



Track Improvement Program Update

December 19, 2024

Sam Zhou

MBTA Chief of Engineering & Capital



Track Improvement Program 2023-2024 | Timeline

	Alternative Service Limits	Speed Restrictions Act/Adj/Orig	Time Savings Actual/Modeled	Diversion Duration Act/Adj/Orig	2023		2024													
					NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
A	Harvard to Central	✓ 1/1	1.7/1.7	Wknd																
B	JFK/UMass to Park St	✓ 6/6	4.7/1.9	EA/Wknd																
A	Oak Grove to North Station	✓ 2/2	1.0/2.7	EA/Wknd																
A	North Station to Kenmore, Heath, Babcock	✓ 12/10	2.0/4.3	9/9																
B	Riverside to Kenmore	✓ 22/20	3.7/9.2	10/10																
1	Medford/Union to Park St.	2	1.8	/15/14																
2	North Station to Kenmore, Heath, Babcock	✓ 16/15	2.0/8.7	23/23/21																
3	Copley to St. Mary's, Babcock, Brookline Hills	✓ 10/9	0/4.2	18/18/18																
4	Boston College to Babcock	✓ 8/8/7	~1*/1.7	10/10/10										<small>Shift leverages weekend; minimizes commuter impact</small>						
5	Cleveland Circle to St. Mary's	✓ 1/1	0/0.1	0/0/6					<small>Tamping, tree removal, other work during GL-003</small>											
1	Oak Grove to North Station	✓ 9/9/13	2.7/1.7	7/7/6																
2	Wellington to North Station	✓ 6/5	4.0/4.3	9/9/8																
3	Wellington to Back Bay	✓ 9/6	3.3/2.3	10/10/10																
4	North Station to Jackson Sq	✓ 7/2	2.2/1.3	4/4/4																
5	Back Bay to Forest Hills	✓ 20/19/15	9/4.8	13/13/11																
1	Alewife to Harvard	✓ 8/9	8.4/6.5	9/9/9																
2	Alewife to Kendall	✓ 9/9/7	4.8/4.0	16/16/16																
3	Harvard to Park	✓ 2/2/3	0.7/0.8	7/7/6																
4	Kendall/MIT to JFK/UMass	✓ 6/5/8	4.0/3.7	8/7/6																
5	Park to JFK/UMass	✓ 11/8	10.2/2.6	9/9/8																
6	Broadway to North Quincy	✓ 5/2/4	2.0/2.7	6/6/6																
7	JFK/UMass to Braintree	✓ 37/36/22	29.5/9.1	24/24/16																
1	Airport to Wonderland	✓ 16/12	4.0/3.1	14/14/12																
2	Bowdoin to Orient Heights	✓ 3/2	0/0.7	Early Access																

*Time savings for GL-004 is based on limited data and may be impacted by surface traffic, signals, etc.

Timeline adjustments prioritized leveraging weekends to minimize impact to weekday commuters

Track Improvement Program | Completed Work – Red Line

Harvard to Broadway, November 18-24, 2024 | (RL-003)



Track Work

- Lifted 2 speed restrictions.
- 2,332 rail ft replaced.
- 177 ties replaced.
- 3,350 plates replaced.
- 970 ft of full depth reconstruction.
- 13,800 ft tamped.
- RT time improved 0.7 min, all SB.

