

Platooning Process for Authorizing the Operation of Truck Travel in a Unified Manner in Maryland

Effective October 1, 2021

Authority: [Chapter 118 \(2021\) SB 726: Motor Vehicle Offenses – Following Too Closely – Unified Truck Travel](#); Transportation Article, §§12-104(b), 21-301(f), Annotated Code of Maryland; Driver of a nonlead truck in a group of trucks may travel without leaving enough space so that overtaking vehicle may enter and occupy the space between the trucks, if: they are traveling in a unified manner with electronically coordinated speed and braking systems; and operating in a reasonable and prudent manner.

[Code of Maryland Regulations Title 11.16.05](#)

- Entity can apply to Maryland Department of Transportation (MDOT) Motor Vehicle Administration (MVA) MDOT MVA for approval to operate trucks in a unified manner, with self-certification on following related policies & procedures, and compliance with all Maryland laws / rules-of-the-road, etc.
- Operational plan shall include information on technology, anticipated routes, traffic & environmental conditions, and driver training
- Review of operational plan shall include pertinent agencies and inspection of tech and safety equipment if needed.
- Maximum number of trucks is two, and platooning will be prohibited in work zones, and with hazardous materials, loose materials, and oversize/overweight loads. Platooning will only be allowed on controlled access highways, and drivers must carry a copy of the approval from the MDOT MVA Administrator.

I. Intent of Process

1. The intent of this process is to create a collaborative, constructive, and expedient pathway for the operation of truck platooning 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, State and local agency experts, the infrastructure owner operator for the anticipated routes, and emergency responders responsible for the particular jurisdiction in the geographic area requested for operation.
2. This process is intended to provide the flexibility necessary to accommodate different scenarios and encourage the use of truck platooning to enhance safety on Maryland's roadways and support economic development of the industry. 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. "Controlled Access Highway" as defined in Transportation Article, Section 21-101(g), Annotated Code of Maryland.
2. "Hazardous Materials" as defined by the Hazardous Material Regulation of the U.S. Department of Transportation.

3. “Loose material” as defined in Transportation Article, §24-106.1(d), Annotated Code of Maryland.
4. “Operational Plan” as referenced in COMAR 11.16.05 “Oversize / overweight load” as defined in Transportation Article, Section 24-112, Annotated Code of Maryland.
5. “Platooning” is unified truck travel as referenced in COMAR 11.16.057. “Platoon Operator” is an entity applying for the authorization under COMAR 11.16.05 for the operation of trucks in an electronically unified manner in conformity with Transportation Article, §21-310(f), Annotated Code of Maryland.
6. “Work Zone” as defined in COMAR 11.04.15.01B(5).

III. Applicability

Any entity intending to operate trucks travelling Maryland’s roadways in a coordinated and unified manner (“platooning”), must first obtain approval via this process from MDOT MVA.

IV. Brief Structure of Process

1. Companies interested in truck platooning in Maryland will first complete the form, *Application to Authorize Operation of Truck Travel in a Unified Manner in Maryland (Platooning)*. Email completed and signed form to CAVMaryland@mdot.maryland.gov
2. The application will include: the Platoon Operator’s information and primary point of contact, including emergency (24/7) contact information, and self-certifications that the Platoon Operator has met the requirements of all applicable Maryland laws governing platooning operations.
3. In addition to the application, the Platoon Operator will also submit an Operational Plan as described in Section V.
4. On successful submission of an application, the MDOT MVA will contact the Platoon 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 Platoon 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 (including MDOT MVA, MDOT State Highway Administration, and Maryland Transportation Authority), the Maryland State Police (MSP), 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 Platoon 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 platoon technology interaction with roadway users; public outreach plans; and all other applicable items listed in Section V. Dialogue with the Platoon 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

platoon technology 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. Platooning 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 platooning, 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 platooning 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 platooning operation.

V. Issues Addressed as part of the Application and the Operational Plan.

1. *The Application to Authorize Operation of Truck Travel in a Unified Manner in Maryland (Platooning)* will include self-certifications from the Platoon Operator as follows:
 - a. No more than two trucks in one platoon at any given time.
 - b. The Platoon Operator, all drivers, and trucks to be used in platooning will follow all applicable regulations of the Federal Motor Carrier Safety Administration (FMCSA) and National Highway Transportation Safety Administration (NHTSA).
 - c. Platoon Operator must have liability and insurance coverage, to include minimal levels of insurance as stated in Title 49, Part 387, Code of Federal Regulations.
 - d. Platoon Operator shall be responsible to ensure that the platoon only operates as agreed in the approved Operational Plan.
 - e. Platoon Operator will have platooning trucks follow appropriate rules of engagement for platooning, all traffic laws and rules of the road, and in a reasonable and prudent manner, including:
 - i. Work zones; platooning to be discontinued on approach to a work zone with all vehicles reverting to human driver control at least 500 feet prior to encountering any person, device or vehicle in a roadway lane at a work zone. Platooning may not be re-engaged until all vehicles in the platoon are at least 500 feet beyond the last person, device, or vehicle in a roadway lane at the work zone.
 - ii. No platooning with oversize/overweight loads, nor with loads of hazardous materials or loose materials; and
 - iii. Platooning only on controlled access highways approved as part of the Operational Plan.
 - f. Platooning operations are restricted to Operational Design Domain (ODD) defined by the Platoon Operator in the approved Operational Plan.

