Old Colony Planning Council

Bicycle and Pedestrian Connectivity and Livability Study

Phase 1
Phase-One Summary

- Organized extensive citizens and stakeholders
- Created a vision for the region
- Obtained a better understanding of the region’s bicycle and pedestrian needs
- Made bicycle parking funding available
Community Benefits

- Communities, neighborhoods, and downtowns with high levels of pedestrian and bicycle activity are often seen as places that are livable, prosperous, and inviting.
Community Benefits (cont.)

• This study provides guidance for policies, programs, and investments intended to maximize such results by expanding opportunities for greater walking and bicycling activities in the Old Colony Region now and in the future.

• By 2020, Massachusetts Department of Transportation has the goal to reduce greenhouse gas emissions by 7.3 percent below 1990 levels

• By 2035, OCPC has the goals to increase the use of non-motorized transportation modes by 20% compared to 1990 census
Community Benefits (cont.)

• Walking and bicycling can help residents stimulate their local economies by encouraging them to support retail merchants and restaurants near their home and workplace
• Walking and bicycling can directly replace short motor vehicle trips
• Pedestrian and bicycle accommodations promote greater use of transit
Community Benefits (cont.)

- Increased physical activity and active lifestyles
- Businesses that promote active transportation can see an increase in productivity, improved employee health, and better customer relations, as well as a decrease in absenteeism and employee turnover
Community Benefits (cont.)

• Providing for pedestrians and bicyclists can be an excellent way to increase local tourism
Study Area
Local Example of Bicycle and Pedestrian LOS Findings
Preliminary Findings

• Lack of Pedestrian Connections

Massasoit Community college Main entrance       Algonquin Housing development
Preliminary Findings (cont.)

- Lack of Bicycle Infrastructure

South Main Street in Brockton
Preliminary Findings (cont.)

- Bicycle Infrastructure Opportunities
  - Bike lanes
  - Bicycle parking
  - Connections to open spaces

Route 138 in Easton
## Pedestrian Infrastructure Index

### Good Example

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total # of Lanes at the Intersection</td>
<td>12</td>
</tr>
<tr>
<td>Greatest # of Lanes Across Any Road</td>
<td>3</td>
</tr>
<tr>
<td>Left Turn Lanes</td>
<td>1</td>
</tr>
<tr>
<td>Right Turn Channel</td>
<td>2</td>
</tr>
<tr>
<td>Right on Red Prohibited</td>
<td>2</td>
</tr>
<tr>
<td>Signal Phasing</td>
<td>multiple</td>
</tr>
<tr>
<td>Crosswalks Present</td>
<td>4</td>
</tr>
<tr>
<td>Crosswalk Type</td>
<td>4</td>
</tr>
<tr>
<td>Crosswalk Condition</td>
<td>good</td>
</tr>
<tr>
<td>Pedestrian Buttons</td>
<td>4</td>
</tr>
<tr>
<td>Accessible Pedestrian Buttons</td>
<td>4</td>
</tr>
<tr>
<td>Pedestrian Signals</td>
<td>4</td>
</tr>
<tr>
<td>Sidewalks Present at intersection</td>
<td>8</td>
</tr>
<tr>
<td>Approach Grade</td>
<td>3</td>
</tr>
<tr>
<td>Blocked Views</td>
<td>0</td>
</tr>
<tr>
<td>ADA Compliant Curb Cuts</td>
<td>4</td>
</tr>
<tr>
<td>ADA Compliant Refuge Islands</td>
<td>0</td>
</tr>
<tr>
<td>Turn Radius</td>
<td>4</td>
</tr>
<tr>
<td>Skewed/Offset Intersection</td>
<td>no</td>
</tr>
<tr>
<td>Street Lighting</td>
<td>4</td>
</tr>
<tr>
<td>Special Features</td>
<td>8</td>
</tr>
</tbody>
</table>

