

Transit Advisory Committee Project Updates

June 2019

1. River Street Reconstruction Project – brief update
2. Transport Kendall
3. Grand Junction Multi-use Path and Conceptual Transit Design
4. Mt. Auburn Bus Priority Pilot evaluation
5. Other updates



Recent Events

- May 14: Held 1st Public Walk on transportation and mobility
- May 20: Held 2nd coordination meeting with the MBTA to discuss bus terminal options (River/Magazine/Green St)
- May 28: Held 4th River Street Working Group meeting (urban design/streetscape)
- June 1: Attended River Fest

Upcoming events

- Tonight and June 8: Carl Barron Plaza existing conditions open house and outdoor engagement
- July 17: Next WG meeting on transportation and mobility
- Sept: Carl Barron Plaza design charettes
- Concepts developed and discussed in fall 2019



Transport Kendall

- <https://www.transportkendall.org/>



The Backbone of the Cambridge Transit System

The Red Line is the MBTA's busiest subway line with more than 280,000 passenger trips each weekday. It is a backbone of the transit system connecting several major economic centers and universities. The Kendall Red Line Station is the eighth busiest station in the MBTA system and the fifth fastest growing station.

Today's Red Line travelers in Kendall Square often find themselves on full trains and crowded platforms, sometimes getting left behind. With current and planned development, the expectation is that more people will want to take the Red Line to and from Kendall Square and regional growth puts more people on the Red Line. The increase of passengers will greatly exacerbate today's problems.

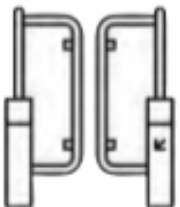
New Red Line Trains

A new fleet of Red Line cars, estimated to be fully operating by 2024, should enable the MBTA to run 50% more capacity at rush hour – a train every 3 minutes. However, even with the new trains and additional signal and trackwork, the question remains as to whether these improvements will fully meet the future, growing demands of Kendall Square and the region, which makes other initiatives like a new Grand Junction public transit link and improvements for bus service on streets so critical. There also remains a need for improvements to the station itself.



Kendall Square station entries increased **34%** from 2007 to 2016.

Station entries are expected to **DOUBLE** from 2012 to 2040.



Transport Kendall

Next steps:

- Create a PowerPoint template populated with all content
- Advance website functionality
- Film short video(s) for social media and other uses
- Finalize all other materials (posters / handout templates, etc.)

Note:

- Targeting Sept TAC meeting for discussion of KSTEP

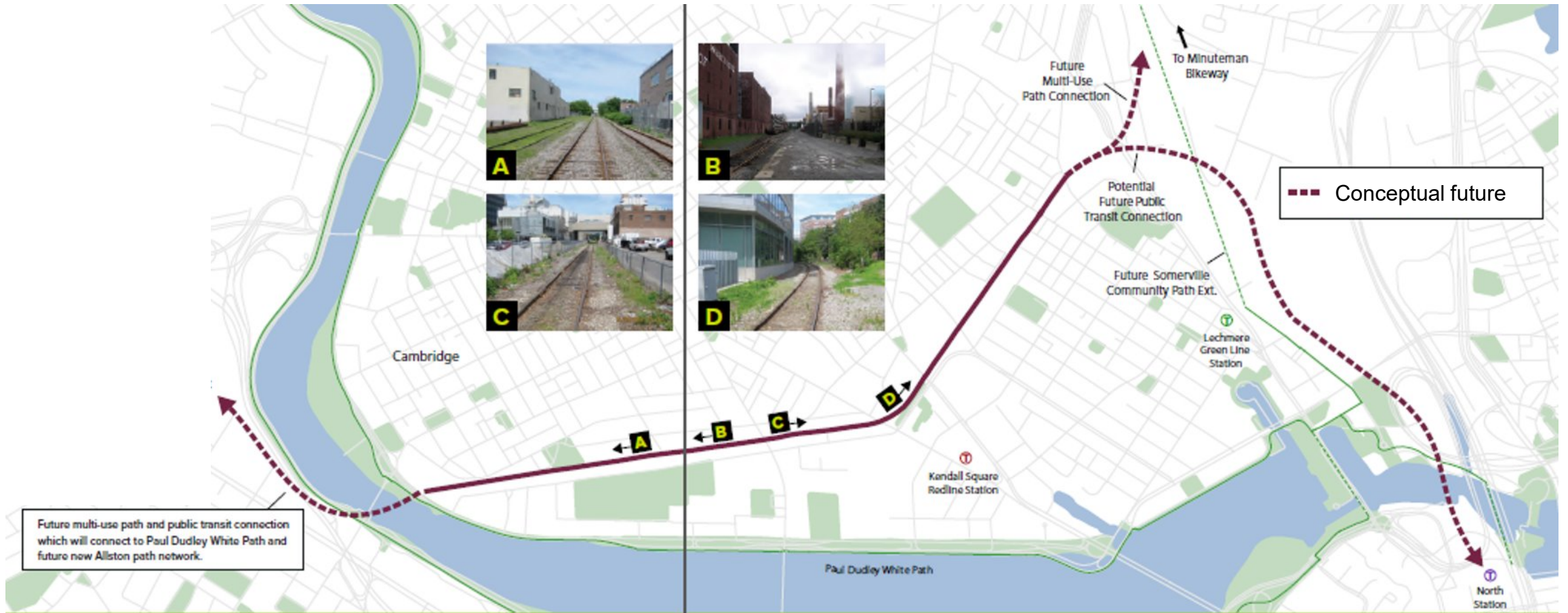


**GRAND
JUNCTION**
multi-use path

CITY OF CAMBRIDGE
**GRAND JUNCTION MULTI-USE PATH & CONCEPTUAL
TRANSIT DESIGN PROJECT**

PROJECT OVERVIEW

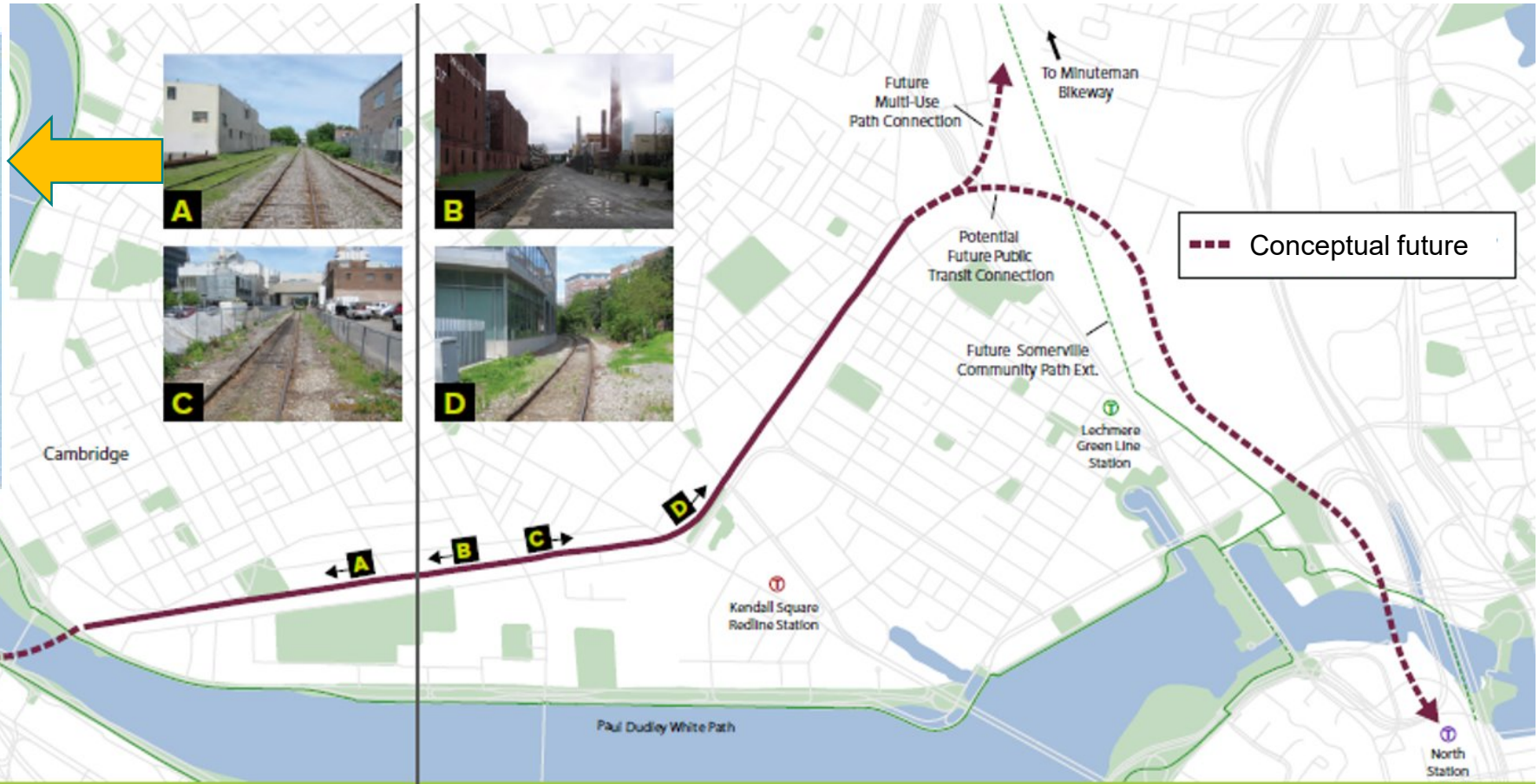
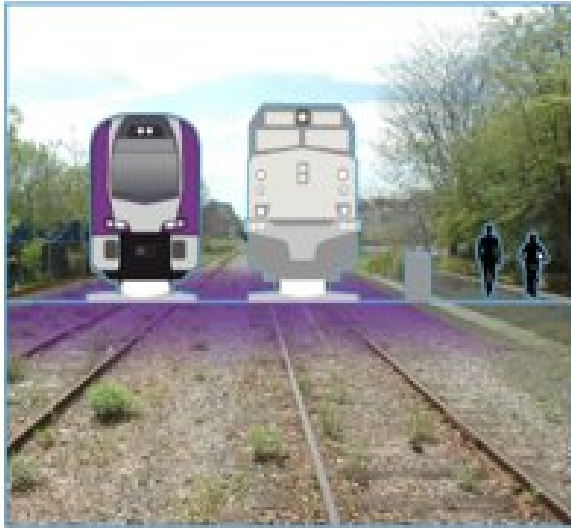
Project Scope: Fully design and create construction documents for a multi-use path adjacent to the existing rail tracks in the Grand Junction corridor from the Boston University Bridge to Somerville



PROJECT OVERVIEW

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Typical Double Track Rendering



Project Team

City:

- Tegin Teich, Andrew Reker
(Community Development Department)
- Jerry Friedman (Department of Public Works)
- Patrick Baxter (Traffic, Parking, & Transportation)

Consultants

- Kleinfelder – Project manager
- McMahon Engineering – Public outreach
- Hatch – Landscape & path design
- Stantec - Engineering
- kmdg – Urban design & public art
- Toole Design Group – Transportation engineer
- IBI Group – Railway analysis
- WSP – Right-of-way survey

PROJECT TEAM – DESIGN WORKING GROUP

Residents and neighborhoods

- Cambridgeport (2+ residents)
- East Cambridge (4 residents)
- Port (2+ residents)
- Wellington-Harrington (2+ residents)
- 1 MIT graduate student
- 1 Cambridge Rindge & Latin School student

