





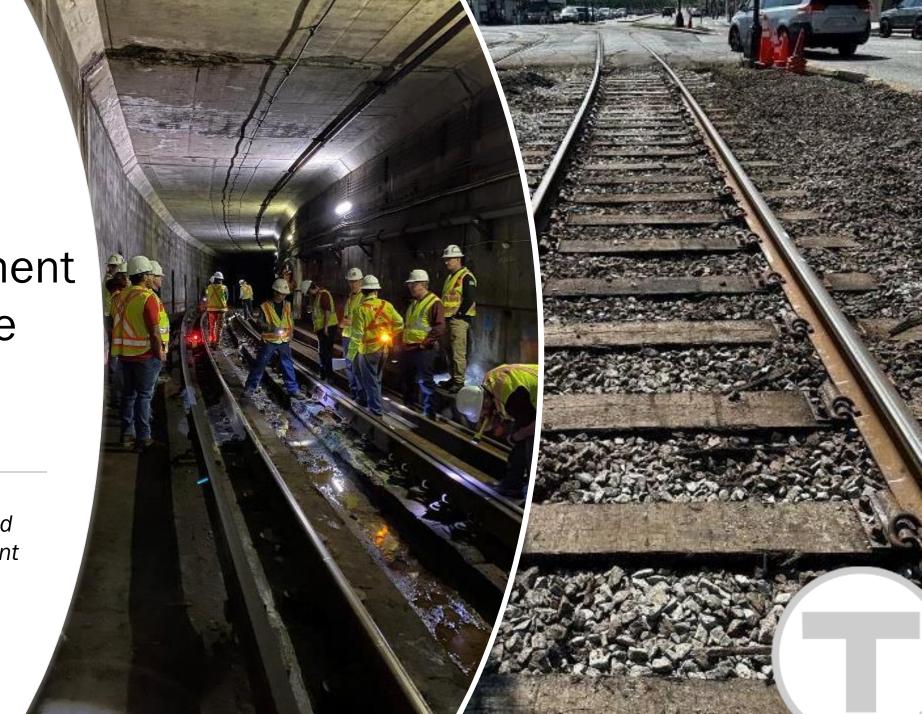






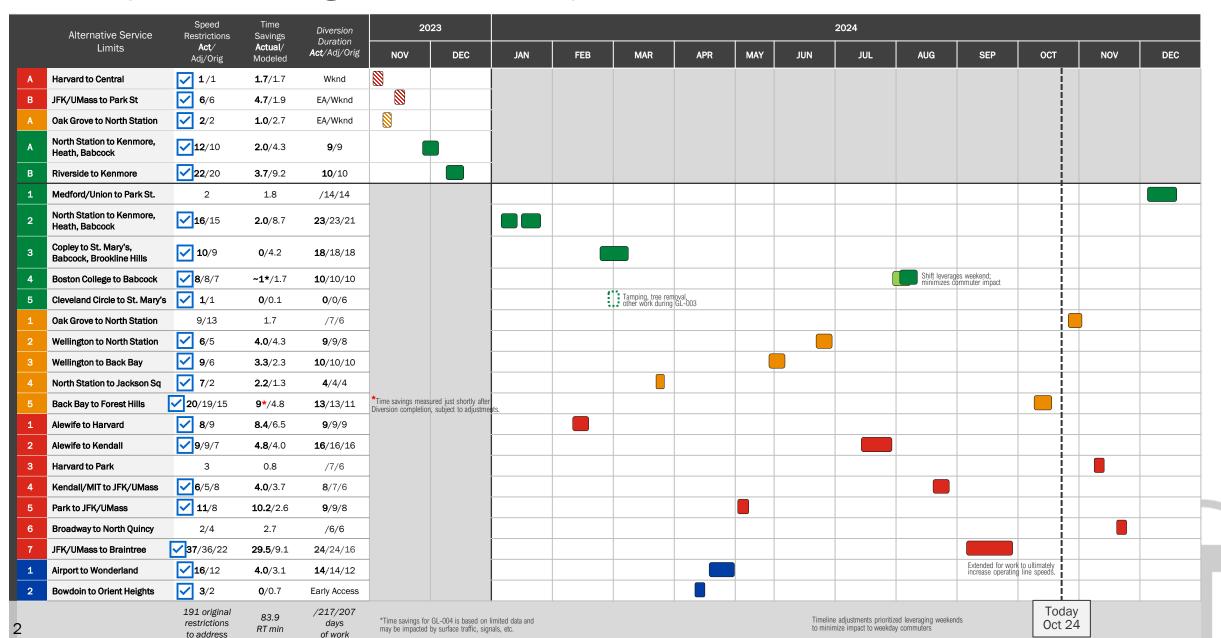
October 24, 2024

Ryan Jordan Deputy Chief, Construction Field Services and Track Improvement Program



#### **Updated Schedule**

# Track Improvement Program 2023-2024 | Timeline



# JFK/UMass to Braintree, September 6-29, 2024 | (RL-007)



More than 400 contractors and MOW workforce on site; lifted 37 speed restrictions and improved RT time by 29.5 min.

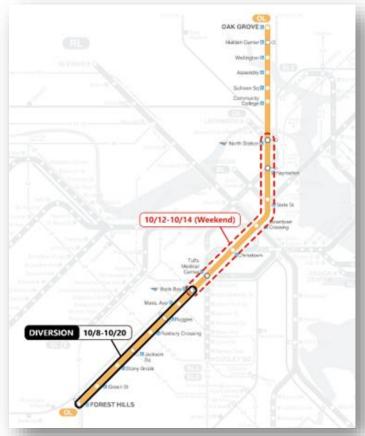
Track Improvement Program | Completed Work - Red Line

- 70,122 ft of rail replaced.
- **18,098** ties replaced.
- Replaced more than 8,050 ft. guard rail.
- ~3,500 rail insulators replaced.
- 86,535 ft track resurfaced/tamped.
- JFK/UMass and North Quincy stair repairs.
- JFK/UMass and North Quincy roof replacements.
- Furnace Brook Bridge repairs.
- Station stair and structural inspections throughout the suspension area.
- Tree trimming and vegetation removal.
- Security camera upgrades throughout the suspension area.
- Power and signal modernization work.
- In-station painting, cleaning, and power washing throughout the suspension area.



# Track Improvement Program | Completed Work - Orange Line

# Back Bay to Forest Hills, October 8-20, 2024 with Back Bay to North Station Extension October 12-14 | (OL-005)



#### Track Work

- Lifted **20 speed restrictions**.
- Replaced 27,594 feet of rail.
- · Replaced 336 ties.
- Resurfaced and tamped 1,900 feet of track.
- Repaired/rebuilt
  - 19 full concrete direct fixation panels
  - 38 half concrete direct fixation panels
  - 53 quarter concrete direct fixation panels
