Transit Public Meeting

Mount Auburn Street

Watertown Public Library
Watertown Savings Bank Meeting Room
Watertown, MA

February 15, 2018

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Purpose of Meeting

- Why are we here?
  - *Discuss transit issues on Mount Auburn Street*
  - *Identify tools to incorporate into the Mount Auburn Street TIP Project to improve bus service and reliability*
  - *Discuss a short term pilot program to improve transit services along the Mount Auburn Street corridor*

Mount Auburn Street corridor presents several challenges related to bus delay and reliability

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Agenda

- Complete Streets Context
- Transit Context / Operations along Mount Auburn Street
- Transit Issues
- Tools for Improving Bus Service and Riders' Experience
- Transit Signal Priority
- DCR Mount Auburn Street Corridor Study
- Short-Term Opportunities / BostonBRT Bus Priority Pilot Grant Project
- Discussion

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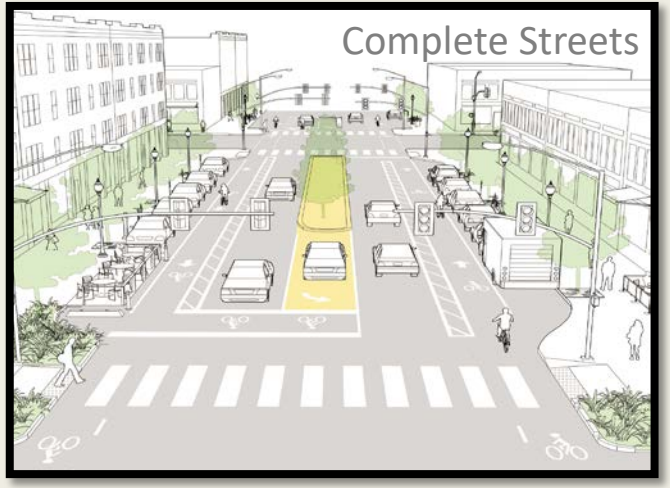
Complete Streets Context

Pedestrians
- All Travelers are pedestrians at some point in their trip
- Safety is the highest priority for pedestrians

Bicycles
- Bicycles are an environmentally friendly alternative for short to mid-range trips

Vehicles
- Personal vehicles provide flexibility but are subject to congestion

Transit
- Transit gives users a mode of transportation that is reliable and efficient



"Transportation infrastructure that provides access for all, a real choice of modes, and safety in equal measure for each mode of travel."

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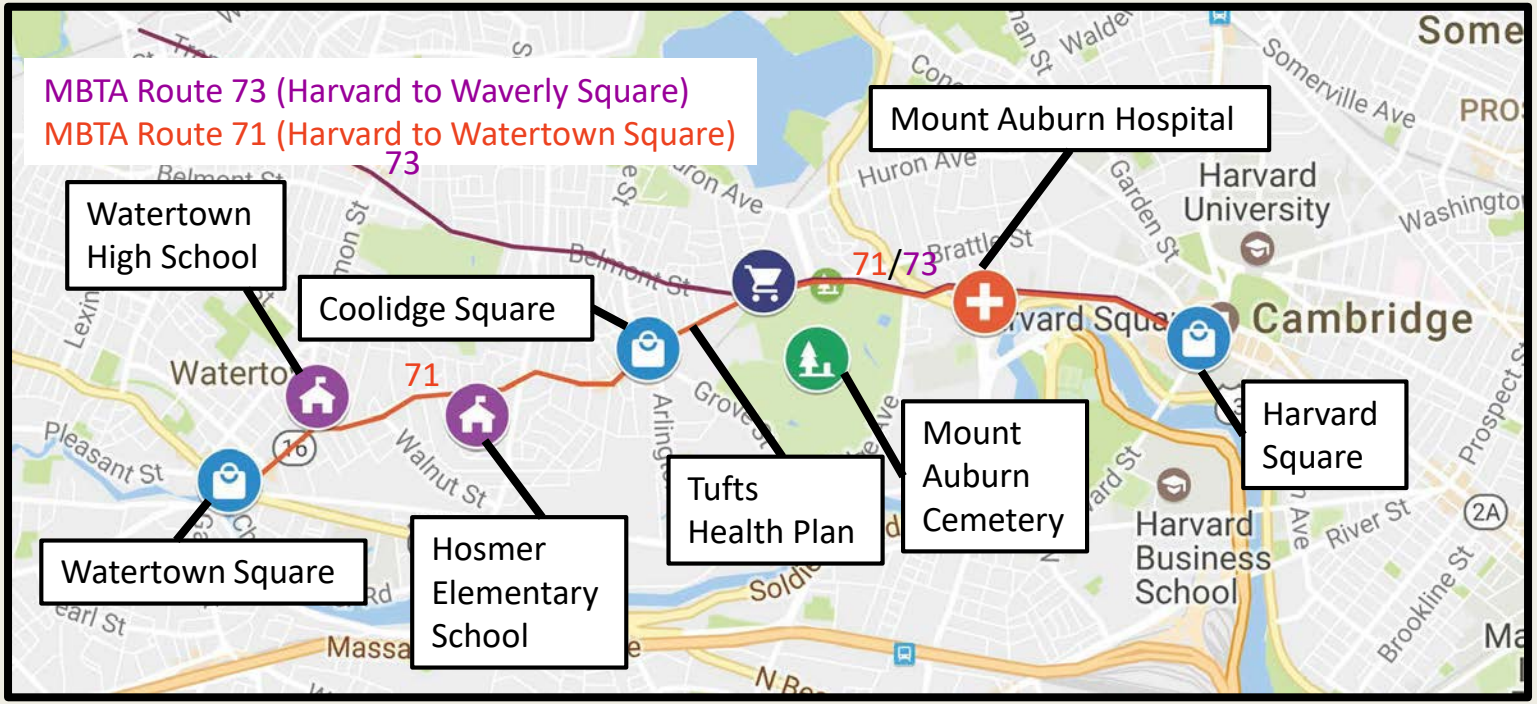
Route 71 Bus Route Context