Piggyback Work

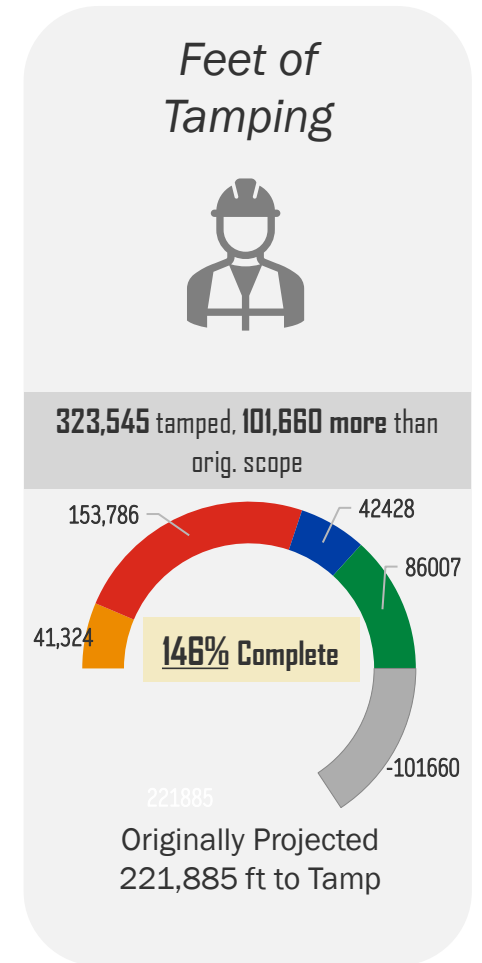
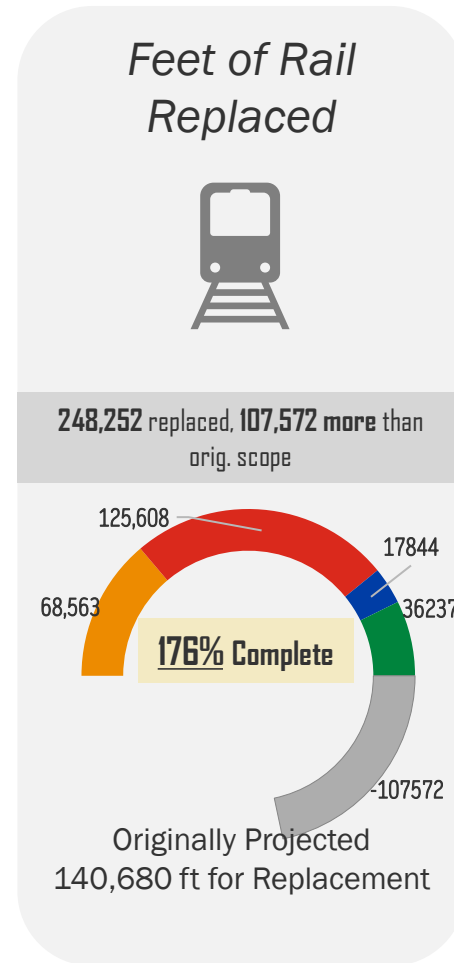
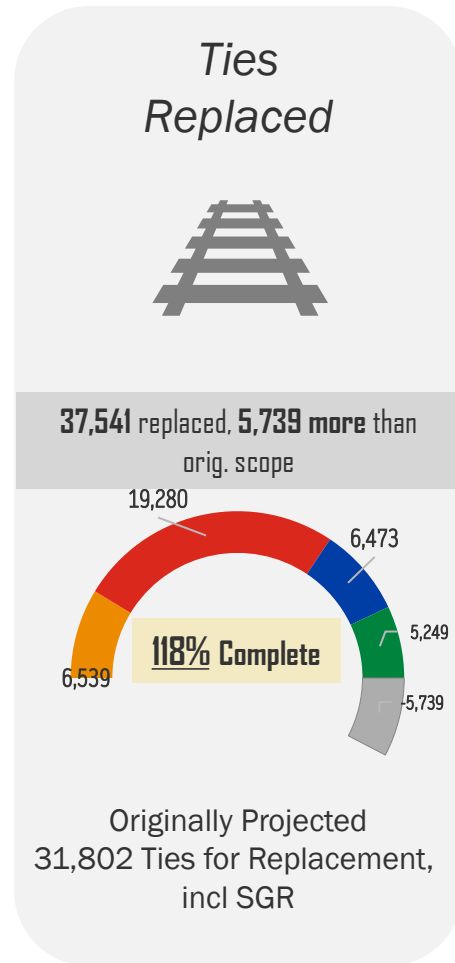
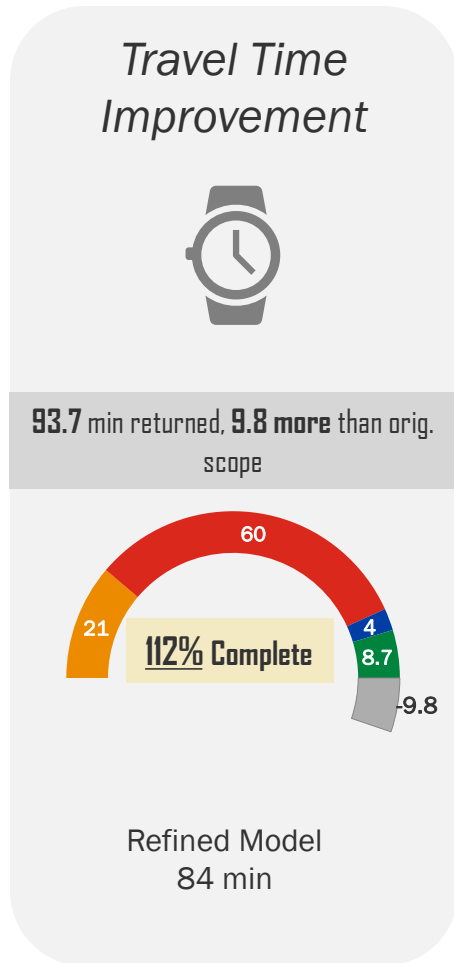
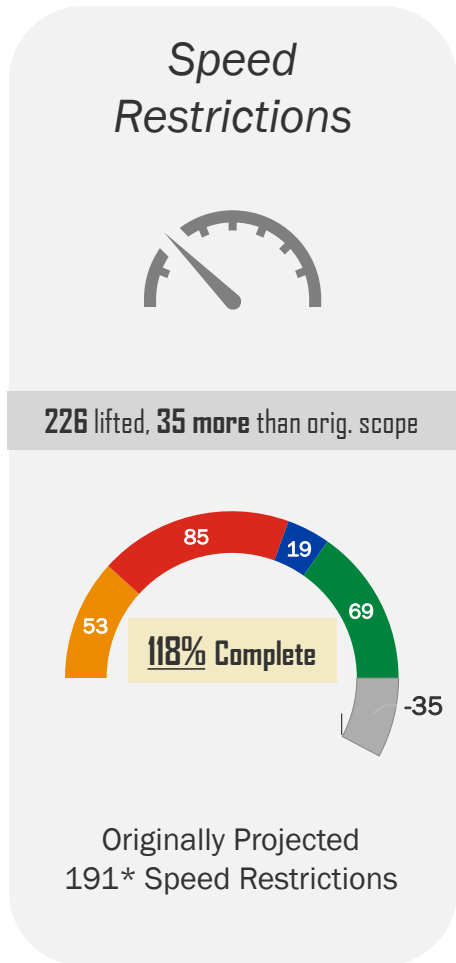
- Repairs: stairways, tunnel construction joints, electrical room.
- Signal modernization work.

- Removed more than 1,200 Pandrol Panguard plates and installed more than 1,200 new resilient RF-A fastener plates between Park Street and Charles/MGH, for improved noise/vibration mitigation and better maintainability
- Power modernization work, incl. replacing third rail at South Station and power and cable replacement at Kendall/MIT
- Electrical work on the outbound Kendall/MIT headhouse.
- Security enhancements at Charles/MGH and Park Street.
- Station door surveys and inspections.



Progress Metrics

Data date: Dec.10, 2024



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

■ Orange Line
 ■ Red Line
 ■ Blue Line
 ■ Green Line
 ■ Beyond Scope

Track Improvement Program | Ongoing Work – Green Line

Medford/Tufts and Union Sq to Park Street, December 6 to 20, 2024 | (GL-001)



Track Work Proposed

- Address 2 speed restrictions
- rail replacement
- tie replacement
- full depth replacement.
- surface, line and tamping.
- Special trackwork repairs and drainage repairs.



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



Track Improvement Program 2023-2024

Phil Eng, MBTA GM & CEO
Sam Zhou, MBTA Chief Engineer

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Draft for Discussion & Policy Purposes Only

The slide features a background image of a tunnel under construction with workers in safety gear. A large 'T' logo is visible in the bottom right corner of the slide.

<https://www.mbta.com/trackprogram>

As of 12.10.2024

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



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

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



Track Improvement Program | Completed Work – Orange Line

Reported
11.21.2024

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



Track Work

- Lifted **9** speed restrictions
- Approximately **17,333** feet of rail replaced.
- Approximately **2,437** of ties replaced.
- Approximately **20,248** feet of track resurfaced and tamped.
- Completed additional **10** welds with access during the extended limits weekend, 10/26-10/27.
- The total run time improvement RT is about **2.7 minutes** (1.2 minutes NB and 1.5 minutes SB).

Piggyback Work

- Stair repairs, waterproofing, painting, and tread replacement
- Inspections of the Wellington Pedestrian Bridge
- The completion of surveys of door areas. The completion of scanning surveys of northbound track areas between Tufts Medical Center and Back Bay with scanning targets identified in southbound track areas.
- Power inspections, switchbox repairs and installations, third rail repairs/installations
- Sullivan Square roof. Medford underpass pump room. Camera/security enhancements.



