



Green Line Extension Project

Somerville Board of Aldermen

17 September 2008



Agenda



- **Project Overview**
- **Proposed Stations**
- **Proposed Maintenance Facility**
- **Questions and Answers**



FTA

Commonwealth of Massachusetts
EOT

EOCD

MBTA

MHD

MPO

MAPC

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Green Line Extension

City of Somerville

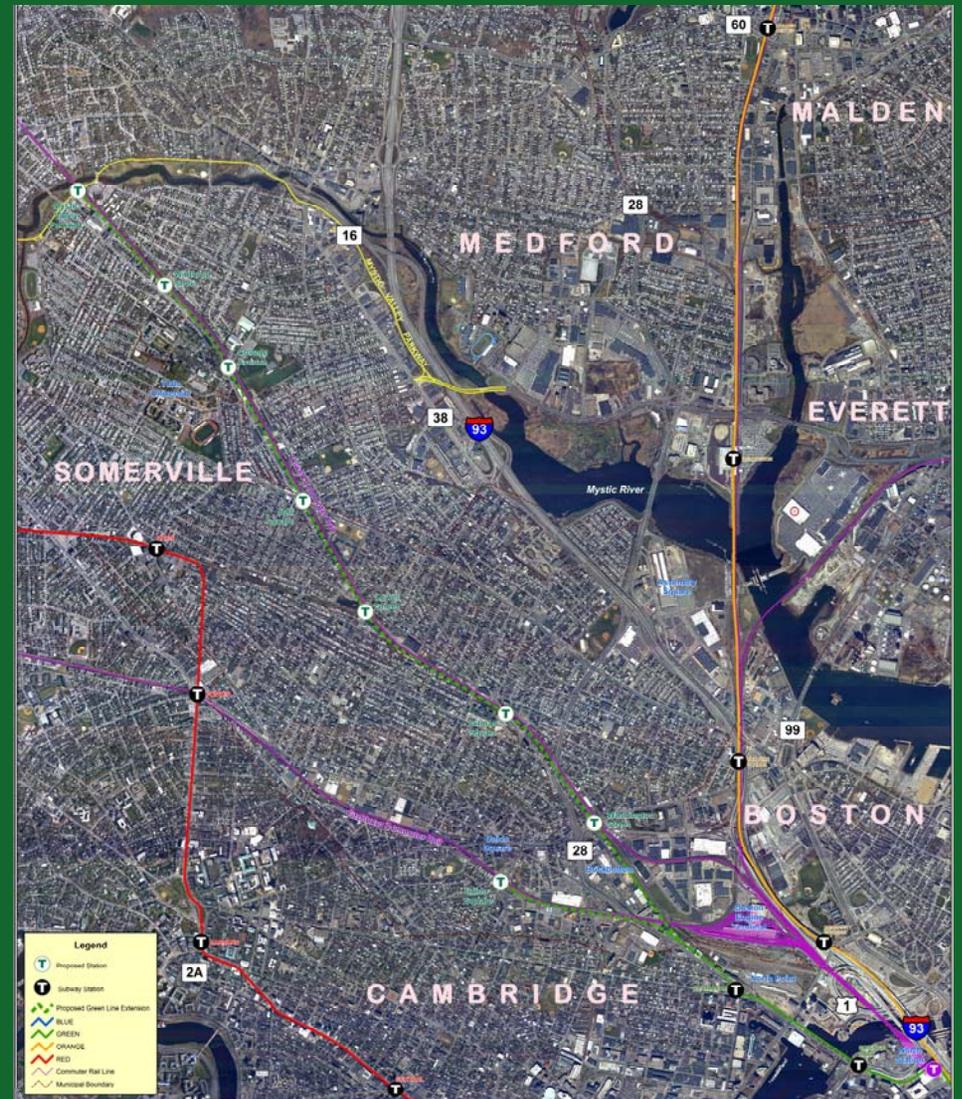
Stakeholders



Environmental Analysis



- LR Operations
- Noise & Vibration
- Air Quality
- Land Takings, ROW
- Traffic, Parking
- Support Facility
- Construction Impacts
- Community Impacts





Station Siting



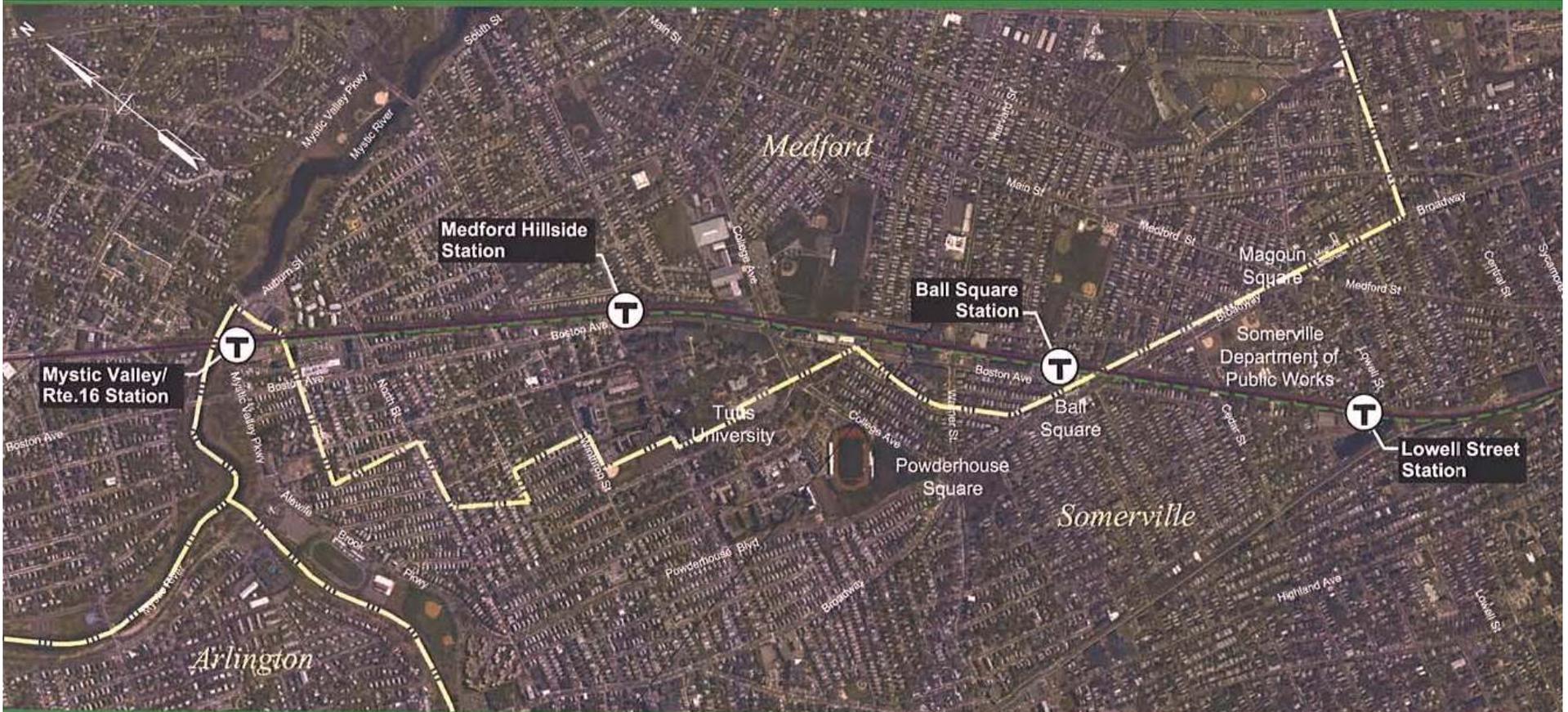
- Union Square Station
- Washington Street Station
- Gilman Square Station
- Lowell Street Station
- Ball Square Station
- Mystic Valley/Rte 16 Station

