



**Massachusetts Bay
Transportation Authority**

MBTA Capital Acceleration Coordination

Capital Programs Committee

September 11, 2019

2019

MassAcceleration



*"In order to capitalize on that progress, this **Acceleration Plan** will allow the T to continue its investments at a faster pace, with greater focus on service improvements to provide a **safe, reliable** means of **transportation** that supports our economy, and gets people where they need to go."*

Governor Charlie Baker
(June 25, 2019)

Benefits at a Glance	Page 2
Optimizing Planned Outages & Diversions	Page 3
Proposed 2019 Acceleration Opportunities	Page 4, 5
Concept Renderings	Page 6
Proposed 2019 Acceleration Opportunities	
▪ Green Line	Page 7
▪ Red Line	Page 8, 9
▪ Orange Line	Page 10
▪ Systemwide	Page 11, 12

Six Opportunities

Work Includes:

- ✓ *Track Replacement*
- ✓ *Wayfinding (Signage & Lighting)*
- ✓ *Intersection Upgrades*
- ✓ *Elevators & Accessible Pathways*
- ✓ *Station Condition Repairs*
- ✓ *Parking improvements*

Next Steps:

2019: Maximize work during both planned and additional weekend diversions

Major Benefits



Safety

- **Mitigate risk of service interruptions** by replacing old track (30+ years)
- Improve safety for pedestrians, bicyclists, and drivers while crossing the tracks



Service Delivery

- **Reduce travel time** through elimination of slow zones
- Improve on-time performance and reduce delay events



Access

- Upgrade elevators for improved station access
- Improve pedestrian access for people of all abilities



Customer Experience

- Improve signage to help riders navigate the system more easily
- Enhance station condition for a more pleasant riding experience

2020 & Beyond: Further expand work on weekends, and identify opportunities for longer outages to maximize efficiency while minimizing long-term public disruption

Potential opportunities for additional right-of-way and station work during proposed outages and diversions include:

Right of Way/Tunnel Work

- Track and power maintenance
 - Third rail insulators
 - Replace third rail electrical connections
- Tunnel leak repairs
- Tunnel debris clean-up
- Detailed power inspections
- Tunnel inspections and utility survey

Other Station Work

- Power wash/deep clean
- Replace/repair platform edge
- Elevator/Escalator maintenance
- Replace station maps
- Repair stairs
- Repair fare equipment
- Repair access hatches
- Address barriers to accessibility

Planned Weekend Outages & Diversions

Fall 2019 (September-October)



	September				October			
	9/7-8	9/14-15	9/21-22	9/28-29	10/5-6	10/12-13	10/19-20	10/26-27
Orange Line – SW Corridor								
Orange Line – Tufts to Sullivan								
Red Line – Broadway to Kendall								
Red Line - Mattapan								
Green Line – D Branch								
Green Line – C Branch								
Green Line – B Branch								
Special Events	<ul style="list-style-type: none"> Red Sox Komen three-day Boston Arts Fest BC game PCMH Conference (Hynes) 	<ul style="list-style-type: none"> San Gennaro Feast Billy Joel (Fenway) 	<ul style="list-style-type: none"> Boston Freedom Rally Jimmy Fund Walk Museum Day AAOMS Conference (BCEC) 	<ul style="list-style-type: none"> Red Sox preseason Bruins preseason Boston Local Music Fest BC game 	<ul style="list-style-type: none"> Celtics preseason Autism Speaks Walk Roslindale Day Parade 	<ul style="list-style-type: none"> BAA Half Marathon Bruins Home Opener Celtics preseason Harvard Sq Oktoberfest E. Boston Columbus Day Parade 	<ul style="list-style-type: none"> Head of the Charles Regatta BC game Boston Fire 10k Financial Professionals Conf. (BCEC) 	<ul style="list-style-type: none"> Celtics Home Opener Bruins game Cancer Research Conf. (Hynes)

Legend

Existing outages & diversions

New outages & diversions to support acceleration

Planned Weekend Outages & Diversions

Fall 2019 (November-December)