Track Improvement Program | Completed Work – Red Line

Reported
11.21.2024

Broadway to North Quincy, November 5 - 10, 2024 | (RL-006)



Track Work

- Lifted 5 speed restrictions
- Replaced 9,298 feet of running rail.
- Replaced 26 ties, 143 timbers.
- Resurfaced / tamped 7,220 feet of track.
- Returned 2.0 minutes RT (0.9 NB & 1.1 SB)

Piggyback Work

- Repairs to the Braintree platform-area stairway and overhead walkway area at JFK/UMass, shoring, demolition, drainage, steel and concrete work, and painting.

- Overhead station inspections, Security enhancements, Stairway inspections.
- Replaced broken glass section near the escalator at Ashmont.
- Door surveys and inspections at stations along Ashmont Branch.
- At complicated crossover areas: gauging, welding, insulator replacement, scrap rail removal
- Power / signal work, including cable replacement, removing / replacing ~15 WeeZee bonds, replacing third rail heaters along ~ 1,500 feet of rail, upgrading 15 welded bonds, replacing 10 track circuits, and more
- New signs, Drain cleaning, Concrete patching, Paint, Power washing.



Track Improvement Program | Completed Work – Orange Line

Reported
10.24.2024

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.

Track Improvement Program | Completed Work – Red Line

Reported
10.24.2024

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

Track Work

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

- 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.



Additional & Station Work

- 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 – Red Line

Reported
09.26.2024

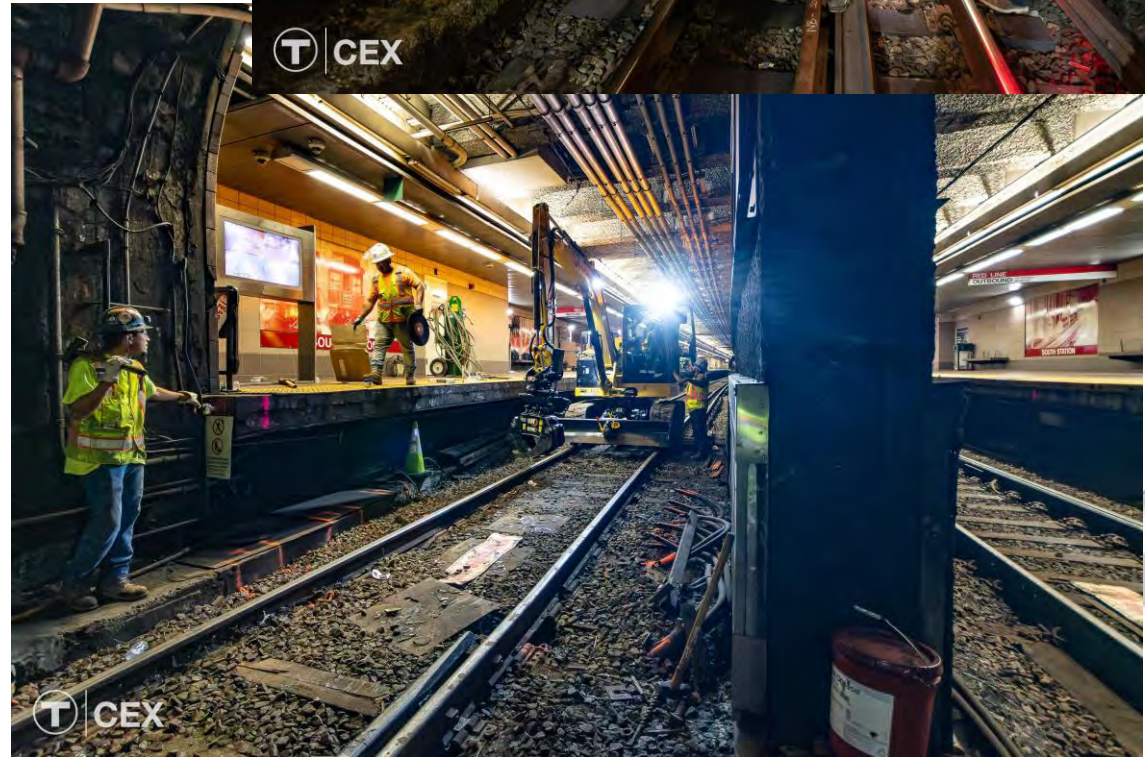
JFK/UMass to Kendall/MIT, August 19-26, 2024 | (RL-004)

Track Work

- 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.
- RT time improved ~4 min. (3.2 NB, 0.8 SB).

Additional & Station Work

- 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.

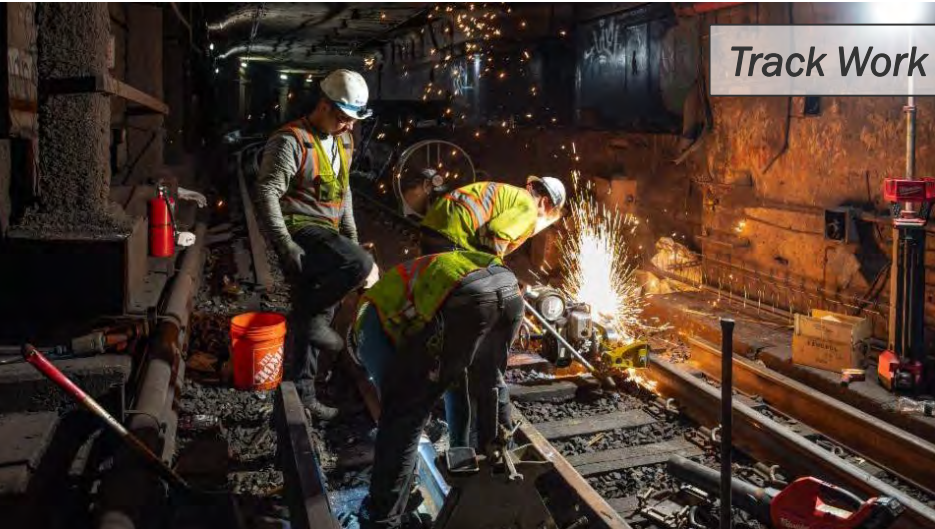


Track Improvement Program | Completed Track Work – Red Line

Reported
08.22.2024

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

- 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.