EVALUATION CRITERIA

- **STATION ACCESS**
 - ADA Consistency
 - Kiss & Ride
 - Transit Connections
 - Pedestrian and Bicycle
 - Signalized Intersections/Crosswalks
 - Traffic
- **TRANSIT OPERATIONS**
 - Ridership
 - Green Line Operational Impacts
 - Impact to Commuter/Freight Operations
 - Intermodal Connections
 - R-O-W
 - Safety and Security
 - Track Configuration
- **LAND USE COMPATIBILITY**
 - Compatible with Land Development Plans
 - Development Opportunities
 - Environmental Concerns
 - Public Perception
 - Impact to Abutters
- **PROJECT COSTS**



Medford Branch

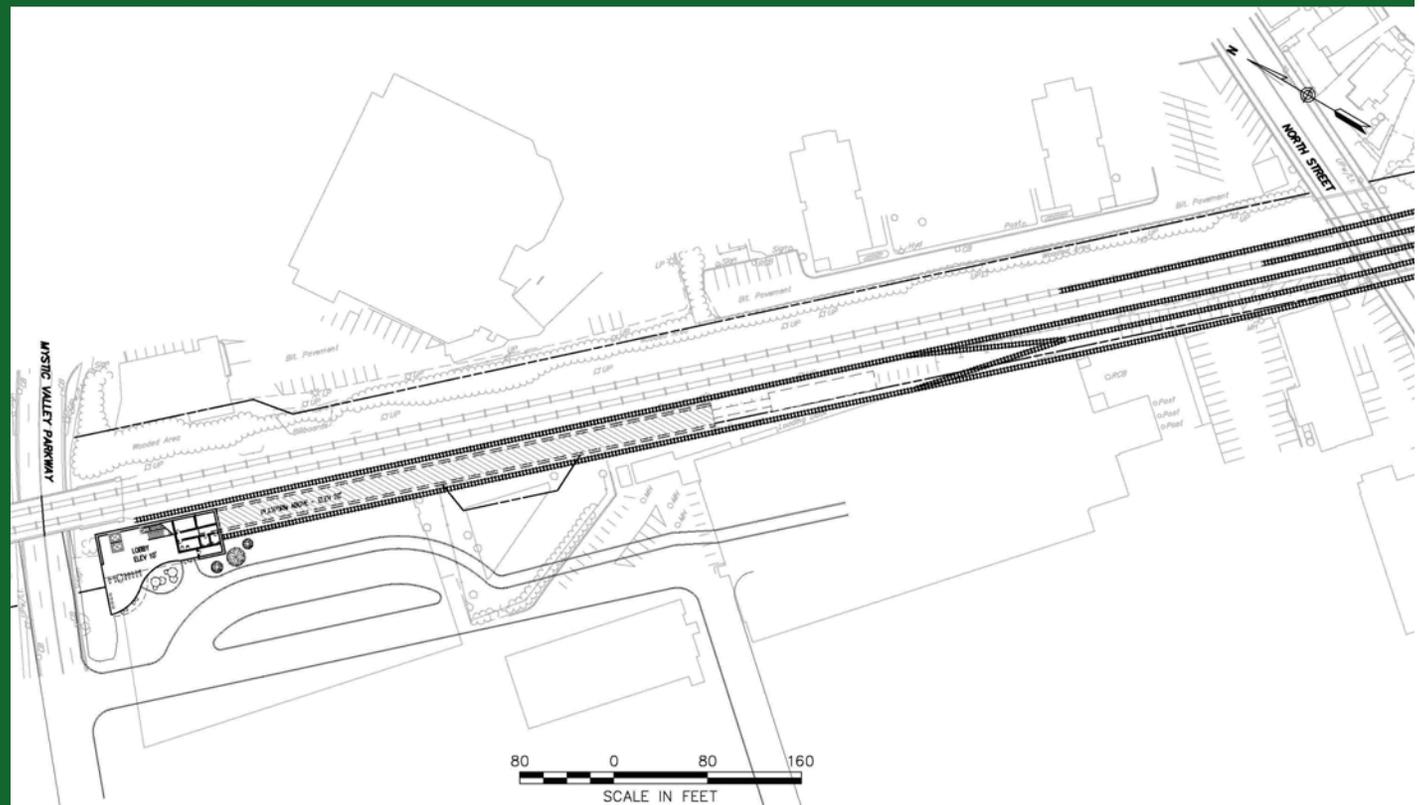




Mystic Valley/Rte. 16 Station



- Adequate Bus, Bike and Pedestrian Access and Circulation
- Some Commuter Parking
- Kiss & Ride
- Gateway to Historic Parkway

