

Massachusetts Bay Transportation Authority

Red Line/Orange Line Improvement Program Update

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

March 25, 2019



OVERVIEW

The following summary provides an update to the FMCB on the progress of the \$1.98 billion 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 to 3 minute headways and the Orange Line to 4.5 minute headways. This would increase capacity by 50% on the Red Line and 40% on the Orange Line from scheduled headways.



Red Line/Orange Line Improvement Program

Red Line

Orange Line

Total \$1,982.03M

NEW VEHICLE PROCUREMENT PROGRAM \$1,009.00M

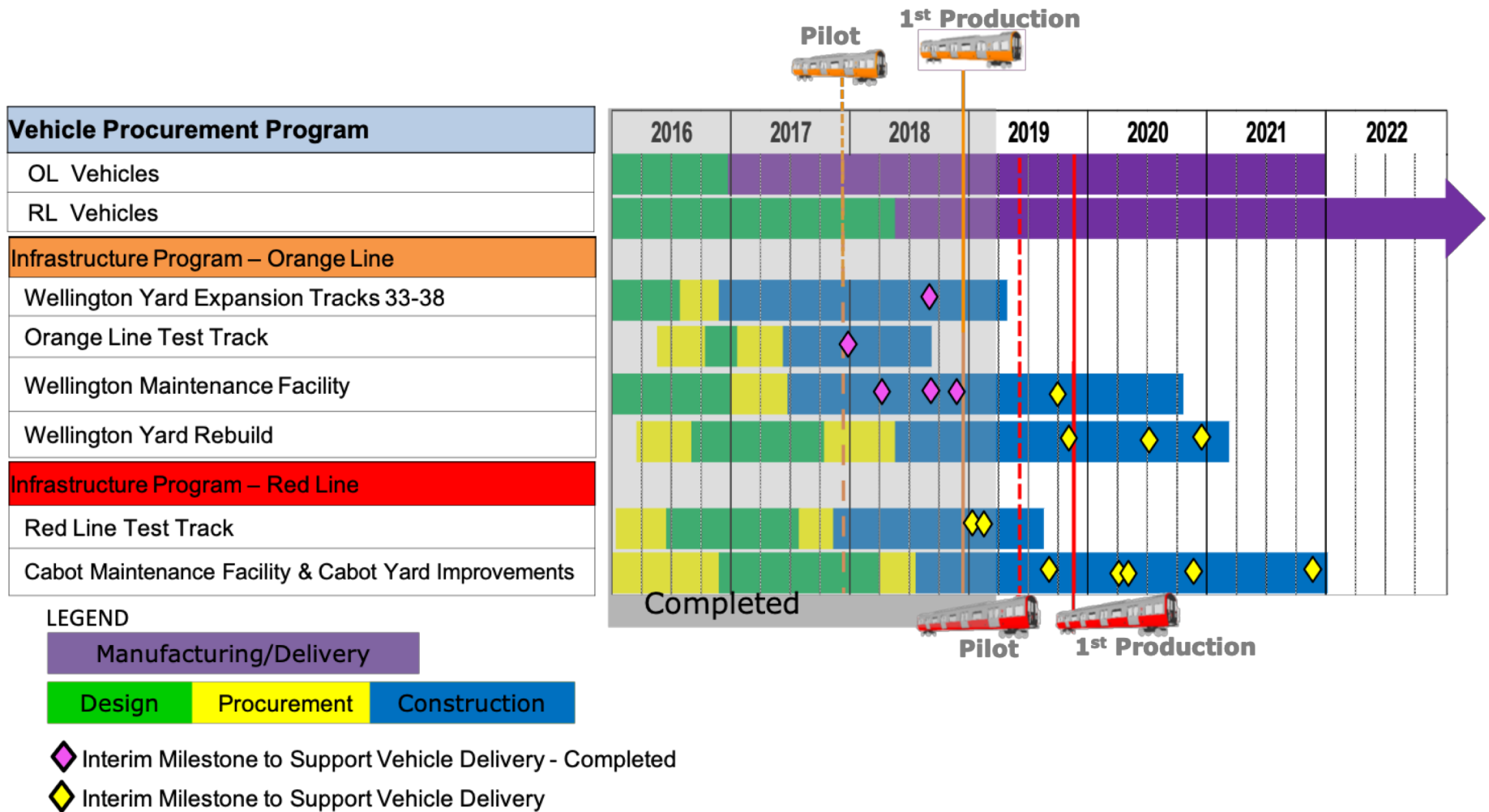
INFRASTRUCTURE IMPROVEMENTS PROGRAM \$470.36M

