



**Massachusetts Bay
Transportation Authority**

Red Line/Orange Line Improvement Program Update

**Vehicle Procurement, Infrastructure Improvements,
State of Good Repair Improvements and Signal Upgrades**

May 07, 2018



OVERVIEW

The following summary provides an update to the Fiscal and Management Control Board on the progress of the Red Line/Orange Line Improvement Program; which includes new Vehicle Procurement, Infrastructure Improvements, State of Good Repair Improvements and Signal Upgrades.

This Program supports the MBTA's goal to improve the Level of Service on the Red Line and Orange Line.



Red Line/Orange Line Improvement Program

Red Line

Orange Line

Total \$1,982.03M

NEW VEHICLE PROCUREMENT PROGRAM \$1,009.00M

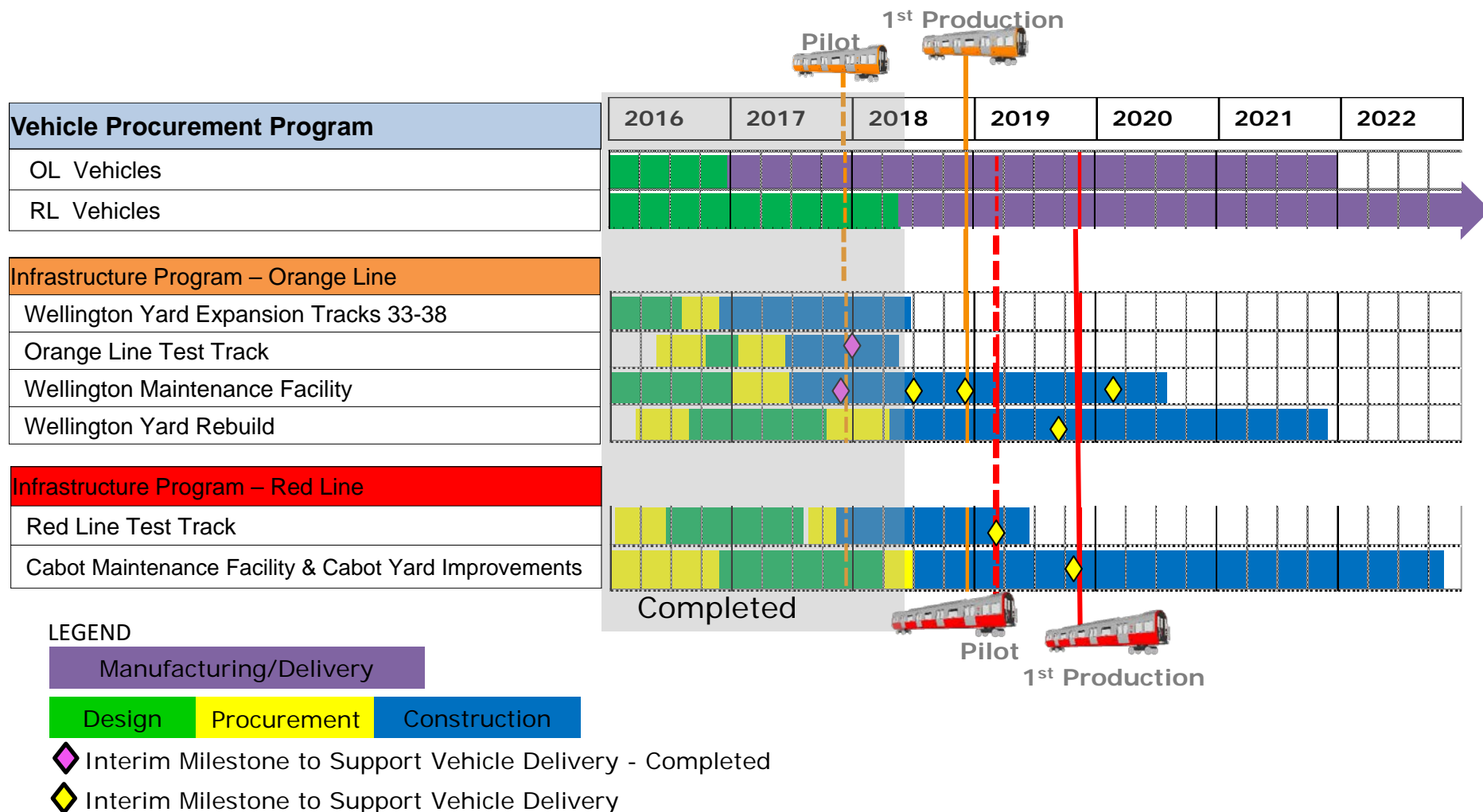
INFRASTRUCTURE IMPROVEMENTS PROGRAM \$470.36M