Organizations, Institutions, Committees

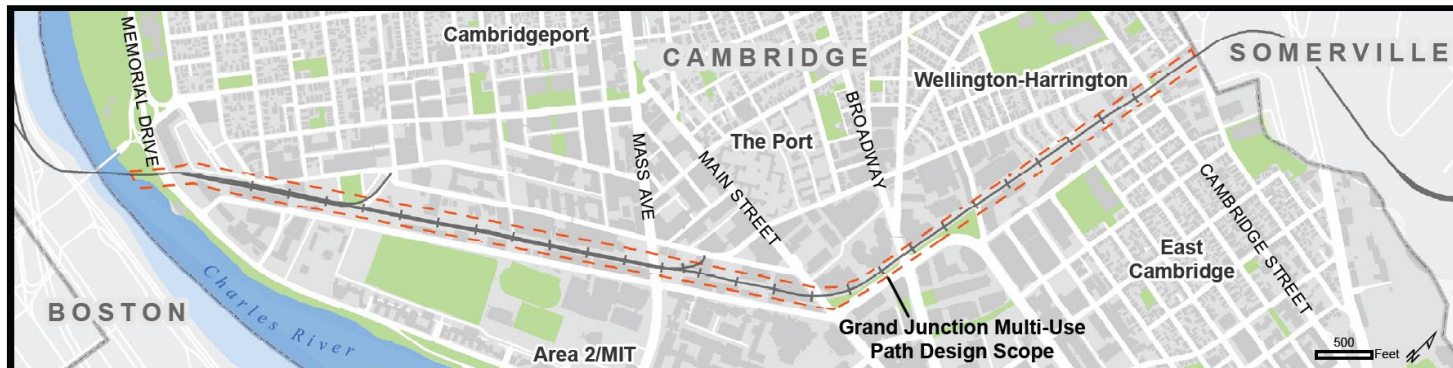
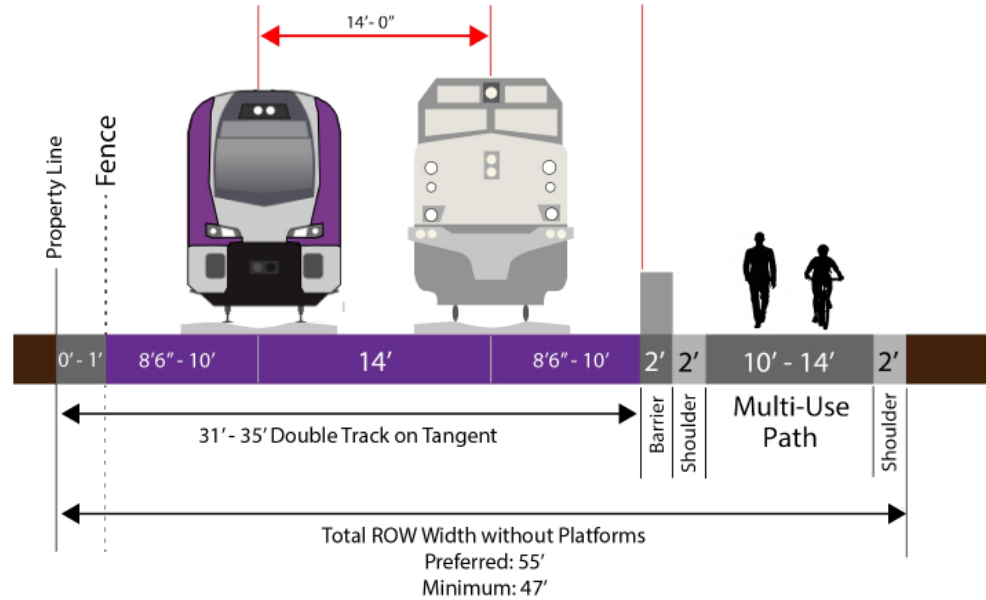
- Cambridge Health Department
- Cambridge Housing Authority
- Vision Zero Committee
- Bicycle Committee
- Transit Advisory Committee
- Friends of the Grand Junction Path
- LivableStreets Alliance
- Kendall Square Association
- East Cambridge Business Association
- MIT & MITIMCo
- Alexandria Real Estate

Current Use

- Only north-south rail connection between Framingham on the west and Boston on the east
- 2 to 4 trains a day run on the Grand Junction through Cambridge
- Adjacent uses on MIT include access and loading
- Street crossings and 3 grade crossings not at intersections



Double Track with Multi-Use Path (47' - 55' Total)

