Why provide choices in transportation?

- Safer Streets
- Better Mobility
- Equity
- Improved Health
- Economic Development
- Environment
- Distraction
Transportation Choices Discussion

Past

Present

Future
Chapter 87
Acts 1996

Design Manual Task Force
2003

Design Issues Working Group
2001

Rural and Historic Roads Task Force
1999

5m desirable
4.5m minimum

E-97-004
Healthy Transportation
Policy

E-09-005

5’ min shoulder

E-14-006

E-14-001

Healthy Transportation Compact

P-13-0001

16’ desirable
15’ minimum

2009
Policies impacts transportation infrastructure & choices...
Separated Bike Lane Planning & Design Guide

Director of Sustainable Mobility

Complete Streets Engineer

Complete Streets Funding Program

2015
**Guidance & Implementation**

![Table of bike lane widths](image)

<table>
<thead>
<tr>
<th>Same Direction Bicycle/ Peak Hour</th>
<th>Bike Lane Width (ft.)</th>
<th>Rec.</th>
<th>Min.*</th>
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<tr>
<td>&lt;100</td>
<td>6.0</td>
<td>5.0</td>
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<tr>
<td>150-750</td>
<td>8.0</td>
<td>6.5</td>
<td>6.5</td>
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<tr>
<td>&gt;750</td>
<td>10.0</td>
<td>8.0</td>
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</table>

<table>
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<th>Bidirectional Bicycle/ Peak Hour</th>
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<tr>
<td>&gt;400</td>
<td>14.0</td>
<td>11.0</td>
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</tr>
</tbody>
</table>

**Route 135, Hopkinton**

**Highland Avenue & Needham Street, Newton & Needham**
MassDOT’s Healthy Transportation Policy Directive requires all state transportation projects to increase biking, transit, and walking options.

September 2013
Healthy Transportation Policy Effectiveness

What can we do?

- Trainings about best practices in roadway design
- Update Engineering Design Directive
- Update/develop Performance Measures
- Improve Complete Streets Review process
- Rethink project delivery process to get better projects from the start
- Develop pro-active ways to upgrade infrastructure for walking, bicycling, and transit without link to another need
- Integrate transit in to roadway projects
- Update the Healthy Transportation Policy
Project Initiation
Project Scoring
Project Approach

• Be creative
• Be flexible + innovative
• Focus on comfort
• Engage the public
• Test pilots & do demonstrations
• Develop resources & tools
Design Considerations

• Address gaps
• Eliminate barriers
• Safety + High crash locations
• Transit access
• Path network
Roadway Scoping Checklist

• Project kick-off meeting
• Define scope for the project
  • What are the project limits?
  • Is an RSA needed?
  • Is a DER needed?
  • What permits are necessary?
  • Etc.
• Discuss cross section
• Goal to reduce scope changes
Complete Streets Checklist

• Internal to MassDOT
• Improve reviewer consistency
• Asks reviewer to consider all elements:
  • Is it possible to remove one or more travel lanes?
  • Does the sidewalk connect with other pedestrian facilities?
  • Is the bicycle facility appropriate for the traffic speed and volumes of the roadway?
  • Is there any type of transit on the street?
Road Diets

- Can be a low-cost redesign
- Reduction in frequency and severity of crashes
- Reallocates space to other users
Path Guide

Less of a Guide, More of a Tool

Transparency of Process

Consistency in Designs

Avoid Reinventing the Wheel

Agency Coordination

SO YOU WANT TO BUILD A PATH

massDOT
Massachusetts Department of Transportation
Pedestrian Safety

• Conducted focus group
  • Aim to educate
  • Identify barriers
  • Proven countermeasures

• Pedestrian Facility Guide
  • Understanding pedestrians
  • Types of crossings
  • Design principles
  • Crossing enhancements
Complete Streets Funding Program

- Aimed to provide funding for local roads
- Incentivizes adoption of CS policies and best practices
- Tiered Framework

**Tier 1**
Attend Training and Pass CS Policy

**Tier 2**
Develop 5-year Prioritization Plan

**Tier 3**
Submit Application for Potential Construction Funds
Ped Plan
Bike Plan
Engineering Directives and Guides
Transit
Trails
2018
Can you imagine a road that just . . . ends?
What Makes a Walkable Environment?

- **Walkable Mixed-Use Area**
  - Mix of uses with entrances directly facing the sidewalk
  - Parked cars provide a buffer from traffic
  - Windows at eye level
  - Street trees
  - Street furniture zone for seating, utilities, and other objects

- **Walkable Rural Area**
  - Landscape buffer provides separation from traffic
  - Narrow travel lanes and shoulder provide a traffic calming effect
  - Meets preferred minimum width of 6 feet

- **Less Walkable**
  - Low-density land use and large building setback
  - No buffer between people walking and traffic
  - Multiple lanes of high-speed traffic
  - Highway-scale lighting

**MUNICIPAL RESOURCE GUIDE FOR WALKABILITY**

September 2017

massDOT
Massachusetts Department of Transportation
Statewide Bike Plan

Highest Potential for Everyday Biking
3% of land area

High Potential for Everyday Biking
10% of land area

Remaining 87% of land area
Networks
Building Networks: Northampton
Building Networks: Trails
The Administration has either constructed or funded an additional 150 miles of paved trails, adding to the current inventory of 565 miles of paved trails. DCR owns approximately 200 miles of those trails.
## Design Criteria for Roadway Cross Section Elements

**Draft - June 6, 2017**

### Controlling Criteria Elements

<table>
<thead>
<tr>
<th>Roadway Type</th>
<th>Project Type</th>
<th>Left (Outside) Shoulder</th>
<th>Travel Lane</th>
<th>Right (Inside) Shoulder</th>
<th>Bicycle Access</th>
<th>Sidewalk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freeway</td>
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<td>0.5</td>
<td>1.5</td>
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<td>N/A</td>
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</table>

### Healthy Transportation Elements

<table>
<thead>
<tr>
<th>Roadway Type</th>
<th>Primary Area Type</th>
<th>Ridge Area Type</th>
<th>Travel Lane</th>
<th>Right (Outside) Shoulder</th>
<th>Bicycle Access</th>
<th>Sidewalk</th>
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### Special Considerations and Notes

1. On arterial and collector roads with adjacent parking, the parking lane satisfies the requirement for a sidewalk; however, a minimum 3' sidewalk is also required in these locations.
2. Separate bicycle lanes and/or signed paths satisfy the requirement for bicycle accommodation in these locations; a minimum 3' bicycle lane is required (non-HUD).
3. On arterial and collector roads with posted or statutory speed limit below 25 mph, a minimum 3' sidewalk is also required for bicycle accommodation.

### Additional Considerations/Questions

1. All 3' and other pedestrian considerations will apply. Need to try to identify what constitutes 3' work.
2. No specific rules for bridge projects. Bicycle and pedestrian accommodation criteria is based on roadway type and area type.
3. Need to develop a consistent or systematic method of determining lane types.
4. Consider “turnarounds” locations that do not require sidewalks. Consider locations where one sidewalk may suffice.
5. Consider additional IFT examination categories for Footprint, Bridge Preservation and Pavement Rehabilitation projects.
Transit

Designing Streets for Transit
National Association of City Transportation Officials

Transit Street Design Guide

massDOT
Massachusetts Department of Transportation
Transit

Most crowded street segments

51 Towns
184 Routes
7643 Bus Stops
IDEAS?!
Discussion

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