Track Improvement Program Update

July 25, 2024

Ryan Jordan, Deputy Chief, Construction Field Services
## Track Improvement Program 2023-2024 | Timeline

### Announced Schedule Adjustments
- Extended for work to ultimately increase operating line speeds.
- Canceled. Work accomplished during GL-003.

### TIP Overview
- Many timeline adjustments prioritized leveraging weekends to minimize impact to weekday commuters.
- Shift leverages weekends. Minimizes commuter impact.

### Track Improvement Program 2023-2024

<table>
<thead>
<tr>
<th>Alternative Service Limits</th>
<th>Speed Restrictions</th>
<th>Actual/ Planned</th>
<th>Time Savings</th>
<th>Division Duration</th>
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191 original restrictions to address
83.9 RT min /217/207 days of work

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Today Jul 25

Extended for work to ultimately increase operating line speeds.
Canceled. Work accomplished during GL-003.
Track Improvement Program | Completed Work | OL Wellington to North Station Jun 22-30, 2024

**Piggybacking on MassDOT Mystic Ave/Maffa Way Bridgework**

**Track Work**
- Lifted 6 Speed Restrictions, 2 more than scoped.
- Replaced 5,701 feet of running rail.
- Replaced 3, 261 ties.
- Resurfaced and tamped 11,236 feet of track.
- Performed 657 feet of full-depth track construction.
- Performed critical signal and switch modernization work between Oak Grove and Assembly.
- Improved RT time by 4 min. (1.5 SB & 2.5 NB).

**Station Work**
- Repaired stairs at Sullivan Square and Community College.
- Upgraded Community College entrance.
- Upgraded security at Assembly.
- Repaired drainage at Sullivan Sq.
- Repaired cables, performed inspections, cleaned and replaced signs throughout the shutdown area.
- Repaired station gate at Assembly.
- Replaced five damaged ROW fence poles at Wellington.
- Repaired station gate at Assembly.
- Cleaned, removed debris and improved HVAC at Community College.
- Replaced system maps at North Station.
## Progress Metrics

### Speed Restrictions
- **130 Lifted, 61 Remain**
- **68% Complete**
- Originally Projected 191* Speed Restrictions

### Travel Time Improvement
- **39.6 min Returned, 44.3 Remain**
- **47% Complete**
- Refined Modeled 84 Minutes

### Ties Replaced
- **15,658 Replaced, 16,144 Remain**
- **49% Complete**
- Originally Projected 31,802 Ties for Replacement, incl SGR

### Feet of Rail Replaced
- **89,736 Replaced, 50,944 Remain**
- **64% Complete**
- Originally Projected 140,680 ft for Replacement

### Feet of Tamping
- **167,751 Tamped, 54,134 Remain**
- **76% Complete**
- Originally Projected 221,885 ft to Tamp

*Projections as of Nov. 6, 2023, Track Improvement Program*

**Data date: July 11, 2024**
Track Improvement Program | Ongoing Work – Red Line

Alewife to Kendall/MIT July 13-28, Early Access July 12 | Kendall to Park Street Early Access July 15-19, 22-26, Weekend July 20-21

| Alewife to JFK/UMass July 13/14, 27/28 Weekends | (RL-002)

- **Track Work Proposed**
  - Addressing 7 speed restrictions.
  - Limits extended for additional access points.
  - Replacing about 3 miles of rail, 1500 ft. of restraining rail, and 800 ft. of 3rd rail.
  - Resurfacing and tamping more than 1-½ mi. of rail.
  - Replacing about 200 ties.
  - Installing 21 primary floating slabs and 50 secondary floating slabs.
  - Replacing more than 4,000 rail fastening plates.

- **Piggyback Station Work Proposed**
  Systemwide radio work, stair repairs, overhead station inspections, Russell Field headhouse roof replacement, Main St. and Jarvis St. egress repairs, Kendall headhouse demo and rebuild, Kendall arch shoring and more.
**Upcoming Work – Green Line B**

Boston College to Babcock Street, August 2-11, 2024 | (GL-004)

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**Track Work Proposed**

- Address 8 speed restrictions.
- Full depth replacement including ballast, ties, and rail.
- Warren St, Allston St, Griggs St grade crossing replacements.
- Track drainage repairs.
- Platform edge beam repairs.
- Surface, line, and tamping.

