

Pilot Process for Authorizing the Operation of Personal Delivery Devices in Maryland

Effective October 1, 2021

Authority: [Chapter 351, SB 726, 2021 Session: *Vehicle Laws – Personal Delivery Devices – Standards and Requirements*; Laws of Maryland](#)

Guidance: [Automated Delivery Vehicles and Devices – White Paper, May 2021, American Association of Motor Vehicle Administrators](#)

I. Intent of Process

1. The intent of this process is to create a collaborative, constructive, and expedient pathway for the operation of personal delivery devices (PDDs) in Maryland, while maintaining a safe environment for all who use Maryland’s transportation systems and facilities. Each use case will be handled according to its unique circumstances and through the collaboration of the entity requesting authorization and the State and local agencies responsible for the specific infrastructure and emergency responders responsible for the particular jurisdiction in the geographic area requested for operation.
2. This process provides the flexibility necessary to accommodate many different scenarios and encourage the use of PDDs for furthering mobility, equity, and safety in Maryland’s transportation ecospace. This process is a living document that will be reviewed and amended as necessary to be consistent with federal and national guidance and with the needs of the State.

II. Definitions

1. “Personal Delivery Device” is a powered device that:
 - a. Is operated primarily on shoulders, sidewalks, and crosswalks;
 - b. Is intended for the transport of property on public rights-of-way;
 - c. Weighs not more than 550 pounds, excluding cargo; and
 - d. Is capable of navigating with or without the active control or monitoring of an individual.
2. “Personal Delivery Device Operator” is an entity or its agent that exercises active or passive physical control or monitoring over the navigation system and operation of a personal delivery device; Personal Delivery Device Operator does not include a person that:
 - a. Requests or receives the services of a PDD to transport property; or
 - b. Arranges for and dispatches a PDD to provide service to another person.

III. Applicability

Any device that fits the definition of personal delivery device (PDD) that is to be operated on any roadway, sidewalk, shoulder, footpath, bicycle trail, or crosswalk (hereinafter known as “infrastructure”) in Maryland. If the intention of an entity is to operate PDDs on public infrastructure in Maryland, the entity must first obtain approval via this process from Maryland Department of Transportation (MDOT) Motor Vehicle Administration (MVA).

IV. Brief Structure of Process

1. Entities interested in operating PDDs in Maryland will first complete the form, *Application for Authorization to Operate Personal Delivery Devices in Maryland*. Email completed and signed form to CAVMaryland@mdot.maryland.gov
2. The application shall include the PDD Operator's information and primary point of contact, including emergency (24/7) contact information, and self-certifications that the PDD Operator has met the requirements of all applicable Maryland laws governing operations for PDDs.
3. In addition to the application, the PDD Operator will also submit an Operational Plan as described in Section V, an Emergency Response Plan as described in Section V, and proof of insurance as referenced in Section VI.
4. On successful submission of an application, the MDOT MVA will contact the PDD Operator within seven (7) business days to acknowledge receipt and begin a dialogue to assure an understanding of the Operational Plan and timeline needs of the PDD Operator.
5. An internal MDOT process will be initiated to engage a small team of multi-disciplinary specialists to assist in evaluating the entity's application. This team will include appropriate representatives from the business units of MDOT, the CAV Coordinating Team, and local agencies and organizations that provide public safety to and manage the infrastructure on the potential routes.
6. An expedient yet thorough review to understand the basic technology premises and safety redundancies for operation will be possible with a collaborative posture by all parties. A specific point of contact (POC) from MDOT will serve the PDD Operator for ease in navigating through the process and will also lead the team in review of the entity's application and Operational Plan.
7. The expedient review will include evaluating: the proposed route(s) and infrastructure accessibility; safety considerations with respect to the PDD interaction with vehicular traffic, pedestrians, cyclists, and other devices; any regulatory or local permitting applicability; public outreach plans; and all other applicable items listed in Section V. Dialogue with the PDD Operator during this time, may be necessary to address questions and considerations. Also, it may be necessary for the team to experience an in-person demo of the PDD and a physical site visit of the proposed route(s). Any specific restrictions and requirements requested by the infrastructure owner operator that are in addition to those laid out explicitly herein, will be discussed during this review.
8. Prior to authorizing operations, MDOT MVA will consult with all appropriate agencies and organizations and will consider all recommendations of the team. PDD operations will not be approved by the MDOT MVA unless the representatives for the agencies and organizations responsible for public safety and infrastructure management for the area intended for PDD operation, have provided approval in writing of the Operational Plan to include any agreed-upon additional restrictions and requirements.
9. MDOT MVA will provide a written response to the applying entity within 30 business days of submitting the application and Operational Plan. If approved, MDOT MVA will issue an approval to authorize the PDD operation by the entity. Once in receipt of the written authorization, the

entity can begin approved operations. Prior to receiving this response, the applying entity cannot move forward with the requested PDD operation.

