



Silver Line Gateway Alternatives Analysis

Public Meeting – June 19, 2013

Study Overview

GOAL: Identify a recommended alternative for extending Silver Line service to Chelsea and East Boston that will enhance mobility and economic development potential

Context:

- Corridor well aligned with MassDOT goals
- Leverage recent infrastructure investments

Public Meetings:

- March 2013 – Introduced study and project corridor
- May 2013 – Reviewed potential alternatives and solicited feedback
- **June 2013 – Present initial analysis results, solicit feedback**
- September 2013 – Present recommended alternative

Study Corridor

- Service would be new branch of Silver Line Waterfront service.
- Duplicates existing service at:
 - South Station
 - South Boston Transitway / Seaport District stations
- New connection to Blue Line at Airport Station
 - Does not serve Logan terminals
- Coughlin Bypass Road to Chelsea Street Bridge



Alternatives for Serving Chelsea

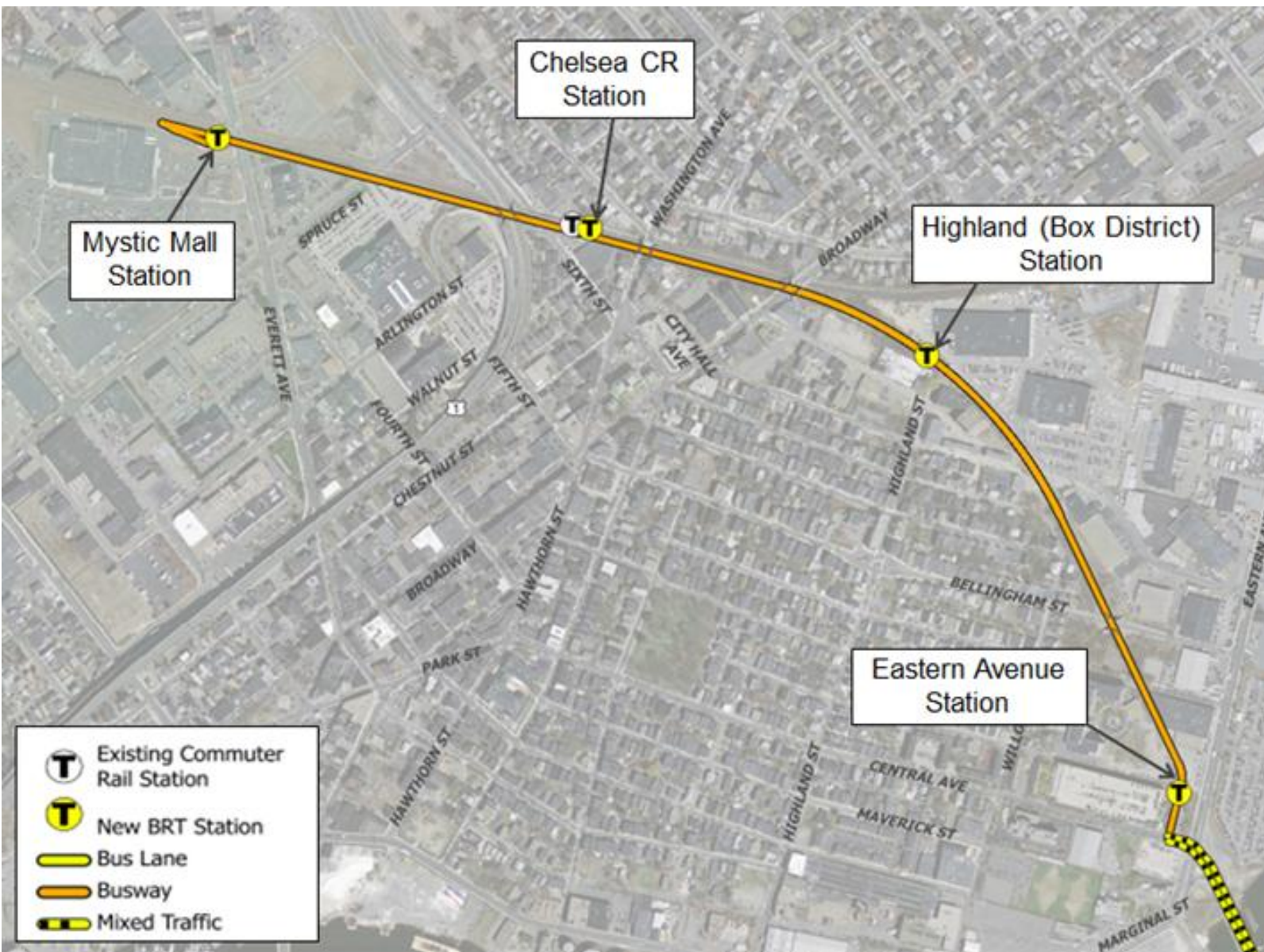
MassDOT developed **three alternatives** based on input received at May public meeting and at other stakeholder meetings:

Alternative 1: Busway to Mystic Mall
(4 stations in Chelsea)