**Piggyback Station Work Proposed**

Crews will maximize the outage by performing signal work and station amenity upgrades, including new lighting, painting, tiling, power washing and more.
Track Work Proposed
- Address 8 Speed Restrictions.
- Full depth construction.
- Rail, tie, plate replacement.
- Surface, line, and tamping.
- Special trackwork.
- Contact rail insulator replacement.
- Thermite welding.

Piggyback Station Work Planned
Crews will maximize the outage by performing signal work and station amenity upgrades, including new lighting, painting, tiling, power washing and more.
Updated information about speed restrictions | Available at MBTA.com

As of 07.11.2024

https://www.mbta.com/trackprogram

https://www.mbta.com/performance-metrics/speed-restrictions
# Upcoming Community Engagement Events | Calendar

## Open Houses

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>Thu., 1/25</td>
<td>6 – 7:30pm</td>
<td>Cristo Rey High School</td>
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<tr>
<td>Wed., 2/21</td>
<td>6:30 – 8pm</td>
<td>Zoom</td>
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<td>Thu., 3/7</td>
<td>6:30 – 8pm</td>
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<td>Thu., 4/11</td>
<td>6 – 7:30pm</td>
<td>Boston Public Library</td>
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<td>Tue., 5/14</td>
<td>6 – 7:30pm</td>
<td>Mattapan Public Library</td>
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<td>Mon., 8/13</td>
<td>6 – 7:30pm</td>
<td>English High School</td>
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## Station Pop-ups

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<tr>
<th>Date</th>
<th>Time</th>
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<td>Malden Center Station</td>
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<td>Tue., 8/20</td>
<td>5 - 6:30pm</td>
<td>Quincy Center</td>
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<tr>
<td>Tue., 10/01</td>
<td>5 - 6:30pm</td>
<td>Park Street Center</td>
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</tbody>
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Interpretation services will be made available in American Sign Language, Haitian Creole, Spanish, Vietnamese, Chinese, and Cape Verdean Creole. Additional languages are available upon request.
Questions
Previous Board TIP Updates
OL-003 Wellington to Back Bay May 28 – Jun 6, 2024

**Track Work**
- Lifted 10 speed restrictions.
- Replaced 12,591 ft of rail.
- Replaced 388 ties.
- Resurfaced and tamped 7,940 ft of track.
- Replaced 2501 tie plates.
- Replaced 84 cologne eggs.
- 1,130 ft of full-depth track reconstruction.
- ~3.3 min RT decrease (2.4 min SB / 0.9 min NB) between Wellington and Ruggles.

**Piggyback Work**
- Installed 500 feet of stringer cable at Sullivan Square.
- Performed overhead station inspections of platforms, entrances, and lobbies at Sullivan Square, Community College, and Tufts Medical Center, Haymarket, North Station, and State.
- Inspected tunnels between Tufts Medical Center and North Stn.
- Made security improvements at Chinatown.
- Inspected electrical rooms at Tufts Medical Center to upgrade the station’s lighting.
- Upgraded and made accessibility improvements to the Community College entrance - new concrete. Repaired underlying slab.
- Repaired Community College’s elevated walkway with new concrete for a smooth walkway surface.
- Installed new cable, power wires, and fiber optic.
- Reinstalled signal equipment from 60 track circuits.
- Performed signal improvement work throughout the diversion areas.
**Track Improvement Program | Completed Work**

**BL (001) Maverick to Wonderland, Apr 17-19 | Airport to Wonderland Apr 20-30, 2024**

**Track Work**
- Addressed 16 speed restrictions.
- 4-min RT time improvement (3 EB, 1 WB).
- Replaced 17,844 ft rail.
- Replaced 6,521 ties (incl FFU ties).
- Full depth 808 ft. reconstruction at Beachmont, Orient Heights and Wood Island stations.
- Two truck pad reconstructions: Campbell’s Gate, Beachmont.
- Resurfaced and tamped 41,650 ft track.
- Replaced/Rehab 3 switches.