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Transit Operations along Mount Auburn Street

- Eastbound to Harvard Square
  - *Peak Hour (7:45am-8:45am) - 8 minutes between bus arrivals at a stop*
  - *Average –12 minutes between bus arrivals at a stop*
- Westbound to Watertown Square
  - *Peak hour (5:00pm-6:00pm) - 9 minutes between bus arrivals at a stop*
  - *Average - 12 minutes between bus arrivals at a stop*
- Route 71 serves 5,300 passengers on an average weekday
- Route 71 and 73 serve 12,000 weekday daily trips combined
- 84% of trips are for work or school

The 71 bus route has been designated a key bus route by the MBTA.
The 71 route is one of the top 15 busiest routes in the system.

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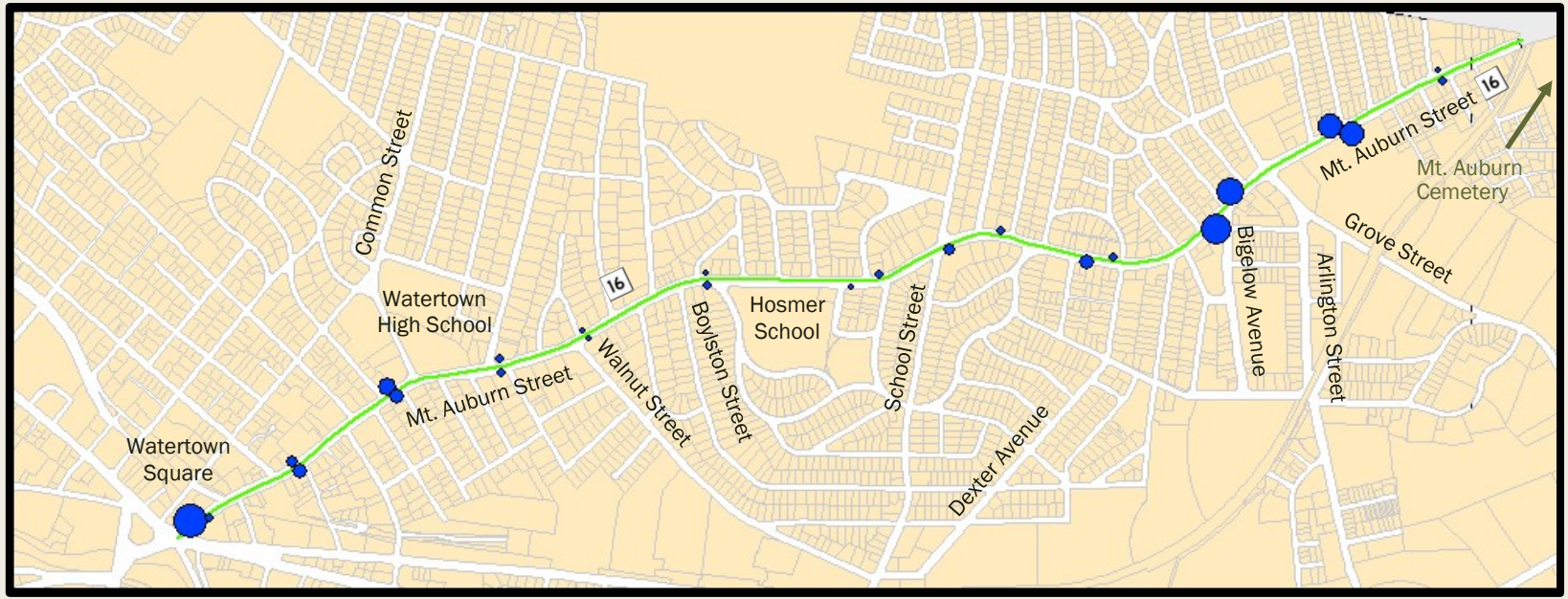
Bus Stop Boarding / Alighting



Bus stop locations along Mount Auburn Street. Symbol size correlates to magnitude of boardings and alightings at each bus stop location.