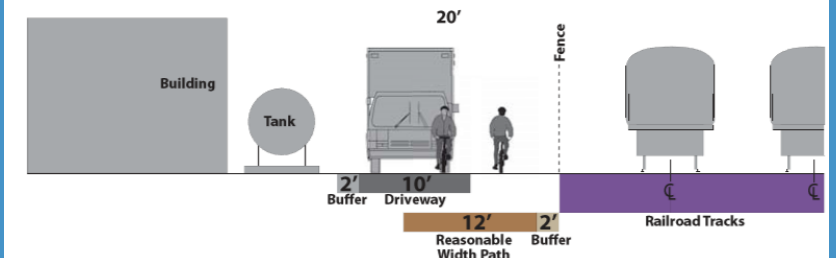


Overview Map of the existing Grand Junction corridor

Overall Project Cross Section

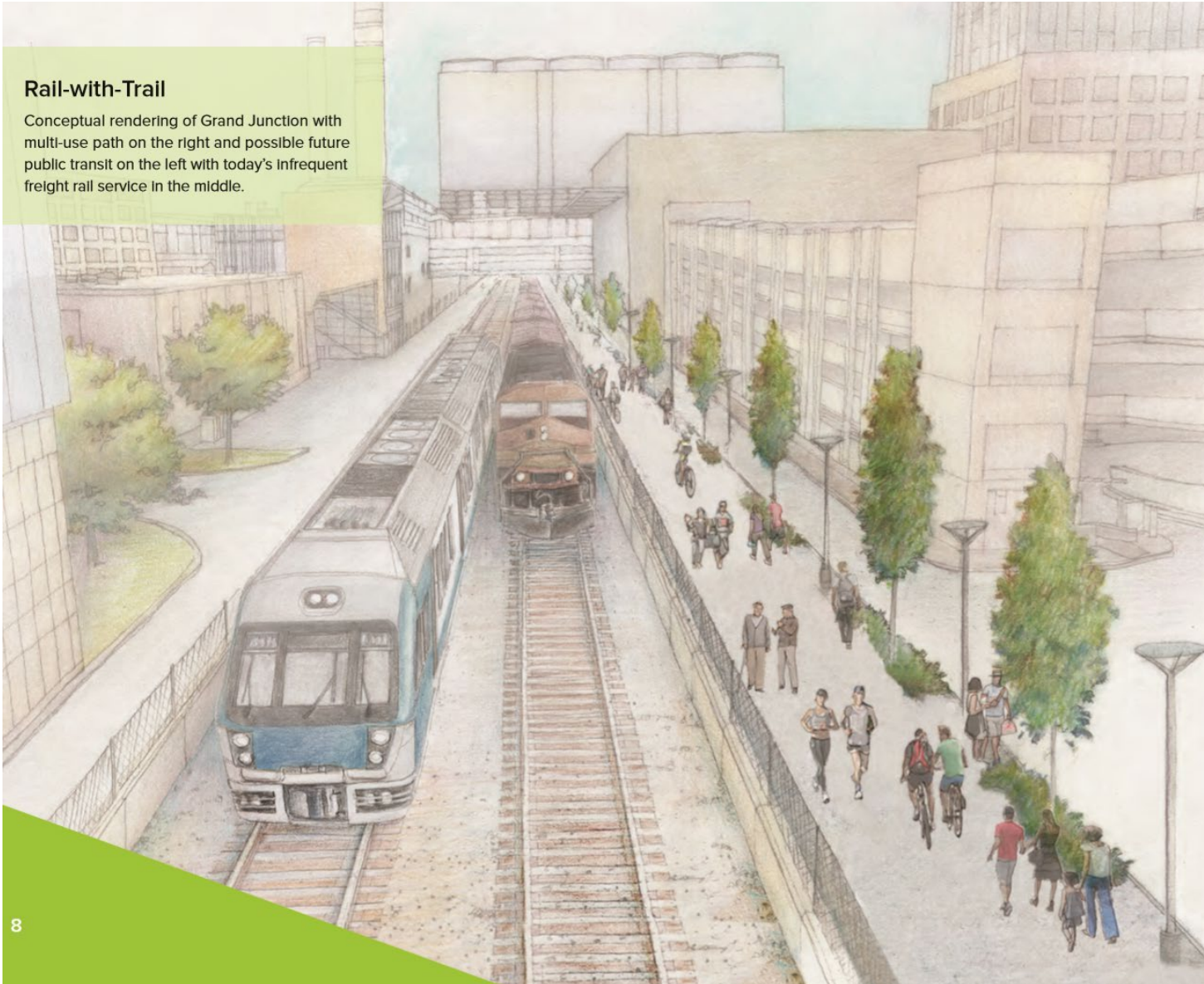
- 14' paved path with 2' buffers with landscaping where feasible
- Design will not preclude possible future two-track public transit service (transit service being discussed in MassDOT Rail Vision: www.mbta.com/projects/rail-vision)
- Must consider other adjacent uses described in MIT Feasibility Study (e.g. MIT access/loading)

Overlapping cross sections



Rail-with-Trail

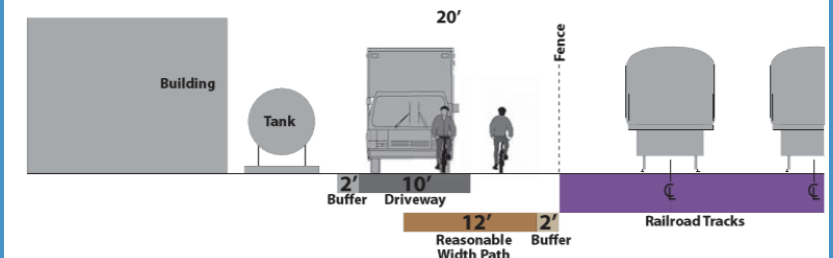
Conceptual rendering of Grand Junction with multi-use path on the right and possible future public transit on the left with today's infrequent freight rail service in the middle.