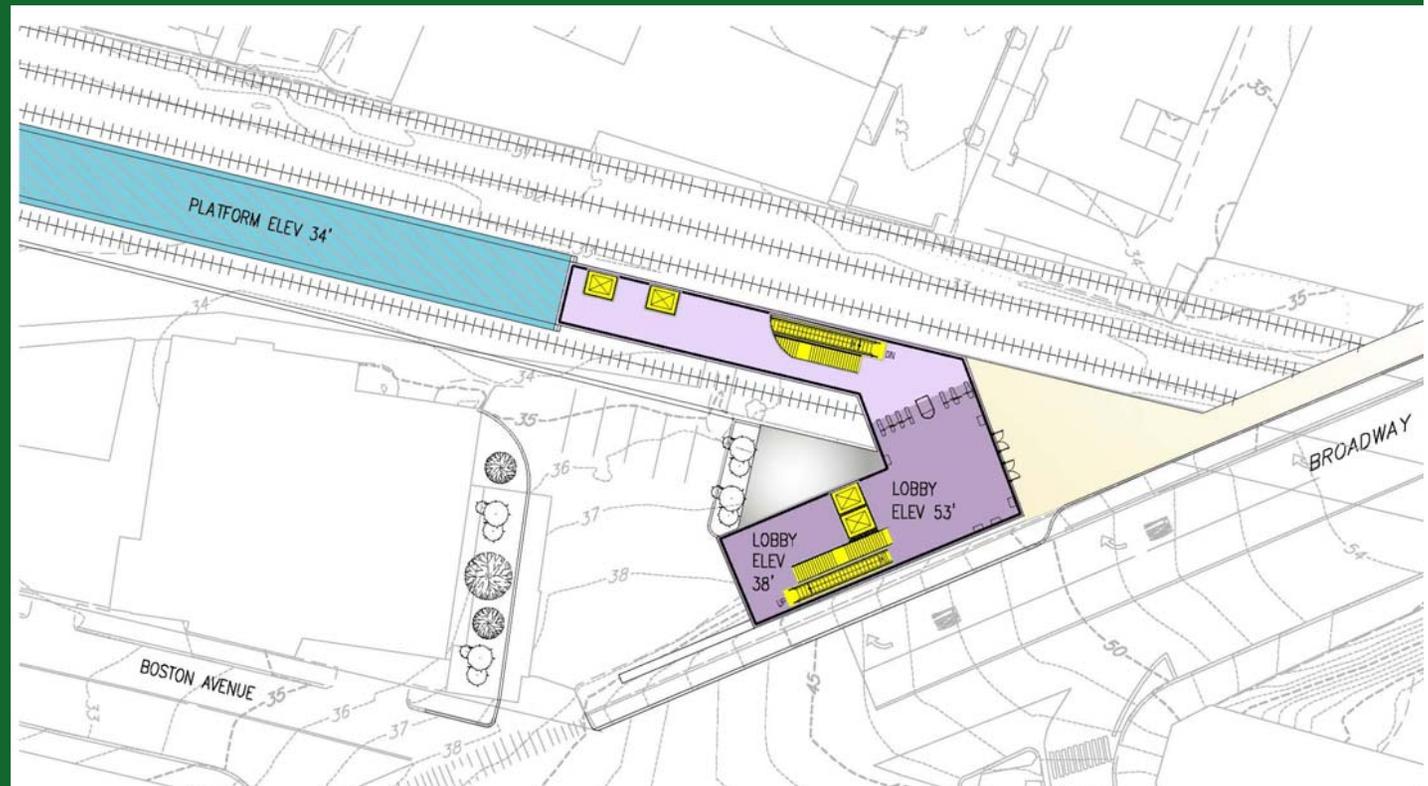




Ball Sq. Station

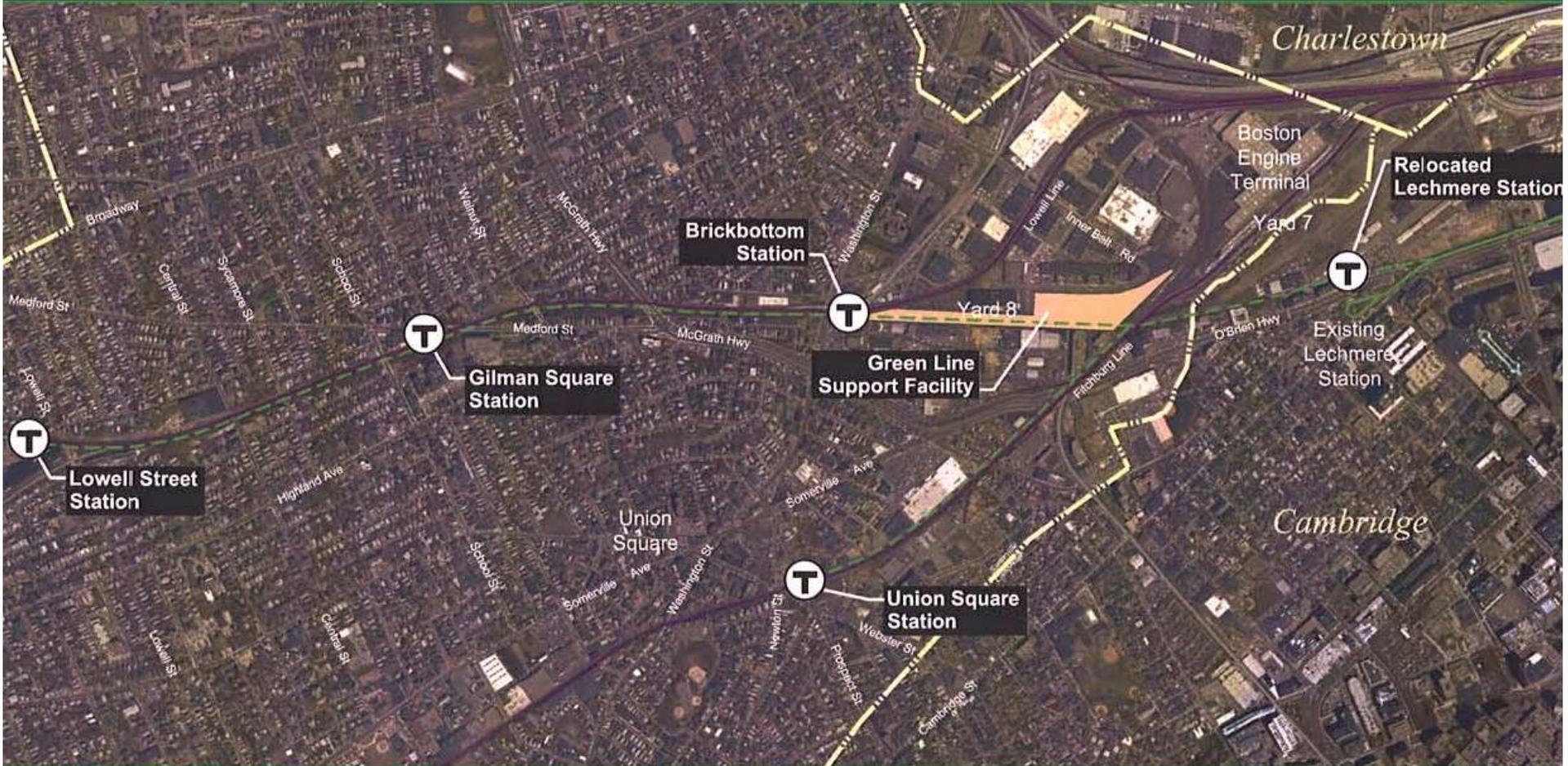


- No Kiss & Ride
- Needs Adequate Bus, Bike and Pedestrian Access and Circulation
- No Commuter Parking
- Disposition of Existing Structures





