



## Memorandum of Agreement to Test Automated Driving Systems on Public Ways in Massachusetts

This Memorandum of Agreement is entered into between the signatory parties and sets forth the terms and conditions between the signatory parties with respect to the operation of automated driving systems (“ADS”) on roads and public ways and other public property in Massachusetts for testing purposes by \_\_\_\_\_.

*Applicant Name*

### 1) **Definitions:**

- a) **Applicant:** an individual, company, or organization that manufactures automated driving systems for testing on public roadways, or is involved with designing, supplying, testing, operating, or helping to manufacture automated driving systems.
- b) **Automated Driving System (“ADS”):** The hardware and software that are collectively capable of performing the entire Dynamic Driving Task on a sustained basis, regardless of whether it is limited to a specific operational design domain. This term is used specifically to describe a Level 3, 4, or 5 driving automation system. (SAE J3016)
- c) **ADS Test Vehicle (“Test Vehicle”):** A vehicle equipped with an ADS for testing.
- d) **ADS Test Driver (“Test Driver”):** An employee, contractor, or other designee of the Applicant who is approved by MassDOT to engage an ADS and perform, in real-time, part or all of the DDT and/or DDT fallback for the Applicant’s Test Vehicles.
- e) **Conventional Mode:** The status of the Test Vehicle when the ADS is disengaged.
- f) **Dynamic Driving Task (“DDT”):** All of the real-time operational and tactical functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints, and including without limitation: Lateral vehicle motion control via steering (operational); Longitudinal vehicle motion control via acceleration and deceleration (operational); Monitoring the driving environment via object and event detection, recognition, classification, and response preparation (operational and tactical); Object and event response execution (operational and tactical); Maneuver planning (tactical); and Enhancing conspicuity via lighting, signaling and gesturing, etc. (tactical). (SAE J3016)
- g) **DDT Fallback (“Fallback”):** The response by the user to either perform the DDT or achieve a minimal risk condition after occurrence of a DDT performance-relevant system failure(s) or upon operational design domain (ODD) exit, or the response by an ADS to achieve minimal risk condition, given the same circumstances. (SAE J3016)
- h) **Limited Access Highway:** An express state highway with full control of access (720 CMR 9.00)
- i) **Major Crash:** Any crash involving the Applicant’s Test Vehicle in which: any motor vehicle involved is disabled and towed from the scene; or any operator, occupant, or non-motorist is fatally injured or suspected to have a serious injury; or any non-motorist is suspected to have a minor or possible injury; or the Test Driver is

suspected by law enforcement of alcohol or drug use; or the crash is related to a school bus or work zone.

- j) Minimal Risk Condition: A condition to which a user or an ADS may bring a vehicle after performing the DDT fallback in order to reduce the risk of a crash when a given trip cannot or should not be completed. (SAE J3016)
- k) Minor Crash: Any collision involving the Applicant's Test Vehicle that does not qualify as a major crash shall be considered a minor crash.
- l) Monitor the Driving Automation System Performance: The activities and/or automated routines for evaluating whether the driving automation system is performing part or all of the DDT appropriately. (SAE J3016)
- m) Monitor the Driving Environment: The activities and/or automated routines that accomplish real-time roadway environmental object and event detection, recognition, classification, and response preparation (excluding actual response), as needed to operate a vehicle. (SAE J3016)
- n) Monitor the Test Driver: The activities and/or automated routines designed to assess whether and to what degree the user [test driver] is performing the role specified for him/her. (SAE J3016)
- o) Monitor the Vehicle Performance: The activities and/or automated routines that accomplish real-time evaluation of the vehicle performance, and response preparation, as needed to operate a vehicle. (SAE J3016)
- p) Object and Event Detection and Response ("OEDR"): The subtasks of the DDT that include monitoring the driving environment (detecting, recognizing, and classifying objects and events and preparing to respond as needed) and executing an appropriate response to such objects and events (i.e., as needed to complete the DDT and/or DDT fallback). (SAE J3016)
- q) Operate: Collectively, the activities performed by a (human) driver (with or without support from one or more level 1 or 2 driving automation features) or by an ADS (level 3-5) to perform the entire DDT for a given vehicle during a trip. (SAE J3016)
- r) Operational Design Domain ("ODD"): The specific operating domain(s) in which an automated function or system is designed to properly operate, including but not limited to geographical conditions, roadway types, speed ranges, environmental conditions, and other domain constraints. (SAE J3016)
- s) Participant: A municipality, state agency, political subdivision, governmental entity, or a jurisdiction with publicly accessible roadways which has elected to participate in the process defined in this Application and allow Test Vehicles to operate with an ADS engaged on designated roads as defined in the Testing Locations Menu without requiring individual Memoranda of Understanding for each Applicant. Participants may review each Application in the Initial Review phase, and may submit questions through MassDOT for the Applicant to respond to, as described below. Participants may be added periodically.

