Fast Forward:
Self Driving Cars in Our Communities

Wednesday, March 28th, 2018
Foxborough, MA

Josh Ostroff, Partnerships Director
Transportation for Massachusetts
Who is Transportation for Massachusetts?

• T4MA is a statewide coalition of more than 70 member and partner organizations. We advocate for better, smarter transportation policies across the Commonwealth. Our members include:
  • Environmental advocates
  • Public health advocates
  • Planning agencies
  • Business associations
  • Community-based organizations
  • Grassroots non-profits
  • Transportation user groups
Protect Regional Transit Service and Riders

• Advocate to preserve bus service at 15 RTAs across the state
• Pioneer Valley, Worcester RTAs are most at risk
• Supporting $88 million in FY19 through Commonwealth Transportation Fund

t4ma.org/rtapetition
Congestion: Let’s Get Smarter

Watch the video: https://youtu.be/S1TVU7Zq0rl
Hell ↓
Heaven ↑
Policy Principles

• Protect people and the environment
• Serve everyone
• Encourage innovation
• Share data
• Modernize oversight and address gaps in regulatory coverage for emerging services
• Plan for our future infrastructure needs
• Improve and expand our public transportation, walking, & biking network
1. Set Goals
2. Maintain core infrastructure and enhance the network with innovative mobility
3. Encourage electric, shared, autonomous fleets that serve everyone
Policy Recommendations

4. Support pilots & demonstrations
5. Provide regulatory & indirect support for AV testing in Massachusetts
6. Require selected, standardized, open data
Policy Recommendations

7. Update modeling

8. Encourage regional efforts to regulate taxis and coordinate policy around innovative mobility

9. Limit zero-occupancy and single-occupancy use of AVs in congested areas
Policy Recommendations

10. Empower municipalities to maximize local benefits of innovative mobility
11. Anticipate innovative mobility in the design and maintenance of public infrastructure
12. Update minimum parking requirements and fee structures
13. Support innovative bike programs
14. Adopt pricing policies
15. Create virtual pop-up “mobility hubs”
Should we be testing the technology on roads today?
Will we prioritize the safety of cyclists and pedestrians?

A self-driving Uber killed a pedestrian last week in Arizona.
Enhanced Bicycle and Pedestrian Access

No Permanent On-Street Parking

Flexible Spaces for People, Not Cars

Source: Making Better Places: Autonomous Vehicles and Future Opportunities WSP|Parsons Brinckerhoff
Imagining Future Places

Redevelop Surface Parking to Infill Development and/or Parks and Public Space

Source: Envisioning Florida's Future: Transportation and Land Use in an Automated Vehicle World
Convergence of Technologies

Electric Vehicles

Autonomous Vehicles

Ridehailing/Ridesharing
Autonomous Vehicle Testing in Boston

Testing Sites

- Off-site testing
- 100 miles, Marine Industrial Park, day time only, good weather
- 100 miles, Marine Industrial Park, day and night time, mixed weather
- 200 miles in South Boston Waterfront, day time only, good weather
- 200 miles in South Boston Waterfront, day and night, mixed weather
- 400 miles in City of Boston, day time only, good weather
- City of Boston day and night, mixed weather

Source: Kris Carter, Mayor’s Office of New Urban Mechanics, City of Boston
Autonomous Vehicle Testing in Boston

- **nuTonomy**
  - Renault Zoe
  - 200 miles in South Boston Waterfront, day and night, mixed weather, with passengers

- **Optimus Ride**
  - Polaris GEM e4 and e6
  - 100 miles, Marine Industrial Park, day time only, good weather

- **Delphi**
  - Audi Q5
  - 100 Miles, Marine Industrial Park, night-time and light rain

Source: Kris Carter, Mayor’s Office of New Urban Mechanics, City of Boston
CURRENT MUNICIPAL MOTOR VEHICLE REVENUE SOURCES

Excise Tax:

$25 per thousand is assessed annually upon the value of the vehicle by the community where the motor vehicle is customarily garaged.

Fines:

Moving Violations

Parking:

- Street Parking
- Parking Permits
- Parking Violations
PROJECTED IMPACT: AVS AND STATE REVENUE SOURCES

**Fuels Tax:**
- Will be slightly higher as a result of increase in VMT (at 20% market penetration).
- Significantly increased (at 100%), unless there is significant ride-sharing.
- If fleet is electric, fuels tax will decrease (at 20%) and plummet (at 100%).

**MV Sales Tax:**
- Pulled up due to higher cost (private ownership)
- Pulled down due to reduction in vehicles (ride-sharing), but larger turn over mitigates or makes up for it.

**Tolls:**
- Increase due to higher VMT (at 20%).
- Large increase (at 100%).
- Small increase for ride-sharing.

**RMV fees:**
- Increase (private ownership).
- Decrease (ride-sharing).

**Moving violations:**
- Significant decrease (at 20%).
- Elimination (at 100%).
All three levels of Government play an important role.
Cities and towns control 89% of road miles in MA

A handful of municipalities – led by Boston – have begun adopting policies and pilots for Autonomous Vehicles

AVs will require changes to roads, but also to zoning codes and land use.

