

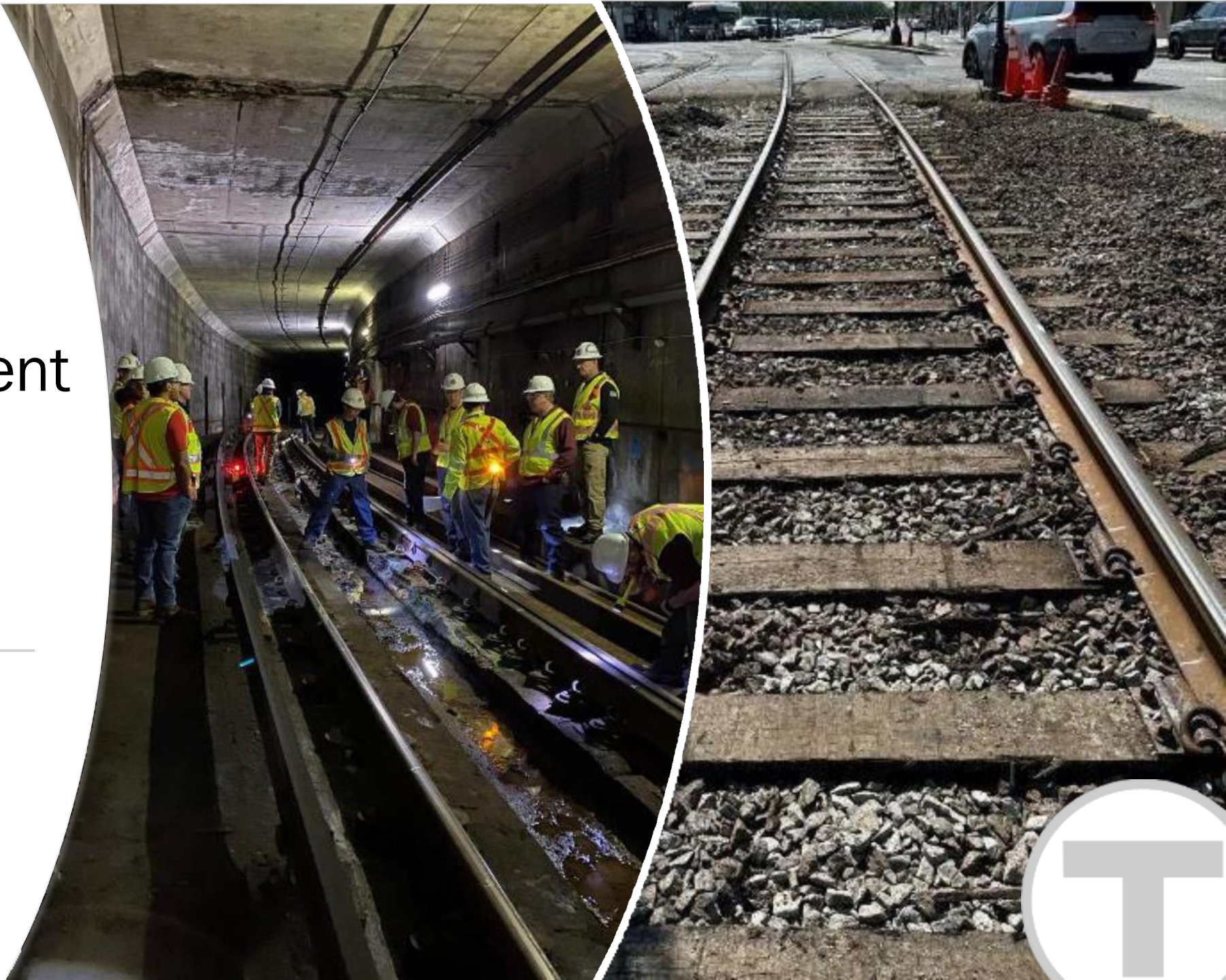


# Track Improvement Program Update

September 26, 2024

Ryan Jordan

*Deputy Chief, Construction Field Services and Track Improvement Program*



# 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	/14/14													█		
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	✓ 3/8/7	~1*/1.7	10/10/10									█	Shift leverages weekend; minimizes commuter impact					
5	Cleveland Circle to St. Mary's	✓ 1/1	0/0.1	0/0/6					Tamping, tree removal, other work during GL-003							█	Canceled. Work accomplished during GL-003.		
1	Oak Grove to North Station	13	1.7	/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	12/15	4.8	/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	3	0.8	/7/6															█
4	Kendall/MIT to JFK/UMass	✓ 5/5/8	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	4	2.7	/6/6															█
7	JFK/UMass to Braintree	36/22	9.1	/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															█



Extended for work to ultimately increase operating line speeds.