- t) Passenger: A user in a [test] vehicle who has no role in the operation of that vehicle. (SAE J3016)
- u) Pilot Service Test: Providing passenger transportation services or other commercial services while testing an ADS.
- v) Public Ways: Includes but is not limited to any public highway, a private way laid out under authority of statute, a way dedicated to public use or where the general public has a right of access by motor vehicle or access as invitees or licensees, a way under control of a park commissioner or body having similar powers, or other property which has been designated or restricted for ADS testing by Participants.
- w) Remote Driver: A driver who is not seated in a position to manually exercise in-vehicle braking, accelerating, steering, and transmission gear selection input devices (if any) but is able to operate the vehicle. (SAE J3016)
- x) Safety Associate: An employee, contractor, or other designee of the Applicant, who is not seated in a position to manually exercise in-vehicle braking, accelerating, steering, and transmission gear selection input devices (if any) but may be able to engage and/or disengage an ADS, and is trained to monitor the Test Driver, driving environment, vehicle performance, and/or driving automation system performance.
- y) System Failure: A malfunction in a driving automation system and/or other vehicle system that prevents the driving automation system from reliably performing the portion of the DDT on a sustained basis, including the complete DDT, that it would otherwise perform. (SAE J3016)
- z) Testing: Engaging an ADS for the purpose of assessing, demonstrating, evaluating, and/or validating the ADS on public ways.

## 2) **Application and Approval:**

- a) An Applicant who desires to test in Massachusetts shall review and understand the policy issued September 2017 by the National Highway Traffic Safety Administration (NHTSA) entitled Automated Driving Systems: A Vision for Safety and any relevant policies or publications subsequently published by USDOT or another federal agency or national organization as required by MassDOT, in addition to Massachusetts Executive Order No. 572, the Executive Order on Autonomous Vehicles for the City of Boston, and the Regional MOU between MassDOT and Participants.
- b) For purposes of testing ADS on public ways in the Commonwealth per Executive Order No. 572, the Massachusetts Department of Transportation (MassDOT) is designated the lead agency. Only approval issued by MassDOT shall authorize the use of ADS on public ways.
- c) Applicants shall complete the Application in full, execute the Memorandum of Agreement (MOA), and email all documents comprising the Application to AVs@dot.state.ma.us.
- d) Application Review: If an Application is deemed complete, MassDOT will review the Application in detail and provide approval, rejection, or a request for additional

information within 30 business days. Within three business days of receiving an Application, MassDOT will transmit said application to any Participants.

- i) If MassDOT or any Participant requires additional information to assess the Application, the Applicant will submit such information or provide to the satisfaction of MassDOT an explanation of any omission(s) from the Application within 15 business days of the request.
- ii) MassDOT may review and respond – either with additional requests for clarification or with acknowledgement that all questions have been satisfactorily answered – within 15 business days of receipt of the additional information.
- e) Approval Review Meeting: Prior to issuing approval to test, MassDOT may request a meeting with the Applicant and any interested Participants to discuss the Application.
- f) Letter of Approval: MassDOT may issue a Letter of Approval (“Approval”) upon the successful completion of the Application process, which shall be carried in the Test Vehicles at all times. If MassDOT does not approve of the Application, a Letter of Denial shall be issued along with instructions on how the Applicant may revise and resubmit the Application for a subsequent review.
- g) A Participant may elect to opt-out of approval for any particular Memorandum of Agreement and Testing Plan at any time.