	November				December			
	11/2-3	11/9-10	11/16-17	11/23-24	12/7-8	12/14-15	12/21-22	12/28-29
Orange Line – SW Corridor								
Orange Line – Tufts to Sullivan								
Red Line – Broadway to Kendall								
Red Line - Mattapan								
Green Line – D Branch								
Green Line – C Branch								
Green Line – B Branch								
Special Events		<ul style="list-style-type: none"> • BC Game • Spartan Race (Fenway) • Liver Disease Conf. (Hynes) 	<ul style="list-style-type: none"> • Camp Citython 5k 	<ul style="list-style-type: none"> • Jonas Brothers (Garden) 	<ul style="list-style-type: none"> • Pri-Med Conference (BCEC) 			

**Note: no diversions currently scheduled for weekend of 11/30-12/1 following Thanksgiving*

Legend

Existing outages & diversions

New outages & diversions to support acceleration

Wayfinding & Station Improvements | What are the tangible benefits?

Before



2019: Green Line Platform at Park Street (Confusing Signs)

- Under-lit and uneven lighting coverage throughout station **reduces visibility**
- Haphazard signage placement **confuses riders**, suboptimal for persons with disabilities
- Signage **is inconsistent**, with designs and typology from various eras

After



Same view, future Green Line Platform at Park Street

- + Improved lighting coverage significantly **enhances station appearance** and security
- + Decluttered placement **reduces confusion** while navigating the station
- + Signs will be visible to **users of all abilities**
- + Approach will produce **consistent branding**

Ensure **Clear, Consistent and Correct** signage throughout the system.

Wayfinding & Station Improvements - Park Street Station

Baseline Scope:

Improvements to Park Street Station to **bring wayfinding into compliance** with MBTA standards and Americans with Disabilities Act (ADA) including:

- New and replacement wayfinding signage
- Lighting improvements
- Cleaning and painting within station (including track pit)



Accelerated Work:

- ✓ Accelerate **station brightening and wayfinding** work through (4) weekend diversions to condense the project timeline by 4 months

Additional Scope:

- ✓ **900 feet of track replacement** and tactile edge replacement

Benefits:

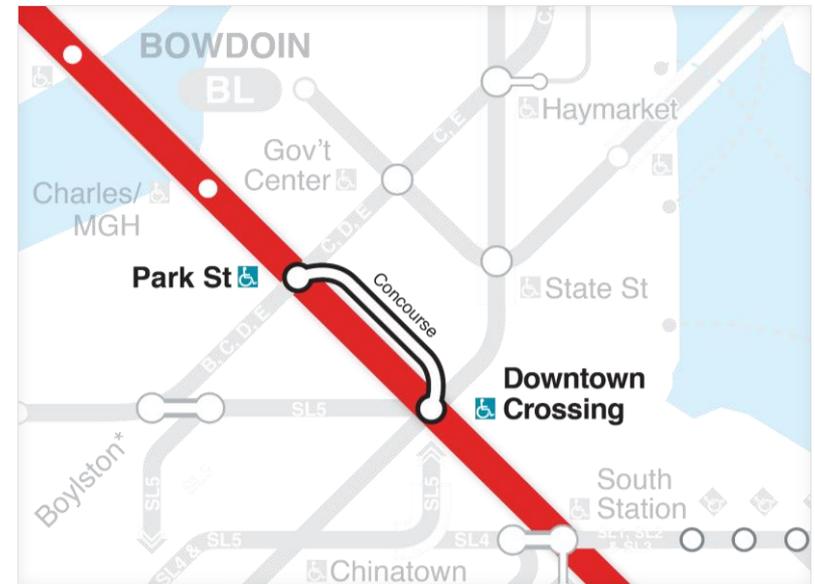
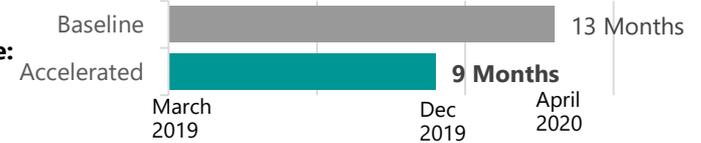
- Mitigate risk of service interruptions** by replacing track built in 1986
- Overall improvement of condition of accessible pathways
- Enhanced station navigation and lighting.** Compliance with ADA, Limited English Proficiency (LEP) and new MBTA wayfinding standards and station condition (cleanliness, walkways)