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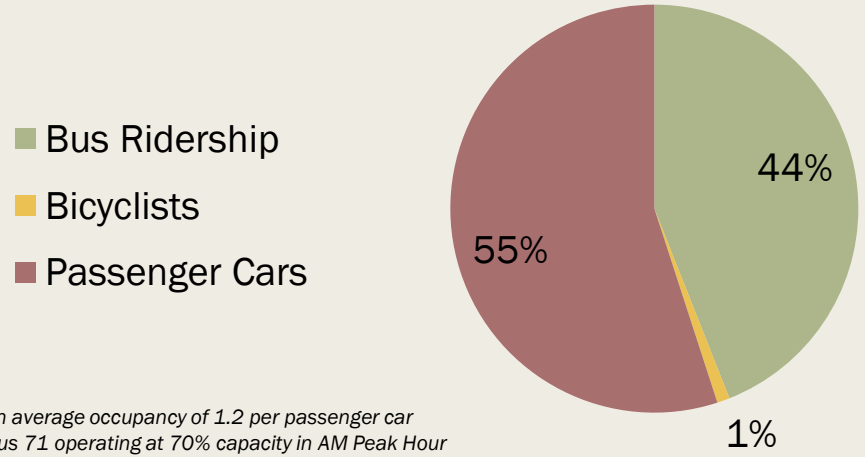
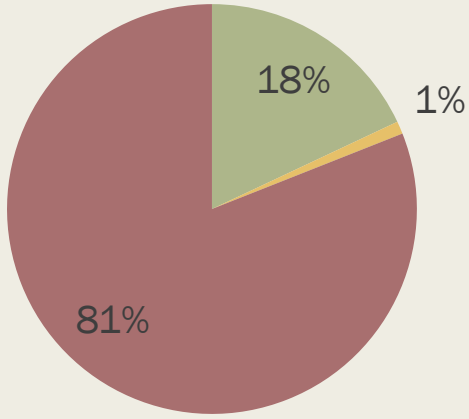
Volumes by Mode in Coolidge Square

Mount Auburn Street



Peak Hour Eastbound



Daily

Assumes an average occupancy of 1.2 per passenger car
Assumes Bus 71 operating at 70% capacity in AM Peak Hour

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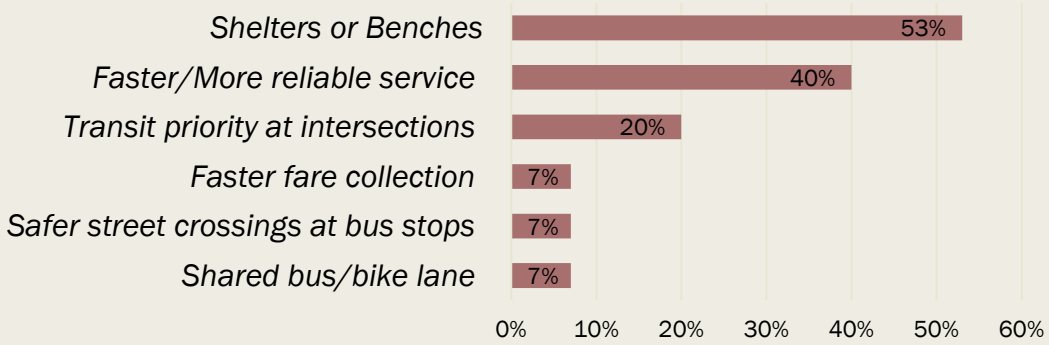
Public Input from Coolidge Square Open House

Desired Amenities



"Bus stops that feel safe for families with young kids to load and unload. Basically, more room to get on and off the sidewalk away from traffic."
– Watertown Resident

- 89% of respondents use real-time bus location apps
- Current stops are at inconvenient locations for 11% of respondents

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Transit Issues along Mount Auburn Street

- Delays and reliability relative to schedule
- Lack of bus stop amenities
- Bus stops are not accessible to all users
- Bus stop lengths do not meet current standards
  - *Buses have difficulty entering/exiting traffic*
  - *Buses tend to partially block lanes, impacting traffic*
- Competing interest for limited Right of Way space

Goal: Improve service and reliability of the transit system along the Mount Auburn Street corridor

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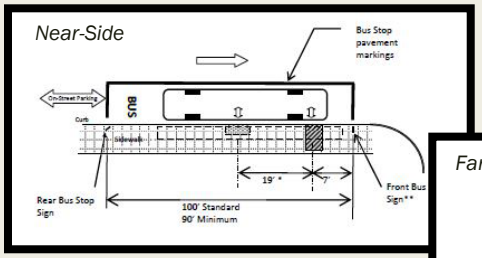
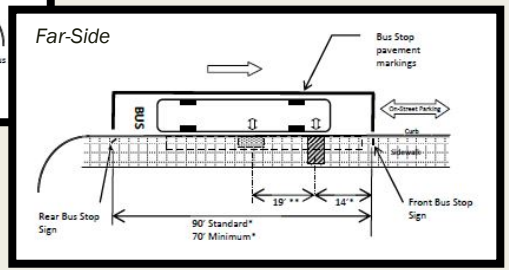
Tools for Improvement – Bus Stop Features

- Bus Stop Amenities
  - *Bus arrival time boards*
  - *Weather shelters / benches*
  - *Short term bike parking*
  - *Passenger loading zones*
    - Areas must be clear of obstructions
    - Must comply with ADA standards
- Bus Stop Location Types
  - *Near-Side*
    - Minimum length 90’
    - Encourages crossing after bus is stopped
  - *Far-Side (preferred)*
    - Minimum length 70’
    - Encourages crossing behind the bus

Example of arrival board - Cambridge, MA


Example of passenger loading zones





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Tools for Improvement - Bus Stop Spacing

- Bus stop locations were reviewed by the MBTA, with input from the public, as part of the Key Bus Route Program in 2014.