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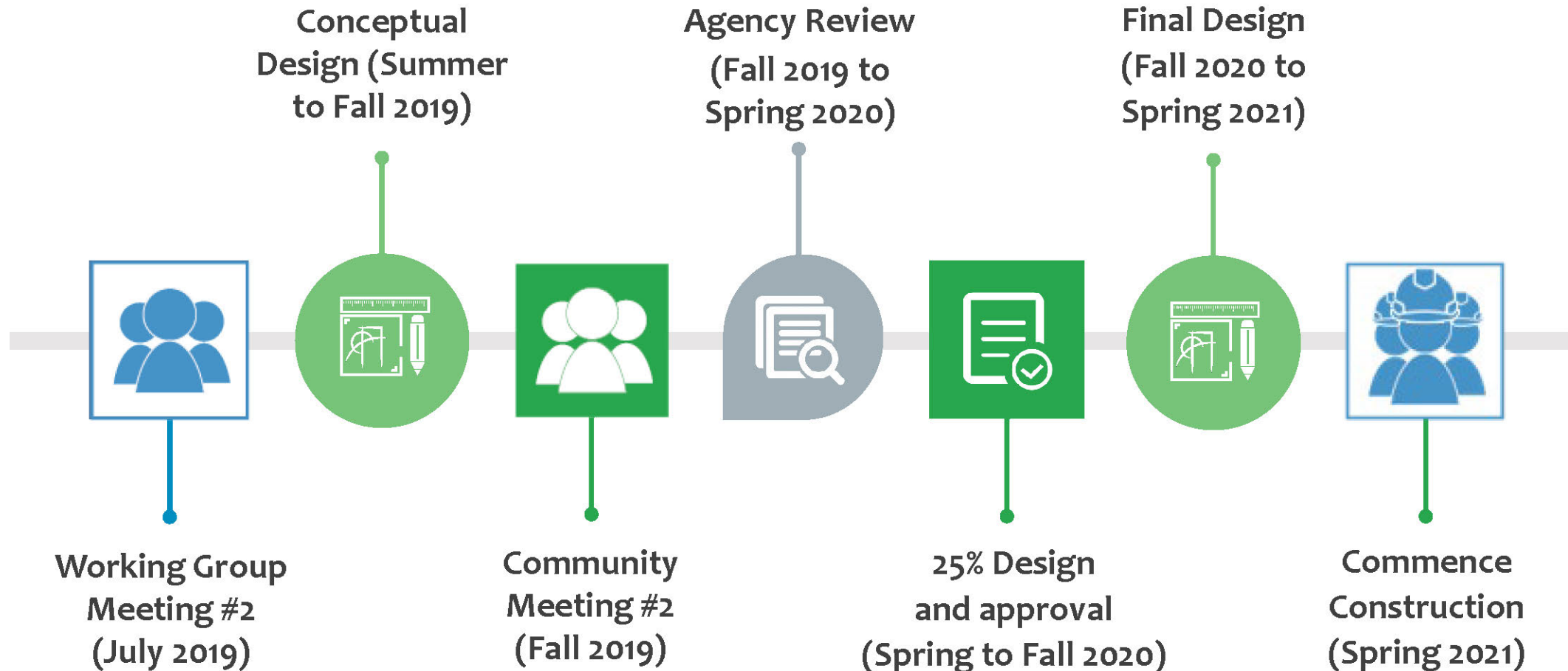
Overlapping cross sections



Project Scope

- Public Engagement Plan and Public Meetings
- Field Investigation Work
- Traffic Analysis and Intersection Modeling
- Urban Design, Landscape and Art
- Conceptual Design
- 25%, 75%, 100% design, up to three (3) bid packages for construction

Schedule Overview



Collaboration

- Institutions (e.g. MIT)
- Developers (e.g. Alexandria Real Estate)
- Cities of Somerville and Boston
- State agencies, including:
 - Massachusetts Bay Transportation Authority (MBTA)
 - Massachusetts Department of Transportation (MassDOT)
 - Department of Conservation and Recreation (DCR)
- State/regional processes, including:
 - Rail Vision, Better Bus Project, Network Redesign, LandLine Initiative



CAMBRIDGE WATERTOWN BRT

Mount Auburn St. Bus Priority Pilot



Survey Response Snapshot



Before / Total = 218

- Nearby residents: 50.9%
- Nearby workers: 15.1%
- Commuting: 14.7%
- Running errands: 12.8%

Modes

- Drove: 26.3%
- Took bus: 32.7%
- Walked: 23.0%
- Biked: 15.2%

After / Total = 588

- Nearby residents: 46.4%
- Commuting: 20.6%
- Nearby workers: 15.0%
- Running errands: 10.9%

Modes

- Drove: 41.4%
- Took bus: 32.9%
- Walked: 13.5%
- Biked: 11.2%

Survey Response Snapshot

People rated Mount Auburn Street on a scale of 1 to 5 for:

Design and function

	Before	After	Change
Overall	2.7	3.5	+0.8
Walking	2.9	3.7	+0.8
Biking	2.3	4.1	+1.8
Taking bus	2.7	4.6	+1.9
Driving	2.8	2.5	-0.3

Comfort

	Before	After	Change
Overall	3.3	3.5	+0.2
Walking	3.7	3.8	+0.1
Biking	2.4	3.6	+1.2
Taking bus	3.4	4.0	+0.6
Driving	3.3	2.9	-0.4

Evaluation – Bus Riders

Route 71 – Pilot Area 50th %ile (Average Day)

Route 71 experienced a 42% decrease in overall route running time at 9 a.m. inbound, saving 3.6 minutes, or almost cutting time in half!

Outbound, Route 71 saved 1.3 minutes at 5 p.m., for a 23% decrease in overall running time.



A daily rider saves: 5 min/day or over 21 hours/year!

Route 71 – Pilot Area 90th %ile (Typical Bad)

The 90th percentile suggests the system performance on a typical bad day or bus run.

Between 8 and 9 a.m., the intervention decreased the inbound 90th percentile by 48%, or nearly 6 minutes

Between 5 and 6 p.m., the decrease in outbound travel was 30%, or 2.6 minutes.