Related Track Work

- 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

Reported
08.22.2024

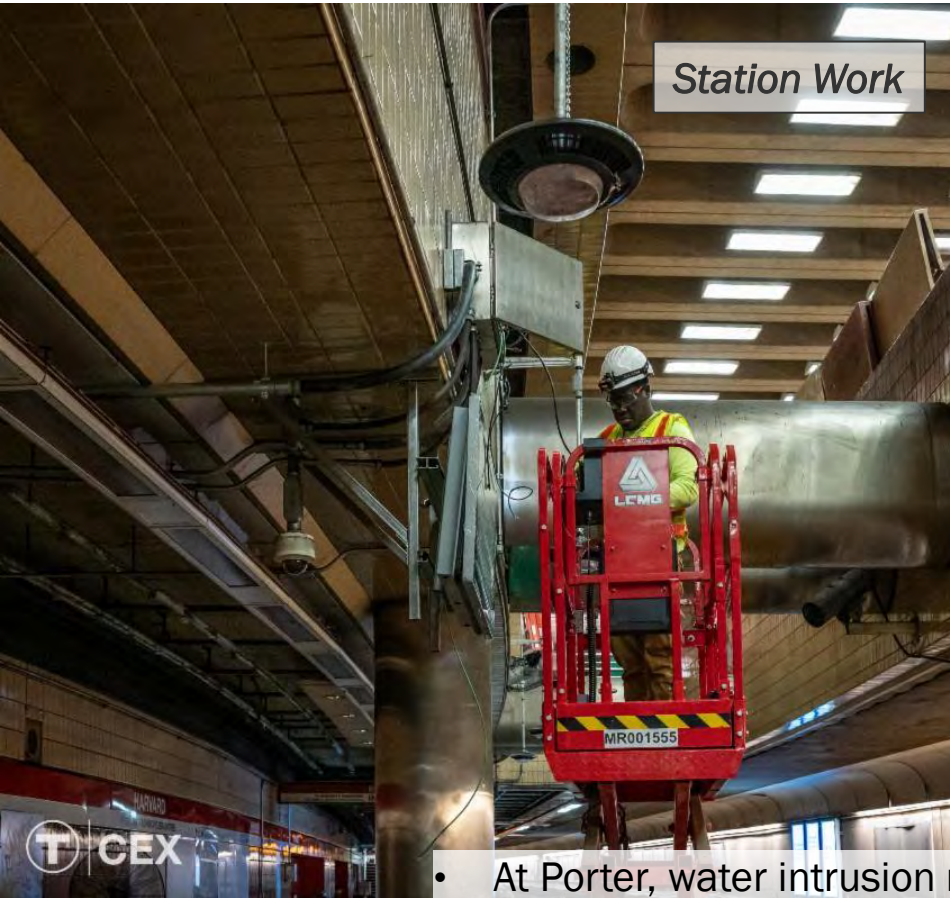
Alewife to Kendall/MIT July 13-28, Early Access July 12 | Kendall to Park Street Early Access July 15-19, 22-26

Weekend July 20-21 | Alewife to JFK/UMass July 13/14, 27/28 Weekends | (RL-002)



Station Work

- 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.
- Ironworkers made repairs to infrastructure within the right of way area and repaired the bike rack at Davis.
- 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

Reported
08.22.2024

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.



Track Improvement Program | Completed Work

OL Wellington to North Station Jun 22-29, 2024

Reported
07.25.2024

Piggybacking on MassDOT Mystic Ave/Maffa Way Bridgework



Track Work

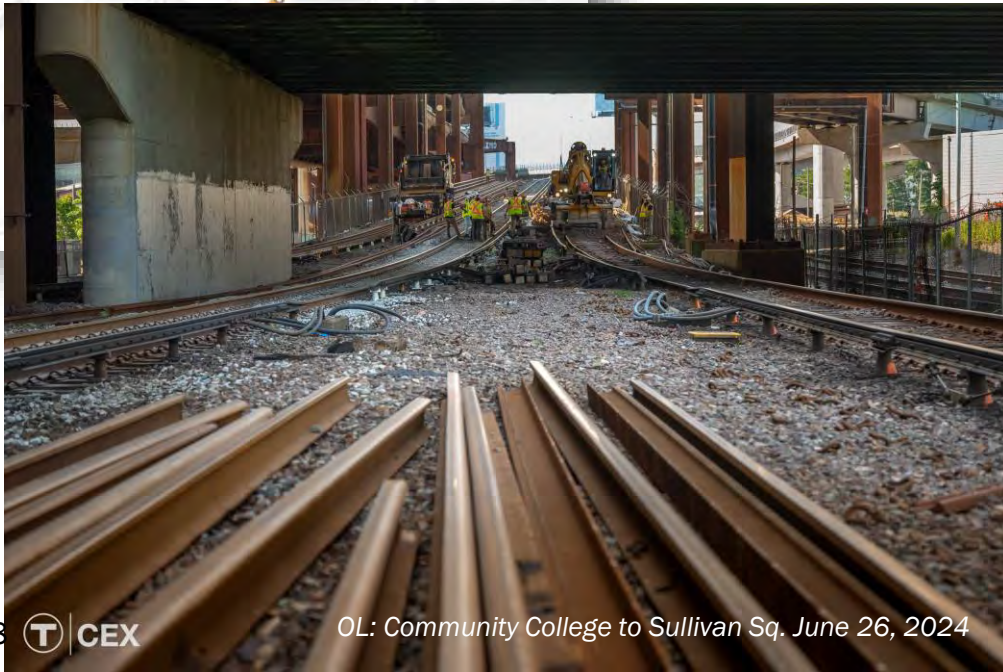
- Lifted 6 Speed Restrictions, 2 more than scoped.
- Replaced 5,701 feet of running rail.
- Replaced 3,261 ties.
- Resurfaced and tamped 11,236 feet of track.
- Performed 657 feet of full-depth track construction.
- Performed critical signal and switch modernization work between Oak Grove and Assembly.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



OL: Community College to Sullivan Sq, June 26, 2024

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.