3) **Testing Terms and Conditions:** The Applicant agrees to the following requirements when testing on public ways.

- a) Approved Test Vehicles may engage an ADS in accordance with the Testing Plan for the purpose of assessing, demonstrating, evaluating, and/or validating the ADS.
- b) The Applicant shall follow all applicable traffic laws and regulations, whether the ADS is engaged or in conventional mode, except when necessary for the safety of the vehicle’s occupants and/or other road users.
- c) In public ways testing, the Applicant may not artificially create a desired testing scenario, situation, or interaction with another vehicle or road user, unless the scenario, situation, or interaction does not violate any traffic laws or regulations and does not otherwise endanger public safety, impede traffic flow, or otherwise disrupt the regular usage of the public way.
- d) Test Vehicles shall be built from passenger vehicles that comply with federal regulations and meet Federal Motor Vehicle Safety Standards, if any, for the vehicles’ model years. Except for those parts, components, or vehicle systems that have been rendered inoperative or modified to include certain sensors, computers, and other equipment in order to engage an ADS, the Applicant’s ADS shall not render inoperative any Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571.

- i) The vehicles may not meet one or more Federal Motor Vehicle Safety Standards (FMVSS) for the type of motor vehicle(s) being employed in such test program if the Test Vehicle(s) is exempt from such standards under 49 USC § 30112(b)(10) [Prohibitions on manufacturing, selling, and importing noncomplying motor vehicles and equipment]. Prior to the date of first use as part of this testing program, the Test Vehicle manufacturer shall have manufactured and distributed motor vehicles into the United States that are certified to comply with all applicable Federal Motor Vehicle Safety Standards and have submitted to the National Highway Traffic Safety Administration manufacturer identification information under Part 566 of Title 49, Code of Federal Regulations; and if applicable, have identified an agent for service of process in accordance with Part 551 of such Title.
- e) The following vehicles will not be approved for testing on public roads: Trailers and Motorcycles as defined in M.G.L Chapter 90, and vehicles manufactured by a person or entity not recognized by NHTSA as a manufacturer of motor vehicles.
- f) All vehicles used for such tests shall display a current inspection sticker and current registration plates.
- g) Test Vehicles should include signage on the sides and/or rear of the vehicle to indicate it is an “ADS-equipped Test Vehicle”, or similar distinguishing features to enable first responders to identify it as an ADS-equipped vehicle.
- h) The Applicant shall make all reasonable efforts to participate in training workshops and public events as requested by MassDOT and Participants.
- i) A copy of the MassDOT Letter of Approval and the First Responders Interaction Plan shall be carried in the approved Test Vehicle(s) at all times, in the glove box or another conspicuous location.
- j) Prior to conducting a test or series of tests, Test Vehicles shall undergo a thorough safety check by qualified personnel as designated by the Applicant.
- k) At least 8 hours prior to conducting testing on limited access highways, an email notice and phone notice should be made to the MassDOT Highway Operations Center Supervisor Desk, detailing the time period and roadways where testing will occur, in addition to a point of contact name and telephone number. The information should be submitted by email and phone to:  
[DOT-DL-HOC-ShiftSupervisors@dot.state.ma.us](mailto:DOT-DL-HOC-ShiftSupervisors@dot.state.ma.us) and 1-800-227-0608.
- l) Each test driver and safety associate shall be at least 21 years of age, possess a valid driver's license issued by a state or territory of the United States and have a driving record free of any pending cases or convictions for serious motor vehicle violations including but not limited to operation of a motor vehicle while under the influence of alcohol or drugs, which shall include any cases that were disposed of under Chapter 90, Section 24D; operating to endanger the safety of the public; leaving the scene after personal injury or property damage and motor vehicle homicide. MassDOT may deny

approval for any test driver at its sole discretion. If the test driver is over the age of 23 their license must be at least 1 year old; if the test driver is under the age of 23 their license must be at least 3 years old.