Affected Ridership: Approximately 3/4 of riders on the Red Line. Saturday (75,000 – 90,000) riders and Sunday (55,000 – 65,000)

- All customers accessing the Red Line at Park Street
- Red Line riders traveling through or transferring at Park Street
- Riders transferring from Green Line to the Red Line at Park Street

Timeline:



Wayfinding & Station Improvements - Downtown Crossing (DTX)

Baseline Scope: Red Line Station **wayfinding and station improvements** at Downtown Crossing (DTX), including:

- New and replacement wayfinding signage
- Cleaning and painting within station (including track pit)



Accelerated Work: ✓ Accelerate **station brightening and wayfinding** work through (4) weekend diversions to condense the project timeline by **11 months**

Additional Scope: ✓ **900 feet of track replacement** and tactile edge replacement

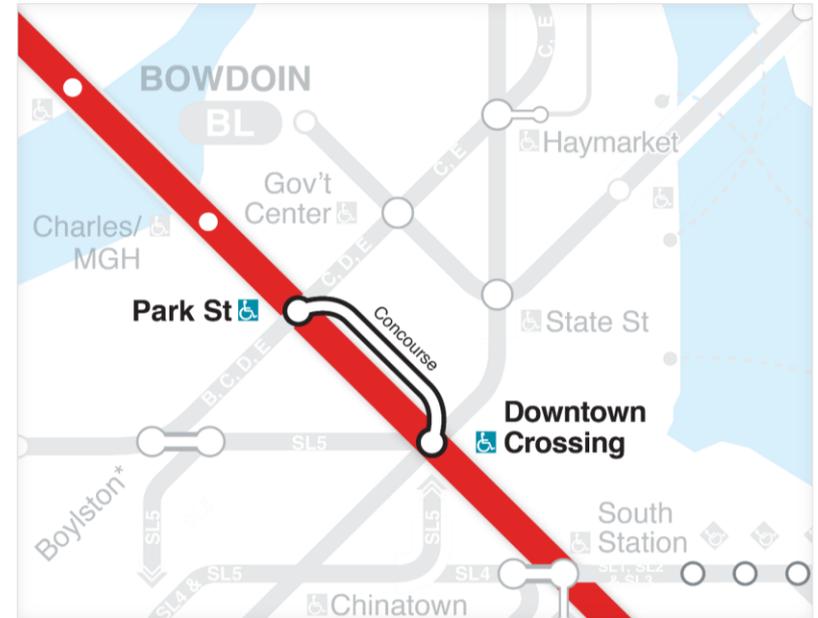
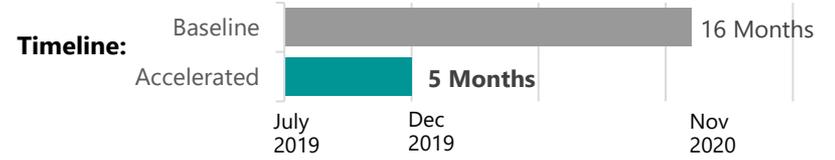
 **Mitigate risk of service interruptions** by replacing aged track built in 1986

Benefits:  Overall improvement of condition of accessible pathways

 **Enhanced station navigation and lighting.** Compliance with ADA, Limited English Proficiency (LEP) and new MBTA wayfinding standards and station condition (cleanliness, walkways)

 **Affected Ridership:** Approximately 3/4 of riders on the Red Line. Saturday (75,000 – 90,000) riders and Sunday (55,000 – 65,000)

- All customers accessing the Red Line at Park Street
- Red Line customers traveling through or transferring at Park Street
- All customers transferring from Green Line to the Red Line at Park



Wayfinding & Station Improvements - Downtown Crossing (DTX), Haymarket, State Street