OL: Community College to Sullivan Sq, June 26, 2024



Track Improvement Program | Completed Work

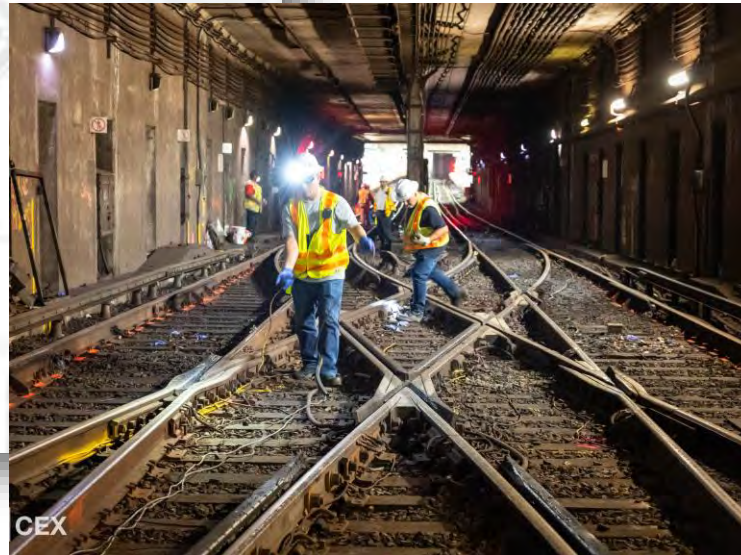
OL-003 Wellington to Back Bay May 28 – Jun 6, 2024



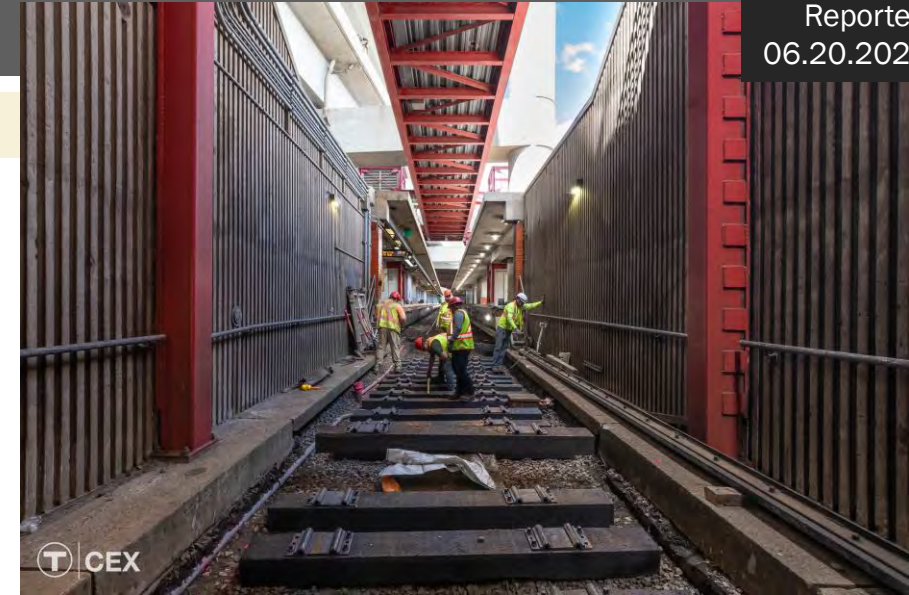
Track Work

- 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 clogne 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.



Reported
06.20.2024



Track Improvement Program | Completed Work

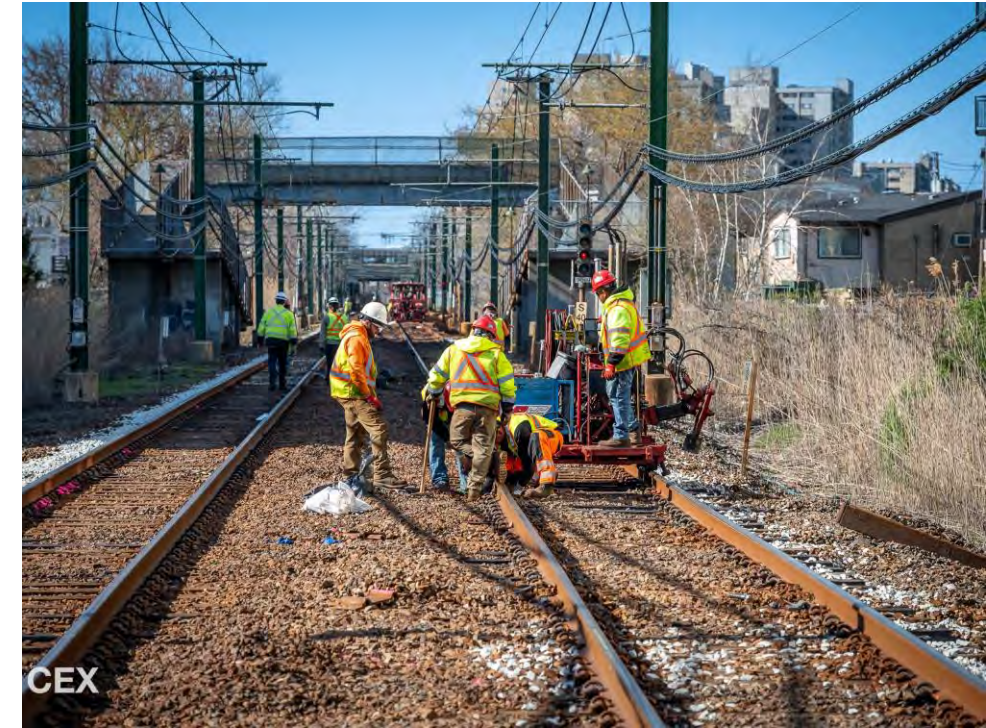
Reported
05.23.2024

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



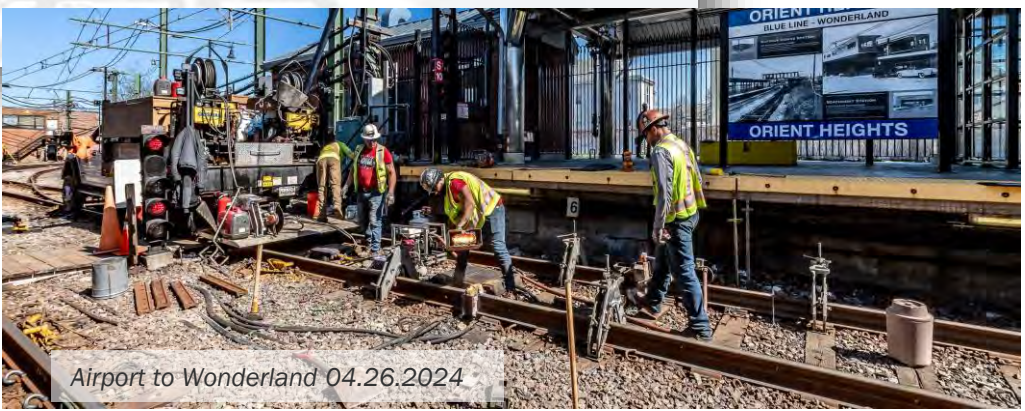
Track Work

- 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.



