Agenda

Massachusetts Avenue - Sidney Street to Memorial Drive

• Welcome
• Review of Project Background & Goals
• Recent Process
• Review of Current Issues
• Discussion of Evaluation Questions and Metrics
• Schedule Update
• Discussion/Questions
**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).
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)
Corridor Safety History

Reported Crashes Requiring EMS Transport, 2015-2016

Crashes Requiring EMS Transports 2015-2016

Density Map of Crashes Requiring EMS Transport to the Hospital, as reported by responding officers, for 2015 and 2016.
Throughout the entire corridor length, users experience the second lowest level of comfort.
People Walking

Walking in this corridor:

- Local and regional destinations and connections
- Evaluating ease and comfort of crossing at and between intersections
Transit Service Analysis

MBTA Bus Route 1*: AM Peak

**Composite Grade***
- Excellent (A)
- Good (B)
- Satisfactory (C)
- Unsatisfactory (D)
- Poor (E)
- Failing (F)
- N/A

**Areas of most concern**

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

*Route 1 is ranked in top 5 MBTA bus routes for ridership.*
MBTA Bus Route 1: PM Peak

Composite Grade
- Excellent (A)
- Good (B)
- Satisfactory (C)
- Unsatisfactory (D)
- Poor (E)
- Failing (F)
- N/A

Areas of most concern

Method: Automatic Passenger Counter (APC) Data (MBTA)
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
Public Process

- Appointed Advisory Committee
- Wikimap online
- Survey online and at public meetings
- Outreach to Businesses
  - Direct meetings with XX local businesses
  - Coordination with CSBA
- Individual Stakeholder meetings
- 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.
Actions Since Last Public Meeting

- Additional outreach – 3 farmers markets, 2 senior coffees, 1 senior town meeting, 2 Central Fleas, 1 Taste of Cambridge,
- Review curb use changes with MIT
- Investigate additional queue jumps for the bus in NB direction
- Coordination with state agencies on additional measures in short and long-term on state facilities
- Additional review of traffic analysis
  - Ascertain that design does not negatively impact corridor bus service prior to implementation
Proposed Design

Three Main Sections

Section 1: Sidney St to Albany St
Proposed Design

Section 1: Sidney St to Albany St (A)
Proposed Design

Section 1: Sidney St to Albany St (B)

New Crosswalk & RRFB (rectangular rapid flash beacon)
Proposed Design

Section 1: Sidney St to Albany St (C)

New Crosswalk & Rectangular Rapid Flash Beacon
Proposed Design

Section 2: Albany St & Vassar St
Potential future opportunity to increase space for bicyclists by modifying curb extensions.
Proposed Design

Bike signal & right-turn lane separate movements

Vehicle Movement
Proposed Design

Mass. Ave

Bike signal & right-turn lane separate movements

Bicycle Movement
Pedestrian Movement
CORRIDOR INFORMATION

Proposed Design

Three Main Sections

Section 3: MIT
Proposed Design

Section 3: MIT(A)
Proposed Design

Section 3: MIT (B)

Remove MBTA Bus Stop, consistent with MBTA Service Plan
Project Evaluation Questions & Data Collection

• User Feedback
  • Online 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?
**Schedule**

- **Bicycle, pedestrian, traffic counts**
  - April

- **Parking study**
  - Week of April 30

- **Advisory Committee Meeting #1**
  - April 11

- **Public Meeting #1**
  - May 3

- **Refine Design**
  - May - August

- **Public Meeting #2/Open House**
  - June 19

- **Evaluation**

- **Anticipated Implementation**
  - Fall/Oct 2018

**NEXT STEPS**

- **Advisory Committee Meeting #2-3**
  - May, Sept.
Blank Slide
The corridor has been divided into 3 sections for clarity
Cross Sections

- The three general cross sections (intersections vary)

Section 1: Sidney St to Albany St

Section 2: Albany St to Vassar St

Most Complicated

Section 3: MIT
Bus lanes proposed for two sections, to address the key areas of delay
Transportation/Traffic Analysis

Bus Facility Details - After
Transportation/Traffic Analysis

Bus Facility Details - Before
Bus lanes at intersections: Right turning motorists may use bus lane
For most of the corridor, separated bike lanes can be created using on-street parking and flex posts.
Bus lanes at intersections: Right turning motorists may use bus lane.
Bus Facility Details

Bus Lanes with Parking

Boston, MA - Wikimedia Commons
DESIGN OVERVIEW

Bicycle Facilities

Separated Bike Lane - Parking Protected

Parking Protected Bicycle Lanes
DESIGN OVERVIEW

Bicycle Facilities

Bike Lane with Curbside Parking

Curbside parking/Accessible Parking
DESIGN OVERVIEW

Parking Facilities

Accessible Parking

Denver, CO
Bus Stop Options

Bus stop at curb

Floating bus stop (possible future item)
Potential for a future modular floating bus stop under evaluation
Transportation/Traffic Analysis

Three Main Sections

- Detailed Design

Section 1:
Sidney St to Albany St
Section 1: Sidney St to Albany St (A)
Transportation/Traffic Analysis

Section 1: Sidney St to Albany St (B)

New Crosswalk & RRFB
Transportation/Traffic Analysis

Section 1: Sidney St to Albany St (C)

New Crosswalk & RRFB
Section 2: Albany St & Vassar St

Bike signal & Right-turn lane
Potential future opportunity to increase space for bicyclists by modifying bulb-outs

Bike signal & Right-turn lane
Separates movements
Transportation/Traffic Analysis

Three Main Sections

Other Design Details
Section 3: MIT (A)
Section 3: MIT (B)

Remove MBTA Bus Stop, consistent with MBTA Service Plan
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
CORRIDOR INFORMATION

Safety History

Reported Bicycle Crashes, 2015-2016

Project Limits
Corridor-wide transportation analysis to determine where:

- **Bus** lanes can be added
- **Vehicle** lanes can be repurposed
- **Signal** operations can be modified
- **Bicycle** lanes can be separated
- **Bicycle** buffers can be added
- **Parking** can be re-located for better operations