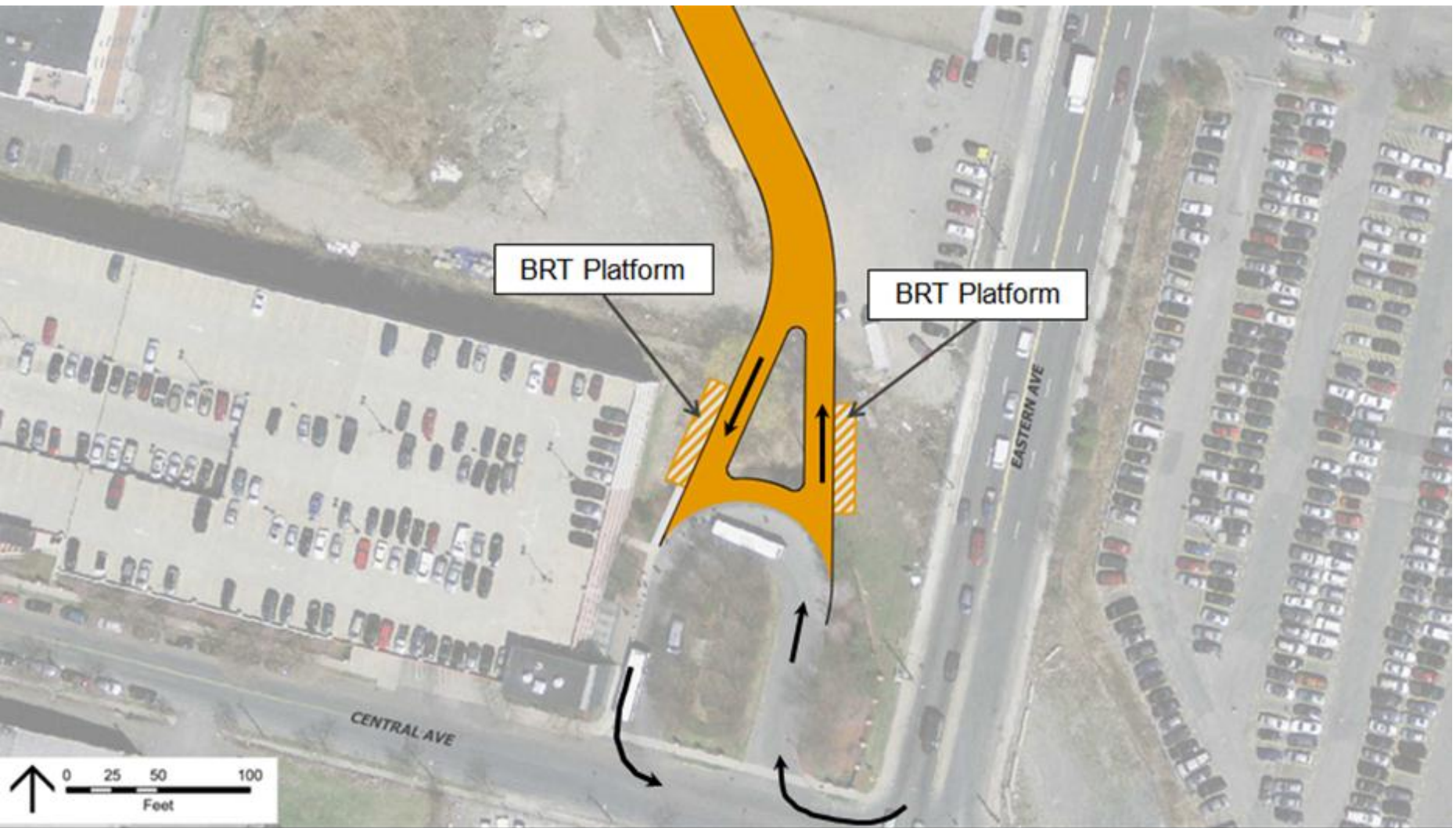
Alternative 2: Busway to Bellingham Square
(3 stations in Chelsea)

Alternative 3: On-Street to Everett Avenue
(4 stations in Chelsea)

