

Ontario Cooperative Truck Platooning Pilot Program Conditions

Condition	Regulation (R) or Authorization (A)	Description
Overview		<ul style="list-style-type: none"> - Connected Vehicle/Automated Vehicle (CV/AV) technology is advancing quickly. Ontario aims to be a leading jurisdiction in the advancement, deployment and adoption of CV/AV technology, harnessing the technology to support the provinces transportation goals, while driving economic growth and investment. - Cooperative Truck Platooning can be defined as when a number of trucks equipped with driving support systems are driven close together, while cooperatively communicating with each other using vehicle-to-vehicle (V2V) communication technology, embedded within all vehicles in the chain. - The Ontario Ministry of Transportation (MTO) is allowing a limited 'pilot' operation of truck platoons so to demonstrate their potential, compatibility with existing road users and infrastructure, confirm their overall safety, while operating on Ontario's roadways. - For the purposes of Ontario's platoon testing pilot, "Cooperative truck platooning" means: several commercial motor vehicles (CMVs) equipped with an automated driving system that operate at the Society of Automotive Engineers (SAE) International's driving automation Level 1 or 2. - For the purposes of the pilot, V2V communications will be considered as being communication technology enabling vehicles to wirelessly exchange information about their speed, location, and heading with vehicles within close proximity. - For the purpose of the pilot, Level 1 automation will be considered as being an advanced driver assistance system (ADAS) on the vehicle can assist the human driver with either steering or braking/accelerating. Furthermore, this includes V2V on all vehicles operating within the cooperative platoon. - For the purposes of the pilot, Level 2 automation will be considered as being an ADAS on a CMV that can control both steering and braking/accelerating under some circumstances. The human driver must continue to pay full attention ("monitor the driving environment") at all times and perform the rest of the driving task. Furthermore, this includes V2V on all vehicles operating within the cooperative platoon. - To participate in Cooperative Truck Platoon Pilot Program, carrier-operators must retrieve, populate and submit an application form. The online application form will be reviewed by MTO for approval. If approved, a signed copy of the authorization package will be sent back to applicant. A copy of the signed authorization package must be kept in each vehicle participating in the pilot program at all times. - Cooperative Truck Platoon Pilot Program will be separate from Ontario's Automated Vehicle (AV) Pilot Program. The pilot will take place over a 10 year period, so to ensure sufficient time to effectively evaluate. - MTO is open to allowing a limited number of carriers to operate with the pilot operation, based on MTO discretion. - On an ongoing basis throughout the 10-year pilot, the MTO will assess data and information from on-road testing of cooperative truck platoons, engage stakeholders and make amendments to the pilot framework, as required. - The following conditions apply to Cooperative Truck Platoon Pilot Program operations.

<p>General Conditions</p>		<ul style="list-style-type: none"> - Carriers must enter into an agreement with MTO signifying that they accept responsibilities as outlined in the online application form, as detailed above. - A copy of the signed application form must accompany all vehicles operating within the cooperative truck platoon and must be produced on demand to a police officer or enforcement officer appointed to carry out the provisions of the <i>Highway Traffic Act</i> (HTA). - The signed authorization package form may be transferred between qualifying vehicles operated by the same form holder, providing that the tractors are registered to the same CVOR/NSC registration number specified on the authorization package form. - Carriers must identify one or more personnel as a Primary Contact for the Trial operation and notify MTO of any contact changes immediately. Contact information and updates must include name, title, address, telephone, cell and email address. - MTO may request proof from involved carriers and their partners of equipment to be used during the pilot, prior to granting approval to participate in the pilot. This request would require the carrier to provide proof to verify compliance with the <i>Motor Vehicle Safety Act</i> (Transport Canada) [MVSA], and would consist of the manufacturer's specifications on the tractor and/or semitrailer. Furthermore, the request might also include, and may not be limited to, requests for proof of labels of compliance (National Safety Mark (NSM)), vehicle alterer's, intermediate, and final stage labels. Finally, if deemed necessary, this could also include confirmation by Transport Canada through MTO that the vehicle is acceptable to MVSA standards. This request will be at the discretion of MTO staff. - A driver is required in each vehicle involved in the cooperative truck platoon, so to steer and to take over full manual control of the vehicle, if required. The driver is responsible for care and control of the vehicle. - All HTA and subsequent rules/regulations apply, outside of those directly exempted via the regulation (eg. Tractor must also be equipped with a speed-limiting system, as required by s. 68.1 of the HTA)
<p>Vehicle Configuration Types</p>		<ul style="list-style-type: none"> - Select CMVs permitted; only O.Reg 413/05 Schedule 1 and 19 through 25 configurations will be allowed to participate within the pilot. <ul style="list-style-type: none"> o Long Combination Vehicles (LCVs), tractor double-trailers (A-, B-, or C-trains), lift axle equipped tractor semitrailer configurations or truck-trailer configurations are not permitted. - Vehicle weights and dimensions as set-out in O.Reg 413/05, Vehicle Weights and Dimensions for (Safe, Productive, and Infrastructure-Friendly (SPIF) Vehicles [Schedule 1, and 19 through 25]. - Lead vehicle must be the heaviest in the platoon. - Vehicle to be used for testing purposes only.