- m) When testing, a test driver who is trained and experienced in the operation and control of the Test Vehicle shall be in the driver's seat or other location in the vehicle from which they can monitor the driving environment and take immediate control of the dynamic driving task if necessary.
- n) Test drivers shall not use a mobile telephone, hands-free mobile telephone or mobile electronic device, or otherwise engage in a distracting activity while testing on any public way.
- o) A test driver shall not conduct Testing activities for more than 8 hours in any consecutive 24-hour period.
- p) The Applicant shall enroll in the Commonwealth's [Driver Verification System](#) to track any changes to the test drivers' license status.
- q) As approved by MassDOT and Participants per the Testing Plan, a member of the public may ride in a Test Vehicle during a pilot service test provided such passenger tests adhere to any relevant ride-for-hire laws and regulations and agreements with Participants. The Applicant shall consider and plan for the accommodation of senior citizens and people with mobility impairments, vision impairments, or other sensory impairments. The Applicant must consult with MassDOT and Participants to explore potential pilot service test use cases.
- r) The Applicant shall disclose to any passenger in the vehicle that is not a test driver, employee, contractor, or designee of the Applicant the nature of personal information, if any, that may be collected about the passenger and how it may be used.
- s) The Applicant shall certify in the application that the Test Vehicle is equipped with an automated driving systems data recorder that captures and stores sensor data for all vehicle functions that are controlled by the ADS for at least five (5) seconds before a crash while testing.
- t) In the event of a crash, the Applicant shall follow the requirements set forth in the Crash Protocol.
- u) The Applicant agrees to not offer for sale, sell, transfer ownership, or dispose of a Test Vehicle(s) at any time, including at the conclusion of the testing, except:
  - i) To another Applicant holding a valid permit for ADS Testing in Massachusetts; or
  - ii) To an educational or research institution or a museum where it would be appropriate for display or study; or
  - iii) If the vehicle has a Salvage Parts Only Title; or
  - iv) To junk or scrap the vehicle per M.G.L. Chapter 90 §20E.

**4) Testing Plan:**

- a) The Applicant shall submit a Testing Plan as a component of the Application to describe testing which is anticipated to occur within the two-year approval period in Massachusetts.
- b) The Testing Plan must be approved by MassDOT and any Participant which owns the roads that may be used for testing, and must define the locations where testing is anticipated to occur, and any planned pilot service tests.
- c) The Testing Locations Menu identifies roadways or other property which have been designated or restricted for ADS testing by Participants. The Applicant may submit to MassDOT and any road owner Participant(s) a proposal for a new testing area, or changes to an existing area, to be considered by MassDOT and any Participant as applicable.

**5) Changes to the Testing Plan and Operational Design Domain:**

- a) To make any changes to the approved Operational Design Domain (Application Detail #2) and/or Testing Plan (including the Testing Locations or Pilot Tests), the Applicant shall submit a revised ODD and/or Testing Plan to MassDOT, in addition to an updated Progress Report (no greater than 30 calendar days old), and shall participate in a conference call with MassDOT and any interested Participants.
  - i) Operational Design Domain: MassDOT will respond with approval, a request for additional information, or a denial within 15 business days of receipt of the Progress Report and request to change the Operational Design Domain.
  - ii) Testing Plan: MassDOT and any Participant which maintains roadways to be added to the Applicant's Testing Plan and/or included in a pilot service test will respond with approval, a request for additional information, or a denial within 15 business days of receipt of the Progress Report and request to change the Testing Plan.

**6) Crash Protocol:**

- a) In the event of a crash during testing in Massachusetts:
  - i) The Applicant will comply with the laws of the Commonwealth in regard to notifying police, if necessary, assisting at the crash scene if it can be done safely, and exchanging vehicle ownership and insurance information with other vehicle and property owners that may be involved.
  - ii) The Applicant will notify MassDOT, and the Participant on whose road the crash occurred, of any crash as soon as possible, or within at most 12 hours after a crash occurs.

