Healthy Transportation
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Michael Trepanier, MassDOT
MassDOT’s Healthy Transportation Policy

A robust policy that intends to expand bicycle and pedestrian facilities

Purpose:

- Improve safety
- Support mode shift
- Better serve customers who want to travel on foot/bike
## Bike/Ped Fatalities & Injuries

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012*</th>
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</thead>
<tbody>
<tr>
<td><strong>FATALITIES</strong></td>
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<tr>
<td>Pedestrian</td>
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<td>48</td>
<td>68</td>
<td>69</td>
<td>82</td>
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<tr>
<td>Bicycle</td>
<td>10</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>16</td>
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<tr>
<td><strong>INJURIES requiring hospitalization</strong></td>
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<tr>
<td>Pedestrian</td>
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<td>714</td>
<td>759</td>
<td>740</td>
<td>695</td>
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<tr>
<td>Bicycle</td>
<td>158</td>
<td>185</td>
<td>185</td>
<td>147</td>
<td>170</td>
</tr>
</tbody>
</table>
The Road to Mode Shift

- 2006 - Context Sensitive Design
- 2006 - Complete Streets
- 2010 - Green DOT
- 2012 - Mode shift goal
- September, 2013 - Healthy Transportation Policy
- February, 2014 - Healthy Transportation Interim Engineering Directive
- 2016 - Interstate shared use path along Whittier Bridge opens
Healthy Transportation is defined in the policy as

- Walking
- Bicycling
- Taking transit
“All MassDOT funded and/or designed projects shall seek to increase and encourage more pedestrian, bicycle and transit trips.”

The policy supports our statewide goal of tripling the distance traveled by walking, bicycling and transit by 2030.
Interim Directive

- Clarifies healthy transportation-related design criteria for Highway projects
- Introduces new controlling criteria for bike/ped accommodations
What it Requires for Pedestrians:

- Sidewalks on both sides of roadways on and below all bridges
- Sidewalks on both sides of all roadways in urbanized areas
- Sidewalks along roadways adjacent to commercial/residential developments with at least 5 units/acre
What it Requires for Cyclists:

- Minimum 5-foot-wide paved outside shoulder or designated bicycle lane on all “freeways”, arterials & collectors
Case Study: Mass Ave., Arlington, MA

Mass Ave, looking north from Grafton Street

Mass Ave, looking north toward Business District
Case Study: Mass Ave., Arlington, MA
Air Quality Benefit

- Improved corridor operations resulted in net decrease of emissions
  - CO$_2$: -45 metric tons/yr
  - VOC: -134 kg/yr
  - NO$_x$: -60 kg/yr
  - CO: -1,582 kg/yr

- Multi-modal improvements promote mode shift and represent an overall qualitative benefit
Case Study: Casey Overpass/Arborway
Existing Conditions
Proposed Corridor Plan
Air Quality Benefit

- Regional Air Quality Analysis indicated minimal change for build vs. no build conditions

- Multi-modal improvements promote mode shift and represent an overall qualitative benefit
  - New dedicated bicycle paths, sidewalks and significantly improved connectivity
  - New access to rapid transit, direct line to downtown Boston
Case Studies - Summary

- Both projects resulted in an overall air quality **benefit**
- Both projects **maintained capacity** and didn’t negatively impact operations or regional traffic movements
- Both projects **balanced** the livability and mobility needs of the community and region at large.
Additional Considerations

- Multi-modal accommodations require more space
  - Limited ROW in urban context
  - Road Diet alternatives
    - Induced diversion, increased congestion?
    - Other environmental impact considerations

- Need to quantify “mode shift” air quality benefits
  - Traditional air quality analysis focused on traffic operations
  - Qualitative vs. quantitative benefits; how should multimodal benefits quantified?
Discussion

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