Cooperative Truck Platoon Restrictions		<ul style="list-style-type: none"> - So to ensure that traffic will be able to merge, pass, and share the road with the platoon, a maximum of 3 vehicles are permitted within the platoon. - Following distance between platooning vehicles must be at a minimum of 20 metres (65.6 feet), or a minimum of 1.7 seconds following distance, whichever the greater. <i>[Note: At 100 km/h, the minimum required distance would be approximately 47 metres (154 feet)].</i> - To manage traffic flow and ensure road safety, platooning vehicles must disengage platooning technology to allow vehicles to merge in order to access/egress the highway, when entering a Truck Inspection Station, when entering and within a construction zone, proceed past an incident (collision, breakdown etc.), or when complying with Ontario's Slow Down, Move Over legislation.
Safe Operation		<ul style="list-style-type: none"> - Where practical, the cooperative truck platoon is expected to travel in the right-most lane of the highway. - The platoon must operate only on approved routes in a fashion that does not cause damage to highway infrastructure, including interference with curbs, lights or other highway fixtures. - Carrier is responsible for any damage to highway infrastructure. - Cooperative Truck Platoons must only operate while accompanied by well-signed pilot/escort vehicles, equipped with effective lighting and conspicuity (<i>see Rear Signage Requirements below</i>).
Inclement Weather / Visibility / Road		<ul style="list-style-type: none"> - Platoon operations must not operate if the roadway is: Partly Snow Covered, Fully Snow Covered, Snow Packed, Icy, or there is a Road Closure or Reduced Visibility (ie. visibility is 500m or less). These conditions align with the Winter Road Conditions posted and defined on the MTO website: http://www.mto.gov.on.ca/english/traveller/conditions/ call MTO's automated service at 1-800-268-4686. - If any of these conditions are encountered while on route, platooning vehicles must disengage platooning technology and suspend platooning operations.
Carrier Qualifications		<ul style="list-style-type: none"> - Carriers with 'Conditional' or 'Unsatisfactory' Carrier Safety Ratings may not qualify for permits. Carriers whose rating drops to "Conditional" or "Unsatisfactory" must immediately cease operations. - Carrier will maintain a minimum \$5 million public liability insurance coverage. - Carrier has at least 5 years of prior trucking experience. - Carrier must identify one or more personnel as a primary contact and notify MTO of any changes. Contact information and updates will include name, title, address, telephone, cell and e-mail address. - Carriers may be required to provide documentation with their application to support their qualifications.