Somerville Branch

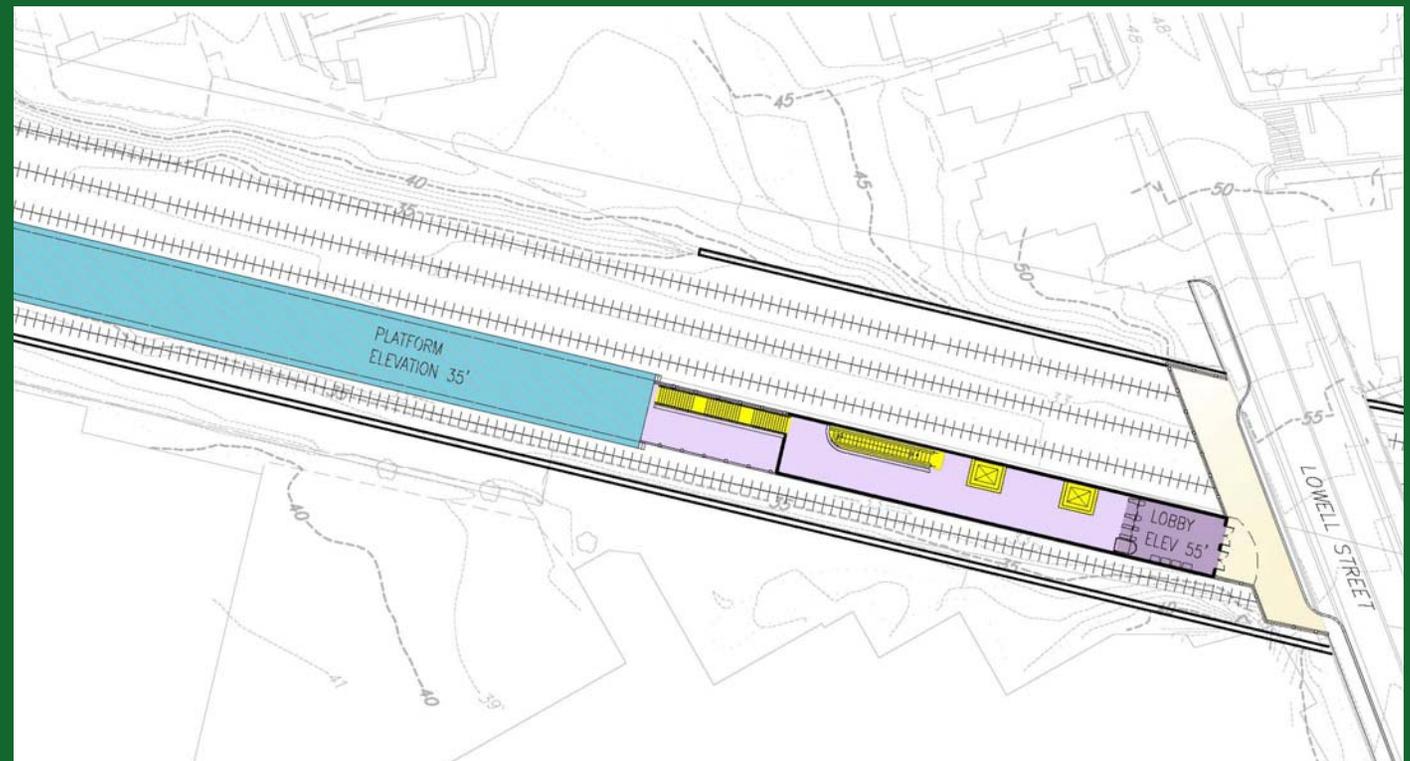




Lowell St. Station



- No Kiss & Ride or Commuter Parking
- Provide Adequate Bus, Bike and Pedestrian Access and Circulation
- Locate Platform as Close to Lowell Street as Possible
- Lower Level Entrance from Community Path

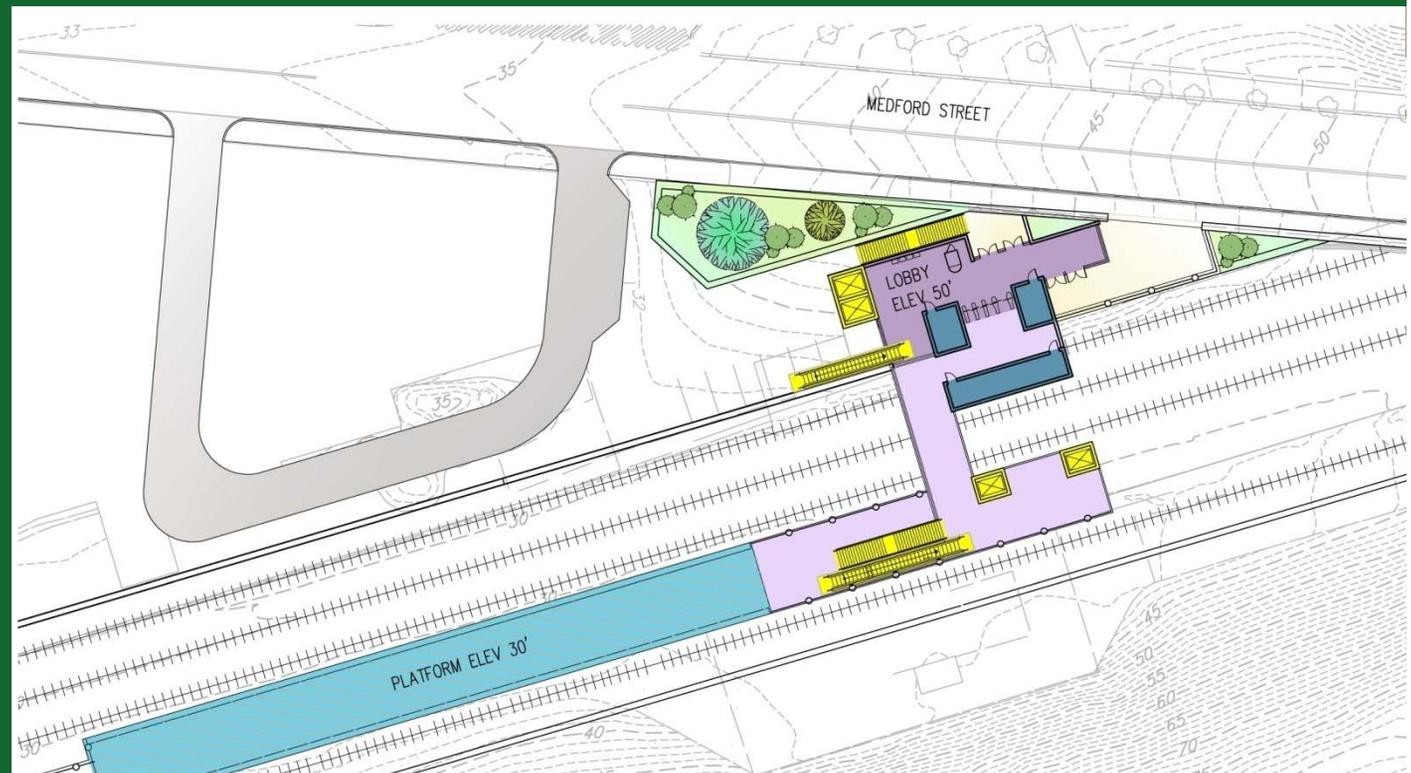




Gilman Sq. Station



- No Kiss & Ride or Commuter Parking
- Needs Adequate Bus, Bike and Pedestrian Access and Circulation
- Preservation of Holman Property for Future Development
- Direct Access from High School, Community Path and School Street