- Drilled/cored and installed more than 250 shoulder posts.
- .\*Early estimated total time savings is about 9.0 minutes round-trip (6.0 minutes NB and 3.0 minutes SB).



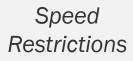


## Piggyback Work

Roxbury Crossing stair repairs, all electrical rigid conduit and required cable pulls complete at Tufts Medical Portal, Built out and completed new unistrut framing at Ruggles Southbound platform, performed wayside door inspections and SWC tunnel inspections, signal modernization and more.

# **Progress Metrics**

Data date: Oct. 21, 2024 Feet of **Tamping** orig. scope 42428 132,766 86007 127% Complete -60392 Originally Projected 221,885 ft to Tamp





220 lifted, 19 more than orig. scope



**Originally Projected** 191\* Speed Restrictions

# Travel Time *Improvement*



88.7 min returned, 4.8 more than orig. scope



Refined Modeled 84 Minutes

# Ties Replaced



**34,819** replaced, **3,017 more** than orig. scope

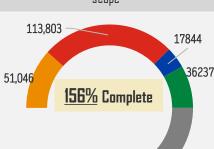


**Originally Projected** 31,802 Ties for Replacement, incl SGR

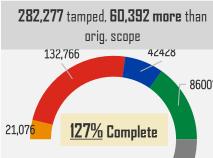
# Feet of Rail Replaced



218,930 replaced, 78,250 more than orig. scope



**Originally Projected** 140,680 ft for Replacement



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

Orange Line

Red Line

Blue Line

-78250

Green Line

Beyond Scope

# Track Improvement Program | Upcoming Work - Orange Line

# North Station to Oak Grove, October 26 to November 1, 2024 | (OL-001)



# Track Work Proposed

- -Address 9 speed restrictions
- -rail replacement
- -tie replacement
- --surface, line, and tamping.

