Corridor Information

Safety History

Crashes Requiring EMS Transports 2015-2016

BICYCLE CRASH FREQUENCY
ALL REPORTED BICYCLE CRASHES 2015-2017
**People Biking - Bicycle Level of Comfort Analysis**

An all-ages and ability network has BLC of 1 or 2.

<table>
<thead>
<tr>
<th><strong>BICYCLE LEVEL OF COMFORT</strong></th>
<th><strong>TYPICAL CRITERIA</strong></th>
<th><strong>EXAMPLES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Protected/ Separated or Shared with ADT &lt;40 or Shared with Speed &lt;10 mph</td>
<td>Pemberton Street, Community Path, Yancey Street</td>
</tr>
<tr>
<td>2</td>
<td>Wide/Buffered Bike lane or Bike Lane w/o Parking adjacent or Shared with ADT 2-40 or Shared with Speed &lt;10 mph</td>
<td>Biddle Avenue, Broadway</td>
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<tr>
<td>3</td>
<td>Bike Lane adjacent to Parking or Shared with Speed 30 mph or Shared with ADT 4-44 or Narrow Operating Space</td>
<td>Madison Street, Main Street</td>
</tr>
<tr>
<td>4</td>
<td>Shared with Speed 30- mph or Shared with ADT 6-100 or High Frequency Bus Route</td>
<td>Massachusetts Avenue, Broadway</td>
</tr>
<tr>
<td>5</td>
<td>Shared with Speed 30+ mph or Shared with ADT 100+ and No Parking and 2+ Travel Lanes per direction</td>
<td>Land Avenue, I-95 Highway/Route 38</td>
</tr>
</tbody>
</table>
Corridor Users: People Bicycling

Throughout the entire corridor length, users experience the second lowest level of comfort.
Transit Service Analysis

MBTA Bus Route 1*

<table>
<thead>
<tr>
<th>Composite Grade*</th>
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</thead>
<tbody>
<tr>
<td>Excellent (A)</td>
</tr>
<tr>
<td>Good (B)</td>
</tr>
<tr>
<td>Satisfactory (C)</td>
</tr>
<tr>
<td>Unsatisfactory (D)</td>
</tr>
<tr>
<td>Poor (E)</td>
</tr>
<tr>
<td>Failing (F)</td>
</tr>
<tr>
<td>N/A</td>
</tr>
</tbody>
</table>

*Route 1 is ranked in top 5 MBTA bus routes for ridership.

*Criteria:
Excess vehicle travel time compared to a minimum Passenger time (travel time x riders)
Reliability (how much the travel time varies)

**Areas of most concern**

AM Peak

PM Peak

Method: Automatic Passenger Counter (APC) Data (MBTA)
**PROJECT BACKGROUND**

**Municipal Policies**

**Vision Zero** calls for the elimination of fatalities and serious injuries resulting from traffic crashes, and emphasizes that they can, and should be prevented (2016).

**Complete Streets** are designed and operated to enable safe access for all users—regardless of age, ability, or mode of transportation (2016).

**Vehicle Trip Reduction Ordinance** established programs to encourage alternatives to single-occupancy vehicle travel (1992).

**Cambridge Growth Policy** emphasizes sustainable modes of transportation such as walking, biking and using transit and low-emission vehicles, which promote livability and help to improve air quality and reduce greenhouse gas emissions (1993/2007).
Flexible Implementation

Based on Policies and Plans and direction of City leadership:

- Evaluate and implement “quick build” solutions to enhance the comfort and promote sustainable transportation for people walking, biking, driving and using transit
  - Designs that are flexible after implementation
  - Modifications possible based on evaluation (including feedback)
October 2018

- Week of October 22 - expected start of pavement marking changes (subject to weather and contractor)
- Work will be done at night
- Expected to take about a week for basic configuration. Red bus lane, green markings and flex posts to follow.
- Public information campaign before and during installation including flyering to users and talking to businesses
- Looking at availability and location of variable message boards
- Police will be on site educating and later enforcing new facilities
Lafayette Square to the Charles River from Sidney Street to Memorial Drive
Existing Conditions

Mass. Ave. Cross-Section (at Amherst Street)

- 88' wide
- On-street bike lane
- On-street vehicle parking
- Mix of meters and other parking
- Bus stops
- Curb extensions at multiple locations
Project Goals