SIGNALS UPGRADE PROJECTS \$350.95M

STATE OF GOOD REPAIR PROJECTS \$151.72M

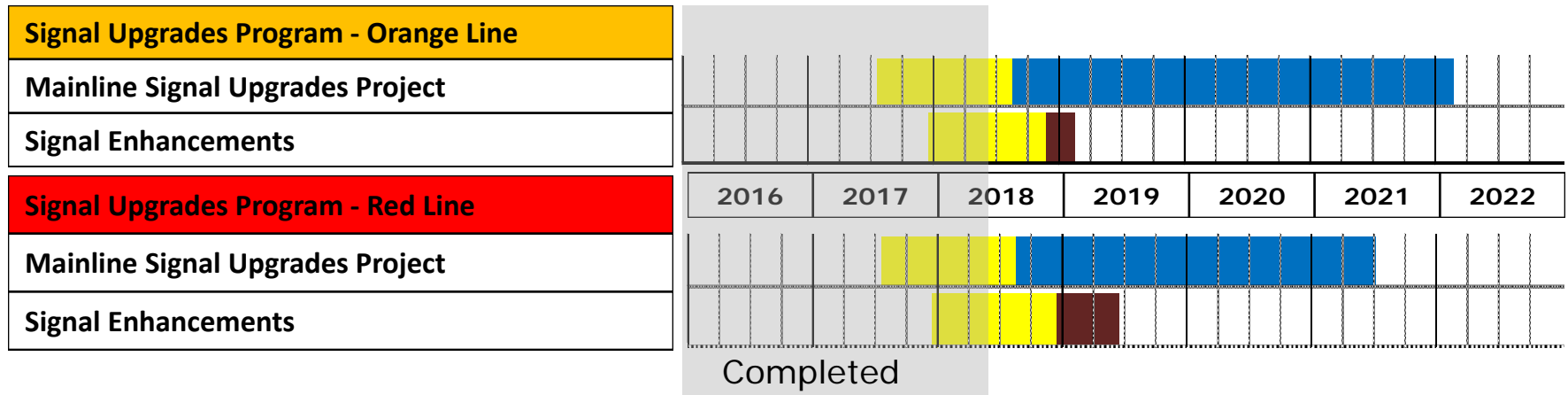


Red Line and Orange Line Schedule by Project





Red Line/Orange Line Schedule – Signals Upgrades



LEGEND

Procurement	Design/Build
Procurement	MBTA Installation



New Vehicle Procurement Program

New Vehicle Procurement Program

Total Project Value: \$ 1,009,871,671

Expenditure to date: \$ 152,862,655

Carbuilder Percent Complete: 16.7%



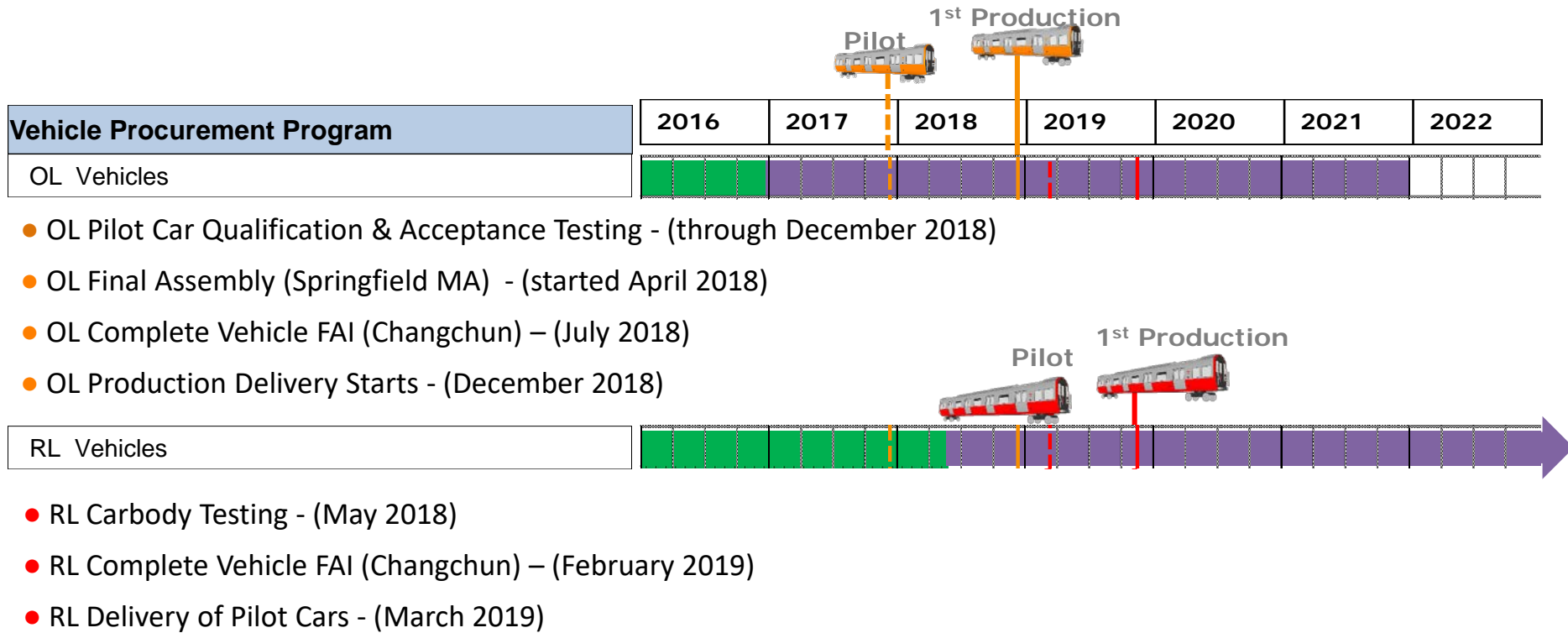
- Replace 218 Red Line cars
- 34 new cars
- Total = 252 vehicles



- Replace 120 Orange Line cars
- 32 new cars
- Total = 152 vehicles



Vehicle Procurement Project Status – Current/Look Ahead



LEGEND





Orange Line Vehicle Procurement Project Status

Wellington - The first four pilot cars are undergoing dynamic Brake and Prolusion qualification testing on the MBTA's Orange Line Test Track. Engineers from CRRC, the sub-system suppliers and the MBTA are testing to validate each systems functionality.

Changchun – MBTA inspected the next 4 Pilot cars, Prior to shipment these cars will undergo high speed and EMI testing on CRRC's dedicated test track.

A total of 30 Car shells, are at various phases of construction.





Red Line Vehicle Procurement Project Status

During the week of March 26, 2018, the MBTA travelled to Changchun, China. During that visit, the MBTA reviewed the Red Line mock-up.

In addition, several Final Design Review meetings were held.

Structural carshell testing is on schedule to be performed in May 2018.





Production Vehicle Final Assembly – Springfield MA

The first four production carshells arrived at the Springfield Final Assembly Facility during the week of April 10, 2018. The Springfield Staff is performing a comprehensive incoming inspection prior to beginning full scale production.

The MBTA conducts weekly audits at the Springfield facility monitoring all aspects of production.