- iii) Regardless of the severity of the crash, a “Crash Report” shall be filed with the RMV pursuant to Chapter 90, Section 26 within 5 days of the crash, providing specific details of the crash and containing information as to the possible cause or causes.
  - iv) Following a crash, the Motor Vehicle Crash - Police Report will be referenced by MassDOT in the determination of a Major Crash.
  - v) If a major crash occurs on Massachusetts public ways involving the Applicant’s Test Vehicle, the Applicant will temporarily suspend testing until the initial cause of the crash can be determined and any necessary corrections made, per the Crash Response Form, following submission of the Crash Report. The involved Applicant shall participate in an in-person meeting with MassDOT and Participants following submission of the Crash Report and Crash Response Form as requested by MassDOT. MassDOT may require changes to the Applicant’s Testing Plan and/or ODD, and the Applicant may not resume testing on public ways unless and until a Letter of Approval is re-issued by MassDOT.
    - (1) MassDOT or any Participant may request that all other Applicants temporarily suspend testing activities for up to 72 hours as necessary.
  - vi) If a minor crash occurs on Massachusetts public ways involving the Applicant’s Test Vehicle, MassDOT or any Participant may request that the Applicant involved in the crash temporarily suspend testing activities for up to 72 hours as necessary if it appears the Applicant’s Test Vehicle may be at fault for the crash, as determined by MassDOT. In the event of such a determination, the Applicant may be required by MassDOT to complete a Crash Response Form following submission of the Crash Report.
- b) In the event of a crash during testing outside of Massachusetts:
- i) If a major crash occurs outside of Massachusetts involving an Applicant’s Test Vehicle, all further testing by the Applicant within Massachusetts shall be temporarily suspended, and the Applicant shall notify MassDOT within at most 48 hours. The Applicant may be required by MassDOT to participate in an in-person meeting with MassDOT and any Participant following submission of a Crash Report or similar documentation and a Crash Response Form. MassDOT may require changes to the Applicant’s Testing Plan and/or ODD, and may require that the Applicant not resume testing on public ways unless and until a Letter of Approval is re-issued by MassDOT.
  - c) In the event of a major crash during conventional operation of a Test Vehicle on Massachusetts public ways, MassDOT may request that the Applicant complete a Crash Response Form.
  - d) In the event of a crash during conventional operation of a Test Vehicle on Massachusetts public ways which was immediately preceded by testing and the



vehicle never came to rest following such testing, the Applicant shall for purposes of the Crash Protocol consider such a crash to have occurred during testing.

- e) MassDOT or investigating law enforcement agencies may request that the Applicant provide crash data as described in part (3)s).

#### 7) **Monthly Conference Calls:**

- a) The Applicant shall participate in a regular conference call at most monthly with MassDOT and any interested Participant, as required by MassDOT.

#### 8) **Quarterly Progress Reports:**

- a) The Applicant shall submit a Progress Report at least quarterly to MassDOT, which will post the Report online for public consumption. Progress Reports will be shared with Participants and discussed during the Monthly Conference Calls. Quarterly Report documents should meet the Web Content Accessibility Guidelines (WCAG) 2.0 A and AA standards (see Guidelines for Accessible Electronic Document Creation for more information). The Progress Reports should comprise the following reporting requirements for the prior quarter, depending on the Applicant's current Testing Plan and activities:

- i) General Reporting Requirements

- (1) A description of the testing activities, including for example:
  - (a) Locations tested in
  - (b) Operational design domain(s) tested in (time of day, weather conditions, road typologies and speeds, and situational constraints)
  - (c) Amount of testing conducted
- (2) A description of takeover procedures used during testing, including the conditions for planned or expected disengagements of the ADS
- (3) General observations and lessons learned, for example related to roadways, signage, signals, connectivity, or other infrastructure
- (4) Feedback for municipal and state transportation engineers, planners, and policymakers,
- (5) Goals for current and future testing, and/or proposals for changes to the Testing Plan and/or ODD
- (6) A description of all ADS system failures and citations or violations received during testing, including:
  - (a) Time
  - (b) Location
  - (c) Type of roadway
  - (d) Weather conditions
  - (e) Vehicle speed

- (f) Other parties involved
- (g) A general description of the incident and relevant findings
- ii) Pilot Service Tests
  - (1) Total number of pilot service trips
  - (2) Average number of passengers per trip, if applicable and known
  - (3) Percentage of trips which were shared
  - (4) Aggregated qualitative feedback on the user experience, if applicable
  - (5) Aggregated qualitative feedback on curbside operations (entering and exiting a vehicle in a 'ride-for-hire' service), if applicable
  - (6) Aggregated and anonymized origin and destination coordinates of each trip (blockface level specificity) with distance and time information (miles and minutes)<sup>1</sup>
  - (7) City or town where each ride originated
  - (8) City or town where each ride ended
  - (9) Miles (or percent of miles) travelled while occupied and unoccupied by passengers during testing of ride-for-hire services, if applicable
  - (10) *Optional: passenger home zip code*
  - (11) *Optional: email contact information for passengers who opt-in*