Bus stop spacing along a portion of Mount Auburn Street – Watertown, MA

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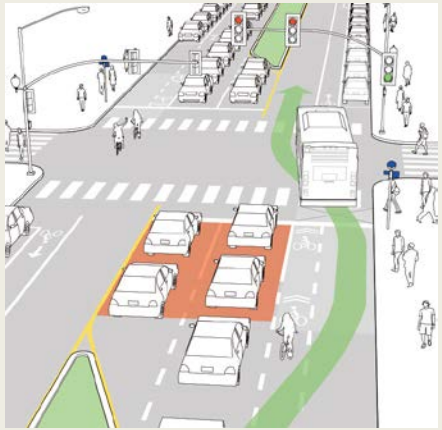
Tools for Improvement – Bus Operations

- Queue Jump Lane
  - *Short bus lane located on the approach to a traffic signal*
  - *Specialized signal allows bus to merge into travel lane ahead of queue*
  - *May be shared with a bike lane*
- Transit Signal Priority (TSP)
  - *Set of operational improvement tools that use technology to enhance operations for transit vehicles at signalized intersections*
  - *MBTA will discuss additional details of Transit Signal Priority*



Queue Jump Lane Concept - NACTO

Tools for Improvement – Shared Bus-Bike Lane

- Shared Bus-Bike Lane
  - *Buses and bicyclists share a travel lane*
  - *Allowed in constrained areas without sufficient space for separate facilities*

Long Term Improvement - Shared Bus-Bike Lane Concept
(From DCR Mt Auburn Street Fresh Pond Corridor Study)

Example of Shared Bus-Bike Lane

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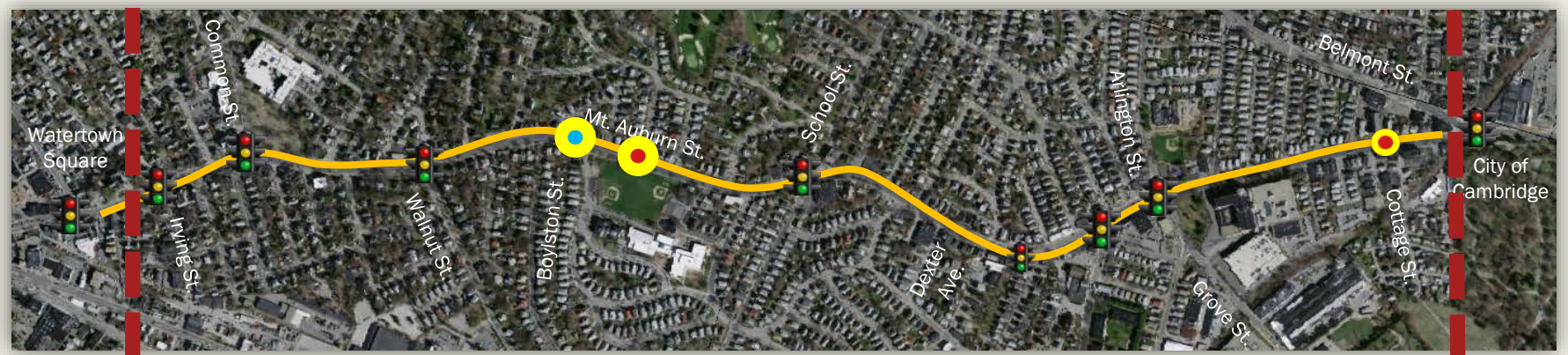
Traffic Signal Locations along Mount Auburn Street



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MBTA / Municipal Partnership