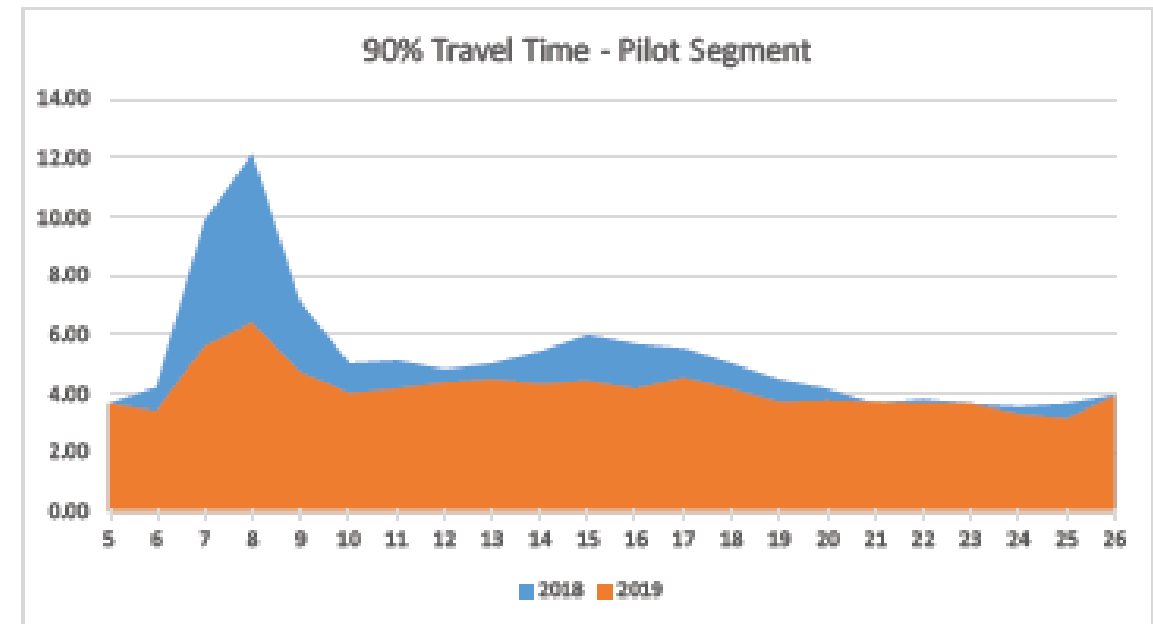
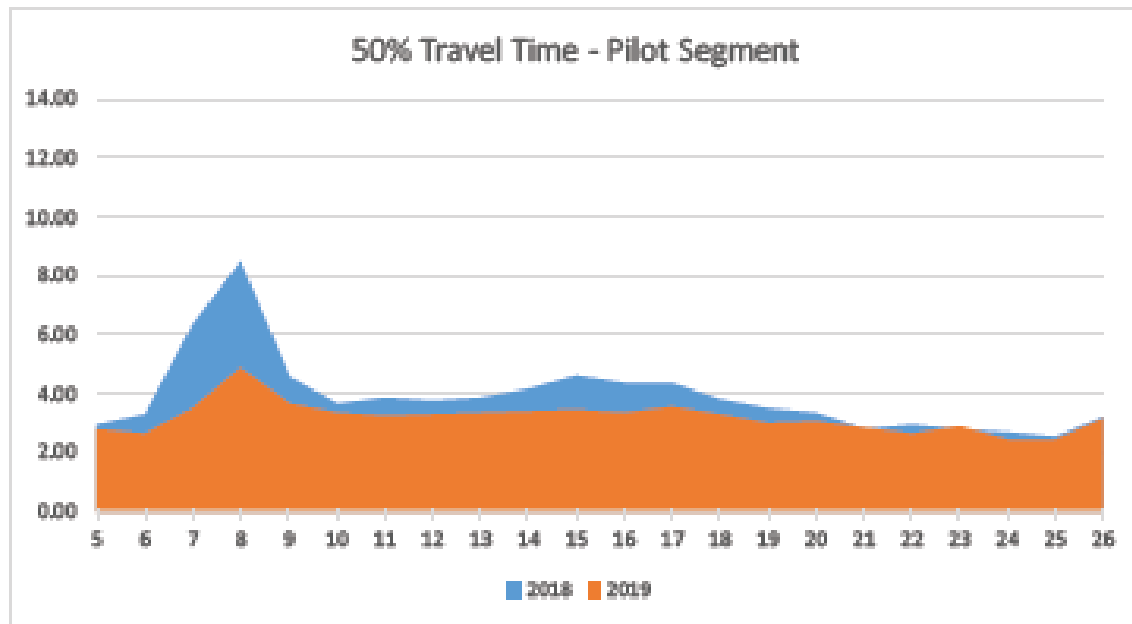


“It has completely changed my commute and given me back precious time. My commutes is shorter 25 to 30 minutes each day.”

“The buses are more consistent, reliable, and faster. I used to take 70 but now I take the 71 and Red Line for my commute.”