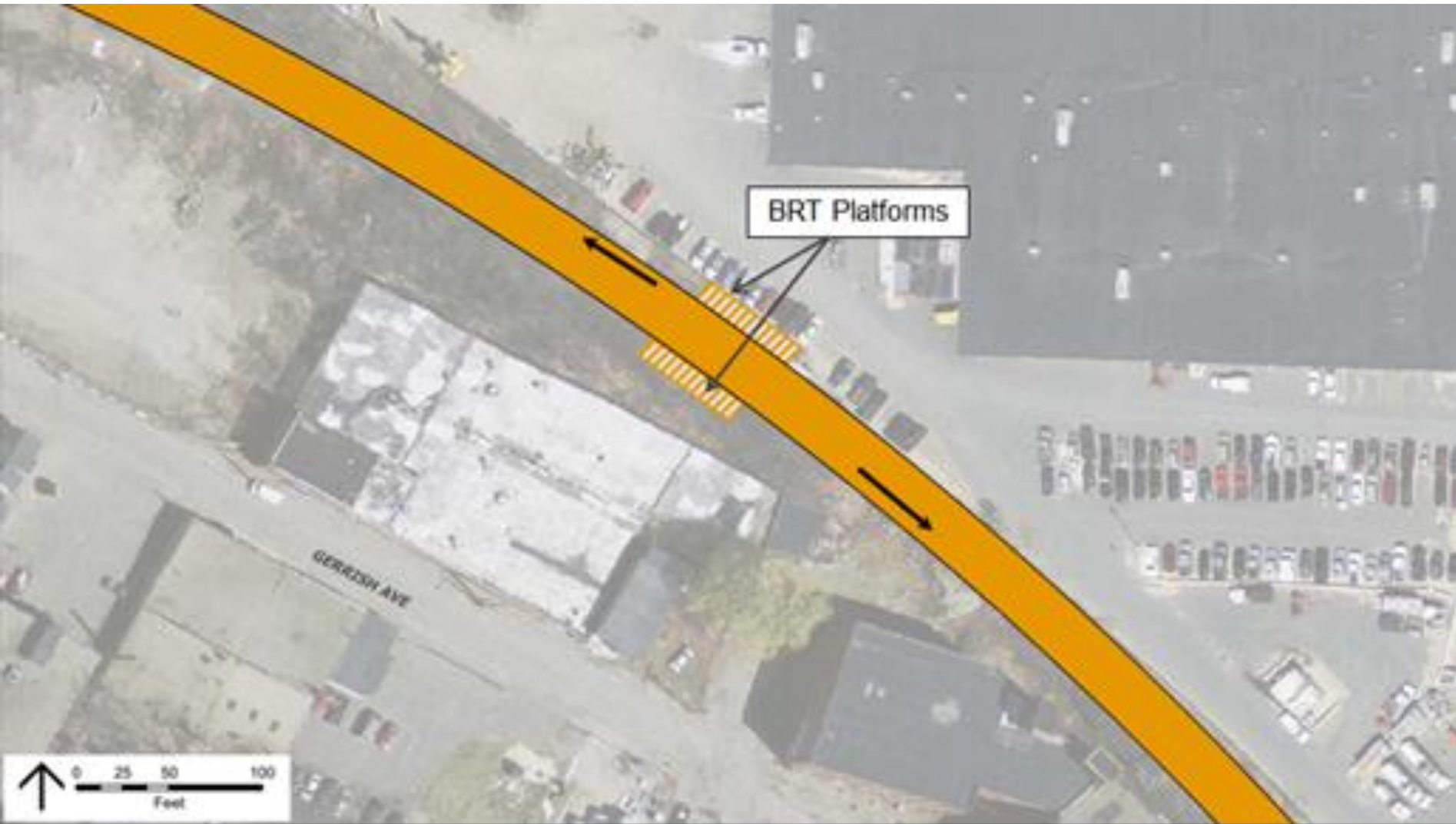
Alternative 1 – Busway to Mystic Mall



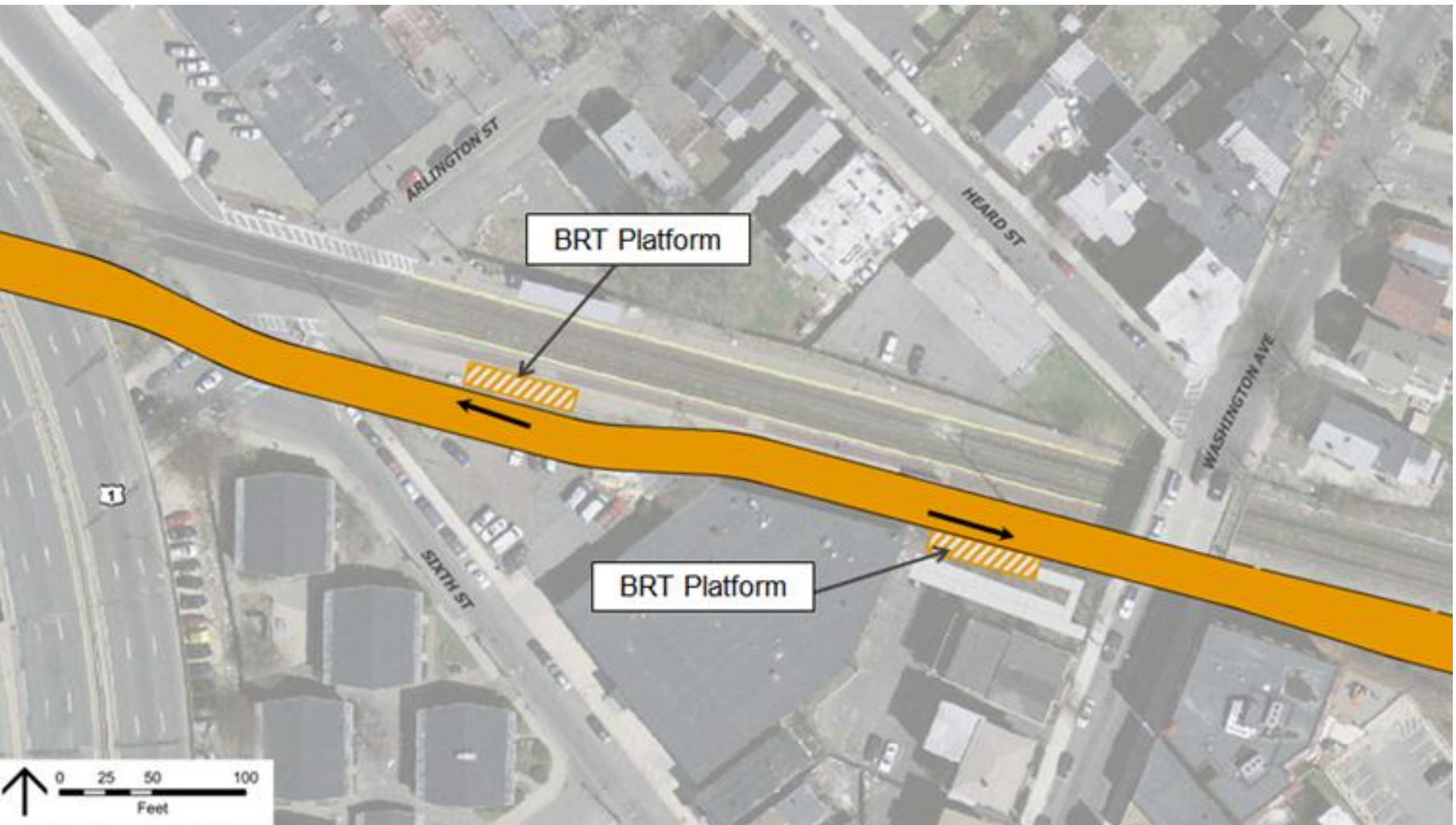