**Piggyback Work**
- Replaced ~9,000 feet of overhead catenary wire.
- Performed station inspections and standpipe testing.
- Repaired operator’s platform in non-passenger area on Wonderland and operator’s walkway at Orient Heights.
- Replaced ~500 ft of fencing between Beachmont and Revere Beach.
- Repaired roof canopies at Wood Island, Orient Heights, Suffolk Downs.
### Completed Work

**RL Park to JFK/UMass May 2-10, 2024**

**Track Work**
- Lifted 13 speed restrictions.
- Improved RT time by 10.2 min.
- Replaced 10,201 ft rail.
- Replaced 225 ties.
- Replaced 3,822 tie plates.
- Surfaced & tamped 24,200 ft.
- Installed 231 contact rail insulators.

**Piggyback Work**
- Overhead inspections of platform & lobbies.
- Security improvements JFK/UMass.
- Tunnel inspections between Broadway and JFK/UMass.
- Completed critical ceiling repairs.
- Fireproofing work Downtown Crossing. Could not have been done during overnight periods alone.
- Replaced ~180 sq ft glass panels at Ashmont - improves customer experience.
**Completed Work**

**BL (002) Bowdoin to Orient Heights Preliminary Work, Apr 9-11, 2024**

**Track Work**
- Removed 3 speed restrictions.
- 778 ft surface tamping and aligning.
- **Prep for EOM April Diversion:**
  - Drilled 96 holes and installed bolts and assemblies on the 115 ft rail.
  - Relocated 24 rail stringers.
  - Staged 432 ties.

**Piggyback Work**
- Painted Sand boxes at Orient Heights, Wood Island, Airport & Maverick
- Started repair Wonderland operators’ platform.
- Standpipe testing at Aquarium.
Track Improvement Program | Completed Work

OL North Station to Jackson Square, Mar 18-21, 2024

Track Work
- 7 speed restrictions lifted.
- 5160 ft rail replaced.
- 27 cologne eggs replaced.
- 63 shoulders cored.
- 259 plates installed.
- 500 ft of stringer cable replaced.
- 2 direct fixation concrete pads installed. 1 weld completed.

- 2.2 min. (RT) improved time.

Station Work
- Maintenance and repairs: painting, concrete repairs, floor/wall repairs, stair tread repairs/replacements, waste receptacle replacement, plumbing and HVAC repairs / maintenance, spider map replacements, new American flags installed.
- South Cove pump room clean out. Evaluated piping, electrical wiring and control valves for future upgrades.
Track Improvement Program | Completed Work

GL Copley to Babcock, Cleveland Circle and Brookline Hills, Feb. 20 – Mar 8, 2024

Metrics
✓ 11 speed restrictions lifted.
✓ 1331 ties replaced.
✓ 13,429 ft rail replaced, inc. 1,200 by MOW
✓ 21,000 ft track resurfaced/tamped.
✓ 2 switches replaced/rehabbed
✓ 93 rail welds
✓ 1424 ft full depth track repairs

Piggyback Work
• Stations: maintenance and repairs such as paint, bench repairs, concrete, floor repairs, stair tread replacement, hand-rail replacement, ceiling panel removals, waste receptacle replacement, plumbing & HVAC maintenance and inspection activities.
• E-Ink sign poles & solar panels installed - various locations C & B branches.
• Completed hands-on inspection of the GL tunnel near Fenway & Beacon Junction. Leak sealing performed on EB & WB tracks.
• Signals Fiber installed from Fenway Station to Aspinwall street.
• Replaced movable OCR at the Fenway Portal with traditional OCS.
Track Improvement Program | Completed

RL Alewife to Harvard, Feb. 5 – 14, 2024

Metrics:
✓ 8 speed restrictions lifted.
✓ 27 ties replaced.
✓ 2002 ft rail replaced.
✓ 1360 ft track resurfaced/tamped.
✓ 6 switches replaced/rehabbed
✓ 30 thermite welds
✓ 28 primary pads & 61 secondary pads replaced (0 ft full depth track repairs)

Piggyback Work:
✓ Station enhancements - new flooring and lighting.
✓ Replaced dozens of signal bonds, reinstalled ~3,500 ft signal cable.
✓ Regauged 3rd rail and other rail work at Alewife crossover.
✓ Tunnel inspections/repairs along SB track between Harvard and Central stations.
✓ Davis station ceiling repairs.
✓ Signal modernization work at Alewife, Davis, Porter, Harvard stations.
✓ Installed a new standpipe at Kendall/MIT station.
✓ Improved security cameras at Alewife, Porter, Davis stations.
Track Improvement Program | 2-Phase January Surge, Completed