Baseline Scope: Orange Line Station **wayfinding and station improvements** at Downtown Crossing (DTX), Haymarket, and State, including:

- New and replacement wayfinding signage
- Cleaning and painting within station (including track pit)

Accelerated Work: Accelerate **station brightening and wayfinding** work through (6) weekend diversions to condense the project timeline **11 months**

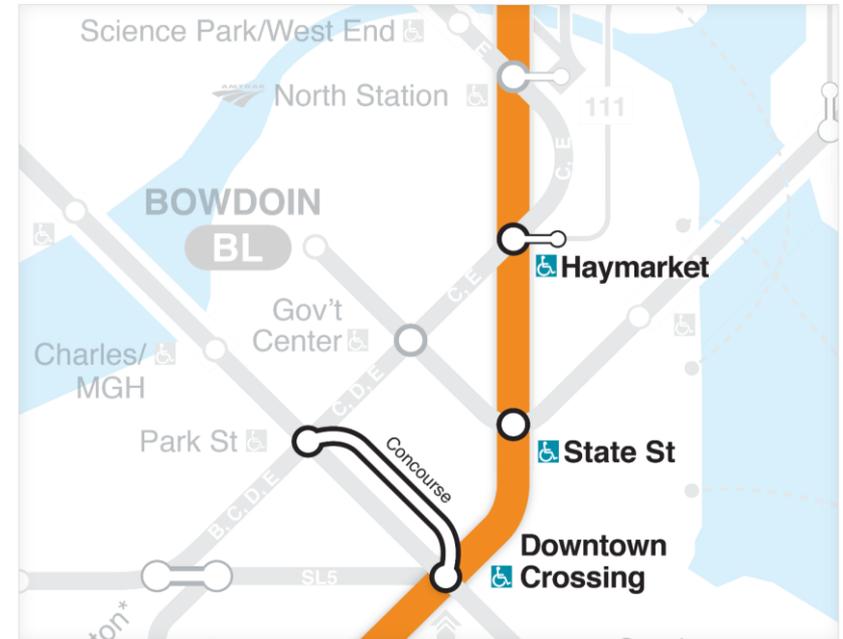
Additional Scope:

- ✓ 2,250 feet of track replacement at DTX, Haymarket and State Street
- ✓ Chinatown Station cleaning and painting

- Benefits:**
- Mitigate risk of service interruptions** by replacing aged track built between 1970-1987 (30+ years old)
 - Overall improvement of condition of accessible pathways
 - Enhanced station navigation and lighting;** compliance with ADA, Limited English Proficiency (LEP) and new MBTA wayfinding standards

Affected Ridership: Approximately 4/5 of weekend riders on the Orange Line: Saturday 65,000 – 85,000 riders and Sunday 45,000 – 60,000 riders

- All customers accessing the Orange Line at the 4 stations
- Orange Line riders traveling through or transferring at 4 stations
- All Orange Line riders transferring to Red Line at DTX, to Blue Line at State, and to Green Line at Haymarket and North Station



Harvard Station Elevator - Plaza to Lobby

Baseline Scope: New **enlarged elevator**, elevator headhouse and machine room, upgrade elevator power capacity, upgrade station fire alarm system and **modify plaza paving** in coordination with City of Cambridge plaza improvements

Accelerated Work: Accelerate the completion of this elevator modernization project by 5 months through increased work crews/shifts and enlarged work zones

Additional Scope: ✓ N/A

Benefits: Overall improvement of condition of accessible pathways

Lighting, and compliance with ADA, Limited English Proficiency (LEP) and MBTA elevator wayfinding standards

Affected Ridership: N/A



Parking Facility Improvements - Multiple Locations

Baseline Scope: Additional scope for existing on-call construction contract. Work consists of providing construction-related services on an on-call basis to support routine and urgent capital maintenance needs at commuter rail and transit parking facilities. This includes pavement/drainage repairs, abandoned equipment removal and complete pavement overlays



Accelerated Work: ✓ N/A

Additional Scope: ✓ Complete capital maintenance, pothole repairs, equipment removal, and paving of Littleton lot in 2019.