CEX

Airport to Wonderland 04.26.2024



Airport to Wonderland 04.26.2024

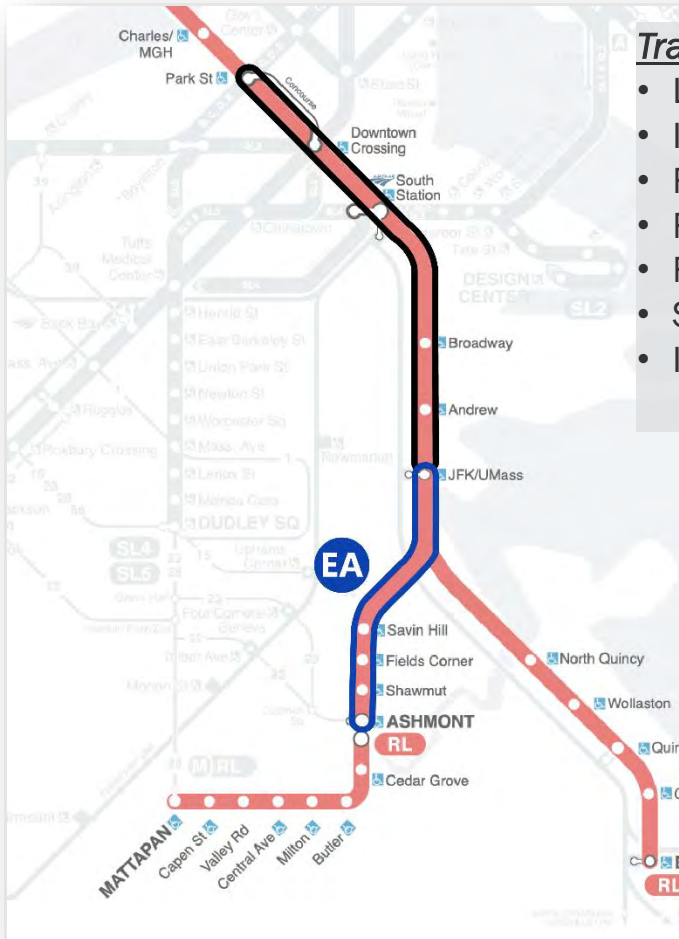
Piggyback Work

- 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.



Track Improvement Program | Completed Work

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

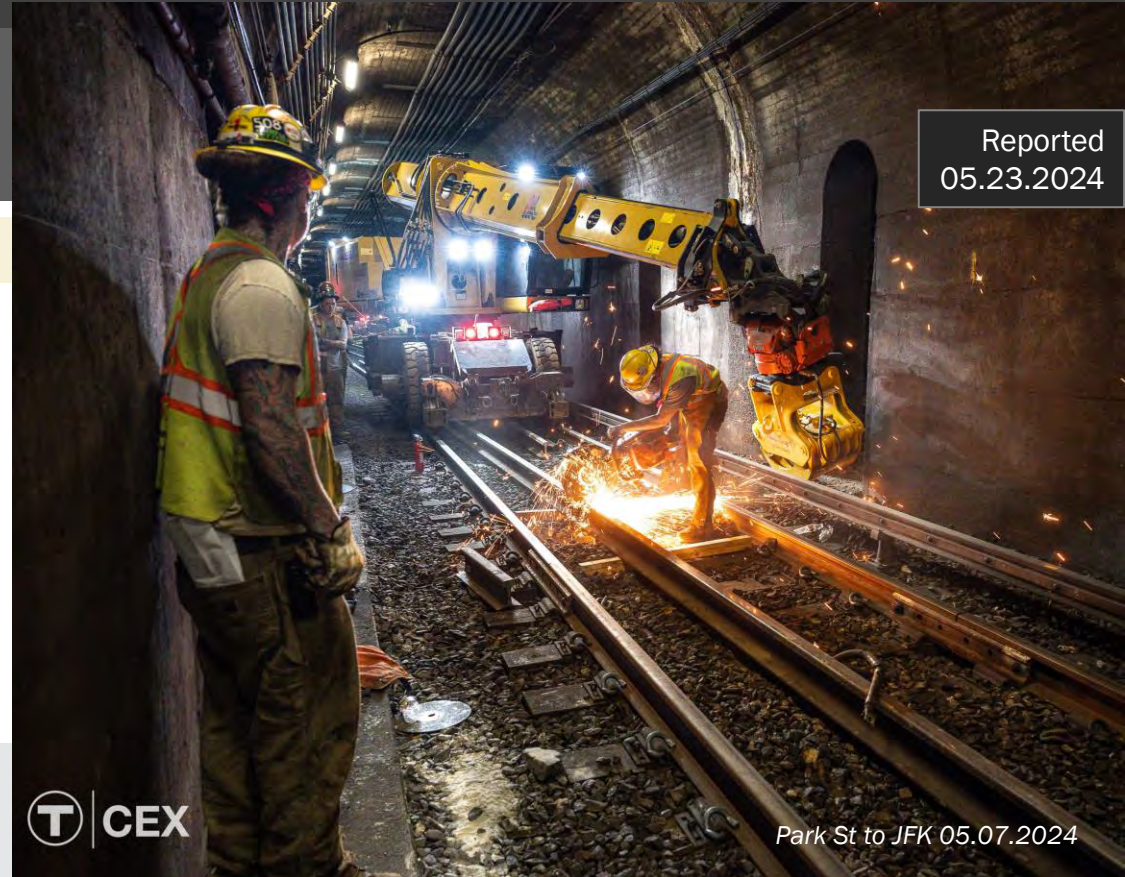


Track Work

- 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.

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.