SIGNALS UPGRADE PROJECTS \$350.95M

STATE OF GOOD REPAIR PROJECTS \$151.72M

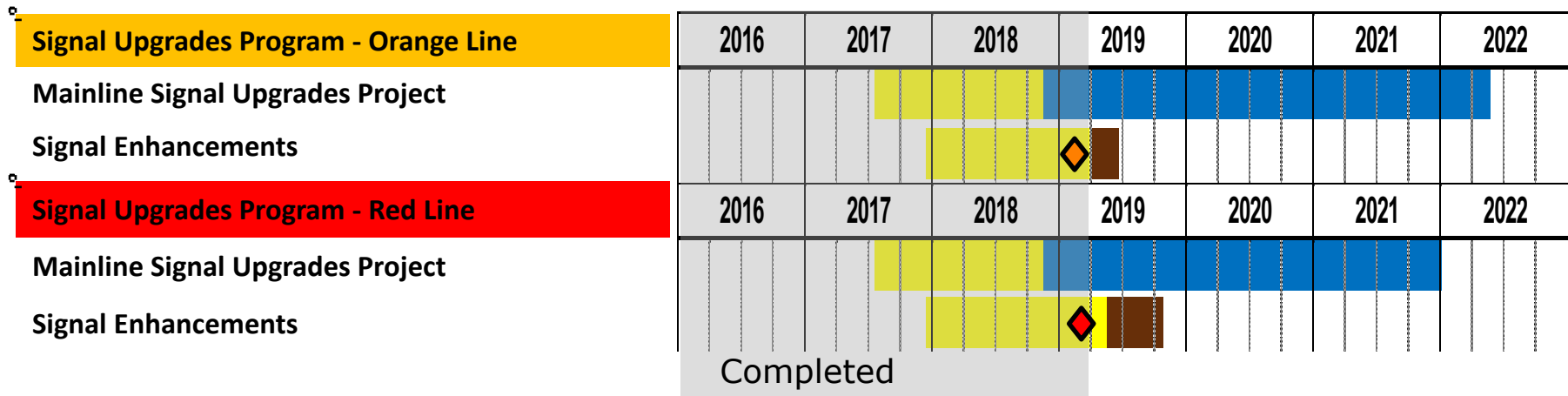


Red Line and Orange Line Schedule by Project

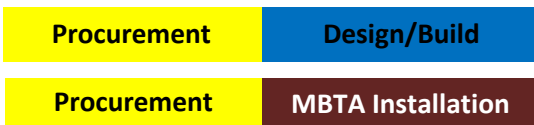




Red Line/Orange Line Schedule – Signals Upgrades



LEGEND



- Start of Orange Line e-Vane Delivery
- Start of Red Line e-Vane Delivery



New Vehicle Procurement Program

New Vehicle Procurement Program

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

Expenditure to date: \$ 222,285,778

Carbuilder Percent Complete: 24.45%



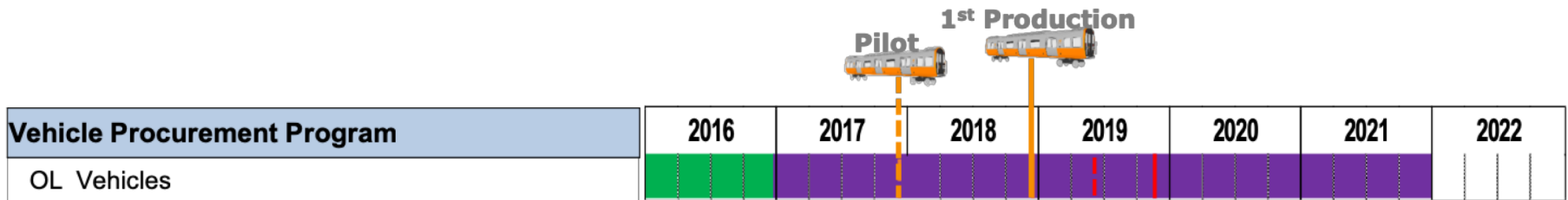
- Replace 218 Red Line cars
- 34 new cars
- Total = 252 vehicles



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



Vehicle Procurement Project Status – Current/Look Ahead

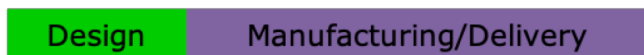


- OL Production Delivery from Springfield Facility Continuing - (started December 2018)
- OL Production Acceptance Testing Continuing - (started January 2019)
- OL Pilot Car Revenue Service - (Summer 2019)



- RL Complete Vehicle FAI (Changchun) – (March 2019)
- RL Delivery of Pilot Cars - (Summer 2019)
- RL Pilot Cars Acceptance Testing - (through November 2019)
- RL Pilot Car Revenue Service - (December 2019)

LEGEND





Red Line Vehicle Procurement Project Status

Final assembly of the six Red Line Pilot cars in Changchun, China is nearly completed. The First Article Inspection is scheduled for the week of March 25th.

Members of MBTA Vehicle Engineering and Safety Departments will be travelling to China to inspect the vehicles.





Production Vehicle Final Assembly – Springfield MA

The Springfield Facility is currently testing various systems on Orange Line Married Pair #6. Prior to shipment, the MBTA will perform a final inspection. The vehicles will be delivered to Wellington this month.

The MBTA engineering and supervisory resources are on site supporting the assembly process to oversee the quality of the vehicles assembled in Springfield.