**9) Suspension or Revocation of Approval:**

- a) MassDOT or any Participant may revoke the Applicant's Approval for any of the following reasons:
  - i) The Applicant has failed to maintain evidence of the insurance requirements; or
  - ii) The Applicant has violated this MOA or approved Testing Plan or Application; or
  - iii) Any act or omission of the Applicant or one of its test drivers, employees, contractors, or designees which MassDOT finds makes the operation of Test Vehicles on public ways by the Applicant an unreasonable risk to the public.
- b) MassDOT will provide a 15-day written notice to the Applicant before revoking the Applicant's Approval. However, MassDOT shall immediately revoke the Applicant's Approval if the Applicant is engaging in testing in such a manner that immediate revocation is required for the safety of persons on a public way.
- c) Upon the revocation of Approval, the Applicant shall cease all testing on public ways until MassDOT has verified that the Applicant has taken appropriate action to correct the deficiencies that caused the revocation and MassDOT has lifted the revocation.
- d) MassDOT and Participants reserve the right to temporarily suspend testing for public safety reasons at any time.

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<sup>1</sup> May be reported through a 3<sup>rd</sup> party service provider as agreed to by Signatory Parties

**10) Term of Approval:**

- a) An approved Application shall be valid for a period of two years from midnight of the last day of the month of issuance unless sooner revoked or surrendered.
- b) Renewal of approval for the ensuing two year period may be obtained by the Applicant to whom the approval was issued upon submission of a revised Application and MOA to MassDOT. MassDOT will review any revised Application as described in Section 2) Application and Approval.

**11) Insurance Requirements:**

- a) The Applicant shall purchase and maintain during the term of this agreement, at their sole expense, all insurance required by the applicable laws of the Commonwealth of Massachusetts and other insurance specified in this section. Insurance must be issued by insurance companies licensed to write such insurance in the Commonwealth of Massachusetts, and will have a current rating provided by “Best’s Insurance Reports” of A- VII or above.
- b) Insurance Certificates including statements evidencing all requirements listed below shall be delivered to MassDOT prior to approval of the Application, and renewal certificates will be delivered no later than 30 days prior to expiration of the preceding policy. Failure of the Applicant to provide and continue to enforce such insurance shall be deemed a violation of this agreement. These requirements are minimum limits and coverages and shall not be construed to limit the liability of the Applicant or its insurers.
- c) Commercial General Liability for bodily injury and property damage, on an occurrence form, no less broad than ISO Form CG 2010 10 01. Coverage must include premises/operation, products/completed operations liability, contractual liability, and personal/advertising injury subject to a minimum limit of one million (\$1,000,000) per occurrence and two million (\$2,000,000) annual aggregate. The limit must apply on a per-location or per-project basis. A separate stand- alone products policy is acceptable.
- d) Automobile Liability covering all owned, non-owned, hired, leased, rented vehicles and Test Vehicles with limits no less than one million (\$1,000,000) combined single limit.
- e) Workmen’s Compensation and Employers Liability Insurance: The Applicant shall also maintain, continuously throughout the Term of this agreement (i) workers compensation insurance providing statutory coverage as required by the Commonwealth of Massachusetts, and (ii) Employers Liability coverage with limits of not less than five hundred thousand (\$500,000) per accident.