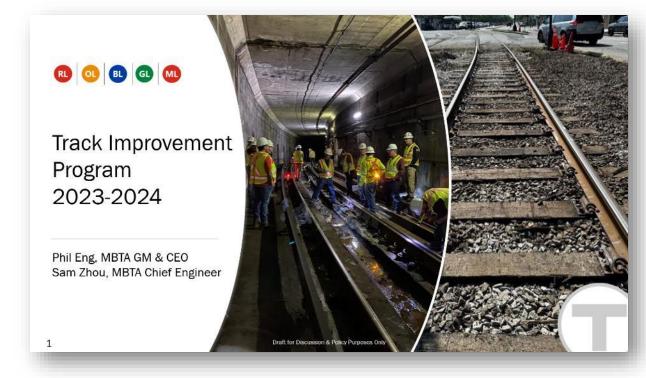


# Piggyback Station Work Planned

Crews will maximize the outage by performing signal work and station amenity upgrades, including new lighting, painting, tiling, power washing and more. ITP will perform signal modernization work during the extension.

# Updated information about speed restrictions | Available at MBTA.com





https://www.mbta.com/trackprogram

https://www.mbta.com/performance-metrics/speed-restrictions

As of 10.21.2024

# Community Engagement Events | Calendar

# Open Houses

Thu., 1/25, 6 – 7:30 p.m., Cristo Rey High School

Wed., 2/21, 6:30 - 8 p.m., Zoom

Thu., 3/7, 6:30 – 8 p.m., Zoom

Thu., 4/11, 6 – 7:30 p.m., Boston Public Library

Tue., 5/14, 6 – 7:30 p.m., Mattapan Public Library

Tue., 10/01, 6 – 8 p.m. Virtual PIM

# Station Pop-ups

Fri., 3/08, 5 – 6:30 p.m., Ruggles Station

Tue., 4/09, 3 – 4:30 p.m., Airport Station

Wed., 7/31, GL Boston University Station

Wed., 8/28, 8 - 10 a.m., JFK/UMass

Thu., 10/31, 8 – 10 a.m., Broadway Station

Tue., 12/03, 4 – 6 p.m., Medford/Tufts

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.



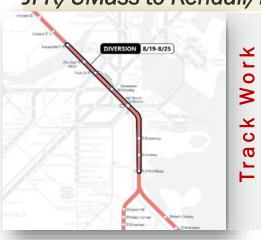
# Questions



# Previous Board TIP Updates



# JFK/UMass to Kendall/MIT, August 19-26, 2024 | (RL-004)

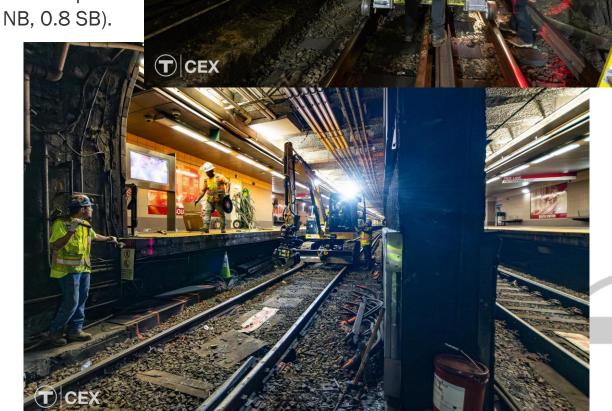


6 Speed Restrictions cleared.

- 9,753 feet of rail replaced.
- 1,723 feet of restraining rail replaced.
- 260 feet full-depth reconstructed.
- 477 ties replaced.
- 9,200 feet of track resurfaced and tamped.