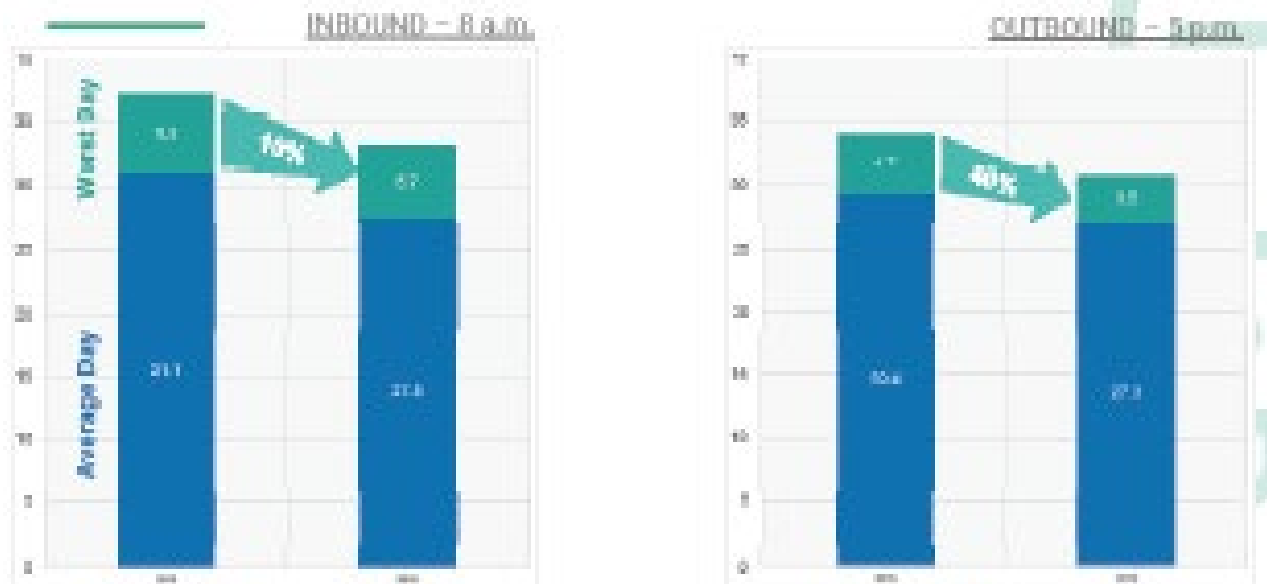
Evaluation – Bus Riders

Route 71 – all day



Evaluation – Bus Riders

Route 71 – Variance decreased at peak



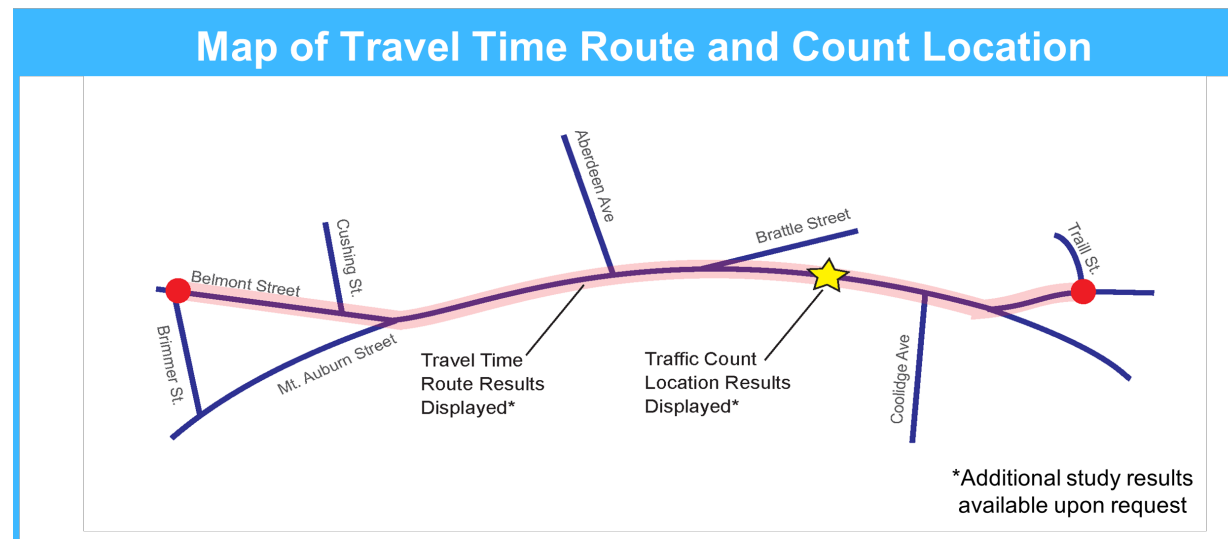
The pilot decreased variance by 10% for the entire route towards Harvard Square in the morning, and by almost 40% for those returning home in the evening rush hour.

Therefore, the pilot significantly increased the overall reliability of the bus and made the worst day travel time more similar to the average day.

Evaluation - Vehicles

Data Collected

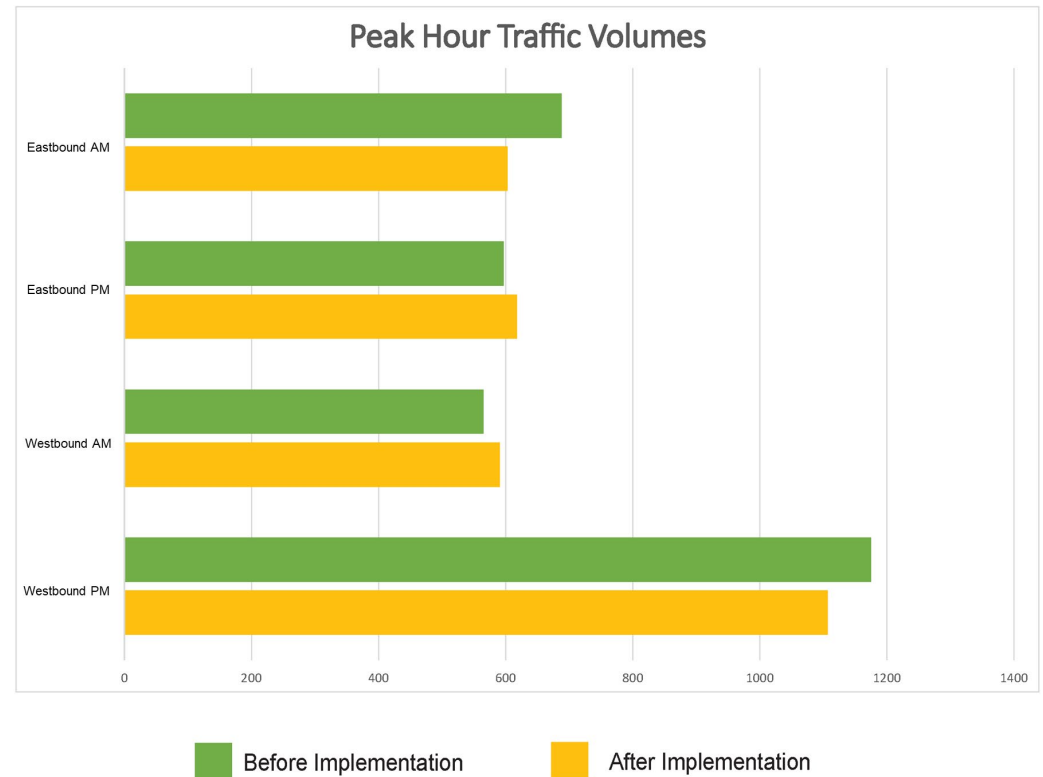
- Automated Traffic Recorders (ATRs) to understand daily traffic volumes;
- Turning Movement Counts (TMCs) at intersections on and parallel to the corridor to understand changes in peak hour traffic volumes;
- Vehicle travel time observations where bus lanes were implemented; and
- Vehicle queues and turning delays for two unsignalized intersections during the AM and PM peak hours



