



Automated Driving Systems – Testing and Research in Massachusetts and Rhode Island

Christos Xenophontos, Rhode Island DOT

Ryan Jacobs, Aptiv Autonomous Mobility

Daniel Sullivan, Massachusetts DOT



Agenda

- Introduction
- Christos Xenophontos, Rhode Island DOT
- Ryan Jacobs, Aptiv Autonomous Mobility
- Daniel Sullivan, Massachusetts DOT
- Q&A panel



Rhode Island DOT

Christos Xenophontos





Aptiv Autonomous Mobility

Ryan Jacobs

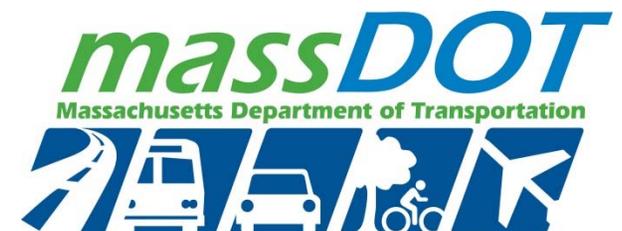
massDOT
Transportation
Innovation
CONFERENCE

• APTIV •



MassDOT

Daniel Sullivan



Automated Driving Systems in Massachusetts

- Testing of automated vehicles (automated driving systems) began in Massachusetts in late 2016 and early 2017 with Governor Baker's Executive Order 572 and the development of a testing application and permit process.
 - Executive Order 572 established an Autonomous Vehicles Working Group, and defined a process for MassDOT to allow the testing of autonomous vehicles on public roads.
 - The Working Group convened 10 public meetings since October 2016 and developed a draft Report and recommendations ([available online](#))
- **MassDOT is announcing today the finalization of an updated Application, Testing Plan, and Memorandum of Agreement to test automated driving systems in the Commonwealth**
- The updated Application documents were developed over the past year in partnership with 14 participating municipalities and the Department of Conservation and Recreation to establish an efficient process for facilitating testing across jurisdictions
- The goal is to simplify permitting of testing for both municipalities and testing entities, by developing a standardized testing application, agreement, and testing structure which any municipality or state agency can opt-in to
- Participating municipalities and road-owners must identify testing locations and specified roadways which are permitted or restricted for testing

Application Process

	Application Approval	Testing Plan Approval		Agreement (MOA)
		Testing Locations	Pilot Services	
Road Owner		X	X	X
MassDOT	X	X	X	X



Testing Locations Menu Overview

Road Owner	Bounded Designation(s)	Unbounded Designation
Arlington		
Boston	<ol style="list-style-type: none"> 1. Ray Flynn Marine Park 2. South Boston Seaport 	Yes
Braintree	<ol style="list-style-type: none"> 1. Granite Park Neighborhood 2. Wood Road 3. Commerce Drive 	
Brookline		
Cambridge		Yes (with excluded roads)
Chelsea	<ol style="list-style-type: none"> 1. Chelsea Bounded Area 	
Medford		
Melrose		
Newton		
Revere	<ol style="list-style-type: none"> 1. Revere Bounded Area 	
Somerville		
Winthrop		Yes (pending approval)
Weymouth		
Worcester		
MassDOT (Limited Access Highways)	<ol style="list-style-type: none"> 1. Limited Access Bounded Routes 	Yes
DRC		

Available online at:

<https://www.mass.gov/how-to/how-to-test-automated-driving-systems-in-massachusetts>

5/7/2019



Overview of Application Permitting Process

1. An applicant must submit to MassDOT a completed Application, and a proposed testing plan.
2. MassDOT will share the application and MOA with relevant participating municipalities and road owners for review, and will hold meetings with the applicant and participants as necessary.
3. The testing plan (testing locations, and pilot service tests) must be agreed upon by MassDOT and all road owners where testing is expected to occur.
4. Following review and approval of the testing plan, first responder interaction plan, and other application materials, and execution of the MOA by participants, MassDOT may issue a letter of approval.
5. Approved applicants may test within the defined operational design domain and testing locations, and may conduct pilot service tests as defined within the approved testing plan.
6. If an applicant would like to expand upon the approved operational design domain or testing plan, the changes must be submitted to and approved by MassDOT and any relevant participants.
7. The testing locations menu will be updated periodically as participants are added and as roadways and areas are modified.
8. A participant may elect to opt-out of approval for any particular Application or testing plan at any time.
9. An application must be renewed every two years.

Summary of Memorandum of Agreement (Testing Terms and Conditions)

- MassDOT and participating road owners reserve the right to temporarily suspend testing for public safety reasons, or to opt-out of approval of any application or testing plan at any time.
- A trained test driver must be in the vehicle and able to take immediate control. Test drivers must be at least 21 years of age, and adhere to policies to reduce potential sources of distraction
- A member of the public may ride in a test vehicle during an approved pilot service test, provided such passenger tests adhere to any relevant ride-for-hire laws and regulations and agreements with participants
- The test vehicles must be equipped with a data recorder which capture and store sensor data for at least five seconds prior to a crash
- In the event of a “major” crash, an applicant be suspend testing until a review has been conducted and notice of re-approval has been issued by MassDOT.
- To make any changes to the approved Operational Design Domain, Testing Locations, or Pilot Tests, the applicant must receive approval for a revised testing plan
- The applicant must participate in monthly conference calls, and submit quarterly progress reports as described in the MOA

Get Involved

- MassDOT welcomes additional cities and towns to participate:
 - [Sign on to the Regional Memorandum of Agreement](#)
 - Participate in monthly phone calls, review of applications and quarterly reports
 - Identify designated testing areas to add to the Testing Locations Menu
- Draft copies of the Report and the regional Application were shared at the September 12 AV Working Group meeting and are [available online](#).
- More information can be found on the mass.gov website on the [How to test autonomous vehicles in Massachusetts](#) and the [AV Working Group](#) pages
- Questions? Want to learn more?
 - Daniel Sullivan, MassDOT Policy Analyst
 - Daniel.A.Sullivan@state.ma.us
 - (857) 368-8982



Automated Driving Systems – Testing and Research in Massachusetts and Rhode Island

Christos Xenophontos, Rhode Island DOT

Ryan Jacobs, Aptiv Autonomous Mobility

Daniel Sullivan, Massachusetts DOT