- g. Vehicles used by the Platoon Operator for platooning purposes are capable of:
 - i. Establishing, managing, and operating a safe and successful platooning operation on Maryland highways;
 - ii. Allowing reasonable access for other vehicles to afford safe movement among lanes and/or to exit or enter the highway;
 - iii. Wirelessly exchanging information about their speed, location, and heading with other vehicles within close proximity, operating within the platoon (i.e. V2V communications);
 - iv. Ensuring driver engagement;
 - v. Alerting and indicating when platooning is engaged or should be disengaged;
 - vi. Monitoring system health and detecting cybersecurity threats;
 - vii. Detecting a system failure or cybersecurity threat and responding appropriately to ensure safe operation;
 - viii. Allowing for manual intervention by the driver(s) through a safety override in the platooning system or process to easily engage and disengage the platooning technology;
 - ix. Recording data before a collision occurs (data and summaries of data needed to understand and communicate the cause of the crash shall be made available to the MDOT MVA and law enforcement post-crash); and
 - x. Complying with the testing process described in ISO 26262, if applicable.
- h. Platoon Operator has established and implemented process and procedures for inspecting, testing, and maintaining sensors used in platooning operations.
- i. Platoon Operator has a process for testing, certifying, uploading, and verifying software upgrades.
- j. Platoon Operator will only allow platooning with properly licensed and trained drivers:
 - i. Each driver must have an appropriately endorsed and valid commercial driver license, and is responsible for care and control of the vehicle they are in.
 - ii. All drivers engaged in platooning operations will have successfully completed the appropriate practical training provided and/or designated by the technology developer, Original Equipment Manufacturer (OEM) or Tier 1 supplier training according to the Driver Training Plan for that specific vehicle's platooning system.
- k. Vehicle Identification
 - i. Platoon Operator will assure that a Platooning Vehicle sticker issued by MDOT MVA will be placed on each platooning vehicle in accordance with instruction.
 - ii. Each driver must carry a copy of the approval from the MDOT MVA Administrator authorizing platooning on Maryland's roadways.

- I. Regular Reporting and Reporting Crashes
 - i. Platoon Operator must report to MDOT MVA (email to CAVMaryland@mdot.maryland.gov) by close of business the next business day following any crash involving the platooning trucks, to include:
 1. Platoon Operator information;
 2. Date, time, and location of crash; and
 3. Description of events leading up to and during the incident.
 - ii. This report of platooning crashes 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.
 - iii. Regular Reporting and renewal period as agreed and explicitly stated in the approval.
 - m. Platoon 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.
 - n. 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:
 - i. Provider of the platooning technology
 - ii. Operational Design Domain (ODD) for the platooning including:
 1. Trafficway types on which the platooning system is intended to operate safely;
 2. Geographic constraints, if applicable;
 3. Speed constraints, if applicable;
 4. Constraints for environmental conditions (weather, daytime/nighttime, etc.), if applicable;
 5. Constraints for traffic conditions, if applicable;
 6. Allowances and process to allow vehicles to merge into a platoon, if applicable; and
 7. Other domain constraints that may affect the safe operations of the platoon.
 - iii. Expectations and considerations for platoon disengagements, including the driver role;
 - iv. General validations to demonstrate previous successful platooning in a controlled environment of a nature that is relevant to the routes denoted in the Application; and

- v. Monitoring of system health and cybersecurity threats; approaches to guard against hacking risks.
- b. Routes: Proposed controlled access highways where platooning will be activated, from the map of controlled access highways in Maryland.
- c. Driver Training: a brief description of the Driver Training Plan for the Platoon Operator's specific platooning system, and confirmation of it covering how the platooning system works; understanding of platooning operations, communications, and visual indicators; platooning disengagement and fallback; driver engagement and distracted driving avoidance; and appropriate safety measures.
- d. Public outreach: a brief description of information necessary to notify the public in the proposed location of platooning, to include what to look for, how to appropriately react and interact with the platooning trucks, and any other changes on road user expectations.
- e. Emergency response: a brief description of procedures, if platooning technology is activated, to disable the vehicle, remove the vehicle from the roadway, safely secure the vehicle for rescue, and any special firefighting needs. Upon authorization for platooning, this information will remain on file with all applicable emergency responder jurisdictions.