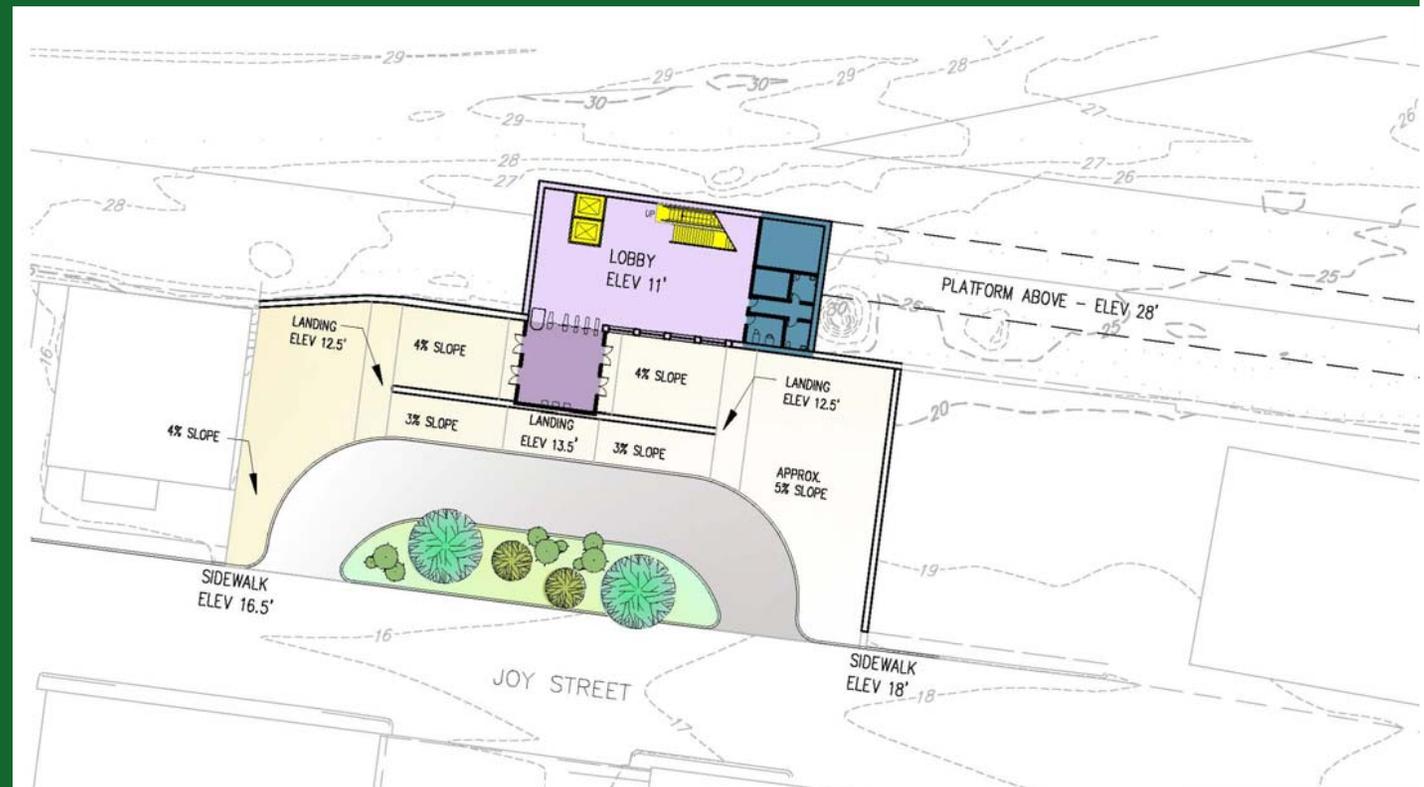




Washington St. Station



- No Kiss & Ride or Commuter Parking
- Provide Adequate Bus, Bike and Pedestrian Access and Circulation
- Two Stations Needed in the Area due to Future Development Ridership
- Move to Washington Street
- Provide Access from **Both East and West**

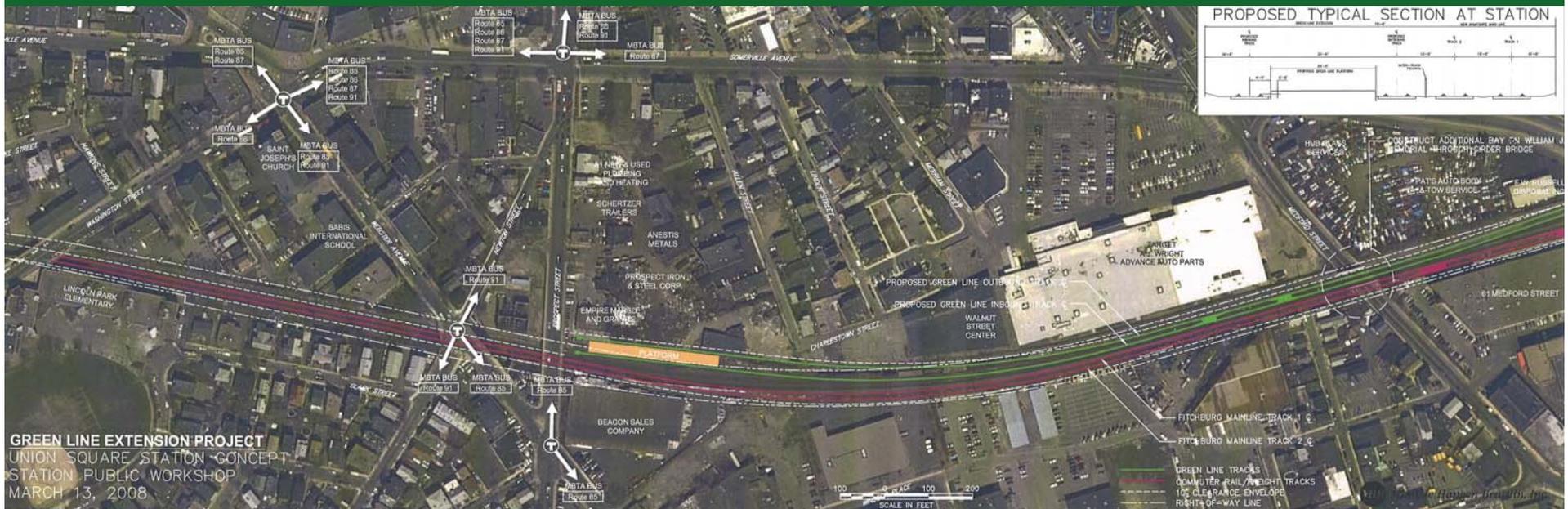




Union Sq. Station Fitchburg



- No Kiss & Ride
- Needs Adequate Bus, Bike and Pedestrian Access and Circulation
- No Commuter Parking
- Minimal Impacts on Traffic and ROW





Union Sq. Station Loop



- No Kiss & Ride
- Needs Adequate Bus, Bike and Pedestrian Access and Circulation
- No Commuter Parking
- Expensive, Impacts on Traffic/Emergency Egress and ROW