Reported
05.23.2024



Park St to JFK 05.07.2024



Park St to JFK 05.07.2024

Track Improvement Program | Completed Work

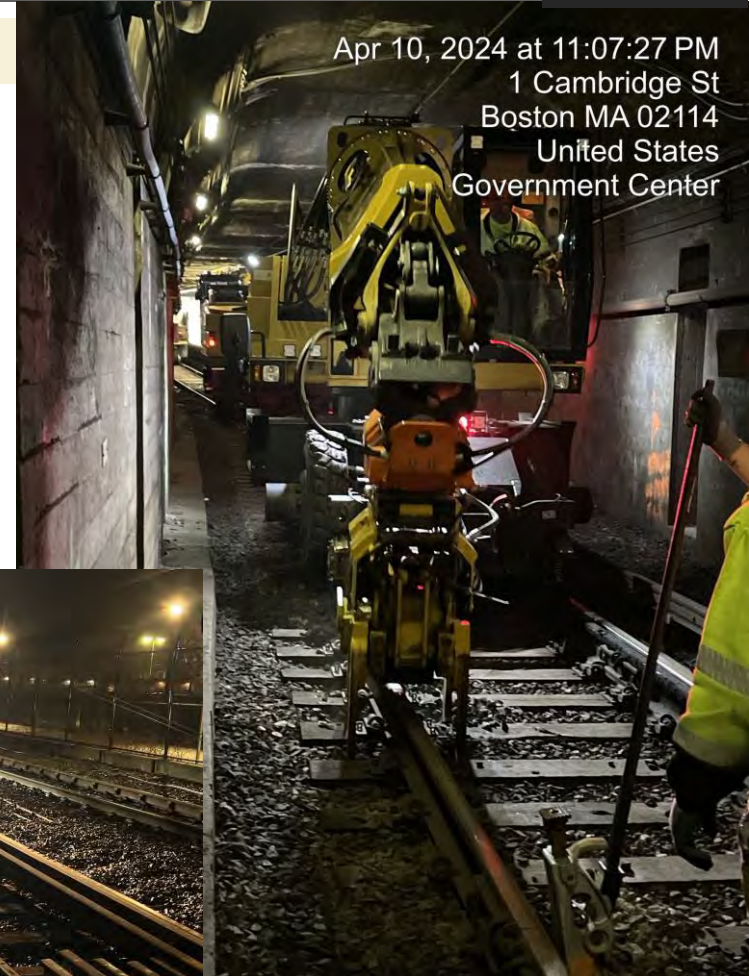
Reported
04.25.2024

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



Track Work

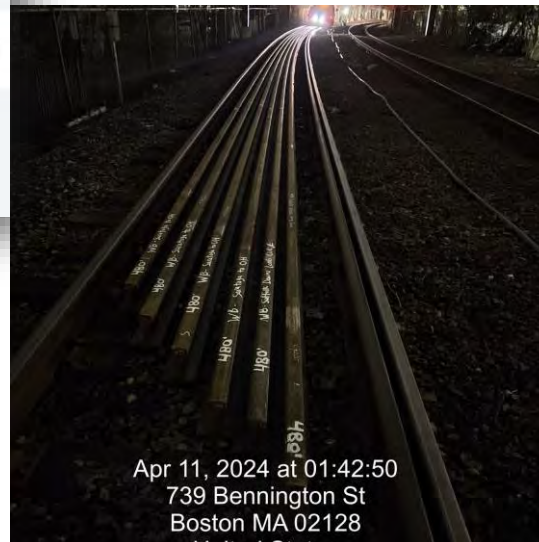
- Removed 3 speed restrictions.
- 778 ft surface tamping and aligning.
- *Prep for EOM April Diversion:*
 - Drilled 96 holes and installed bolts and assemblies on the 115 ft rail.
 - Relocated 24 rail stringers.
 - Staged 432 ties.



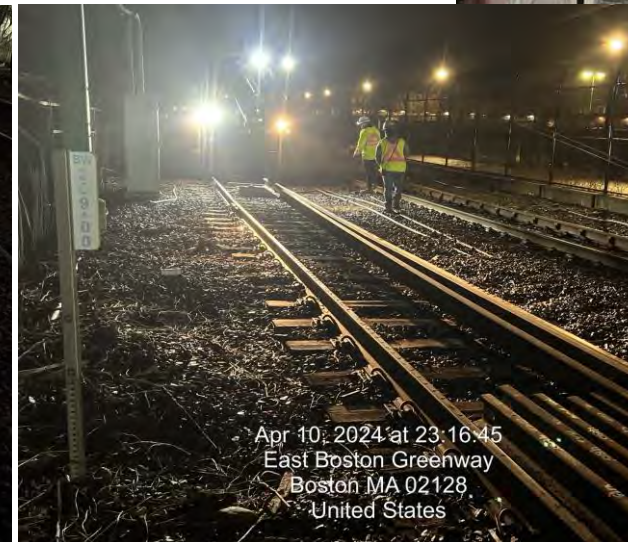
Apr 10, 2024 at 11:07:27 PM
1 Cambridge St
Boston MA 02114
United States
Government Center

Piggyback Work

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



Apr 11, 2024 at 01:42:50
739 Bennington St
Boston MA 02128
United States



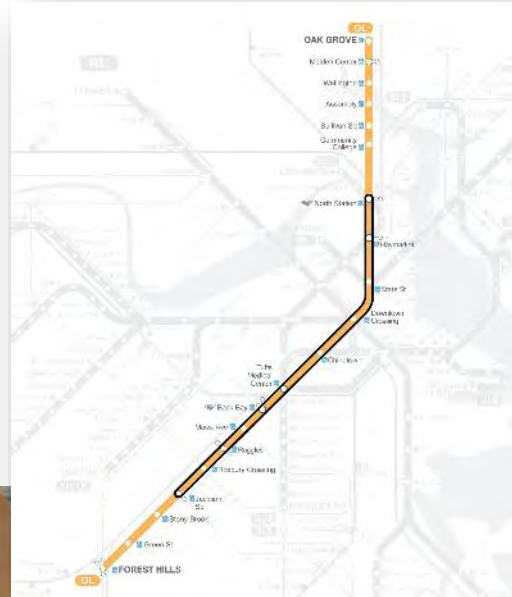
Apr 10, 2024 at 23:16:45
East Boston Greenway
Boston MA 02128
United States



Track Improvement Program | Completed Work

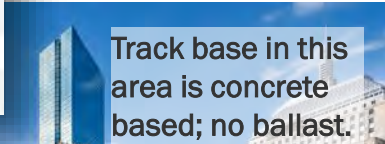
Reported
03.28.2024

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.



Track base in this area is concrete based; no ballast.