Track Improvement Program | Completed Work - Red Line

- RT time improved ~4 min. (3.2 NB, 0.8 SB).
- Replaced 190 third-rail insulators
- Installed >8,100 feet of cable hangers (tunnels)
- Removed/reinstalled 24 WEZE bonds
- Removed/reinstalled ~2,000 feet of signal cable
- Repaired drainage grates, stairways, and columns.
- Cleared drainage areas.
- Security camera upgrades throughout the suspension area.
- Ceiling repairs and fireproofing work.
- · Power and signal modernization work.
- In-station painting, cleaning, and power washing throughout the suspension area.

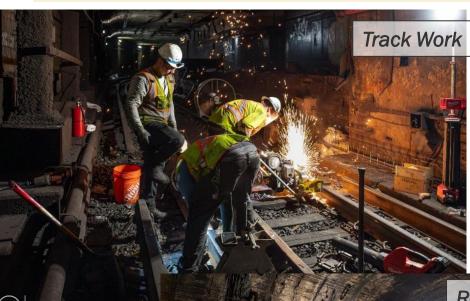


Reported 09.26.2024

# Track Improvement Program | Completed Track 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)

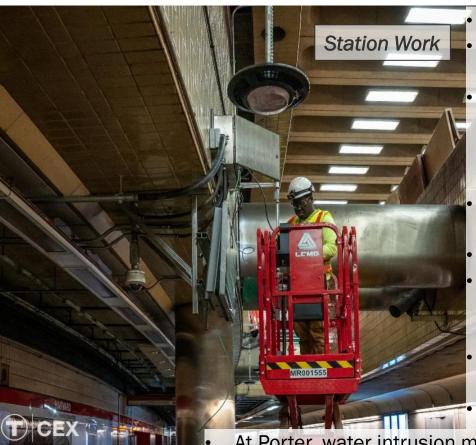


- Lifted 9 speed restrictions.
- Replaced **21,725** ft of rail.
- Replaced **1,694** ft of restraining rail.
- Replaced 250 ties.
- Resurfaced & tamped **11,471** ft of track.
- Replaced 2,662 tie plates.
- Replaced 21 primary & add'l 25 secondary floating concrete slabs.
- Removed ~30,000 ft scrap rail from ROW, improving safety and aesthetics.
- Run times from Park Street to Alewife NB decreased by ~3.5 min and ~1.3 min SB.: ~4.8 min total.
  - Replaced 50 WeeZee bonds (part of track circuit).
  - Repaired/replaced 16 damaged track bonds.
  - Removed/reinstalled ~4,500 ft of balancing cable.
  - Replaced/fully tested ~55 individual track circuits.
  - Replaced/fully tested 10 track circuit loops.
  - Installed cable hanger assemblies NB tunnel for ~13,000 ft ea assembly is mounted every ~5 ft.
  - Replaced ~5,000 ft of roof of Alewife's E. headhouse.
  - Gauged ~2,000 ft of track, including curves and at crossovers.

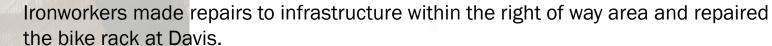
# Track Improvement Program | Completed Station Work - Red Line

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)



- Repaired broken tiles at Alewife.
- Sanded and repaired in-station benches throughout the shutdown stations.
- Stairway repairs were made throughout the shutdown area, including repairs to hand railing, concrete repairs, replacement of anti-slip treads, tile repairs, leveling and resetting, painting, and more.

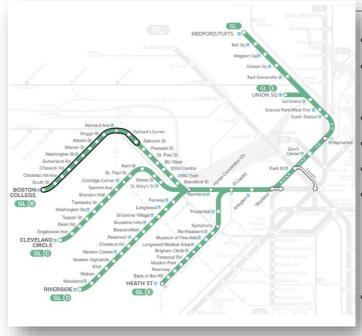


- Annual tunnel inspections performed at Alewife.
- Clear-coated benches, removed graffiti, painted station walls, painted doors, painted standpipe valves, applied nonslip tape on stairs, painted inspector booths, and painted trash receptacles.
- Cleaned and pumped drains, including pumping water out of abandoned tunnels and from under the southbound platform at Harvard.
  - Replaced the A/C units in various locations throughout the shutdown area.
- At Porter, water intrusion mitigation efforts were put in place, including diverting water by installing a trough.
- The previous Kendall/MIT outbound head house was demolished and the steel for the new head house erected.