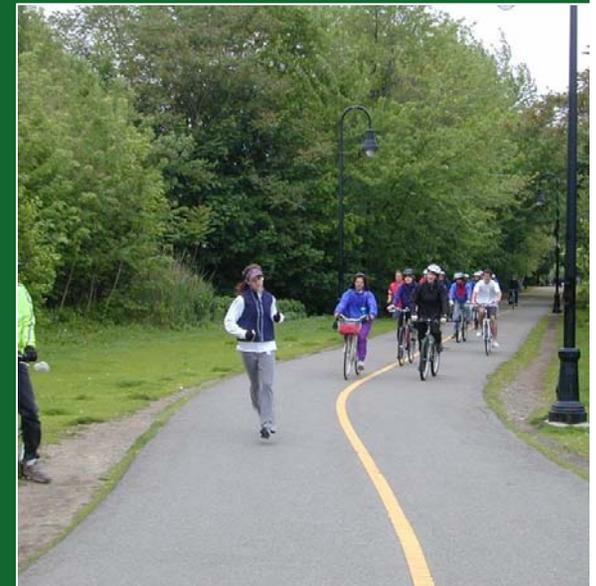




Community Path

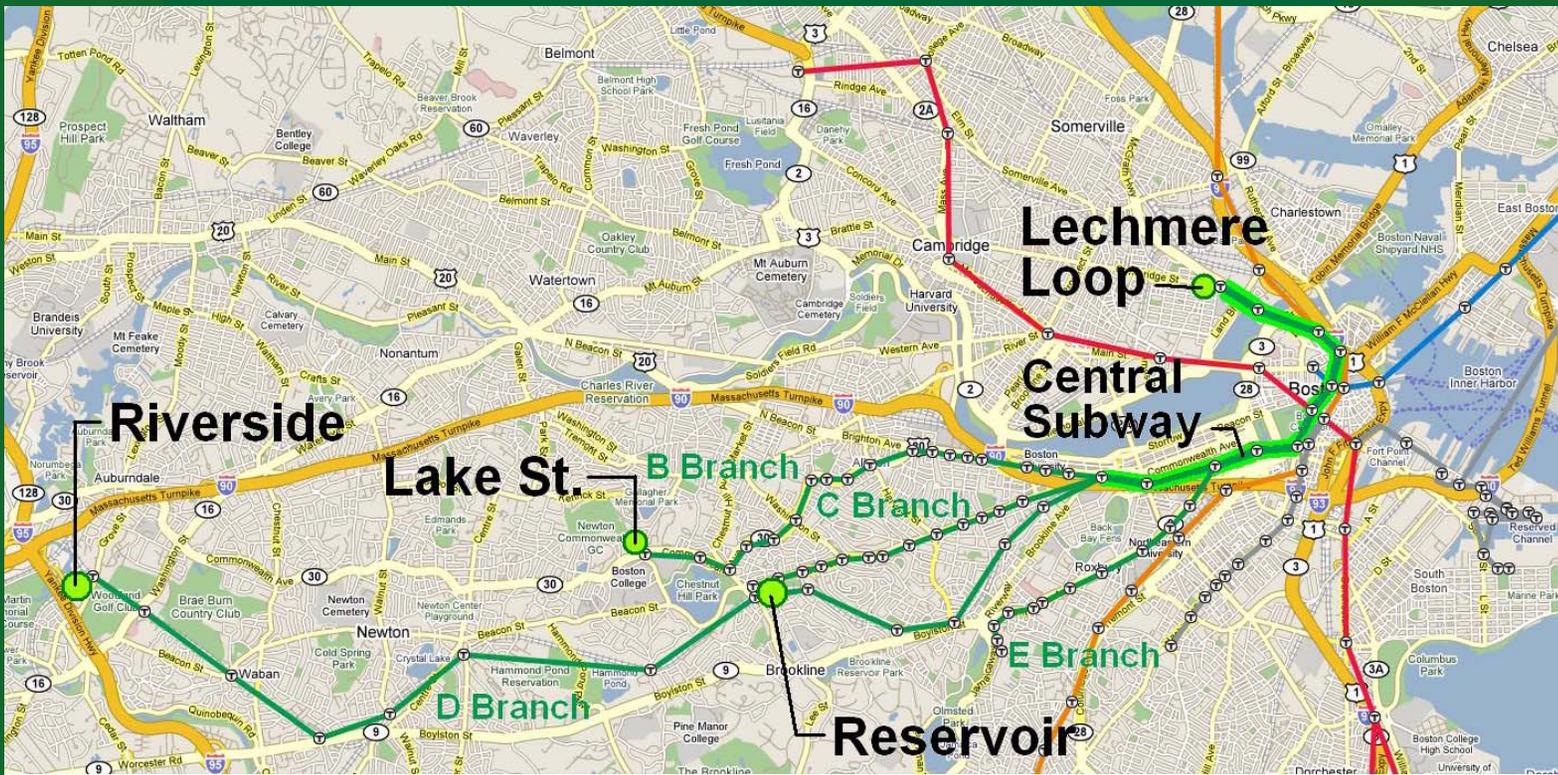


- Establish Alignment/ROW Needs
- Pedestrian/Bicycle Access to Green Line Stations
- Close Coordination with Arlington, Belmont and Cambridge
- Identify Cost Sharing





Green Line Existing Facilities



Storage Facility	Yard Capacity – Revenue Cars	Comments
Riverside	90	
Reservoir	51	
Lake Street	22	
Lechmere Loop	17	Car storage only
Brattle (Gov't Ctr.)	10	Car storage only
Total Capacity to support	190	Storage for revenue cars assumes free movement about yard. Use can exceed capacity through occupancy of critical tracks and facility tracks.
<i>Present fleet size</i>	<i>209</i>	Since storage only accommodates 190 cars, at least 19 cars are in repairs shops or stored in a yard in a location that impedes free movement.



Maintenance Facility Need



- Proposed Green Line Service: **32** cars +
North Side Service: **20** cars Lechmere +
14 various locations = *Storage for ~80 cars*
- Service Frequency and Schedule Compliance
- Car Capacity (size)
- Location Criteria vs. Options



Site Program



Layover Yard Components	Requirement
Size of Parcel	5.5 Acres
Storage Capacity	80 Vehicles
Yard Leads	300 ft. min.
Yard Configuration	Double ended (redundant ladder tracks)
Support Facility Components	Requirement
Size of Parcel	5.0 Acres
Service Tracks	5 (Total)
<i>Pit Tracks</i>	2 Tracks
<i>Hoist/Lift Tracks</i>	2 Tracks
<i>Wheel Truer Track</i>	1 Track
Track Configuration	Double ended (redundant ladder tracks)
Support Shops	Truck Repair Shop, Store Room w/ Loading Dock
Support Facility Building/Structure - Total	50,000 SF
<i>Inspections & Running Repairs</i>	21,000 SF
<i>Heavy Maintenance</i>	14,000 SF
<i>Office Space</i>	5,000 SF
<i>Truck Shop</i>	5,000 SF
<i>Parts/Equipment Storage</i>	5,000 SF
Other Components	Requirement
Size of Parcel	1.0 Acres
Employee Parking	105 Spaces
Summary of Support Facility Program	Requirement
Layover Yard	5.5 Acres
Support Facility	5.0 Acres
Employee Parking	1.0 Acres
Total	11.5 Acres



Light Rail Maintenance Facilities



Agency	City	Area		Vehicle Capacity
		SQ. FT (building)	Acres (site)	
Valley Metro Rail Inc. (METRO)	Phoenix, AZ	136,000	35.00	100
SF Municipal Transportation Agency	San Francisco, CA	180,000	13.00	80
Sound Transit	Seattle, WA	162,000	25.00	104
Santa Clara Valley Transportation Authority	San Jose, Ca	110,000	25.00	100
Denver Regional Transportation District	Englewood, CO	105,000	9.50	100
MBTA - Riverside	Newton, MA	120,000	± 16.00	115
Proposed Green Line Extension		50,000	11.50	80