- 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

Reported
02.29.2024

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



Track work on the Red Line

Piggyback Work:

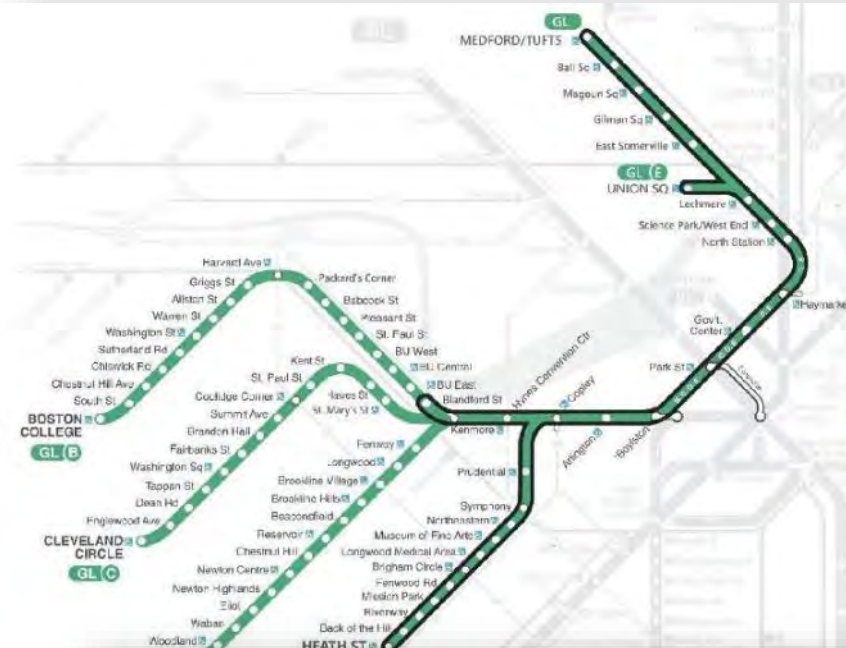
- ✓ Station enhancements - new flooring and lighting.
- ✓ Replaced dozens of signal bonds, reinstalled ~3,500 ft signal cable.
- ✓ Regauged 3rd rail and other rail work at Alewife crossover.
- ✓ Tunnel inspections/repairs along SB track between Harvard and Central stations.
- ✓ Davis station ceiling 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

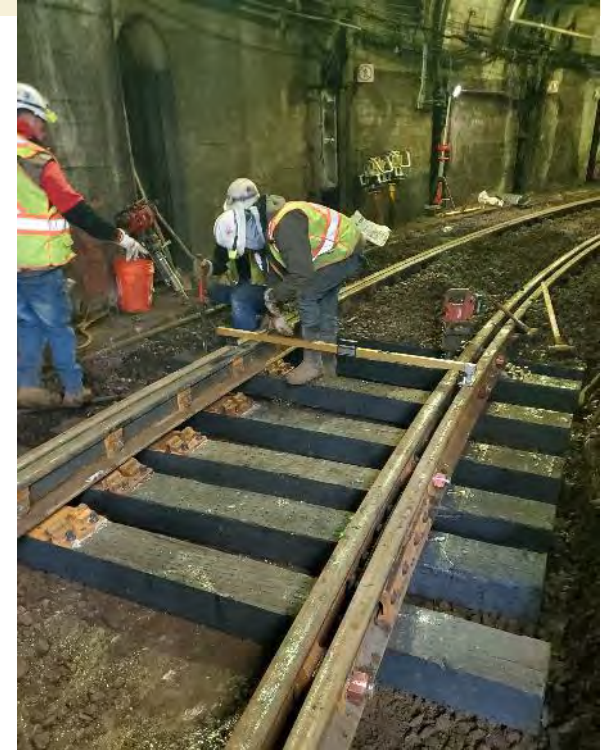
Reported
02.29.2024

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.



Park St to Gov't Center 01.20.2024

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



Copley Square
01.18.2024



Track Improvement Program | Completed Work (1st portion of January Surge)

Reported
01.25.2024

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 to Park 01.04.2024

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



Track Improvement Program | Completed Work (Surge)

Reported
01.25.2024

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.



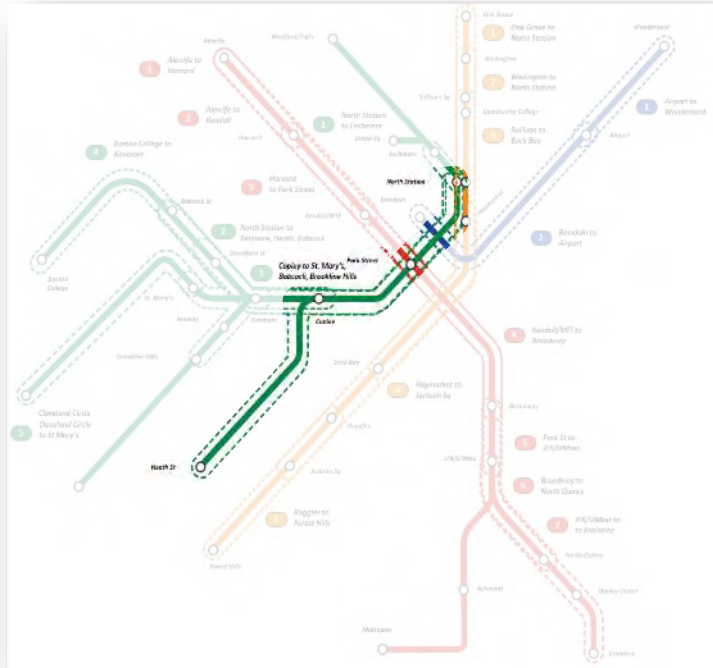
GL D Branch 12.12.2023



Track Improvement Program | Completed Work (Surge)

Reported
12.13.2023

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



Station Upgrades



Track Improvement Program | Completed Work (Weekend and 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

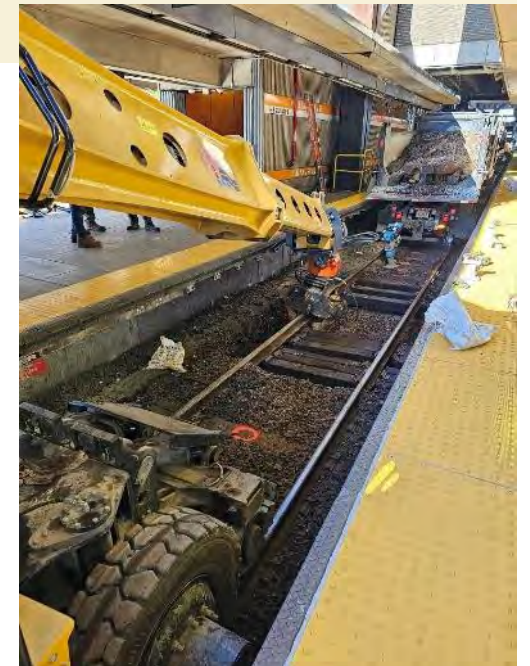
Red Line

- ✓ 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

OL Oak Grove to North Station



RL Park to JFK/UMass