- f) **Umbrella Liability:** Providing excess coverage over the general liability, products liability if not included in the general liability, automobile liability and employer's liability coverages. Such coverage shall be written on an occurrence basis and be no less broad than the underlying coverages. The policy shall be subject to a minimum limit of \$ five million dollars (\$5,000,000) per occurrence and in the aggregate.
- g) **General Conditions**
  - i) The Massachusetts Department of Transportation, the Massachusetts Bay Transportation Authority, the Massachusetts Port Authority, the Department of Conservation and Recreation, the Commonwealth of Massachusetts including cities, towns and municipalities, the Economic Development and Industrial Corporation of Boston d/b/a Boston Planning & Development Agency, and their Agents, Officers, and employees must be named as Additional Insureds on the commercial general liability, automobile liability and the umbrella liability policies. Endorsements evidencing the same must be attached to the certificate. These same coverages must be primary and non-contributory over any insurance available.
  - ii) A Surety Bond may be maintained in lieu of third party insurance policy coverage in the amount equivalent to the limits of the insurance required. If a Surety Bond is provided, the Participants as identified above in part 11(g)(i) shall be named as an Obligee. The original bond certificate shall be retained by MassDOT and released following the termination of testing or this agreement.
  - iii) Waiver of Subrogation in favor of the Participants as identified above in part 11(g)(i) will be included as respects all coverages listed above. The workers compensation policy must be specifically endorsed to reflect the required waiver and such endorsement should be attached to the required certificate.
  - iv) All policies will be endorsed to provide thirty days written notice to the certificate holder(s) in the event of cancellation, non-renewal or material changes in coverage. Such endorsements must be attached to the Certificate. The Applicant must provide updated insurance information to MassDOT within 30 business days by emailing [AVs@dot.state.ma.us](mailto:AVs@dot.state.ma.us).
  - v) The following address shall be used for filing a Certificate of Insurance:  
MassDOT  
10 Park Plaza Suite 4160  
Boston, MA. 02116

**12) Laws Governing:** This Memorandum of Agreement shall be construed under and governed by the laws of the Commonwealth of Massachusetts.

**13) Indemnification:** The Applicant agrees to defend, hold harmless and indemnify the Massachusetts Department of Transportation, the Massachusetts Bay Transportation Authority, the Massachusetts Port Authority, the Department of Conservation and Recreation, the Commonwealth of Massachusetts including cities, towns and municipalities, the Economic Development and Industrial Corporation of Boston d/b/a Boston Planning & Development Agency, and their Agents, Officers, and employees from any and all claims, actions, damages, losses or expense of every nature and kind in law or equity, arising out of or in connection with the Applicant's operation of Test Vehicles on public or private ways or other public property in the Commonwealth of Massachusetts, including property designated or restricted for ADS testing by Participants and identified in the Applicant's Testing Plan. The obligations under this section shall survive the termination of this agreement.

This MOA constitutes the entire agreement, and supersedes all prior negotiations, understandings and agreements (oral or written), between the parties concerning the subject matter hereof. This MOA may be executed in one or more counterparts, each of which is an original, but taken together constituting one and the same instrument. Execution of a facsimile copy (including PDF) shall have the same force and effect as execution of an original, and a facsimile signature shall be deemed an original and valid signature. No change, consent or waiver to this MOA will be effective unless in writing and signed by the party against which enforcement is sought. In the event that any provision of this MOA shall be determined to be illegal or unenforceable, that provision will be limited or eliminated to the minimum extent necessary so that the MOA shall otherwise remain in full force and effect and enforceable.

In Witness Whereof, the parties acknowledge their agreement to the foregoing upon the date the last party signs below.

\_\_\_\_\_  
***Applicant Name***

\_\_\_\_\_  
***Signature of Applicant's Representative***

\_\_\_\_\_  
***Printed Name***

\_\_\_\_\_  
***Date of Signing***

\_\_\_\_\_  
***Massachusetts Department of Transportation***

\_\_\_\_\_  
***Printed Name***

\_\_\_\_\_  
***Date of Signing***

Memorandum of Agreement to Test Automated Driving Systems on Public Ways in Massachusetts

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*City of Boston* *Name of Signatory* *Date of Signature*

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*Economic Development and Industrial Corporation of Boston* *Name of Signatory* *Date of Signature*

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*Department of Conservation and Recreation* *Name of Signatory* *Date of Signature*

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*Massachusetts Port Authority* *Name of Signatory* *Date of Signature*

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*Participant:* *Name of Signatory* *Date of Signature*

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*Participant:* *Name of Signatory* *Date of Signature*

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*Participant:* *Name of Signatory* *Date of Signature*

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*Participant:* *Name of Signatory* *Date of Signature*