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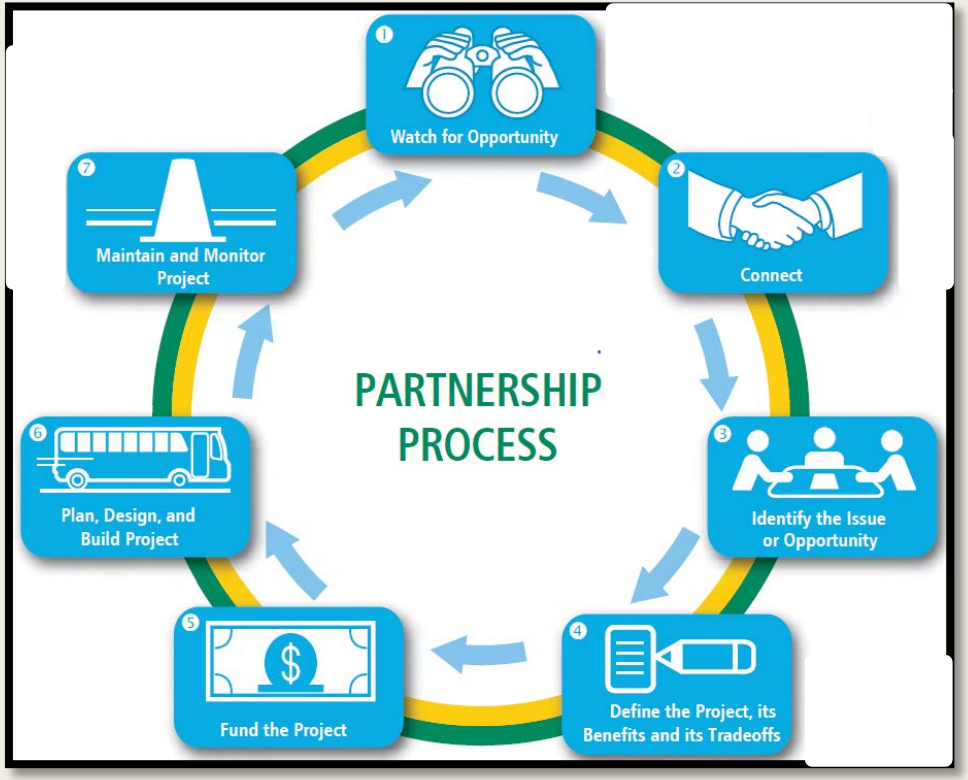
Partnerships

Improving Speed and Reliability through Municipal Partnerships

- What municipalities control:
  - *Streets, signals, parking, curb management, sidewalk space, stop amenities, intersections, enforcement*
- What the MBTA controls:
  - *Buses, bus stops, bus schedules, fare payment structure*



From King County Metro Speed & Reliability Toolkit

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Bus Speed and Reliability

Tool Categories and Examples

- Bus Operations tools
  - *Stop Relocation*
  - *Stop Consolidation*
  - *Route Design*
- Traffic Control tools
  - *Transit Signal Priority*
  - *Movement Restriction Exemption*
  - *Queue Jumps*
- Infrastructure tools
  - *Turn Radius Improvements*
  - *Bus Bulbs*
  - *Roadway Channelization/Signage*
- Transit Lane tools
  - *Curbside bus lane*
  - *Queue bypass (short bus lane)*
  - *Center bus lane*

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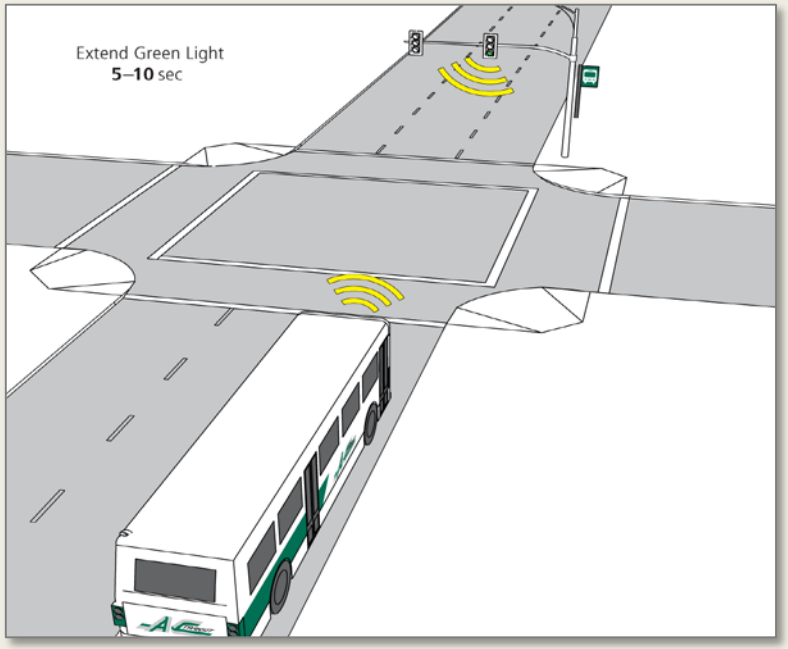
Transit Signal Priority



MBTA Transit Signal Priority (TSP) Program

- Reduce time transit vehicles stop at traffic signals by:
  - *extending green-light-time or*
  - *shortening red-light-time*

- TSP helps:
  - *Improve reliability*
  - *Reduce travel time*
  - *Increase network capacity*
  - *Enhance OTP*

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Transit Signal Priority

MBTA TSP Pilot Strategy

- Develop TSP software and pilot on individual signals

- TSP pilot corridors:
  - *Beacon Street, Brookline*
  - *Commonwealth Avenue, Boston*
  - *Huntington Avenue, Boston*
  - *Massachusetts Avenue, Cambridge*
  - *Mt. Auburn St., Cambridge/Watertown*
  - *Massachusetts Avenue, Arlington*