Station – Eastern Avenue



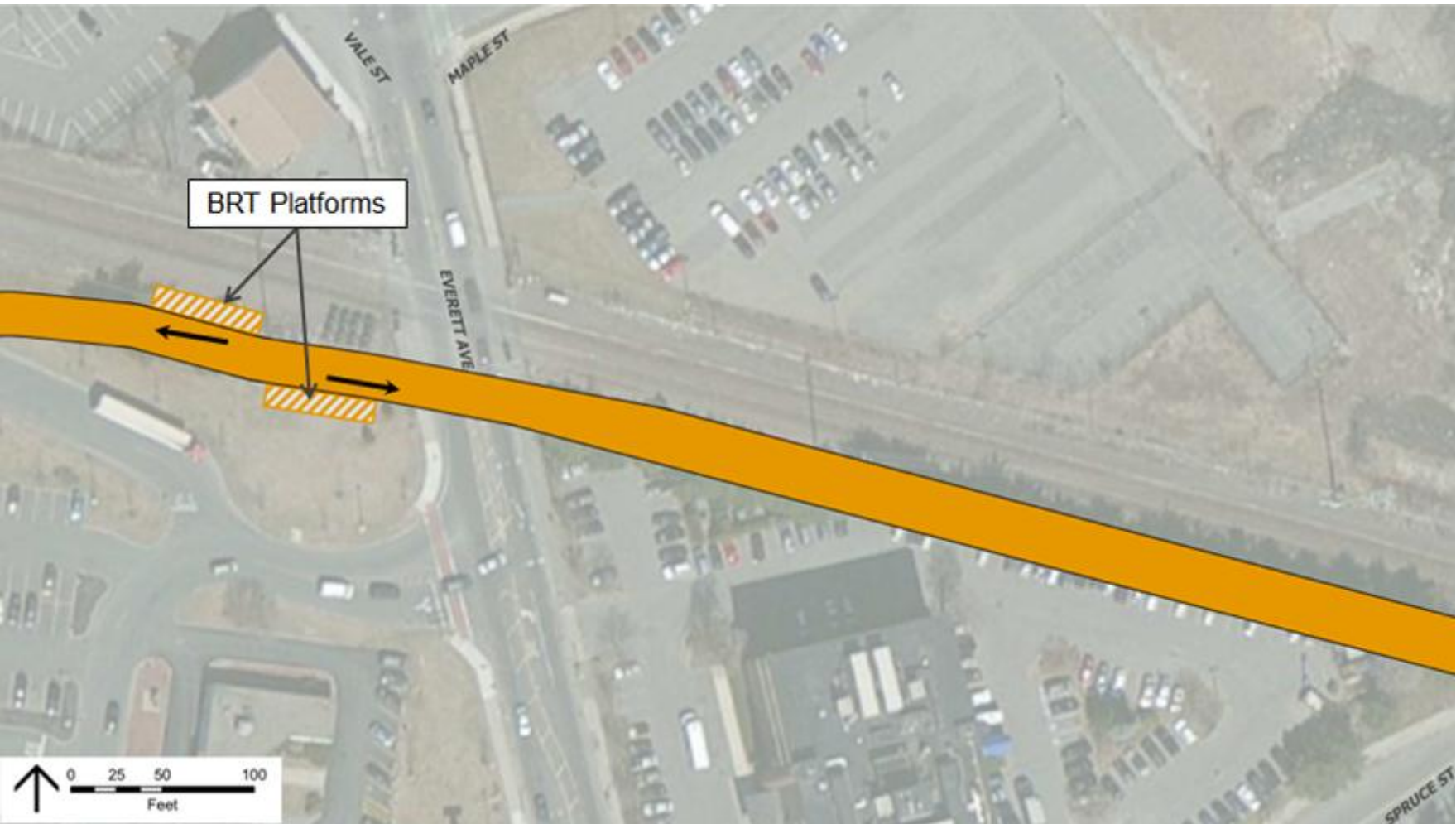
Station – Highland (Box District)



