Autonomous Vehicles Policy Scrum Recap

a collaboration between

The Harvard Kennedy School’s Taubman Center for State & Local Government
and The City of Boston
GoBoston 2030 Mode Shift Goals

<table>
<thead>
<tr>
<th>Mode for Bostonian Commutes</th>
<th>Today*</th>
<th>2030 Aspirational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Transit</td>
<td>34%</td>
<td>Up by a third</td>
</tr>
<tr>
<td>Walk</td>
<td>14%</td>
<td>Up by almost a half</td>
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<tr>
<td>Bike</td>
<td>2%</td>
<td>Increases fourfold</td>
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<tr>
<td>Carpool</td>
<td>6%</td>
<td>Declines marginally</td>
</tr>
<tr>
<td>Drive Alone</td>
<td>39%</td>
<td>Down by half</td>
</tr>
<tr>
<td>Other/Work from Home</td>
<td>5%</td>
<td>Slight increase in Work from Home</td>
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</tbody>
</table>
Executive Order
October 2016

MAYOR WALSH SIGNS EXECUTIVE ORDER ON AUTONOMOUS VEHICLES

“...that our expected preferred deployment will be fleets of autonomous vehicles that are electric and shared...”
AV Impact Survey

Representative sample

2,400
Bostonians

Source: World Economic Forum, BCG Analysis

Granular approach

City of Boston
Mayor Martin J. Walsh
Results from agent-based trip model for City of Boston

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<thead>
<tr>
<th></th>
<th>Today</th>
<th>Future (Conjoint Scenario)</th>
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</thead>
<tbody>
<tr>
<td>Traffic volume on the road</td>
<td>1.75M</td>
<td>-15%</td>
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<tr>
<td>Vehicle distance travelled (km)</td>
<td>8.8M</td>
<td>+16%</td>
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<tr>
<td>Parking space needed (km²)</td>
<td>10.0</td>
<td>-48%</td>
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<tr>
<td>Average travel time (min)</td>
<td>12.0</td>
<td>-4%</td>
</tr>
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</table>
Fewer Cars, but more Miles Traveled.
Shared trips = Fewer cars = More space for people

- Parking space needed (km²): 10.0
- Reduction: -48%
OUR CENTRAL QUESTION:

How can we best encourage shared vehicles & shared rides?
Motivation

The AV disruption:

- Safety impacts
- Mobility benefits and risks
- Equity and access
- Land use impacts, positive and negative
- Job market dislocations

State and local government need to act
Scrum Concept

- Key players onto the field
- Clear objectives and rules of the game
- Defined timeframe and topic
- Reflects both competition and cooperation
- Emerge with outcome

HKS Role – facilitator and substance contributor
Scrum Process

Pre-scrum
- Host issues and objectives
- Pre-scrum stakeholder session

Scrum
- Lightening briefings
- Facilitated discussion, synthesis, next steps

Post-scrum
- Session summary memo
- Broader public communication
Boston AV Policy Scrum
Expanding AV Ridesharing in Boston

Mark Fagan | Harvard University
Kris Carter & Chris Osgood | Boston
March 8th and 9th 2018
Boston Scrum Focal Issues

• What governance/regulatory structures should be put in place to result in shared vehicles?

• How can AVs effectively integrate with mass transit?

• How should curb access be designed and used at major transit hubs in the city?

• What incentives (carrots + sticks) should be adopted to promote shared rides?
# Scrum Participants

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<thead>
<tr>
<th>Public Sector</th>
<th>Non-profit Sector</th>
<th>Private Sector</th>
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</thead>
<tbody>
<tr>
<td>City of Boston</td>
<td>Harvard Kennedy School</td>
<td>General Motors</td>
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<tr>
<td>City of Cambridge</td>
<td>Harvard Graduate School of Design</td>
<td>Liberty Mutual</td>
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<tr>
<td>MassDOT</td>
<td>Harvard Law School</td>
<td>Lyft</td>
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<td>MBTA</td>
<td>A Better City TMA</td>
<td>Uber</td>
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<td>MassCEC</td>
<td>Livable Streets Alliance</td>
<td>nuTonomy</td>
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<td>MAPC</td>
<td>Transportation for Massachusetts</td>
<td>Toyota Research Institute</td>
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<td>Arizona DOT</td>
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<td>Howard Stein Hudson</td>
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<td>Venable LLP</td>
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<td>Zipcar</td>
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Initial Policy Ideas

• Ensure all future AV policy supports active mobility in alignment with Complete Streets principles and Imagine Boston 2030 and Go Boston 2030 goals and priorities.

• Dedicate more roads to high-occupancy vehicles (HOVs, such as buses) and design HOV corridors, including in transit deserts.

• Phase in differential pricing to encourage high-occupancy vehicle use, while also taxing “zombie” and/or single-occupancy vehicles.

• Implement dynamic curb pricing aligned with lower rates of personal car ownership and more shared fleet access/usage.
Initial Policy Ideas (con’t)

• Stipulate that TNCs with autonomous fleets must operate in all of Boston, including in underserved neighborhoods, with a fleet service map that aligns with the municipal map.

• Mandate wait-time and price parity standards across all neighborhoods.

• Collaboratively collect data on transportation needs, use by income, trip type, and other metrics in order to make informed decisions about transit integration.
Potential Roles for The City of Boston

- Encouraging evidence-based analysis and clear testing standards.
- Maintaining an open dialogue with TNCs and other private sector partners.
- Establishing working groups and engaging a broader group of stakeholders and collaborating with the Commonwealth of MA to ensure coordination and alignment of efforts and improvement of outcomes.
- Capturing, utilizing and protecting data.
- Establishing a library of policy approaches to share with peer cities.