- Roll out to high ridership corridors

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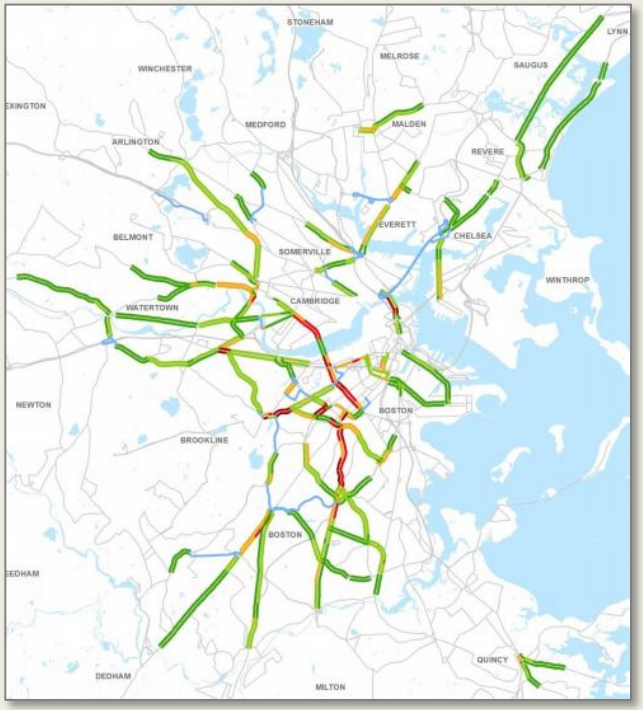
Transit Signal Priority

MBTA TSP Post-pilot Strategy

- Focus on high-ridership, high-delay corridors
- “Piggyback” on other traffic signal projects to add TSP
- Emphasis on municipalities eager to partner
- Concentrate on candidate corridors for dedicated bus lane



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BostonBRT Pilot Project

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DCR Mount Auburn Street Corridor Study

- Mount Auburn Street Corridor Study was performed by DCR in 2016/2017
  - *A major goal of the study was to "Improve travel time and reliability of MBTA Bus Routes 71 (Watertown Square – Harvard Station) and 73 (Waverley Square – Harvard Station)"*
  - *Keep motorist delay at a minimum*
  - *Spanned three jurisdictional areas (DCR, Cambridge, Watertown)*
  - *May 2016 - December 2017: 7 Stakeholder Meetings, 4 public meetings*
  - *Short term and long term concepts*
  - *mass.gov/service-details/mount-auburn-street-corridor-study*

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DCR Mount Auburn Street Corridor Study

Cambridge Service Analysis (Bus 73, AM Peak)

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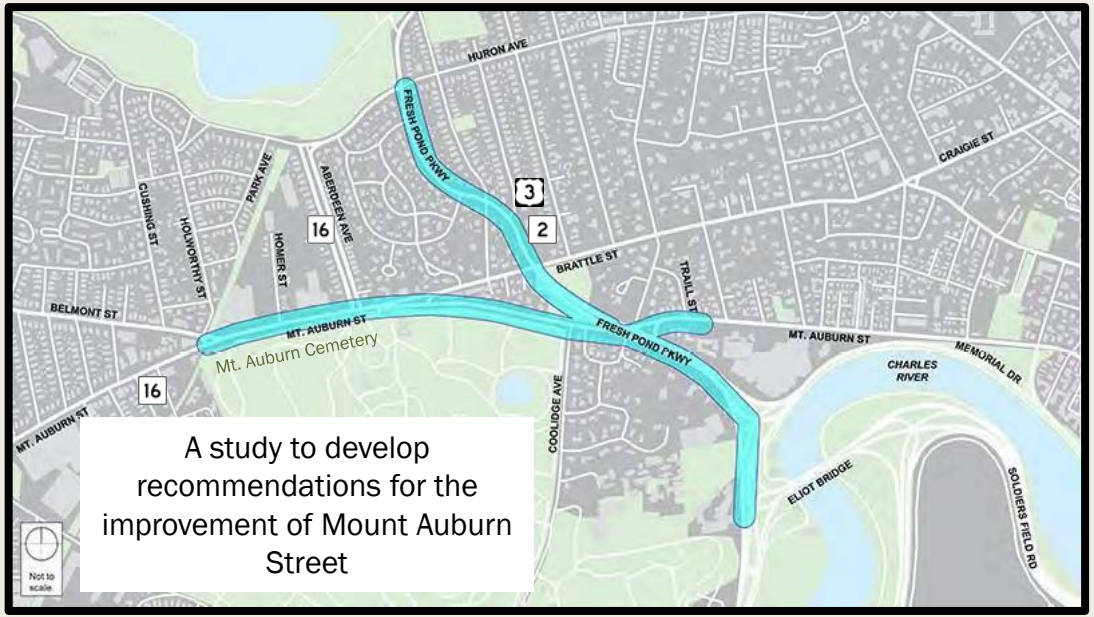
DCR Mount Auburn Street Corridor Study



Study Project Area

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DCR Mount Auburn Street Study Recommendations

- Inbound bus lane on sections of Mount Auburn Street
  - *MBTA buses, shuttles and emergency vehicles may use lane*
  - *Traffic modeling shows reductions in travel time on Mt. Auburn Street for both busses and vehicles*
  - *Transition in Watertown before Belmont Street*