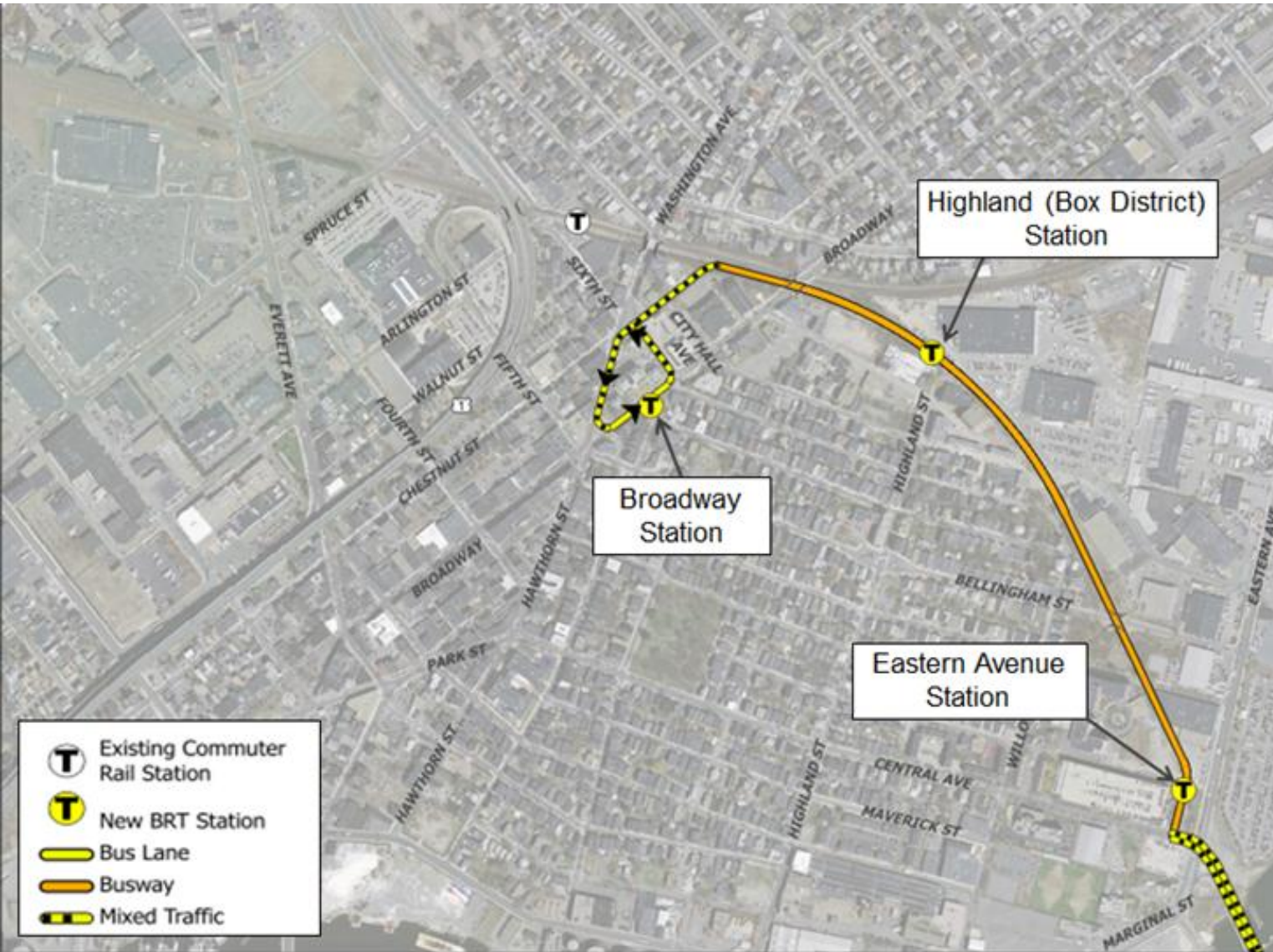
Stations – Chelsea Commuter Rail



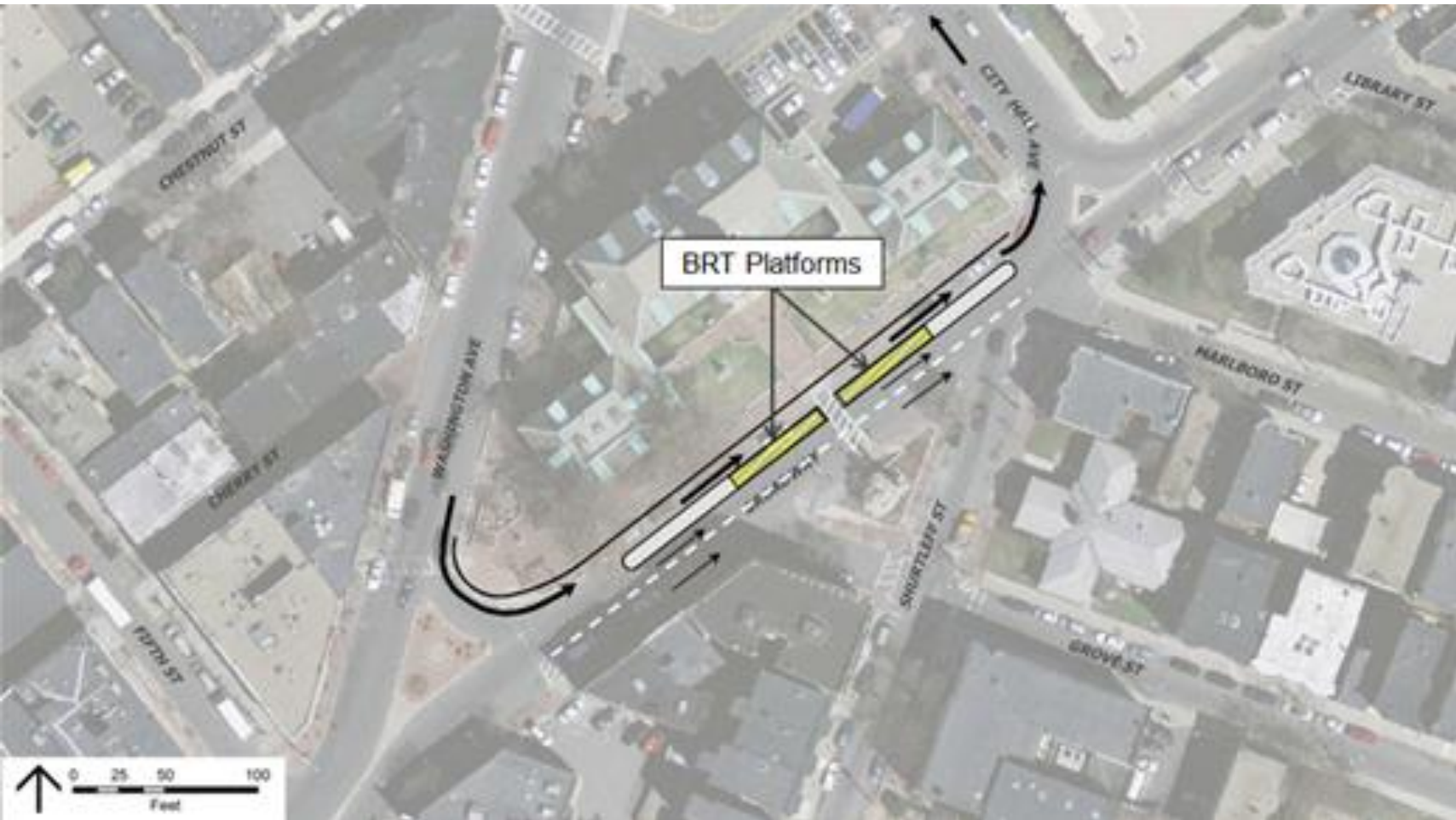
