from discount retailers can't be serviced at local bike shops.



If you tamper with a speed governor or regulator, your vehicles is no longer street legal.

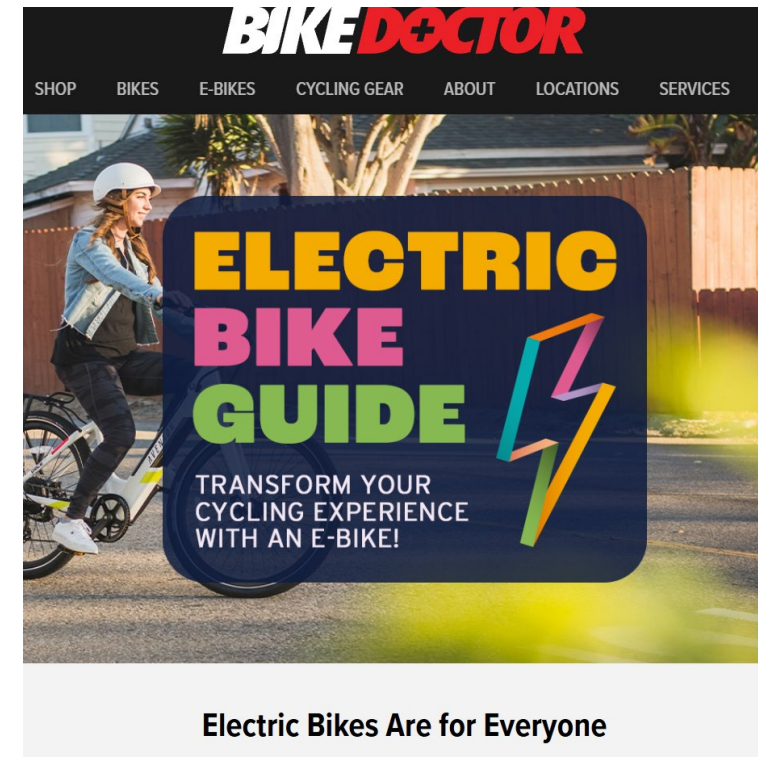


Do not dispose of batteries in the trash; they are considered hazardous waste. Visit www.hungryforbatteries.org to find a drop-off location to recycle your battery.



Micromobility Safety Education

- MDOT communications: website, email blasts, sharing with government partners
- Each product will have associated social media graphics, a social media kit, and additional communication collateral to be used by partners
- Developing a targeted distribution strategy:
 - Advocates
 - Schools (high school, university)
 - At-risk populations (identified through crash data and polls)
 - Retailers (Research into online retailers as well)
 - Shared System operators and partners



Bike Doctor, with 6 locations in MD sells 156 different e-bikes

Meg Young

Deputy Director, Office of Active
Transportation and Micromobility

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