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Barr Foundation Grant

- Cooperative effort between City of Cambridge, Town of Watertown, MBTA, and DCR
- Includes technical assistance & funding for pilot implementation
- Stems from the Boston BRT initiative developed in 2013 as part of the Barr Foundation's Climate program
- Result of RFP for local pilots grants in early 2017 (up to $100,000 each) to demonstrate elements of BRT along high ridership corridors
- Others pilots include Everett (Broadway) and Arlington (Mass Ave)

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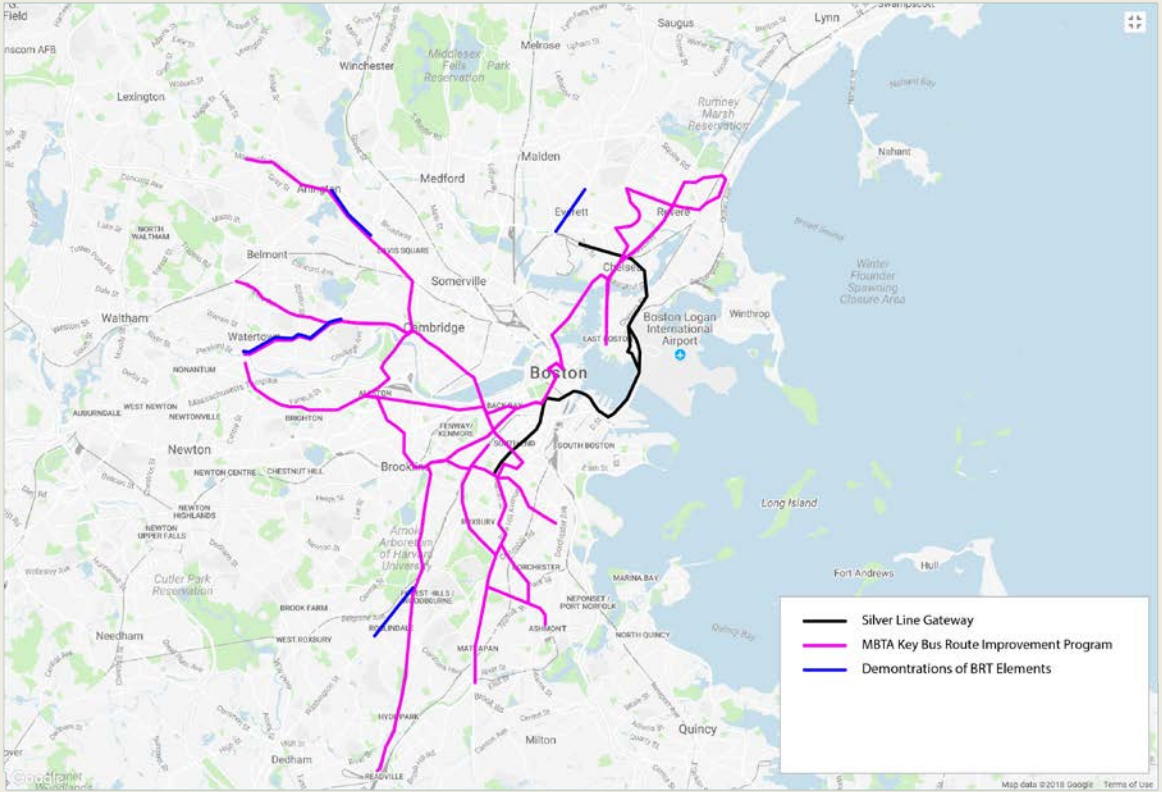
Demonstrations of BRT Elements



Consultant/Technical Support Team

- **ITDP (Institute for Transportation & Development Policy):** Julia Wallerce (Boston) & Michael Kodransky (NYC)
  - Project coordination, technical assistance
- **Stantec:** Ralph DeNisco
  - Technical assistance, analysis
- **Denterlein:** Katherine Adams, Jayda Leter-Luis
  - Communications, media, PR
- **Ad Hoc Industries:** Adrian Gill
  - Branding, messaging, graphics

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BostonBRT Bus Priority Pilot Grant Project

- Mount Auburn Street bus priority pilot is the result of the public participation process
  - *DCR Fresh Pond / Mount Auburn Street Master Plan*
- The pilot will be implemented using temporary markings / signs, signal priority
- Check pilot program website for updates:
  - *cambridgema.gov/CDD/Projects/Transportation/mtauburnstreetbuspriorityдemonstration*
- Cooperative effort between City of Cambridge, Town of Watertown, MBTA, and DCR
- Includes technical assistance & funding for pilot implementation
  - *Funding from the Barr Foundation*
  - *barrfoundation.org/*

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What is a pilot?