Orange Line Projects: Wellington Yard Expansion Tracks 33 to 38

JF White

Construction NTP: 12/05/2016

Construction Substantial Completion:

Contractual: 06/23/18

Projected: 12/23/18 *

Construction Budget: \$17,977,777

Construction Expenditures to Date: \$3,227,693

Construction Percent Complete: 36%

- Adjusted to account for unforeseen environmental work



Switches 361 – 359 – 357 Preassemble



Tracks 33-38 - Site Prep



Orange Line Projects: Orange Line Test Track

LM Heavy

Construction NTP: 06/20/17

Construction Substantial Completion:

Contractual: 09/11/18

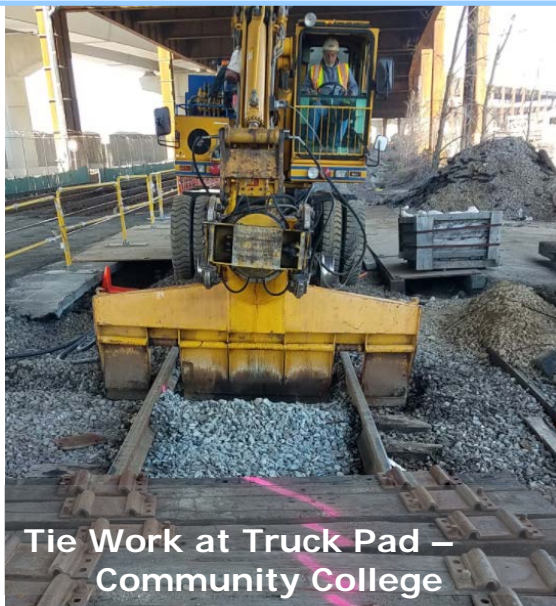
Projected: 06/15/18

Construction Budget: \$5,867,000

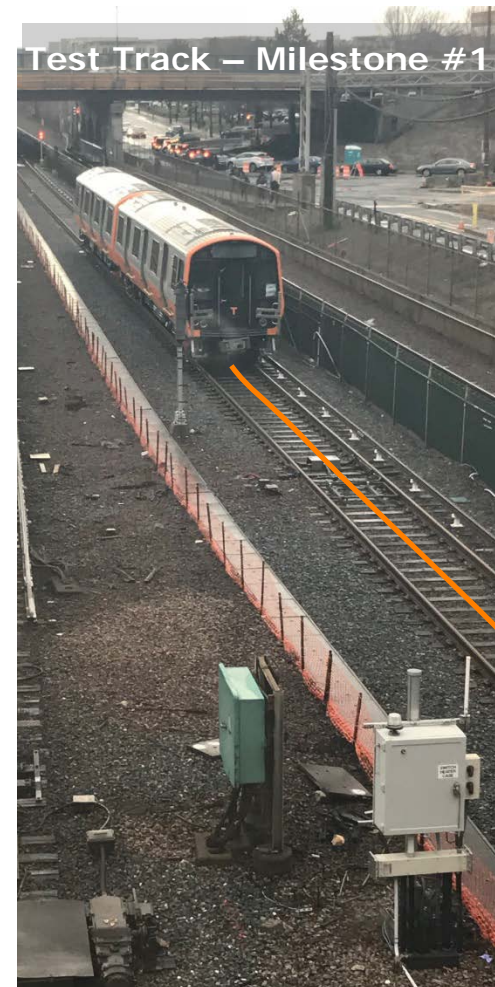
Construction Expenditures to Date: \$3,716,241

Construction Percent Complete: 91%

* Forecast completing 3 months ahead of schedule



Tie Work at Truck Pad –
Community College





Orange Line Projects: Wellington Maintenance Facility

Barletta Heavy Division

Construction NTP: 06/30/17

Construction Substantial Completion:

Contractual: 08/04/20

Projected: 08/04/20

Construction Budget: \$72,582,000

Construction Expenditures to Date: \$2,043,425

Construction Percent Complete: 12%

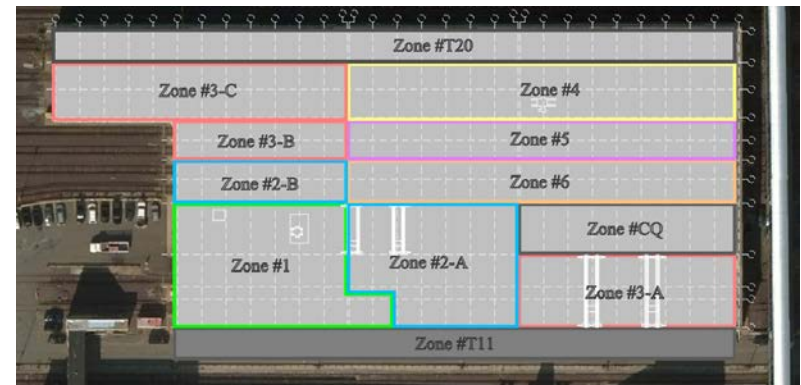
* Forecast completing on schedule



Exterior – Pre-Cast Demo



Zone 1 – Pile Installation





Orange Line Projects: Wellington Yard Rebuild

Barletta Heavy Division

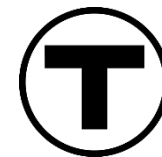
Bid Opening: 03/27/18

Construction NTP: 05/09/18

Substantial Completion: 11/29/21

Construction Budget: \$102.66M





Red Line Projects: Red Line Test Track

Barletta Heavy Division

Construction NTP: 11/17/17

Construction Substantial Completion:

Contractual: 02/20/19

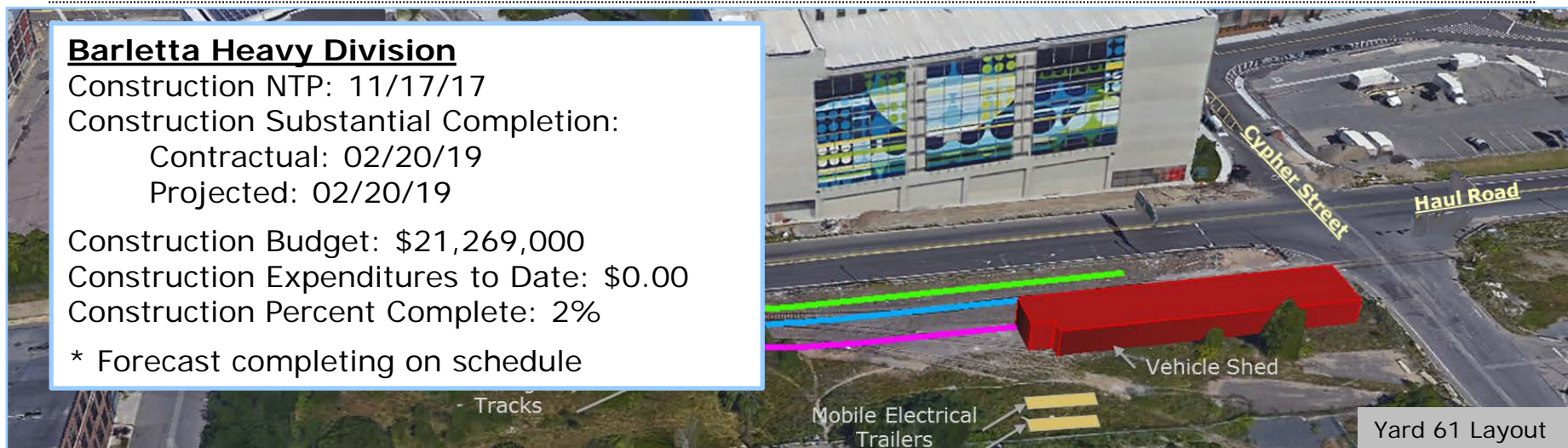
Projected: 02/20/19

Construction Budget: \$21,269,000

Construction Expenditures to Date: \$0.00

Construction Percent Complete: 2%

* Forecast completing on schedule





Red Line Projects: Cabot Yard & Maintenance Facility Improvements

Jacobs & HNTB

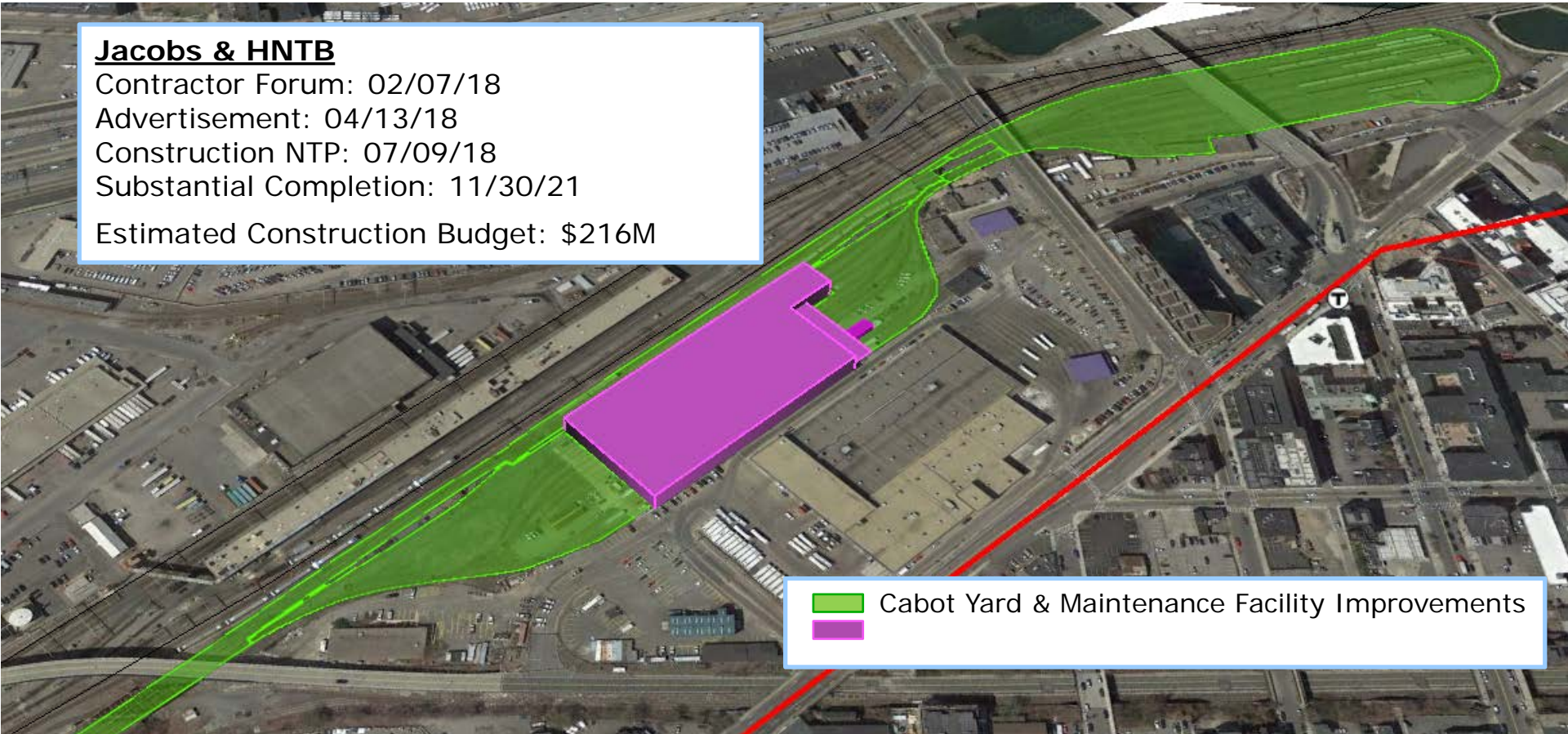
Contractor Forum: 02/07/18

Advertisement: 04/13/18

Construction NTP: 07/09/18

Substantial Completion: 11/30/21

Estimated Construction Budget: \$216M



 Cabot Yard & Maintenance Facility Improvements





Signals Upgrade Projects Status

RFLOI – 08/29/2017
RFQ/SOQ – 10/02/17
Short List Proposers – 1/16/18
RFP Issued – 02/12/18
NTP – 08/30/18
Substantial Completion RL – 07/06/21
Substantial Completion OL – 02/23/22

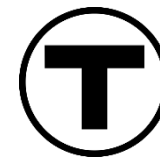
Red Line

RL Signaling and Train Control System Upgrade
RL Columbia Junction Phase II

Orange Line

OL Signaling and Train Control System Upgrade
OL South West Corridor Wayside Signal Replacement