Sites EOT Considered



SITE	LOCATION	ADVANTAGES	DISADVANTAGES	RECOMMENDATION
1	Gilman Square @ Medford Street	N/A	<ul style="list-style-type: none"> Too small to accommodate program 	Not recommended
2	Somerville DPW Yard	N/A	<ul style="list-style-type: none"> Too small to accommodate program Would require crossing of commuter rail 	Not recommended
3	Wild Oats site at Route 16	N/A	<ul style="list-style-type: none"> Too small to accommodate program Would require crossing of commuter rail 	Not recommended
4	U-Haul site at Boston Avenue/Route 16	N/A	<ul style="list-style-type: none"> Too small to accommodate program 	Not recommended
5	200 Boston Avenue Site (Cummings Park)	N/A	<ul style="list-style-type: none"> Too small to accommodate program 	Not recommended
6	Medford Hillside (Boston and College Avenue at Tufts)	N/A	<ul style="list-style-type: none"> Too small to accommodate program 	Not recommended
7	MBTA Commuter Rail Maintenance Facility (BET)	N/A	<ul style="list-style-type: none"> Undesirable configuration Incompatible with the current MBTA commuter rail use 	Not recommended



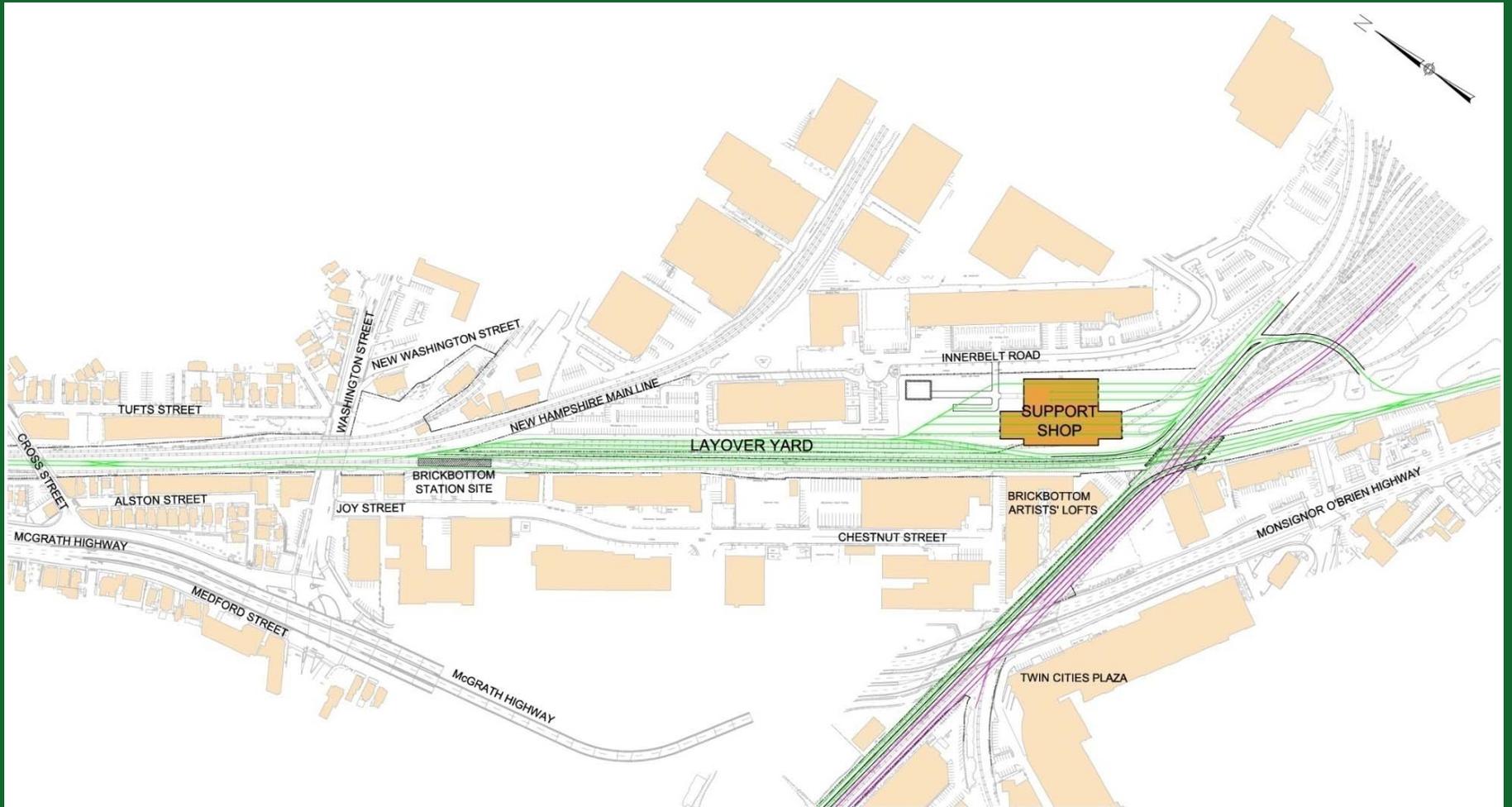
Sites EOT Considered



SITE	LOCATION	ADVANTAGES	DISADVANTAGES	RECOMMENDATION
8	Pat's Tow Lot (Somerville Avenue at Medford Street)	<ul style="list-style-type: none"> Accommodates "single-ended" support facility 	<ul style="list-style-type: none"> Does not accommodate car storage (would have to be on nearby site) Support facility barely fits "Single-ended" facility not ideal 	Not recommended on the basis of operational shortcomings and "dead-end" configuration
9	Yard 8	<ul style="list-style-type: none"> Accommodates car storage Configuration well suited for "double-ended" storage yard with lead tracks 	<ul style="list-style-type: none"> Does not accommodate support facility 	Yard 8 alone is not large enough to accommodate the support facility in addition to the required car storage
10	Yard 8 with adjacent parcel (Yard 8 with the neighboring undeveloped lot for the support facility)	<ul style="list-style-type: none"> Accommodates car storage Accommodates "double ended" support facility 	<ul style="list-style-type: none"> Concerns have been expressed locally that the facility be designed in a manner that will be compatible with future land use plans 	This site is recommended on the basis of accommodating all of the program requirements
11	Yard 7/8 (a split operation using a combination of sites to reduce activity on Yard 8)	<ul style="list-style-type: none"> Accommodates car storage Accommodates "double ended" support facility 	<ul style="list-style-type: none"> Storage and support facility connected via a shuttle Support facility barely fits 	Less desirable due to separating storage from the support facility