It is important for municipal leaders to begin thinking about these impacts on their communities.
Critical Areas for Municipal Planning

- Regulatory Framework
- Infrastructure
- Data
- Parking
- Land Use Impacts
- Coordination
Legislators filed six bills regulating AVs. The bills were heard in April 2017 by the Joint Committee on Transportation, were sent to study, and were pulled back out.

The bills cover a variety of issues such as:

- Testing
- General use
- Liability/Insurance
- Compliance with motor vehicle standards and regulations
- Road usage charges
- Data
- Privacy
- Limits on “zombie” vehicles
- Electric vehicle incentives and requirements
- Restrictions to legacy motor vehicle manufacturers
- Requirement of an operator for autonomous trucks and buses
State Level Policy – AV Working Group

• The Baker Administration created an AV Working Group via Executive Order 572 that meets monthly.

• Charged with convening experts, advising state government on guidance and regulations, and encouraging development of the automation sector in MA.

• Members include representatives of MassDOT, the Executive Office for Housing and Economic Development, the Executive Office for Public Safety and Security, legislators, and others.

• https://www.mass.gov/orgs/autonomous-vehicles-working-group-massdot
Federal Policy on AVs – Voluntary Guidance

  • Focuses on levels 3 to 5.
  • Generally industry friendly.
  • Includes recommended best practices for state policies.
Federal Policy on AVs – Pending Legislation

- SELF DRIVE Act passed the House by voice vote on September 6
- AV START bill moving through Senate – next step is full Senate vote
- Bills are generally favorable to the auto industry and reserve regulation to Federal government.
- The process has been criticized by Transportation for America, National Association of City Transportation Officials, etc. Stakeholders have not been adequately involved.
- Two changes advocates want:
  - Pre-emption language on “performance” regulations
  - Data sharing
Transportation in Massachusetts: What Does the Public Think?

February, 2018
(Survey of 709 Registered Voters across Massachusetts)
Few see improvements recently

- More say things have stayed the same or gotten worse in the last 5 years than those who see improvements.

- Gotten better: 14%
- Gotten worse: 38%
- Stayed about the same: 46%
- Unsure / Prefer not to say: 2%
Transportation is a top-tier issue

- Roads were at the top the list of priorities for the state government among the things included in this poll
Support for new transportation funding

- Sizable majority (81 percent) support for new money for transportation in abstract.
- Majority support for specific ideas, from regional ballot (70 percent) to gasoline import fee for clean transportation (59 percent).

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<thead>
<tr>
<th>Proposal</th>
<th>Strongly support</th>
<th>Somewhat support</th>
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<tbody>
<tr>
<td>Raising new money for transportation</td>
<td>40%</td>
<td>41%</td>
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<tr>
<td>Regional ballots</td>
<td>34%</td>
<td>35%</td>
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<td>AET earmarked for regional congestion relief</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td>Reducing off-peak tolls</td>
<td>22%</td>
<td>38%</td>
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<tr>
<td>Gas import fee</td>
<td>27%</td>
<td>32%</td>
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<tr>
<td>AET on more roads</td>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Raising rush hour tolls</td>
<td>14%</td>
<td>24%</td>
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Ride-hailing impact on traffic?

- Contrary to latest research, not much consensus on the impact of ride-hailing on traffic levels.
- Higher concern among younger voters and closer to Boston, but pluralities of these groups still see no effect.
Caution on self-driving cars

- Pluralities think AVs will make traffic and road safety worse for drivers, pedestrians, and cyclists.

<table>
<thead>
<tr>
<th>Do you think that self-driving cars will make traffic on the roads:</th>
<th>Better</th>
<th>Worse</th>
<th>Make no difference</th>
<th>Unsure / Prefer not to say</th>
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<tr>
<td></td>
<td>19%</td>
<td>37%</td>
<td>17%</td>
<td>26%</td>
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<tr>
<th>Do you think self-driving cars will make the roads:</th>
<th>Safer for other drivers</th>
<th>Less safe for other drivers</th>
<th>Unsure / Prefer not to say</th>
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<td></td>
<td>26%</td>
<td>46%</td>
<td>29%</td>
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<tr>
<th>Do you think self-driving cars will make the roads:</th>
<th>Safer for pedestrians and cyclists</th>
<th>Less safe for pedestrians and cyclists</th>
<th>Unsure / Prefer not to say</th>
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<td></td>
<td>26%</td>
<td>45%</td>
<td>30%</td>
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AVs not seen as replacing transit

- Very few say the coming of AVs mean we can wait to invest in transit.

**Q: Which of the following is closest to your point of view?**

- Self-driving cars will largely replace public transportation like the MBTA. We don’t need to worry about making big investments in public transportation.
- Self-driving cars will not replace public transportation. We need to invest in public transportation regardless of what happens with self-driving cars.
- Don’t Know / Refused