What is an Autonomous Vehicle?

Autonomous Vehicles, commonly called “driverless cars”, are vehicles that can be operated without a human actively driving. Also known as "AVs", these vehicles have the potential to radically change our entire transportation system for the better. However, they could also worsen our streets and communities if we are not careful about implementing the right policies. It’s a choice between heaven and hell.

Driving to Driverless:

The Society of Automotive Engineers International created a classification system for the development of AV technology. This standard has been adopted by the United States Department of Transportation. The path to automation may be gradual. Levels 1 – 3 require humans to actively monitor both the road and other road users. Levels 4 and 5 do not require human intervention.

Heaven or Hell? How AVs could re-shape our communities:

- In an optimal scenario, shared fleets dramatically reduce traffic and demand for parking in congested downtowns. But without smart policies, congestion worsens as unmanned vehicles circle our streets.
  - With the right approach, AV technology increases safety for pedestrians, cyclists, transit users, and AV passengers. Alternatively, over-accommodation for AVs threatens the livability, bikability, and walkability of our neighborhoods.
- With smart leadership, shared AVs will allow elderly and disabled residents to get around their communities independently and, most importantly, on-demand.
- If we prioritize safety, maximum speeds for AVs on city streets will be 25 mph. If we prioritize convenience of passengers, unregulated vehicles will travel at high speeds on city streets.
Preparing for Autonomous Vehicles:
The first rollout of High Automation (Level 4) driverless cars is forecasted to arrive as early as 2020. As Autonomous Vehicles make their way onto public streets, we believe that the following principles should be applied in our local, state, and federal policies to achieve heaven and prevent hell:

- State and local government and policymakers must prioritize people and the environment by promoting AVs that produce zero tailpipe emissions.
- AV fleets should be accessible to all populations, especially low-income, communities of color, seniors, and the disabled.
- State government should urge automakers and transportation network companies (i.e. Uber, Lyft, GM, NuTonomy, Waymo) to share trip data to better understand our changing transportation system as AVs gain traction.
- We should encourage innovation in the fast-paced transportation technology sector, with pilot programs that allow for on-the-ground testing and tailored solutions.
- Finally, policymakers should continue to improve and expand our public transportation, walking, and biking network. This is the best chance we have of creating an equitable transportation system.

Learn more about AVs and emerging technology in the Bay State.
In 2016, Transportation for Massachusetts released, “Fast Forward: The Technology Revolution in Transportation and What it Means for Massachusetts” to serve as both a primer for the various forms of transportation that have emerged in the past few years, and as a summary of the potential impacts on our communities, economy, and quality of life. See t4ma.org/fastforward.

How to Get Involved:
- Express your thoughts about Autonomous Vehicles during public sessions hosted by MassDOT’s AV Working Group.
- Sign up for updates from Transportation for Massachusetts: www.T4MA.org.

For more information...