Evaluation - Vehicles

Key Takeaways

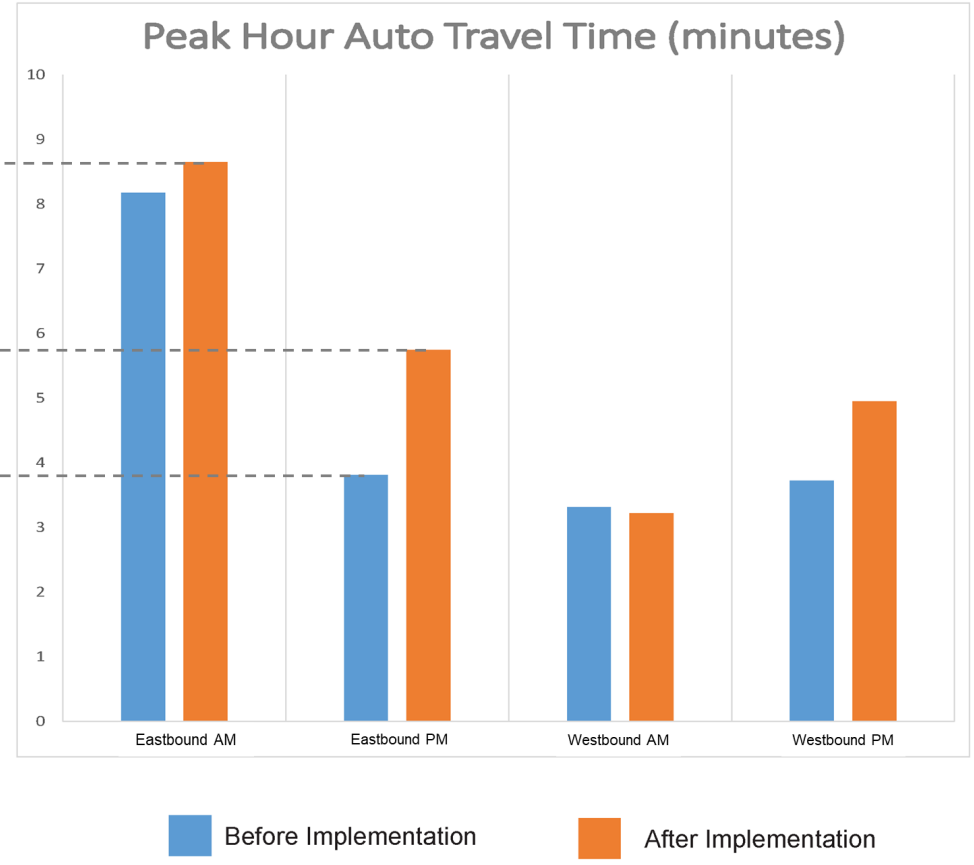
- **Vehicle volumes are about the same** throughout the day
- **No indication of traffic diversion** to parallel routes
- Vehicle travel times **did not indicate a significant impact** to drivers as a result of the pilot
- Off-peak traffic does not experience delay due to bus lanes



Evaluation- Vehicles

Longest travel time increased slightly (less than one minute)

Largest increase in travel time of 2 minutes during PM Peak. Total travel time is still less than longest observed travel time in AM Peak.



It took a little while, but the bus-bike separated lane is great and traffic seems to be back to normal.

It was confusing. I have the hang of it now, but not all drivers are familiar with the new lane.

Evaluation/Next Steps

Hard Questions?

- Why not be peak only?
- How can longer lines not mean longer travel times?

Next Steps

- Public meeting: Wednesday, June 12, 2019 at 6:00 PM
- Coordinate with DCR on short-term improvements to Fresh Pond Parkway/Mt. Auburn intersection
- Plan for more permanent installation (e.g. better red material) in late spring 2019
- Incorporate recommendations into Belmont Street reconstruction



Other Updates

1. Real-time bus arrival prediction signage

- Identified two lists for (a) larger-format signage for stops with multiple routes/destinations and (b) small-format signage for stops with one route
- Coordinate with MBTA for their ongoing real-time signage pilot
- Developing purchasing/procurement documents

2. Future of Mobility Implementation Blueprint Study

- Identify a framework to help the City adjust policies, programs, regulations as new mobility options appear in coming years
- From micromobility to microtransit, from technology like mobility as a service to communications like 5G for AI-enhanced mobility and transportation services

Other Updates

3. Inner Mount Auburn Corridor Safety Improvement Project

- Mount Auburn Street in Harvard Square between JFK St. and Putnam Ave.
- Route 1 currently travels from Dewolfe St. to Putnam Ave.
- MBTA proposed using Mt. Auburn from Dunster St. to Putnam Ave.
- Goals are to improve safety by adding a separated bike lane, improve pedestrian crossings, identify transit priority measures
- Community meeting next Tuesday, June 11 - 6:00 PM to 8:00 PM
 - Smith Center (formerly Holyoke Center), Isaacson Room, 1350 Mass Ave in Harvard Square