- "Pilot" = Paint, signal changes, signs, education, and enforcement
- Of sufficient length to evaluate impacts
  - *Evaluate in July/August and again in the fall*
- Trial for consideration of future implementation
- A pilot is not:
  - *A two-week period*
  - *Impossible to tweak or change*
  - *Pre-determined outcome; can be removed if ultimately not successful*

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Goals of BostonBRT Bus Priority Pilot

- Implement a successful pilot of BRT technologies
- Increase awareness of transit issues and solutions
- Analyze MBTA data for delay and reliability of the Route 71
- Identify locations to implement bus priority
- Collect and analyze data for evaluation
- Create consistent bus signage and amenities

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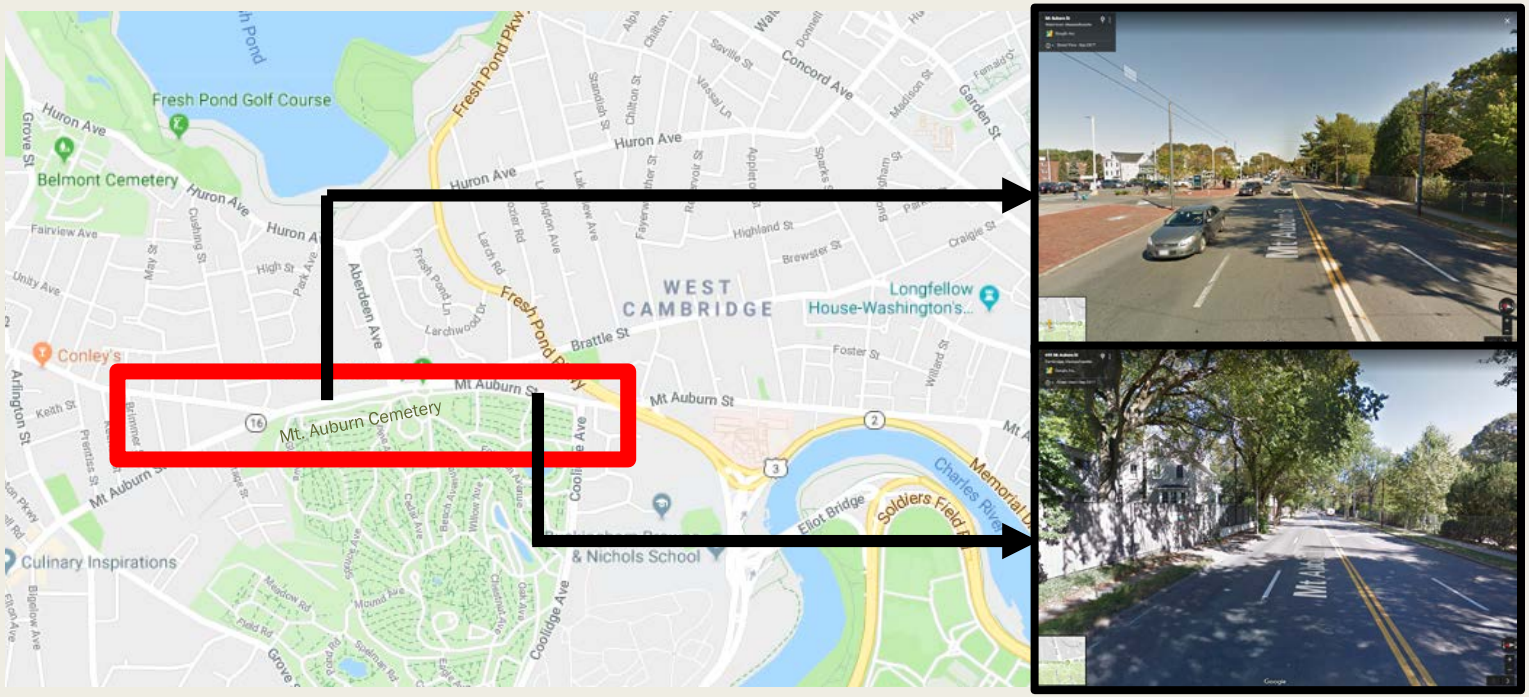
Mt. Auburn Street Bus Priority Pilot Focus



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BRT Bus Priority Pilot Grant Schedule

INTERNAL

Feb-Mar Technical work: designs, signals, evaluation metrics, data collection

Apr: Review and finalize plans

May: Coordinate with police enforcement

June: Implement pilot (coordinate with DCR work)

January → February → March → April → May → June

Post June: Evaluate and refine

Jan-Mar: Finalize public outreach plan and develop public outreach materials

Jan/Feb: Hold Mt. Auburn St. transit meeting

Feb/Mar: Cambridge neighborhood, local business, key stakeholder outreach

Apr: Cambridge/ Watertown joint public meeting

Apr/May: Public campaign (ads, onboard flyering, social media, etc.)

May/June: "Street teams", education and enforcement blitz, obtain feedback during initial launch period.

OUTREACH (BRT outreach will occur separately from Mount Auburn Street Project)

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Discussion

- Discussion Questions:
  - *Do you ride Bus 71 on Mount Auburn Street in Watertown? What's preventing you from riding the bus?*
  - *What improvements would encourage you to use transit more frequently?*
  - *Where do you experience delays as a bus rider?*
  - *Are bus stops conveniently located?*
  - *Questions/suggestions for our team?*
- Contact us: Team@MountAuburnStreet.com
- Sign up for email updates at Project Website:
  - *MountAuburnStreet.com*
- BostonBRT Pilot website:

http://www.cambridgema.gov/CDD/Projects/Transportation/mtauburnstreetbusprioritydemonstration

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