Benefits:



Overall improvement of accessibility and customer experience



Meet the MBTA's reliability and modernization goals



Affected Ridership: Varies depending on parking facility. Typically less than 100 riders

Timeline:

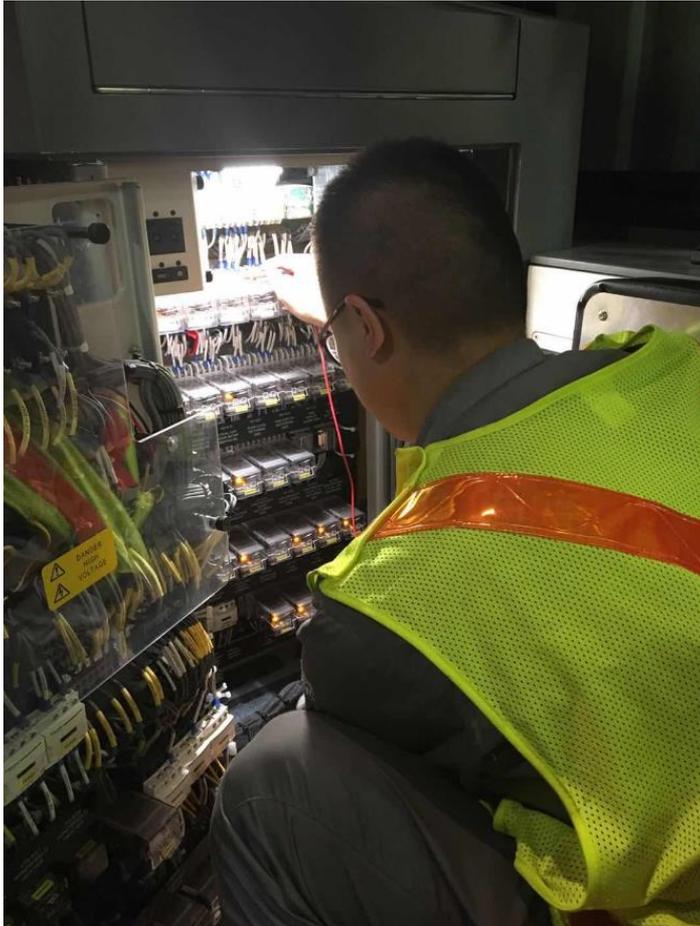


Orange Line Update Overview



- On Wednesday, August 14th the Orange Line #14 cars will enter revenue service.
- The #14 cars' benefits to our customers include reliability, maintainability, safety, and comfort. Some improvements include:
 - Improved Crash Energy Management
 - Advanced On-Board and Wayside Diagnostics
 - LED Lighting
 - LCD Displays
 - Automatic Passenger Counters
 - Closed Circuit Cameras and Video Recording
- The #14 cars also feature various accessibility improvements, such as:
 - Electronic Gap Mitigation Devices
 - Additional Passenger Emergency Intercoms
 - Wider Side Door Openings
 - Four Accessible Access Locations per Car
 - Audio and Visual Passenger Information

Testing



- The #14 cars have been in testing for over a year to ensure the functionality and reliability of all systems. The testing process is comprised of Qualification Testing and Routine Testing.
 - *Qualification Testing* is a **one-time test** intended to verify compliance with functional design requirements. This is done on each component and progresses to a six car consist.
 - *Routine Testing* is a reduced subset of Qualification Testing that is performed on every vehicle.
- There are **43** Qualification Tests and **32** Routine Tests for a total of **75** different tests that had to be passed.

Final Steps

- The 6 new cars entering service this Wednesday have accumulated 3,800 miles. The fleet in total has run over 7,000 miles during Qualification Testing and Routine Testing.
- The project recently completed a 40-hour Reliability Demonstration in which the new cars operated in simulated revenue service. The data logs generated by the new Vehicle Monitoring System were analyzed to ensure performance goals are met.
- After the Reliability Demonstration the #14 cars entered a 500 mile burn-in test which concluded this past weekend.