<p>Driver Qualifications</p>		<ul style="list-style-type: none"> - Drivers must have a valid Class A, B, C or D driver's licence, with Z (air brake) endorsement as applicable, or equivalent from another jurisdiction. - Technology provider and Original Equipment Manufacturer (OEM) to provide appropriate practical training to the carrier and its drivers. - As part of the cooperative truck platoon reporting during pilot operations, a record of each trip will include the names of the drivers. - AZ driver must have minimum of 5 years provable tractor semitrailer driving experience to operate a tractor semitrailer within the pilot. - CZ and DZ driver must have minimum of 5 years provable truck driving experience to operate a truck within the pilot. - Driver has no driving-related Criminal Code (Canada) convictions in previous 36 months, no more than 2 moving violation convictions of any kind in previous 12 months and no more than 3 moving violation convictions of any kind in previous 36 months.
<p>Areas of Operation</p>		<ul style="list-style-type: none"> - Carriers must inform and receive approval from MTO in advance of their intended testing. This will include date for travel, time of day, origin/destination locations, section of highway for intended travel (interchange to interchange) and length of travel while in a cooperative truck platoon. - The Cooperative Truck Platooning Network (Network) is the list of highways individually authorized for platoon pilot travel. The Network generally consists of controlled access, multi-lane, divided highways (often referred to as freeways, expressways and parkways) including ramps connecting one highway with another. - Cooperative truck platoons, with V2V technology enabled, must only operate on the authorized Network. Cooperative truck platoon technology must be disengaged to access or egress from the Network. - Unless a specific concern is identified - controlled access, multi-lane, divided highways (or specified portions of such highways) and their connecting ramps may be added to the Network in future. - Cooperative truck platoons must only operate while utilizing cooperative truck platooning technology along the Primary Cooperative Truck Platooning Authorized Network (Network). - The Network consists of: <ul style="list-style-type: none"> • Highway 402 – Sarnia (Hwy 40/Modeland Road) to Strathroy (Centre Road) – 57 km • Highway 403 – Brantford (Oak Park Road) to Woodstock (Oxford Road 55) – 25 km • Highway 401 – Windsor (Provincial Road) to Tilbury (Essex Road 42) – 40 km • Highway 417 – Greenfield Rd to P&R Rd 17 – 37 km • Highway 401 – Carmen Rd to Upper Canada Rd – 19 km • Highway 400 - Rankin Lake Road to MacTier – 24 km • Highway 11 – Highway 124 to Burks Falls – 42 km

Rest / Emergency Stops		<ul style="list-style-type: none"> - Rest/Emergency stop locations are service centres, truck stops or other suitable locations in close proximity to the Network at which the platoon may safely stop and/or park in case of inclement weather, road closure, driver breaks, etc. - ONRoute locations are the main rest/emergency stop locations along the 400-series highways. These may be utilized to facilitate the staging of a cooperative truck platoon before a pilot operation takes place.
Truck Inspection Stations (TIS)		<ul style="list-style-type: none"> - Platooning vehicles must report to any Truck Inspection Station on the same basis as other commercial vehicles. If law enforcement requests one vehicle out of the platoon to pull over at roadside, the other vehicles are not required to stop unless otherwise directed. It is advised that the remaining vehicles in the platoon continue their trip or continue to the next available rest/emergency stop to re-group. - A TIS does not qualify as a rest/emergency stop location and cannot be utilized to facilitate the staging of a platoon before a pilot operation takes place.
Data reporting and evaluation		<ul style="list-style-type: none"> - MTO will evaluate the performance of cooperative truck platoons, comparing their operation to the current naturalistic truck driving environment, and evaluate their potential impact on the trucking industry. - Based on an evaluation of the results of the pilot, MTO will determine whether to and/or how to proceed with a further measured roll-out of cooperative truck platoon operations. The robustness of results will be dependent on the quantity and quality of available data at the conclusion of the pilot. - As part of the cooperative truck platoon reporting during pilot operations, a record of each trip will include the names of the drivers and driver license numbers. - On application, participants must indicate tractor vehicle identification number. - Participants will provide annual reports including but not limited to, geography/terrain, weather conditions, collision reporting, emergency disengagements, hard brake events, number of km driven, hours tested, speed (km), details on safety critical events such as emergencies due to system failure or driver initiated disengagements. - Participants will engage in touch point conversations around testing experience with a representative of the MTO.

Notification of Collisions / Incidents / Infractions		<ul style="list-style-type: none"> - Carrier must provide email notification to MTO immediately following any reportable collision. <i>Email addresses are provided to participants.</i> - Within 10 business days of any reportable collision (as specified in s.199 of the Highway Traffic Act), carrier must provide a copy of the collision report, carrier's written explanation of the collision circumstances, and a speed report related to the trip and the truck involved in the incident. <i>Email, fax and mail addresses are provided to participants.</i> - Within 10 business days, carrier must provide notification and description of any non-reportable incident that disrupts traffic (e.g. vehicles unable to access/egress the highway, vehicles unable to safely pass the platoon) or damages property. <i>Email and fax addresses are provided to participants.</i> - Carrier agrees that any information provided may be shared with police. - Police and enforcement personnel are requested to notify MTO of any participants' infractions.
Cargo Restrictions		<ul style="list-style-type: none"> - Platooning vehicles must not carry any regulated dangerous goods requiring placards on the vehicle exterior. - Platooning vehicles must not carry livestock or special provision loads.