- Address safety issues and reduce crashes - Vision Zero
- Reduce transit delays
- Enable/encourage people of all ages and abilities to choose sustainable transportation
Design Considerations

- Bicyclist safety & comfort
- Pedestrian safety & comfort
- MBTA Bus stops
- MBTA Bus reliability
- Tour Bus pick-up/drop-off
- Accessible parking
- Loading & deliveries
- Street maintenance
- On-street parking
Design Benefits

- Pedestrian safety improved through modifications to signalized intersections
  - Turn Lanes
  - Unconflicted crossings
- Additional Crosswalk in corridor
- RRFB Indicator Added
Design Benefits

- Bicyclist safety improved
- Separated lanes
- Separated turning movements
- Bicycle Signals

- Level of comfort increased
- Supports all ages and abilities goal
Design Benefits

- Bus priority lane in key stretches
- Serves all bus transit, including shuttle services
Design Benefits

- Accessible parking spaces improved
- On-street parking maintained in retail sections
- Food truck location maintained
- Additional and clear loading zones
- Create drop-off/pick-up locations
- Create new tour bus location
**Data Collection**

- Motor Vehicle Parking Study
  - Inventory existing on-street parking
  - Inventory public streets only
  - Conduct occupancy study

- Bicycle & Pedestrian counts

- Bus travel time/delay analysis

- Conduct traffic counts at key intersections
Public Process

- Advisory Committee
- Wikimap online
- Survey online and at public meetings
- Outreach to Businesses
  - Direct meetings with local businesses
  - Coordination with CSBA
- Individual Stakeholder meetings
- Meetings with Seniors
- Public “Tabling” at multiple events
- Transit/Ped/Bike Committees
- Communitywide Meetings
- Posted and electronic announcements
Public Feedback

- Need for safer conditions for bicyclists
  - Motorists and delivery vehicles block bike lanes
  - Desire for greater separation from moving vehicles
- Need for additional crosswalks traversing Mass Ave
- Desire to improve transit operations
- Concerns about unpredictable ridesharing, tour bus, food truck, commercial loading & pick-up/drop-off activity
- Relocate MIT-related tour buses loading/unloading
- Concerns about long vehicle queues, traffic at Vassar Street
- Minimize conflicts,
  - bus/bike conflicts and
  - bike/ped conflicts at 77 Mass Ave.
Possible Future Additions

To Be Evaluated

- Further reconfiguration between Albany and Vassar streets
- Work with state DCR and MassDOT on changes at Memorial Dr. and bridge
- Additional crosswalk/RRFB in Section 1
- Move bus stops to the far side of intersections (for better operations)
- Construct modular (or permanent) floating bus stops
- Remove/modify curb extensions to allow better bicyclist protection

Bus stop relocations?

Crosswalks?

Bus stop Relocation/ floating bus stop?

Bus queue jump?
Project Evaluation Questions & Data Collection

• User Feedback
  • On-line survey; hard copies available
  • Wikimap
  • Intercept surveys

• Technical Data
  • Counts: motor vehicles, pedestrian, cyclists
  • Speeds
  • Travel times along corridor
    • Transit vehicles
    • Motor vehicles

• Safety Data
  • Crash analysis (requires 3 years for statistical validity, but will monitor for issues and trends)
Project Evaluation Questions & Data Collection

- Signal intersections
  - Vehicle queues
  - LOS for Pedestrians
  - Conflicts

- New Pedestrian Crossing
  - Counts: number of users
  - Yield study (based on standard protocols)

- Parking/Loading/Ride Hail
  - Parking study
  - Delivery vehicles
  - Observations: where are ride hail vehicles stopping?
**NEXT STEPS**

**Schedule - 2018**

- **Bicycle, pedestrian, traffic counts**: April
- **Refine Design**: May - August
- **Public Meeting #1**: May 3
- **Public Meeting #2/Open House**: June 19
- **Parking study**: Week of April 30
- **Advisory Committee Meeting #1**: April 11
- **Advisory Committee Meeting**: May 16
- **Advisory Committee Meeting**: Sept. 12
NEXT STEPS

Schedule - 2018

- Refine Design: September
- Public Open House: September 27th
- Additional Traffic Counts: September
- Implementation: 2nd half Oct 2018
- Evaluation