GL Central Tunnel, and B North Stn - Babcock St, E North Stn - Heath St, C & D North Stn - Kenmore Stn, Jan 3-12 & 16-28, 2024

**Metrics**
- ✓ 16 Speed Restrictions cleared.
- ✓ 1306 ties replaced.
- ✓ 10,845 ft rail replaced.
- ✓ 1280 ft full depth track repairs
- ✓ 8887 ft track resurfaced & tamped - smoother ride.
- ✓ 12 Switch Replacements/Rehabilitations.
- ✓ 66 thermite welds.

**Piggyback Work**
- ✓ ~7,300 ft overhead catenary wire replaced between Haymarket and Boylston stations.
- ✓ Water infiltration repairs completed in Green Line tunnel.
- ✓ Park Street communication room improvements.
- ✓ Copley station, repair work completed 3 in-station columns with additional infrastructure upgrades accomplished.
Track Improvement Program | Completed Work (1st portion of January Surge)

GL Central Tunnel, and B North Stn - Babcock Street, E North Stn - Heath Street, C & D North Stn - Kenmore Stn, Jan 3-12, 2024

Metrics
✓ 4 Speed Restrictions cleared.
✓ NA travel time improved.
✓ 387 ties replaced.
✓ 3,047 ft rail replaced.
✓ 400 ft full depth track repairs
✓ 1330 ft track resurfaced & tamped - smoother ride.
✓ 2 Switch
Replacements/Rehabilitations
✓ 15 thermite welds.

Piggyback Work
✓ Boylston & Copley roof structural repairs
✓ Haymarket to North Stn tunnel inspections
✓ Hynes stair repairs and replacements and handrails/benches restored
✓ New Arlington elevator sump pump installed
Green Line: Riverside to Kenmore, Dec. 11-20

**Metrics**
- ✓ 22 Speed Restrictions cleared (20 planned).
- ✓ ~4 min travel time improved.
- ✓ 2,767 ties replaced.
- ✓ 4,757 ft rail replaced.
- ✓ 600 ft full depth track repairs
- ✓ 48,840 ft track resurfaced & tamped - smoother ride.
- ✓ 8,918 ft rail thermal adjustment.
- ✓ 36 thermite welds.

**Piggyback Work**
- ✓ Removed speed restrictions and resumed line speed on Lechmere Viaduct between Science Park & Lechmere, both directions.
- ✓ Dozens of switch certifications completed, four switch heaters repaired, 11 ground tests performed, 50 track circuits replaced.
- ✓ Catenary EB & WB replaced near Fenway Station.
- ✓ Riverside operators’ roof replaced.
Track Improvement Program | Completed Work (Surge)

Green Line Surge: North Station to Kenmore, Heath, Babcock, Nov. 27 – Dec. 5

Metrics
✓ 12 Speed Restrictions cleared (10 planned)
✓ 530 feet full depth track reconstruction
✓ 3765 feet rail replaced
✓ 6725 feet rail tamping
✓ 62 Ties replaced
✓ 785 Plates swapped & regauged

Piggyback Work
- Critical tunnel structural repairs
- Hynes floor & stairs repaired
- Replaced some catenary sections
- Installed add’l E-ink signs
- Conducted tunnel inspections
- Inspected station overhead locations and stairs.
- Completed signal system cable, switches & junction boxes work
- Lechmere Viaduct Early Access

Reported
12.13.2023
Red Line & Orange Line Weekend & Early Access

- Harvard to Central: Nov 4 – 5
- Oak Grove to North Station: Nov 7 – 12
- JFK/UMass to Park St: Nov 14 – 19

**Metrics**

**Red Line**
- 10 Speed Restrictions cleared (7 planned)
- ~6 minutes travel time improved
- 146 ties replaced
- 2,202 feet rail replaced
- 6,305 feet of tamping

**Orange Line**
- 2 Speed Restrictions cleared
- ~1 minute travel time improved, NB
- 425 ties replaced
- 2,050 feet of tamping