State of Good Repair Projects Status – Bridge Hardening

Status

Bridge Repairs

RL Substantial Completion – 9/01/18

OL Substantial Completion – 8/01/18

Long Fellow Approach – Interim Repairs

Substantial Completion – 11/10/18

Red Line

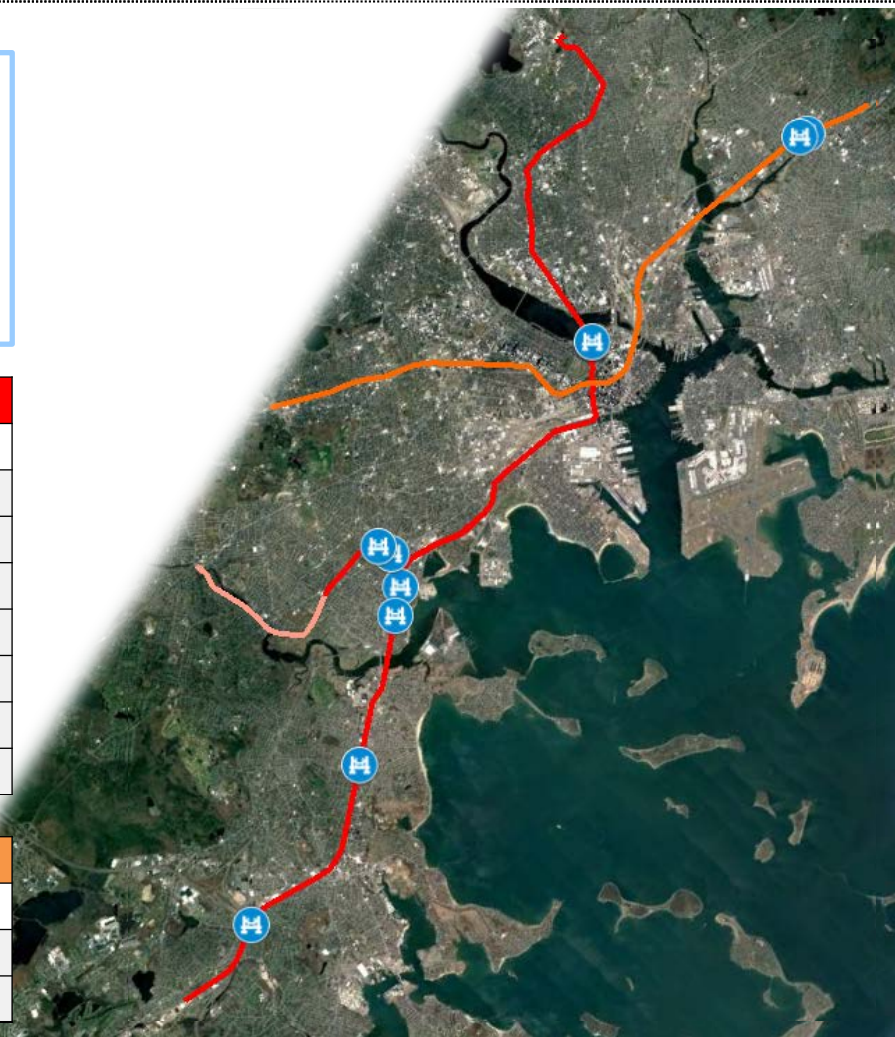
Bridge Repairs

- Granite Spur-B-21-069 (A23)
- Conley St.-B-16-136 (A38)
- Fields Corner Busway-B-16-418 (A3N)
- Wollaston Station-Q-01-028 (74K)
- Victory Rd -B-16-134 (A36)
- Geneva Ave-B-16-142 (A3D)
- Long Fellow Approach - Interim Repairs

Orange Line

Bridge Repairs

- Charles Street-M-01-003 (85)
- Adams Street-M-01-002 (85J)





Vehicle Procurement & Improvement Program Collaboration

- Early involvement and collaboration with preparation of the Infrastructure Improvement Strategic Program Plan lead to:
 - Definition of support categories: testing, storage, maintenance and reliability
 - Interim milestones to support the vehicle arrival
 - Scope in the Improvements Program to accommodate maintenance of the New Vehicle Features (overhead platforms, vehicle diagnostic room, Wifi, etc.)
- Development of vehicle storage models to analyze storage impacts due to both New Vehicle commissioning schedule and construction contracts in the Infrastructure Improvements Program.
- Pilot Vehicle Delivery Assessment and logistic coordination