Track Improvement Program | Completed Work - Green Line B

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

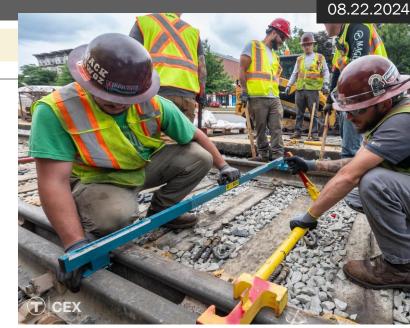


#### Track Work

- Lifted 8 speed restrictions.
- 4,190 feet of full-depth reconstruction (incl. rail, ties and ballast)
- Replaced 3,319 feet of restraining rail
- Resurfaced & tamped 5,420 ft of track.
- 40 thermite welds.
  - Nearly **800 tons of pavement** for Griggs St. ped crossing, Griggs St platforms, Allston St grade crossing, curb ramps, and platforms; and Warren St grade crossing, curb ramps and platforms.
- Installed 2 cast-in-place concrete ductbanks for ITP Ductbank project.
- ~1 min. faster RT (limited data & surface traffic).

# Piggyback Station Work

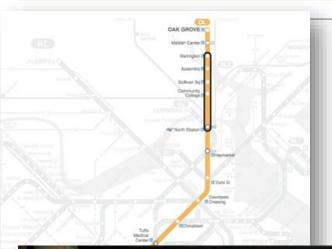
- Security enhancements within the Boston College yard.
- Tree trimming and vegetation removal.
- Power washing stations and cleaning platforms throughout the service suspension area.
- Pressure washing buildings within the Boston College yard.
- Fencing repairs and improvements, inspections, painting, signage replacement.
- Platform repairs.



Reported



## Piggybacking on MassDOT Mystic Ave/Maffa Way Bridgework



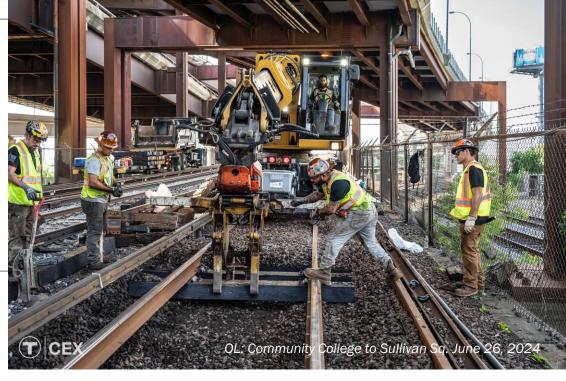
#### Track Work

- · 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).



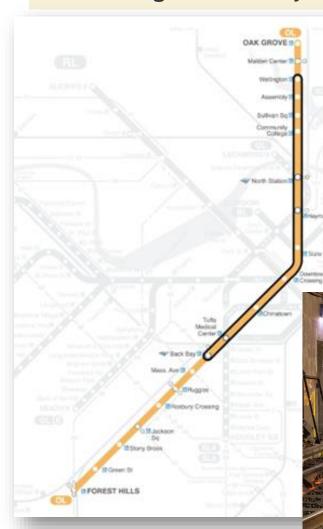
#### Station Work

- 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.
- Upgraded station lighting. Painted. Improved HVAC. Cleaned.
- 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.



# Track Improvement Program | Completed Work

## 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.





- 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.

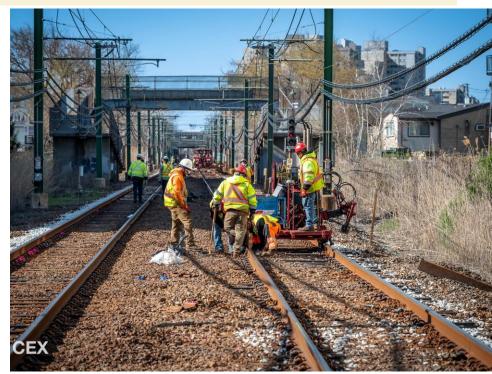


## BL (001) Maverick to Wonderland, Apr 17-19 | Airport to Wonderland Apr 20-30, 2024



#### 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: Cambell's Gate, Beachmont.
- Resurfaced and tamped 41,650 ft track.
- Replaced/Rehab 3 switches.