Today  
Sep 26

191 original restrictions to address  
83.9 RT min  
/217/207 days of work

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

Timeline adjustments prioritized leveraging weekends to minimize impact to weekday commuters

# Track Improvement Program | Completed Work – Red Line

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



## Track Work

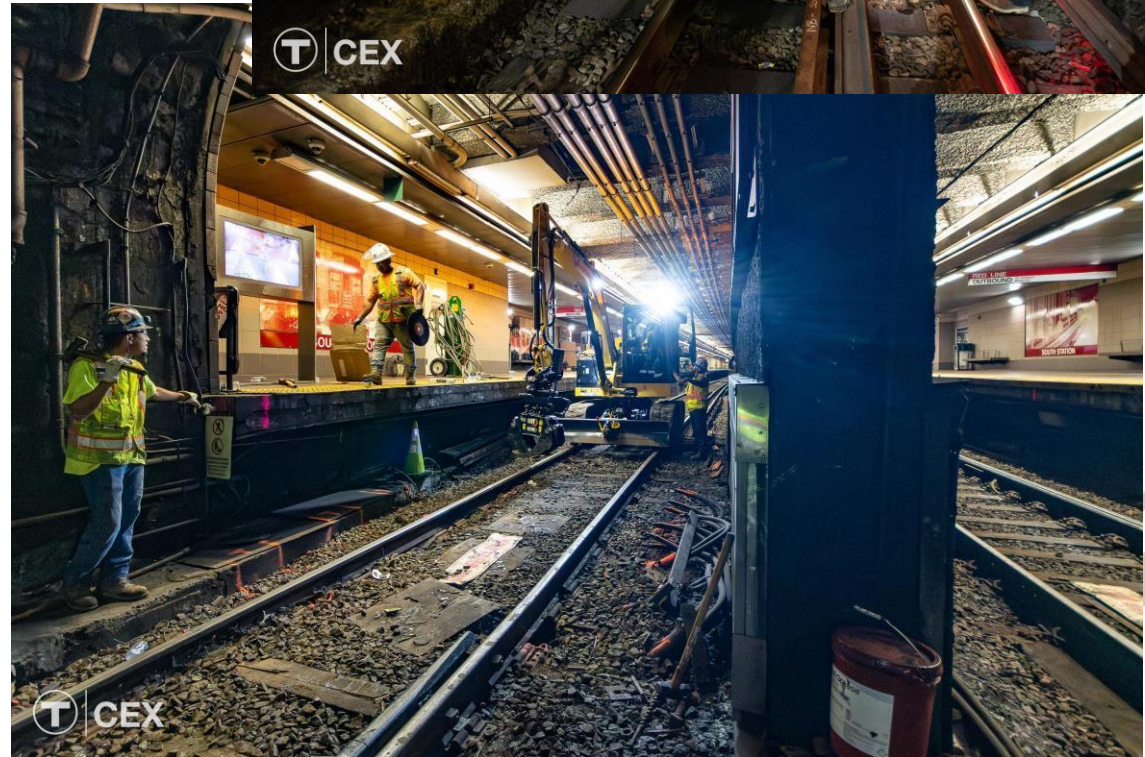
- 6 Speed Restrictions cleared.
- 9,753 feet of rail replaced.
- 1,723 feet of restraining rail replaced.
- 260 feet full-depth reconstructed.
- 477 ties replaced.
- 9,200 feet of track resurfaced and tamped.
- RT time improved ~4 min. (3.2 NB, 0.8 SB).