Station - Mystic Mall



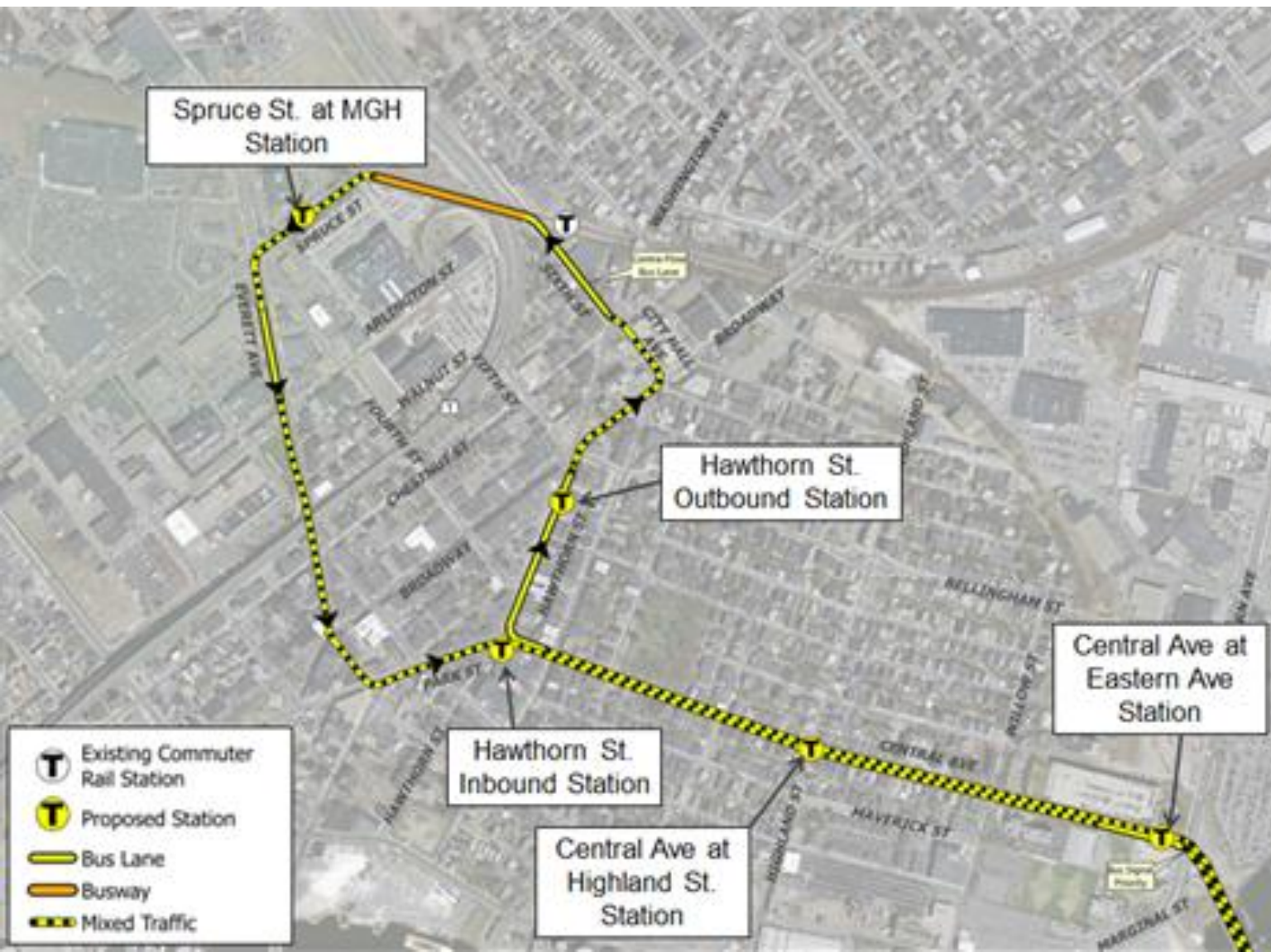
Alternative 2 – Busway to Bellingham Sq.