Airport to Wonderland 04.26.2024



- 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.



# Track Improvement Program | Completed Work

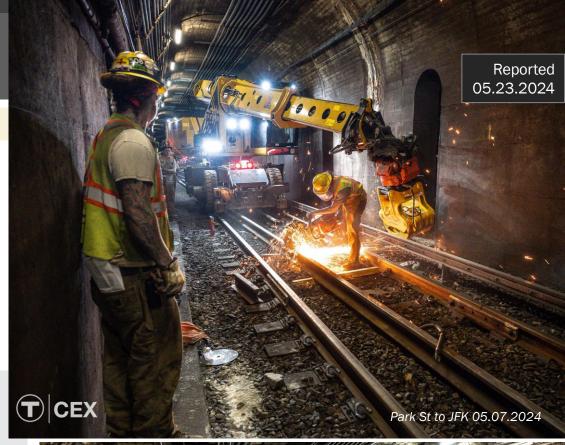
# RL Park to JFK/UMass May 2-10, 2024



#### Track Work

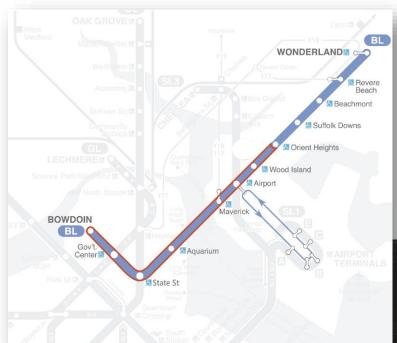
- Lifted 13 speed restrictions.
- Improved RT time by 10.2 min.
- Replaced 10,201 ft rail.
- Replaced 225 ties.
- Replaced 3,822 tie plates.
- · Surfaced & tamped 24,200 ft.
- Installed 231 contact rail insulators.

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





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



## Piggyback Work

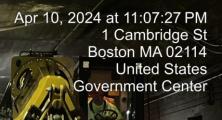
- Painted Sand boxes at Orient Heights, Wood Island, Airport & Maverick
- Started repair Wonderland operators' platform.
- Standpipe testing at Aquarium.

### 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.
  - o Relocated 24 rail stringers.
  - o Staged 432 ties.



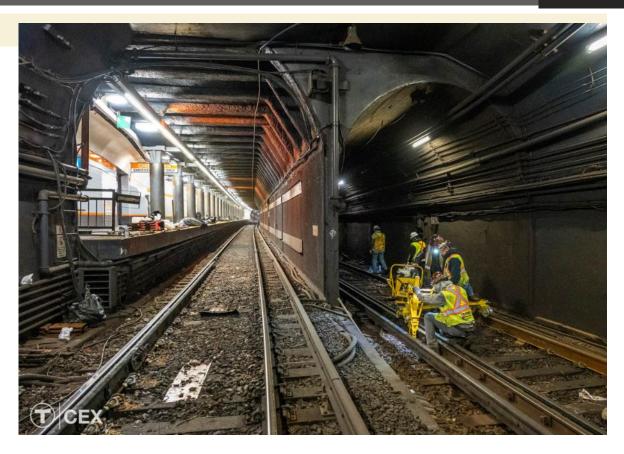




## OL North Station to Jackson Square, Mar 18-21, 2024



- 7 speed restrictions lifted.
- 5160 ft rail replaced.
- 27 cologne eggs replaced.
- 259 plates installed.
- 500 ft of stringer cable replaced.
- 2 direct fixation concrete pads installed. 1 weld completed.
  - 2.2 min. (RT) improved time.