**Commercial and Centre Streets**  
Brockton, MA

**Score = 52**  
**Grade= A**
Pedestrian Infrastructure Index
Bad Example

Church and Oak Street Intersection in Pembroke
Inaccessible Sidewalks and Pedestrian Push Button

Intersection in Hanson

Turnpike Street in Stoughton
Next Steps: Phase Two

- Sidewalk Inventory
  - Location
  - Type
  - Width and Length
  - Conditions

Crescent Street in West Bridgewater
Next Steps: Phase Two

• Trail Inventory
  • Land Ownership
  • Conditions
  • Length and Width
  • Type of Terrain
  • Mapping & Signage

East Bridgewater Unofficial Trail
Prioritization Process

- Identify Priorities:
  - Destinations Nearby
  - Number of Beneficiaries
  - Affected Population
  - Cost Benefit Analysis (cost vs need)
  - Community Vision
  - Potential Funding Opportunities
Multimodal LOS History

2000 HCM LOS “A”

2000 HCM LOS “D”
New Manual

• Our Facilities did not have capacity or speed problems, new manual addresses that
• More service-quality factors are considered beyond just capacity
• Level of Service is from a traveler’s perspective
• Allows for trade offs between modes
• Good mix of perception of service quality and actual service quality
Limits

• Performance measure is an index
• Level of service is a model to predict the traveler’s PERCEPTION of the service quality (user comfort)
• LOS thresholds are based on survey responses, and are objective
• We found no need to account for pedestrian or bicyclist density
Data

- Number of Lanes
- Shoulder Width
- Bike Lane Width
- ADT, Peak Hour Volume
- Speed Limit, 85th
- Heavy Vehicle Percent
- Road Surface Condition
- Parking Percentage
- Sidewalk Data
Bicycle and Pedestrian Guidelines
Proposed Guidelines For Public Rights-of-Way

- Released for Public Review and Comment July 26, 2011
- For new, and altered existing rights-of-way
- Guidelines address:
  - Pedestrian Routes
  - Detectable Warning Surfaces
  - Pedestrian Signals
  - Roundabouts
  - On-Street Parking
  - Transit Stops and Shelters
  - Street Furniture & Other Elements
- Comment Period Ends November 23, 2011
Proposed Guidelines For Public Rights-of-Way

Why The New Guidelines?

Clarify Language From 2002 Guidance

Increase Accessibility and Reduce/Eliminate Discrimination Towards Persons With Disabilities

Clarify That Guidelines Do Not Apply To Existing Facilities Unless Altered

Increase Flexibility (Allowance for Typical Roadway Geometry)
Design Standards for Bicycle Lanes

- On Roadways With Speeds Less Than 50 MPH and Fewer Than 30 Heavy Vehicles Per Hour
  - 4’ Foot Minimum; 5 Feet Preferred
- On Roadways With Speeds > 50 MPH and > Than 30 Heavy Vehicles Per Hour
  - 5 Foot Minimum; 6 Feet Preferred
- Contraflow Lanes Allowed on One-Way Roads to Increase Connectivity

Source: MassDOT Project Development and Design Guide
Typical Roadway With Bicycle Lane Layout

Figure 9C-5. Example of Bicycle Lane Treatment at Parking Lane into a Right Turn Only Lane

Source: Manual on Uniform Traffic Control Devices, 2009
Shared Lane Markings

• Used When Bike Lane / Adequate Shoulder Cannot Be Accommodated
• Benefits:
  • Assists Bicyclists With Lateral Positioning On Roadway
  • Alerts Motorists To Presence of Bicyclists
  • Reduce The Incidence of Wrong Way Bicycling

Source: Manual on Uniform Traffic Control Devices, 2009
Signage

**Official Bike Routes**
- White on Green Background
- Plaque With Route Name or Number Should Be Included

**Other Roadways**
- Black on Yellow Advisory Signage
- “Share The Road” Plaque Often Included