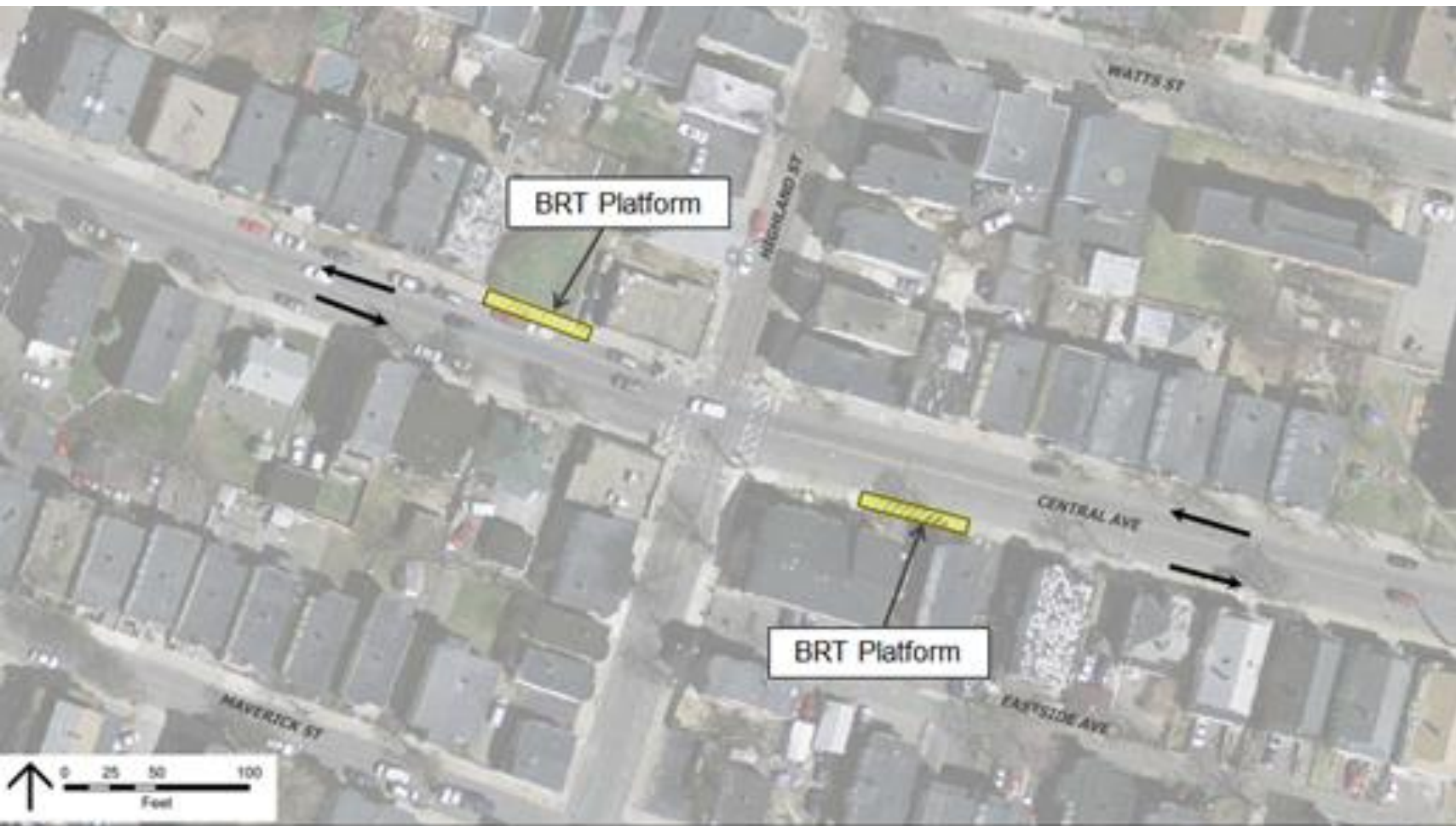
Station - Broadway at City Hall



Alternative 3 – On-Street Alternative



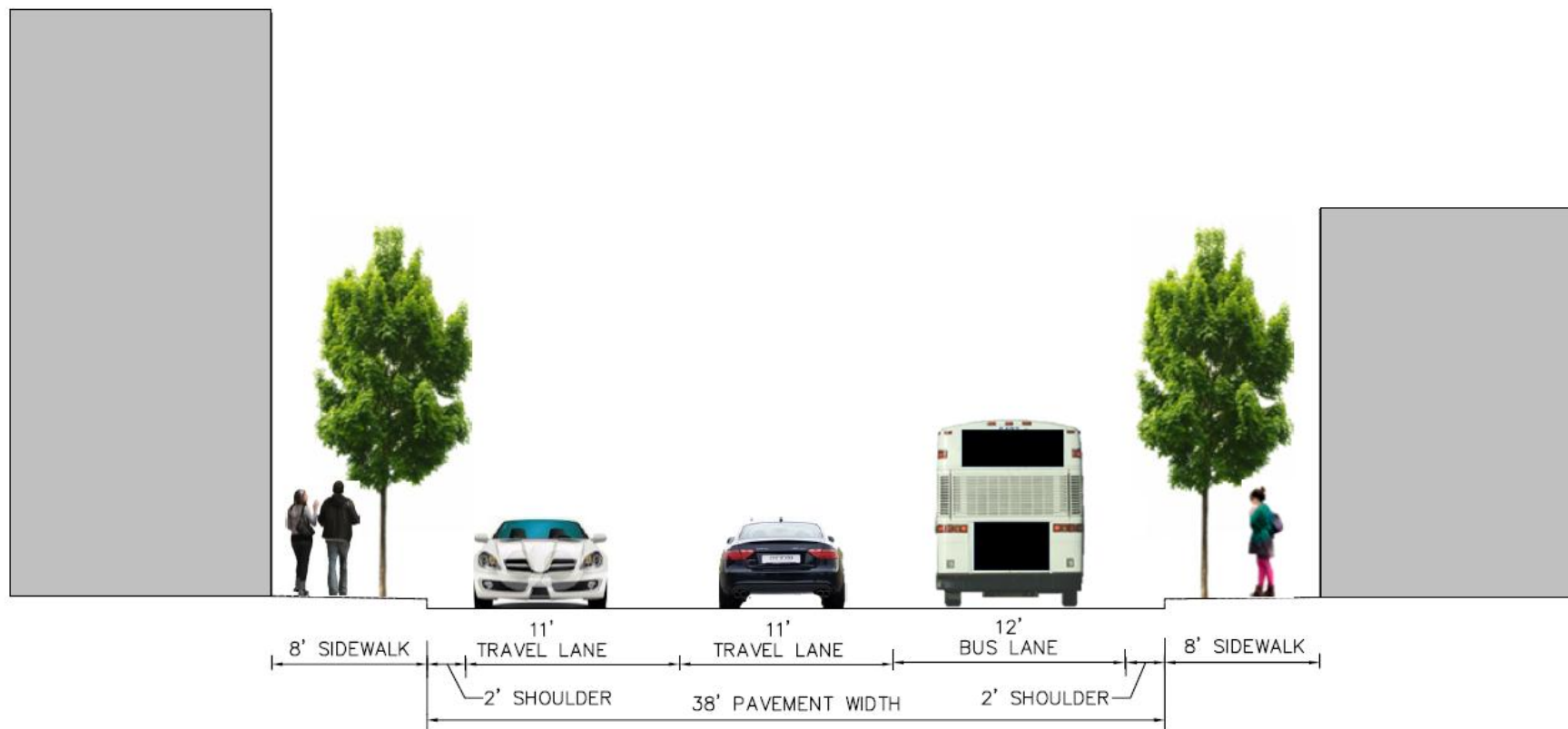
Station – Central Avenue at Highland St.



Station – Spruce Street at MGH

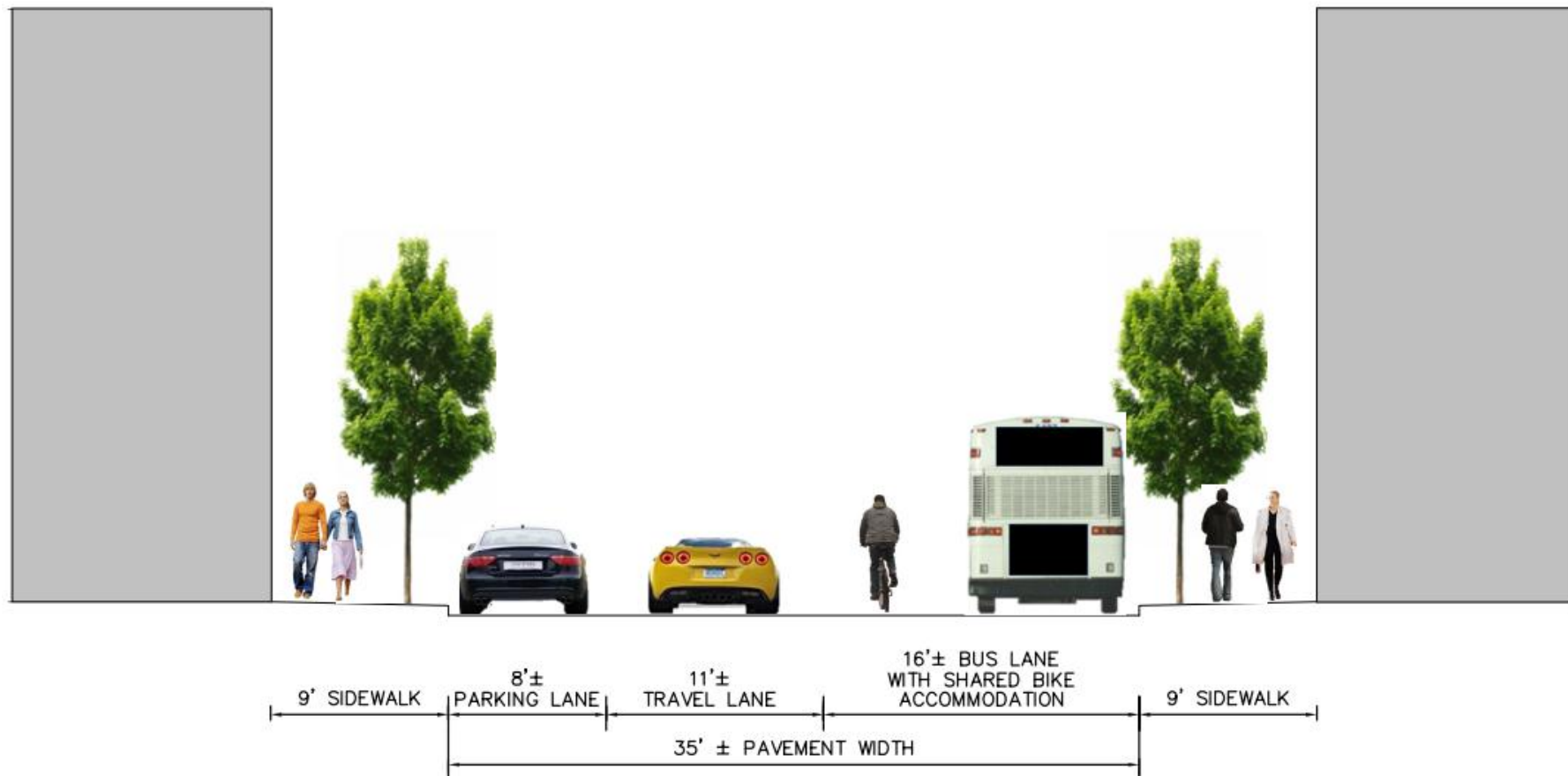


Central Avenue – Bus Lane at Hawthorn St.