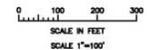


EOT Proposed Layout

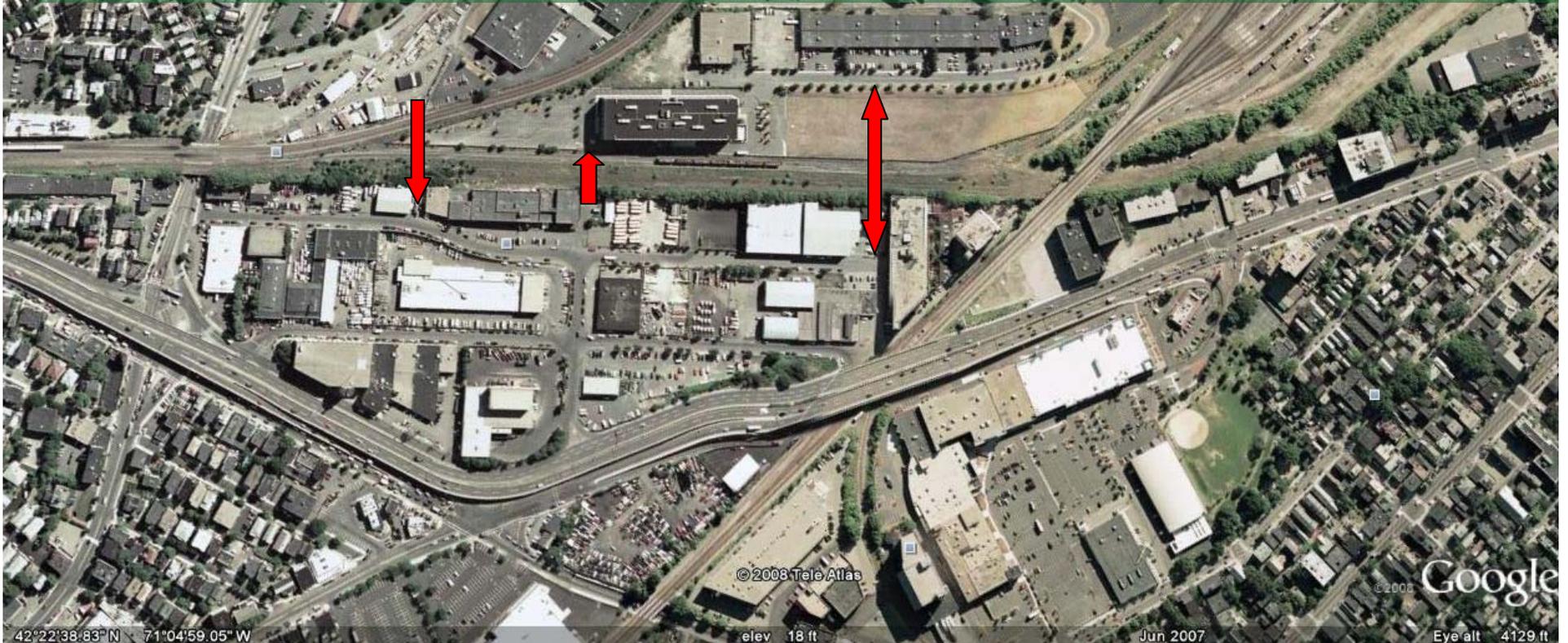


VHB Vanasse Hangen Brustlin, Inc.

GREEN LINE EXTENSION PROJECT
PROPOSED SUPPORT FACILITY SITE



- Adds to Existing Barrier
- 24/7 Operation Generating Noise/Vibration/Odor/Light at sensitive location
- Would Require Tunneling/Jacking 250'-300' (under the berm) for Connectivity
- Severe Impact on Economic Development
- No Viable Air Rights Opportunity
- "Like" vs. "Need" Analysis

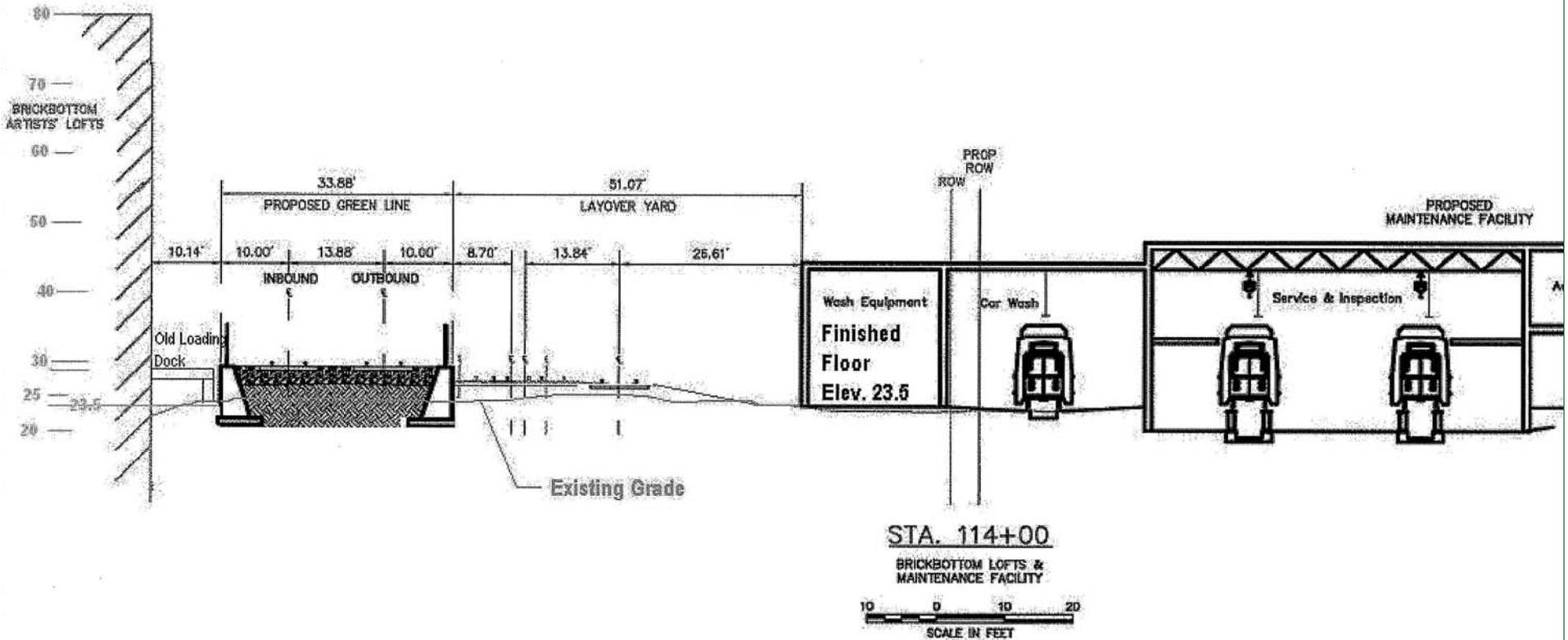








Proposed Cross-Section



- Difference in Elevation 3' to 6' at Inner Belt Road, 10' to 12' at Joy/Chestnut Street
- Expected Highest Roof at Elevation 55
- No East – West Access







EOT Next Steps



- **Environmental Assessments**
- **On-going Coordination with Advisory Group**
- **Public Meetings this Fall**
- **DEIR/EA – Starts in Fall 2008**
- **Preliminary Engineering - Spring 2009**



Questions and Answers