V. Issues Addressed As Part of the Application and the Operational Plan.

1. The *Application for Authorization to Operate Personal Delivery Devices in Maryland*, will include self-certifications from the PDD Operator as follows:
 - a. Each PDD will follow all federal, State, and local laws and regulations.
 - b. PDD Operator will maintain appropriate liability and insurance coverage, as stated in Section VI.
 - c. PDD Operators will have PDDs follow all appropriate rules of engagement and comply with all applicable traffic rules of the road and all traffic control devices for the infrastructure along the approved route(s), including:
 - i. Device cannot weigh more than 550 pounds, excluding cargo
 - ii. Operated primarily on shoulders, sidewalks, & crosswalks; allowed on roadways, footpaths, & bicycle trails
 1. No travel on a roadway where sidewalks or shoulder are available adjacent to the roadway
 2. No travel on a roadway where the posted speed limit is more than 35 mph
 - iii. When on a bicycle trail or roadway, it must follow the rules of the road for bicycles
 - iv. When on a sidewalk or in a crosswalk, it cannot travel more than 7 miles per hour
 - v. Transports cargo only, but not hazardous material; not people
 - d. PDD operations are restricted to the Operational Design Domain (ODD) defined by the PDD Operator in the approved Operational Plan.
 - e. PDD Operator has provided satisfactory evidence of previous testing of the technology under controlled conditions that simulate the real-world conditions (weather, infrastructure, lighting, times/days, etc.) in which the applicant intends to operate the PDD.
 - f. PDD Operator will provide monitoring of PDDs, to mean that it is to be accompanied by an employee of the entity or subject to real time monitoring.
 - g. PDD Operator will provide identification and markings on each PDD, to include:
 - i. a unique identifier and name & emergency contact information for the PDD Operator prominently displayed on the outside of the PDD;
 - ii. identification information can be in the form of a QR Code displayed on the PDD;
 - iii. identification information is to be repeated in braille.
 - i. PDD Operator will provide appropriate equipment for visibility and awareness on each PDD during operation, to include:
 - i. Lighting, if being operated between sunset and sunrise:

1. Light on both the front and rear of the PDD that is visible on all sides from a distance of at least 300 feet
 2. No bright projecting strobe
 3. Reflective material on PDD, as necessary
 - ii. Slow-moving emblem, if practical
 - iii. Audible alerts, if required
 - iv. Flags, if necessary, to accommodate normal field of view for human interaction
 - j. Devices used by PDD Operators for operations are capable of:
 - i. Navigation – with or without the active control or monitoring of an individual
 - ii. Establishing, managing, and operating a safe and successful operation on Maryland infrastructure
 - iii. Allowing reasonably unimpeded access for vehicular traffic, pedestrians, cyclists, and other devices to afford safe movement on infrastructure
 - iv. Monitoring system health and detecting cybersecurity threats
 - v. Alerting the PDD Operator and indicating when need for disengagement or special care from a technology failure, cybersecurity threat, or other anomaly; Recording data before a collision occurs (the information shall be made available to the Department and law enforcement post-crash)
 - vi. Ensuring compliance with local, state, and federal civil rights laws related to disability and age
 - k. PDD Operator has established and implemented process and procedures for inspecting, testing, and maintaining sensors used in PDD operations.
 - l. PDD Operator has a process for testing, certifying, uploading, and verifying software upgrades.
 - m. PDD Operator must report to MDOT MVA (email to CAVMaryland@mdot.maryland.gov) by close of business the next business day following any incident involving personal or property damage involving the PDDs, to include information in a, b, and c below. This report is regardless of whether a police report is filed. Please note that Maryland Vehicle Law addresses requirements for police involvement and reporting crashes, including TR § 20–104, TR § 20–105, TR § 20–105.1.
 - i. PDD Operator information
 - ii. Date, time, and location of crash
 - iii. Description of events leading up to and during the incident
 - n. Regular reporting and renewal period as agreed and explicitly stated in the approval.
 - o. PDD Operator must submit any requested changes in the Operational Design Domain or the approved Operational Plan to MDOT MVA, for the changes to be reviewed and approved.
 - p. Both parties reserve the right to cancel at any time.
2. The *Operational Plan* to be submitted with the Application, shall include a brief description of the following:
 - a. Technology Information to include the operational design domain of the PDD:

- i. Roadway or other infrastructure types on which the PDD is intended to operate safely
 - ii. Geographic constraints, if applicable
 - iii. Speed constraints, if applicable
 - iv. Constraints for environmental conditions (weather, daytime/nighttime, etc.), if applicable
 - v. Other domain constraints that may affect the safe operations of the PDD in the proposed environment.
- b. Expectations and considerations for disengagements of the technology
- c. Fallback plan of the technology and PDDs
- d. General validations to demonstrate previous successful operations in a controlled environment of a nature that is relevant to the routes denoted in the Application
- e. Monitoring of system health and cybersecurity threats; approaches to guard against hacking risks
- f. Privacy considerations and protections for other infrastructure users
- g. Cargo Information:
 - i. Identify the unloaded weight of the PDD and the maximum allowable weight of the PDD including any cargo/load
 - ii. Description of loading and unloading procedures, along with information on effects of the design and stability of the PDD with cargo load.
- h. Anticipated routes: Proposed location(s) (areas or corridors) where the PDDs will operate
- i. Public outreach: a brief description of information necessary to notify the public in the proposed location of PDD operation, to include what to look for, how to appropriately react and interact with the PDDs, and any other changes for infrastructure user expectations
- j. Emergency response plan will remain on file with all applicable emergency responder jurisdictions upon authorization for PDD operation, and will include:
 - i. appropriate response to audio or visual emergency equipment (lights, sirens) and to signals or directions from a traffic control officer or flagger
 - ii. procedures to disable the PDD if necessary, to maintain public safety
 - iii. any special firefighting needs

VI. PDD Operator must submit proof of liability and insurance coverage

Evidence necessary to show ability to satisfy a judgment(s) for damages for personal injury, death, or property damage caused by a PDD in the form of general liability insurance that stipulates that each device is covered by a general liability policy for at least \$100,000.