Central Avenue
Proposed Roadway with WB Bus Lane Between Shurtleff and Hawthorn

Hawthorn Street – With Bus Lane Added



Hawthorn Street
Proposed Roadway with Bus Lane

Preliminary Analysis Results

Alternatives Compared For:

- Travel Time
- Ridership
- Parking Impacts
- Costs

Shared Assumptions - Build Alternatives

- Frequency every 10-12 minutes each direction
- Service 5:00am to 1:30am seven days a week
- Fares \$2 with Charlie Card
- Off-board fare collection
- 60' articulated low emission vehicles

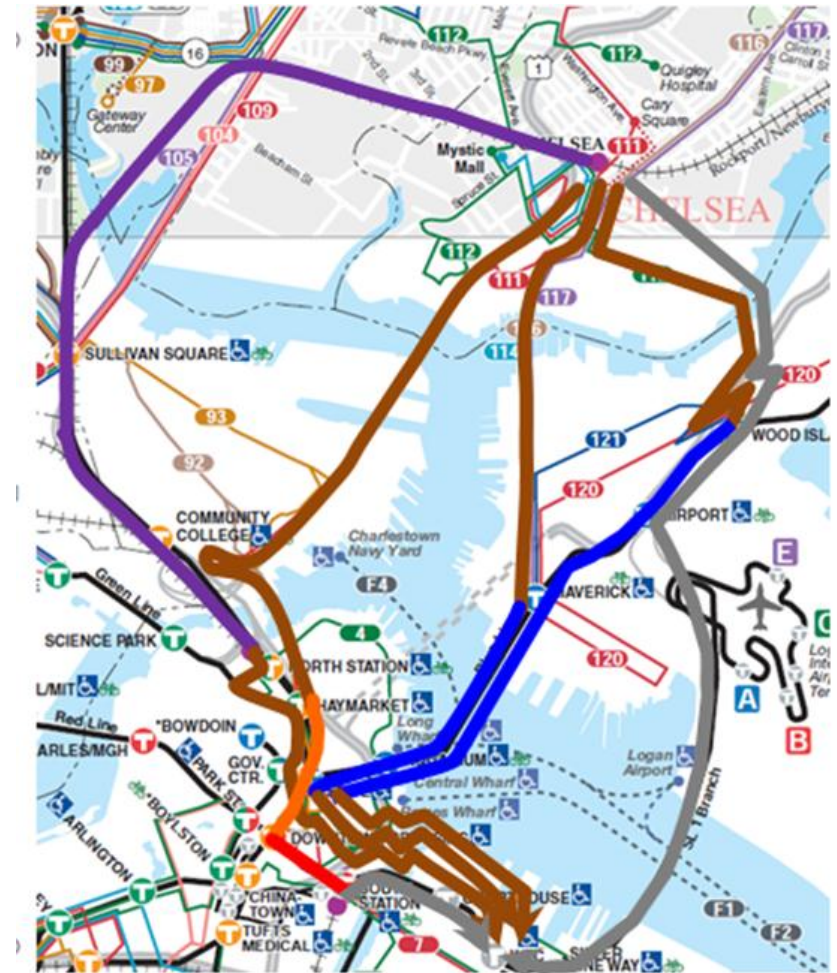
Comparison of Travel Time

Example Trip Ends	Travel Time (minutes) by Alternative		
	Busway Mystic Mall	Busway Bellingham Square	On-Street Everett Avenue
Downtown Chelsea to Airport Blue Line Station	8	9	11
Downtown Chelsea to World Trade Center*	15-19	16-20	18-22
Downtown Chelsea to South Station	23	24	26
Airport Blue Line Station to World Trade Center*	7-11	7-11	7-11
Airport Blue Line Station to South Station	15	15	15

* Range of travel times for Silver Line Gateway are for surface and underground WTC stations, respectively.

Performance Comparison – Seaport Access

- Existing trips are typically over 30 minutes and require transfers
- Future travel times would worsen in “No-Build”
- With Silver Line Gateway trips are:
 - Direct
 - Fast
 - Reliable



Performance Comparison – Seaport Access

Performance Measures	No Build			Silver Line Gateway		
	111 Bus	Commuter Rail	Blue Line	Busway	Bellingham Busway	On-Street
Travel Time	39 min	36 min	37 min	15-19 min	16-20 min	18-22 min
No. of Transfers	3	1	2	0	0	0
Reliability	Low	High	Medium	High	High	Medium

Notes:

All travel times shown are inbound from downtown Chelsea to the Seaport World Trade Center (WTC) Station.

No-Build travel times are based on MBTA Trip Planner tool.

Range of travel times for Silver Line Gateway are for surface and underground WTC stations, respectively.

Comparison Ridership

- CTPS Travel Demand Forecasting Results – Year 2035
- Results as compared to No-Build Alternative

Alternative	SLG Total Daily Ridership	New Transit Trips	Change in Ridership compared to No-Build		
			Blue Line	Route 111	Combined Routes 116/117
Busway to Mystic Mall	8,730	2,500	190	-2,230	-1,950
Busway to Bellingham Sq.	6,820	2,000	230	-1,890	-1,460
On-Street	6,960	2,500	260	-1,720	-1,310

Preliminary Results – Parking Impacts

- On-Street Alternative displaces largest number of parking spaces, particularly metered
- Busway to Bellingham Square impacts fewer spaces, and Busway to Mystic Mall impacts none

Alternative	Parking Spaces Impacted			Weekday Max Occupancy 8AM - 6PM	Weekday AVG Use Occupancy 8AM - 6PM
	Metered	Unmetered	Total		
Busway to Mystic Mall	0	0	0	N/A	N/A
Busway to Bellingham Sq.	8	21	29	93%	72%
On-Street	44	36	80	84%	63%

Preliminary Results – Cost

- Busway Alternatives
 - Much of the cost is in the exclusive busway and bridge modifications, particularly with full the busway
- On-Street Alternative
 - Lower construction cost but higher BRT fleet size and parking impacts make total costs similar to Busway to Bellingham Square

Magnitude Cost Range (2013 – Preliminary)	
Alternative	Capital Cost (\$ Millions)
Busway to Mystic Mall	\$40 – 70 M
Busway to Bellingham Square	\$20 – 35 M
On-Street to Everett Avenue	\$20 – 25 M

Schedule and Next Steps

- Continue stakeholder outreach
- Complete technical analysis of alternatives
- Present recommended alternative at September public meeting
- Identify potential funding and vehicle strategies to advance implementation



THANK YOU

QUESTIONS & ANSWERS

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