MBTA Capital Acceleration Coordination
Capital Programs Committee
September 11, 2019
“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)
2019 MassAcceleration | Benefits at a Glance

Six Opportunities

Work Includes:

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

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

Next Steps:

2019: Maximize work during both planned and additional weekend diversions

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

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Optimizing Planned Outages & Diversions

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

<table>
<thead>
<tr>
<th>Right of Way/Tunnel Work</th>
<th>Other Station Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Track and power maintenance</td>
<td>□ Power wash/deep clean</td>
</tr>
<tr>
<td>• Third rail insulators</td>
<td>□ Replace/repair platform edge</td>
</tr>
<tr>
<td>• Replace third rail electrical connections</td>
<td>□ Elevator/Escalator maintenance</td>
</tr>
<tr>
<td>□ Tunnel leak repairs</td>
<td>□ Replace station maps</td>
</tr>
<tr>
<td>□ Tunnel debris clean-up</td>
<td>□ Repair stairs</td>
</tr>
<tr>
<td>□ Detailed power inspections</td>
<td>□ Repair fare equipment</td>
</tr>
<tr>
<td>□ Tunnel inspections and utility survey</td>
<td>□ Repair access hatches</td>
</tr>
<tr>
<td></td>
<td>□ Address barriers to accessibility</td>
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</tbody>
</table>

Draft for Discussion & Policy Purposes Only
## Planned Weekend Outages & Diversions
### Fall 2019 (September-October)

<table>
<thead>
<tr>
<th>September</th>
<th>October</th>
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<tbody>
<tr>
<td>9/7-8</td>
<td>10/5-6</td>
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<tr>
<td>9/14-15</td>
<td>10/12-13</td>
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<tr>
<td>9/21-22</td>
<td>10/19-20</td>
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<tr>
<td>9/28-29</td>
<td>10/26-27</td>
</tr>
</tbody>
</table>

- **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**
  - Red Sox
  - Komen three-day
  - Boston Arts Fest
  - BC game
  - PCMH Conference (Hynes)
  - San Gennaro Feast
  - Billy Joel (Fenway)
  - Boston Freedom Rally
  - Jimmy Fund Walk
  - Museum Day
  - AAOMS Conference (BCEC)
  - Red Sox
  - Bruins preseason
  - Boston Local Music Fest
  - BC game
  - Celtics preseason
  - Autism Speaks Walk
  - Roslindale Day Parade
  - BAA Half Marathon
  - Bruins Home Opener
  - Celtics preseason
  - Harvard Sq Oktoberfest
  - E. Boston Columbus Day Parade
  - Head of the Charles Regatta
  - BC game
  - Boston Fire 10k
  - Financial Professionals Conf. (BCEC)
  - 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)**

<table>
<thead>
<tr>
<th>November</th>
<th>December</th>
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<tbody>
<tr>
<td>11/2-3</td>
<td>11/7-8</td>
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<tr>
<td>11/9-10</td>
<td>11/9-10</td>
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<tr>
<td>11/16-17</td>
<td>11/13-15</td>
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<tr>
<td>11/23-24</td>
<td>12/21-22</td>
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</table>

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<td>Special Events</td>
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</tr>
<tr>
<td>• BC Game</td>
<td>• Camp Citython 5k</td>
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<tr>
<td>• Spartan Race (Fenway)</td>
<td>• Jonas Brothers (Garden)</td>
</tr>
<tr>
<td>• Liver Disease Conf. (Hynes)</td>
<td>• Pri-Med Conference (BCEC)</td>
</tr>
</tbody>
</table>

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

**Legend**

- Existing outages & diversions
- New outages & diversions to support acceleration

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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.
Green Line Intersection Upgrades

Baseline Scope:
Performs 30 intersection upgrades (road and pedestrian track crossings) on B and C Branches and one (1) on the Mattapan Line

Accelerated Work:
- Accelerate 10 intersection upgrades scheduled for 2020 through weekend work to maximize use of the existing planned diversions and condense project timeline by 5 months

Additional Scope:
- 7,000 feet of track replacement added to the existing planned weekend diversions

Significantly mitigate risk of service interruptions by replacing aged track - 60% built between 1980-1989 (30+ years old)

Benefits:
- Reduce travel time through elimination of slow zones on C Branch (1,550 ft produces 34 seconds westbound delay)
- Improve pedestrian access and safety through compliance with Americans with Disabilities Act (ADA) at 7 locations

Affected Ridership: Weekend station rider entries of approximately 12,900 B Branch and 6,500 C Branch

Timeline:
- Baseline: 14 Months
- Accelerated: 9 Months

March 2019
Dec 2019
May 2020

Riverside

Riders should allow 15-20 minutes of extra travel time to reach their destination by shuttle bus during the planned weekend diversions.
**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
- 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:**
- Baseline: March 2019 – Dec 2019
- Accelerated: April 2020

**Additional Scope:** Accelerated Work:
- 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)
**Wayfinding & Station Improvements** - Downtown Crossing (DTX)

<table>
<thead>
<tr>
<th>Baseline Scope:</th>
<th>Red Line Station wayfinding and station improvements at Downtown Crossing (DTX), including:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• New and replacement wayfinding signage</td>
</tr>
<tr>
<td></td>
<td>• Cleaning and painting within station (including track pit)</td>
</tr>
</tbody>
</table>

**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

**Timeline:**

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Accelerated</th>
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</thead>
<tbody>
<tr>
<td>Jul</td>
<td>16 Months</td>
<td>5 Months</td>
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</table>

**2019 Acceleration RL**

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### 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**
- **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

#### Timeline:
- **Baseline**
- **Accelerated**: 5 Months
- 16 Months

#### 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

Timeline:
Baseline 35 Months
Accelerated 30 Months

June 2017 - Dec 2019 - May 2020
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:

<table>
<thead>
<tr>
<th>Work Status</th>
<th>Baseline Scope</th>
<th>Accelerated Scope</th>
<th>Not Programmed</th>
<th>4 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Began</td>
<td>Aug 2019</td>
<td></td>
<td>Dec 2019</td>
<td></td>
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<tr>
<td>Completed</td>
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</tbody>
</table>

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.
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.