Orange Line Projects: Orange Line Test Track

LM Heavy

Construction NTP: 06/20/17

Construction Substantial Completion: 08/29/18

Contractual: 09/11/18

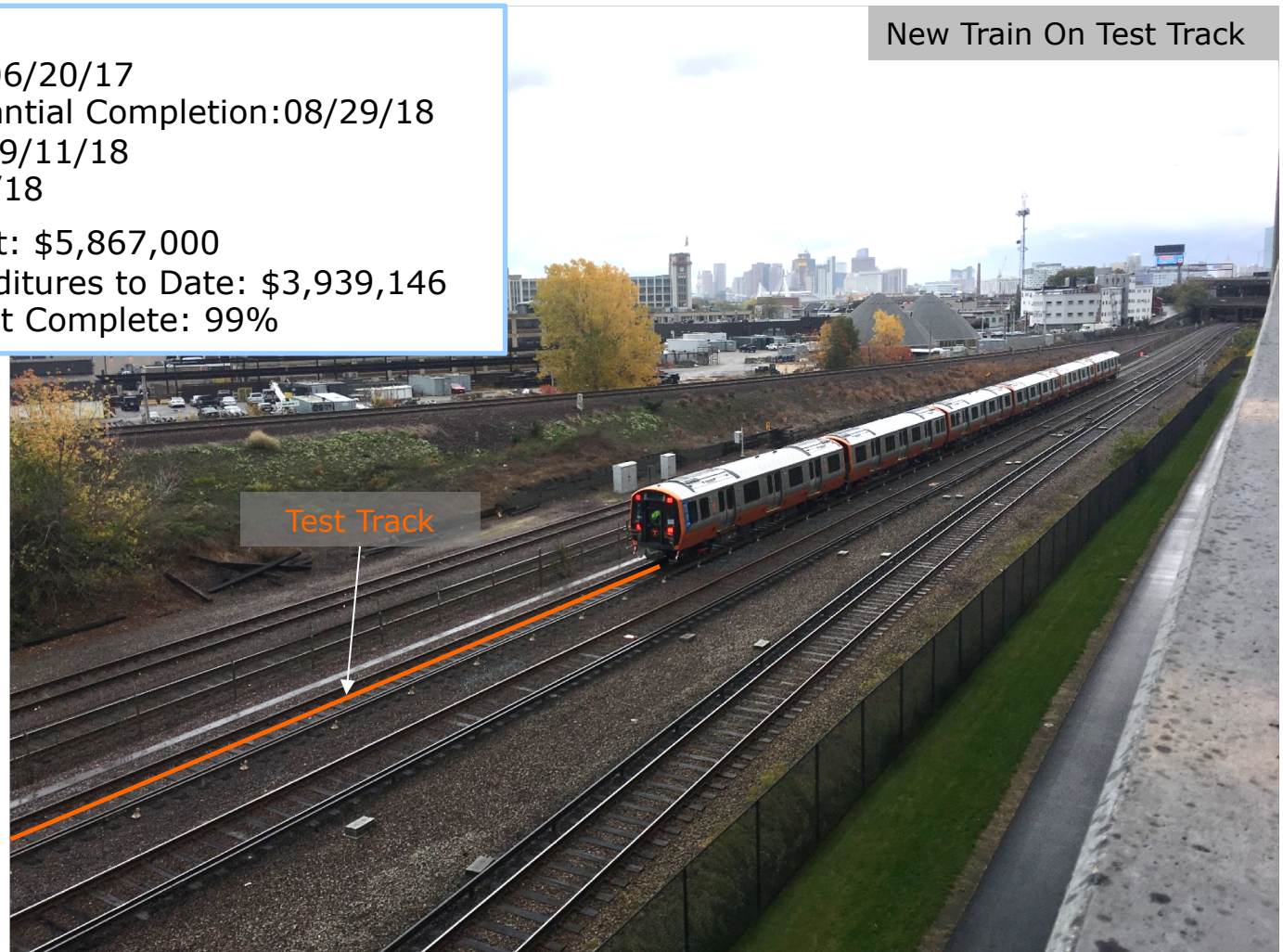
Actual: 08/29/18

Construction Budget: \$5,867,000

Construction Expenditures to Date: \$3,939,146

Construction Percent Complete: 99%

New Train On Test Track





Orange Line Projects: Wellington Maintenance Facility

Barletta Heavy Division

Construction NTP: 06/30/17

Construction Substantial Completion:

Contractual: 08/04/20

Projected: 10/22/20*

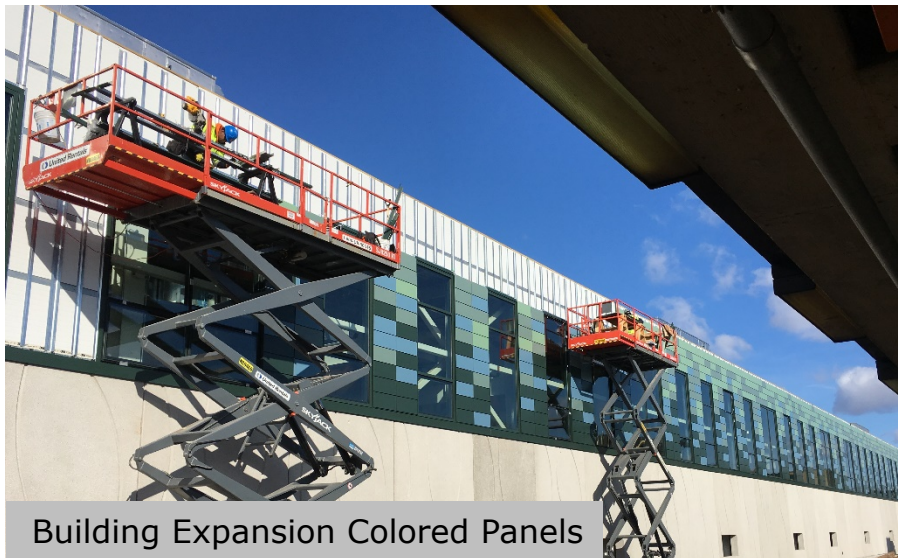
Construction Budget: \$72,582,000

Construction Expenditures to Date: \$ 29,166,473

Construction Percent Complete: 48%

*Working with Contractor to mitigate 2 month delay due to scope being added to the contract.

Zone 2A Elevator & Machine Room



Building Expansion Colored Panels

Draft for Discussion & Policy Purposes Only



Orange Line Projects: Wellington Yard Rebuild

Barletta Heavy Division

Construction NTP: 05/31/18

Construction Substantial Completion:

Contractual: 03/07/21

Projected: 03/07/21

Construction Budget: \$102,663,000

Construction Expenditures to Date: \$1,953,964

Construction Percent Complete: 5%



Track 13 Tie Replacement



Performing Test Pits



Red Line Projects: Red Line Test Track

Barletta Heavy Division

Construction NTP: 11/17/17

Construction Substantial Completion:

Contractual: 04/07/19

Projected: 08/22/19*

Construction Budget: \$21,269,000

Construction Expenditures to Date: \$7,883,978

Construction Percent Complete: 50%

*Working with Contractor to mitigate delay.

Yard 61_VTF_Plumbing & Flow Fill



Loading Track



Red Line Projects: Cabot Yard & Maintenance Facility Improvements

LM Heavy/Lane Construction

Construction NTP: 08/02/18

Construction Substantial Completion:

Contractual: 01/04/22

Projected: 01/04/22

Construction Budget: \$213,817,000

Construction Expenditures to Date: \$7,166,650

Construction Percent Complete: 5%



CMF-ZONE-P	CMF-ZONE-C	CMF-ZONE-B	CMF-ZONE-A1
	CMF-ZONE-F	CMF-ZONE-E	CMF-ZONE-A2
	CMF-ZONE-I	CMF-ZONE-H	CMF-ZONE-D
	CMF-ZONE-L	CMF-ZONE-K	CMF-ZONE-G
CMF-ZONE-Q	CMF-ZONE-O	CMF-ZONE-N	CMF-ZONE-J
CMF-ZONE-M			
CMF-ZONE-R			



Clearing Zone C & F to Occupy



Helical Pile Installation at Parts & Storage Building

Draft for Discussion & Po



Signals Upgrade Projects Status

Construction NTP: 11/30/18
Contract Substantial Completion: 5/25/22
Substantial Completion RL – 01/04/22
Substantial Completion OL – 05/25/22

Construction Budget: \$217,677,000
Construction Expenditures to Date: \$0

Progress:

- Continued development of preliminary design
- DB Entity executed the Contract with ALSTOM (the major equipment supplier).
- Completed primary site survey work for the Orange and Red Line – 02/21/19.
- Finalizing the Baseline Schedule and management plans.

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 Strengthening

Status

Bridge Repairs

RL Substantial Completion – 05/01/19

OL Substantial Completion – 03/15/19

Longfellow Approach – Interim Repairs

Substantial Completion – 06/31/19

Red Line

Bridge Repairs

- Granite Spur-B-21-069 (A23) **(COMPLETE)**
- Conley St.-B-16-136 (A38) **(COMPLETE)**
- Fields Corner Busway-B-16-418 (A3N) **(COMPLETE)**
- Victory Rd -B-16-134 (A36) **(COMPLETE)**
- Geneva Ave-B-16-142 (A3D) **(COMPLETE)**
- Longfellow Approach - Interim Repairs **(IN PROGRESS)**

Orange Line

Bridge Repairs

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