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Special Equipment Requirements		<ul style="list-style-type: none"> - Vehicles must be equipped with a functioning ABS, compliant with Canadian Motor Vehicle Safety Standard 121. - All vehicles (trucks and trailers) must be certified as compliant to federal <i>Motor Vehicle Safety Regulations</i> (Transport Canada) [MVSR] and must not be modified in such a manner that would bring the vehicle out of compliance with the federal MVSR. - Tractor trailer configurations must be equipped with a functioning Electronic Stability Control (ESC) system. - Vehicles in the platoon must be equipped with Electronic Logging Devices (ELDs). - Vehicles must be equipped with a functioning ADAS system that selectively applies the brakes when necessary to maintain vehicle control. - Vehicle must be equipped with a functioning V2V system that enables vehicles to wirelessly exchange information about their speed, location, and heading with other vehicles within close proximity, operating within the platoon. - All tractor semitrailers within a platoon must be equipped with air disc brakes on all axles of the configuration (no drum or wedge brakes). - Vehicle must provide an audible and visual alert to the driver when the platooning system disengages from surrounding vehicles or experiences any sort of system communication failure, or otherwise. - Carrier is responsible for ensuring that vehicles meet these requirements and for ensuring that the technology is in good working order. - Braking systems of all equipment used in a cooperative truck platoon must be fully inspected to National Safety Code 11B standards (full inspection with wheel(s) removed) immediately prior to its first platoon operation by a licensed mechanic. A limited brake inspection per National Safety Code 11B must be completed every 2 months thereafter. Documentation must verify these inspections and repairs, if they were required
Rear Signage Requirements		<ul style="list-style-type: none"> - A yellow-orange sign must be displayed on the rear of all platooning vehicles and high-mounted on pilot/escort vehicles bearing a black illustration of a platoon and words "PLATOONING VEHICLE" (See Appendix A). <ul style="list-style-type: none"> o Background of the sign: Type III or superior yellow-orange retroreflective sheeting complying with the Standard Specification for Retroreflective Sheeting for Traffic Control (D 4956) of the American Society for Testing and Materials o Pictogram: Black o Lettering: Black, Highway Gothic, E-series modified, 50 mm high o Sign size: At least 30 cm by 230 cm - The sign must be positioned so as to be clearly visible by following traffic, but does not obstruct license plates, lights or other safety devices and must be removed or covered when not in use.
Speed Restriction		<ul style="list-style-type: none"> - Operators will be subject to strict speed enforcement by police. Travel within the pilot must be at safe operating speeds, ensuring posted speed limits are adhered to at all times.

Speed Recording Device		<ul style="list-style-type: none"> - Tractor must be equipped with a functioning and accurate electronic on-board device that records speed, location, time and date at regular intervals not exceeding five seconds in length. - The speed recording device must be a GPS or similar tracking system and must display in a legible table, including rows and columns. - Tachograph and tachograph charts are not acceptable speed recording devices within the Program. - Data from this device must be retained for at least 60 days and capable of producing a report indicating the vehicle's speed at specified dates and times. - Upon request, such reports must be provided to MTO who, in turn may share them with police. (Reports are not expected to be produced at roadside.)
Revocation of Application		<ul style="list-style-type: none"> - MTO reserves the right to suspend a carrier, revoke pilot operation privileges, or modify the Cooperative Truck Platooning regulations at any time, without advanced notice. - Approved applications may be revoked or suspended for breach of any regulation including non-compliance with the HTA. - Applications automatically become invalid if a holder's Carrier Safety Record falls to 'Conditional' or 'Unsatisfactory'. - MTO reserves the right to withdraw approval or modify conditions related to the application without advance notice.

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Appendix A: Rear Signage:

At least 230 cm wide by 30 cm high.



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