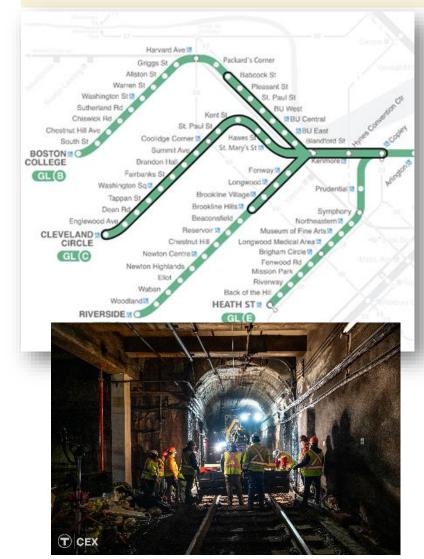


### Station Work

- 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

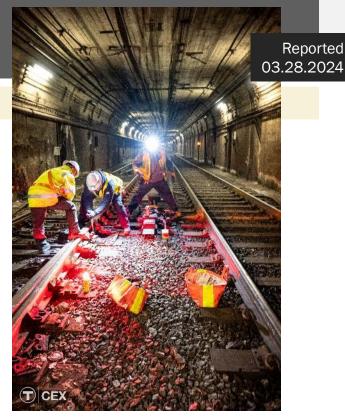
## GL Copley to Babcock, Cleveland Circle and Brookline Hills, Feb. 20 - Mar 8, 2024



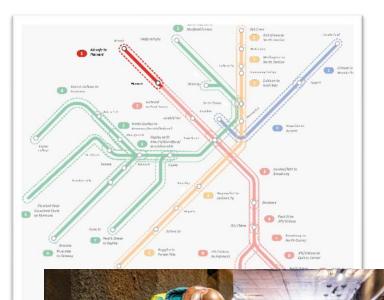
# **Metrics**

- √ 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

- 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.



## 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)

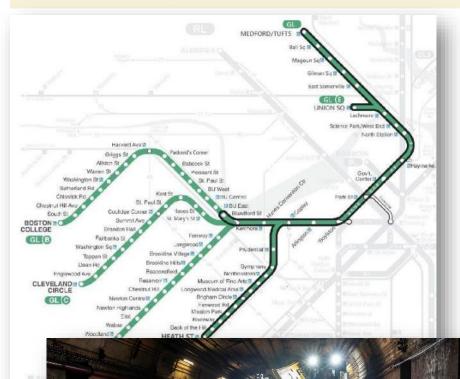


Repairing concrete slabs

- ✓ Station enhancements new flooring and lighting.
- ✓ Replaced dozens of signal bonds, reinstalled ~3,500 ft signal cable.
- ✓ Regauged 3<sup>rd</sup> 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.



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.



ark St to Gov't Center 01.20.202

- √ ~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

# 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.



Boylston to Park 01.03.2024

- ✓ 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



# Track Improvement Program | Completed Work (Surge)

# Green Line: Riverside to Kenmore, Dec. 11-20



GL D Branch 12.12.2023

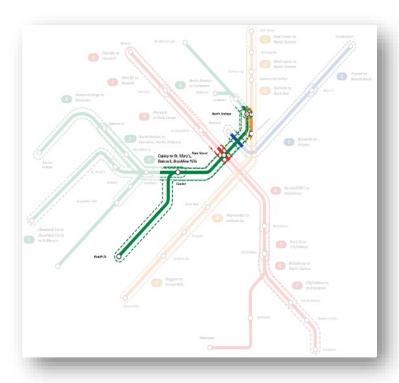
#### **Metrics**

- ✓ 22 Speed Restrictions cleared (20 planned).
- ✓ ~4 min travel time improved.
- $\checkmark$  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.

- 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.



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

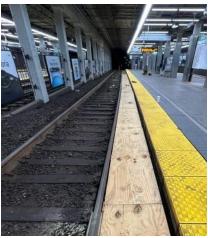


#### Metrics

- √ 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

- 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

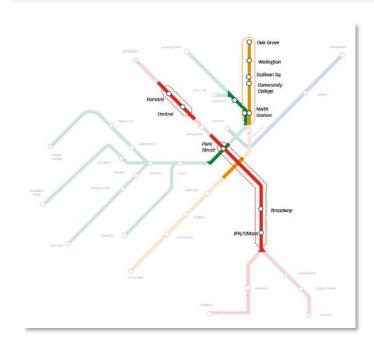




Station Upgrades

# 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

OL Oak Grove to North Station





RL Park to JFK/UMass