How Massachusetts is Working to Up the Ante for Roadway Safety

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MassDOT
The vast majority of roadways in Massachusetts is under municipal control, highlighting the need for interjurisdictional cooperation.
Fatal Crashes

*2020 and 2021 data are draft and subject to change

The goal is 0
YTD Higher in 2022

Overall Fatalities
PRELIMINARY RESULTS - YTD thru 6/5/22

MassDOT
Massachusetts Department of Transportation
Safe System Approach

DEATH/SERIOUS INJURY IS UNACCEPTABLE

HUMANS MAKE MISTAKES

SAFE SPEEDS

SAFE VEHICLES

POST-CRASH CARE

SAFETY IS PROACTIVE

SAFE ROADS

REDUNDANCY IS CRUCIAL

SAFETY IS PROACTIVE

RESPONSIBILITY IS SHARED

HUMANS ARE VULNERABLE

Safe Road Users
5-year Capital Investment Plan

https://www.mass.gov/service-details/current-capital-investment-plan-cip
Today Highlighting 3 Areas of Work

1. Safe Speeds / Speed Management

2. Risk Based Screening

3. Design Standards
Safe Speeds

Safe speeds
Speed management to prevent serious injuries and fatalities

https://www.mass.gov/safe-speeds
Target speed

Highest operating speed at which drivers should ideally operate on a roadway given a specific context

https://www.mass.gov/safe-speeds
<table>
<thead>
<tr>
<th>Type of roadway treatment</th>
<th>Description</th>
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<tbody>
<tr>
<td>Vertical deflection countermeasures</td>
<td>Speed humps, raised pedestrian crossings, or raised intersections that raise roadways for various lengths to slow drivers.</td>
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<tr>
<td>Horizontal countermeasures</td>
<td>Median islands, chicanes or curves, or curb extensions that change the horizontal cross-section of a roadway. Chicanes are a series of curb extensions that alternate from one side of the street to the other, forming S-shaped curves that essentially narrow the roadway width and create an environment that slows down drivers.</td>
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<tr>
<td>Mini roundabouts and neighborhood traffic circles</td>
<td>Small-scale circular islands that act as a kind of intersection, offering yield-controlled entries and counterclockwise circulation in order to improve safety and reduce delays.</td>
</tr>
<tr>
<td>Road diets and marking measures</td>
<td>Strategies such as perceptual speed markings, road diets, and lane narrowing. A road diet is a roadway configuration that involves narrowing or eliminating travel lanes to calm traffic speeds and increase safety of all roadway users. Road diets do not automatically impact throughput or cause congestion, and when it does safety is the preferred tradeoff.</td>
</tr>
<tr>
<td>Speed transition zones, advisory, and feedback signage</td>
<td>Strategies to slow drivers traveling from a rural to an urban environment and signs that communicate recommended speed information and feedback to drivers.</td>
</tr>
</tbody>
</table>

**Costs & considerations**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Estimated cost*</th>
<th>Percent speed reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed humps/bumps</td>
<td>$2,000, depending on drainage conditions and materials</td>
<td>14-34%</td>
</tr>
<tr>
<td>Raised crosswalks</td>
<td>$5,000-$7,000, depending on drainage conditions and materials</td>
<td>12-29%</td>
</tr>
<tr>
<td>Raised intersections</td>
<td>$25,000-$70,000</td>
<td>N/A</td>
</tr>
</tbody>
</table>

[https://www.mass.gov/safe-speeds](https://www.mass.gov/safe-speeds)
Shared Streets and Spaces Grant Program

A funding program that supports quick-launch improvements to public health, safe mobility, and strengthened commerce in Massachusetts municipalities.

https://www.mass.gov/shared-streets-and-spaces-grant-program
MassDOT Implementation
Risk Based Screening

Risk Based Network Screening Tool (IMPACT)

https://apps.impact.dot.state.ma.us/cdp/home
Policy requires all state transportation projects to increase biking, transit, and walking options.

Healthy Transportation Policy

Engineering Directive and Design Justification Process

Criteria and process to ensure that people of all ages and abilities are afforded the opportunity for safe travel regardless of mode.

[link](https://www.mass.gov/doc/controlling-criteria-and-design-justification-process-for-massdot-highway-division-projects-e/download)
Design Criteria - Bicycle

- Bicycle Facilities required
- Separation required via shared use paths, side path, separated bike lane, buffered bike lane if...
  - Posted speed limit $\geq 40$ mph
  - Vehicular volumes $\geq 10,000$ per day
  - Roadway has more than one travel lane in a single direction
  - Intersection more than one travel lane in a single direction
  - Roadway classified as corridor with a High Potential for Everyday Biking
- Minimum 5' width or 10' for bi-directional width requirement
Design Criteria - Pedestrian

• Sidewalks required on both sides if..
  - In urbanized area, urban cluster, or rural village
  - Roadway on or under a bridge
  - Roadways with High Potential for Walkable Trips

• Minimum 5-foot width
• Marked crosswalk at all legs of signalized intersection
• Marked crosswalks shall be provided at existing crosswalks
Design Criteria - Transit

If roadway has existing or proposed transit route:
- Design coordination with transit authority required
- Crosswalks required within 250 feet of a transit stop
- Shelter or bench required at transit stop with 100 or more boarding's a day
- Transit priority treatment with headways of 15 minutes or less
Route 28
Craigie Bridge
Other things we are doing to prevent serious injuries and fatalities
Thank you

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