T CEX

## 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.

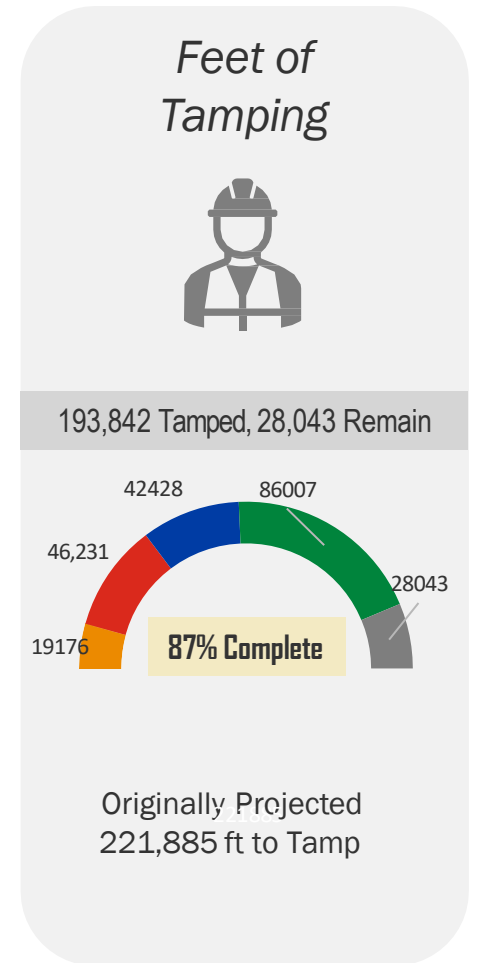
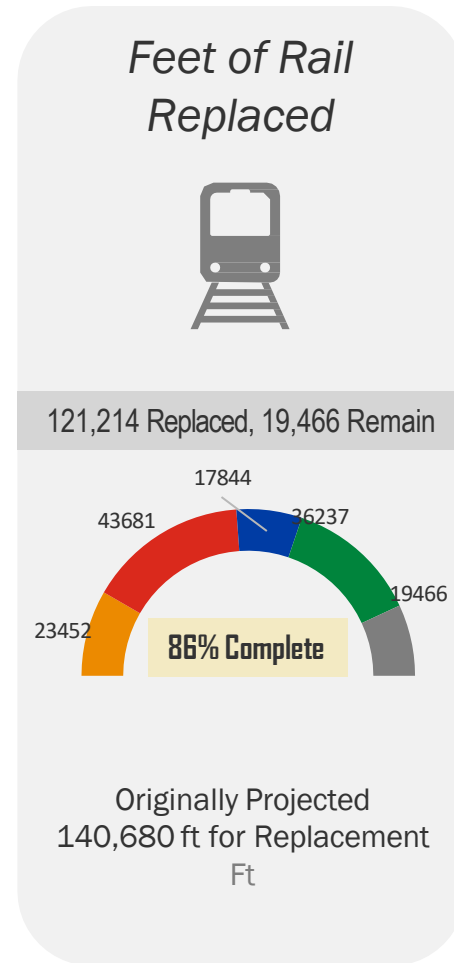
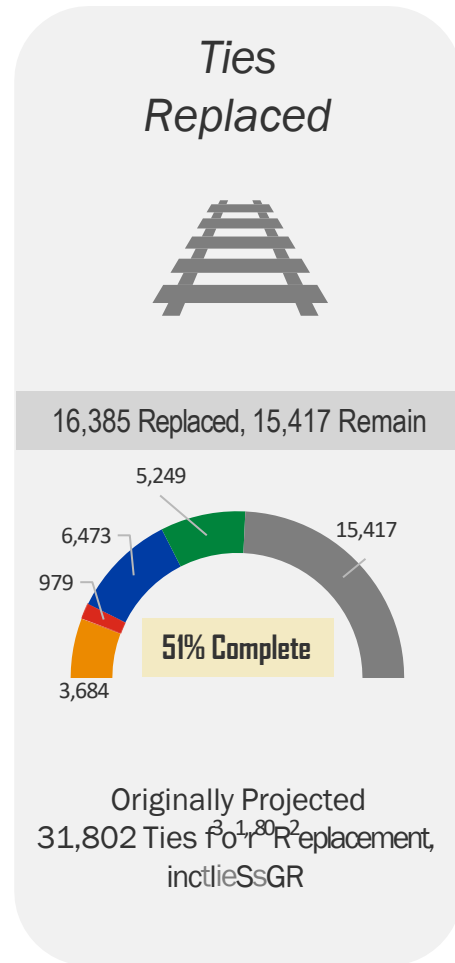
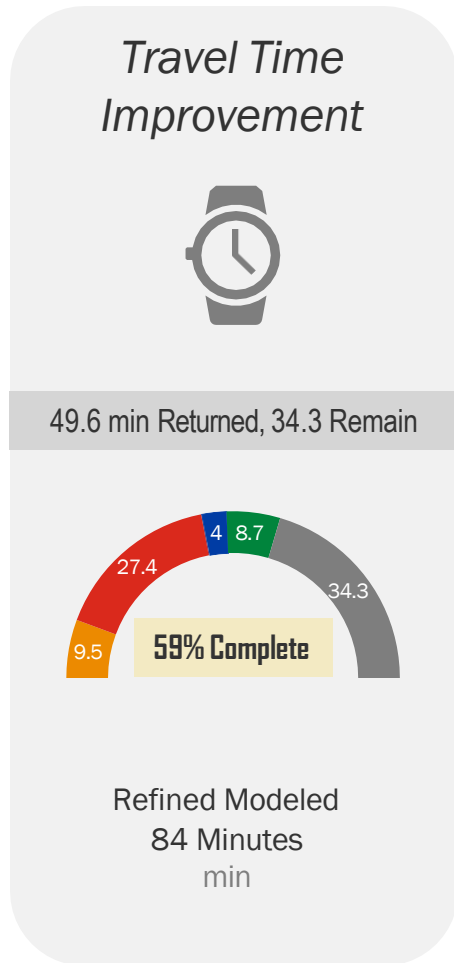
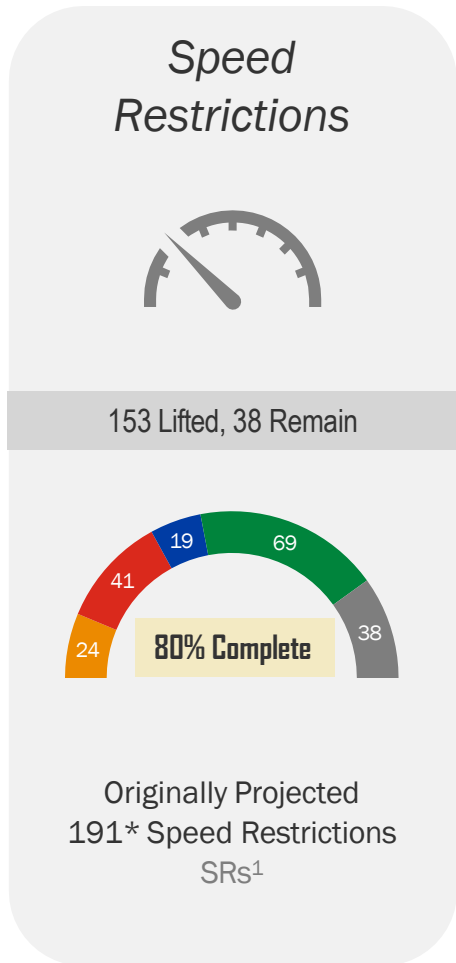


T CEX



# Progress Metrics

Data date: Aug 27, 2024



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

■ Orange Line 
 ■ Red Line 
 ■ Blue Line 
 ■ Green Line 
 ■ Remaining

# Track Improvement Program | Current Work – Red Line

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

## Track Work

More than 400 contractors and MOW workforce on site; targeting 36 speed restrictions for estimated ~24-min time improvement.

**Completed as of Sept. 17:**

- 67,243 ft of rail (of ~66,500) replaced.
- 16,181 ties (of ~17,000) replaced.
- 866 spot plates replaced.
- 1,530 insulators (of ~1780) replaced.
- 3,730 ft track (of ~90K) 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 | *Upcoming 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 Proposed

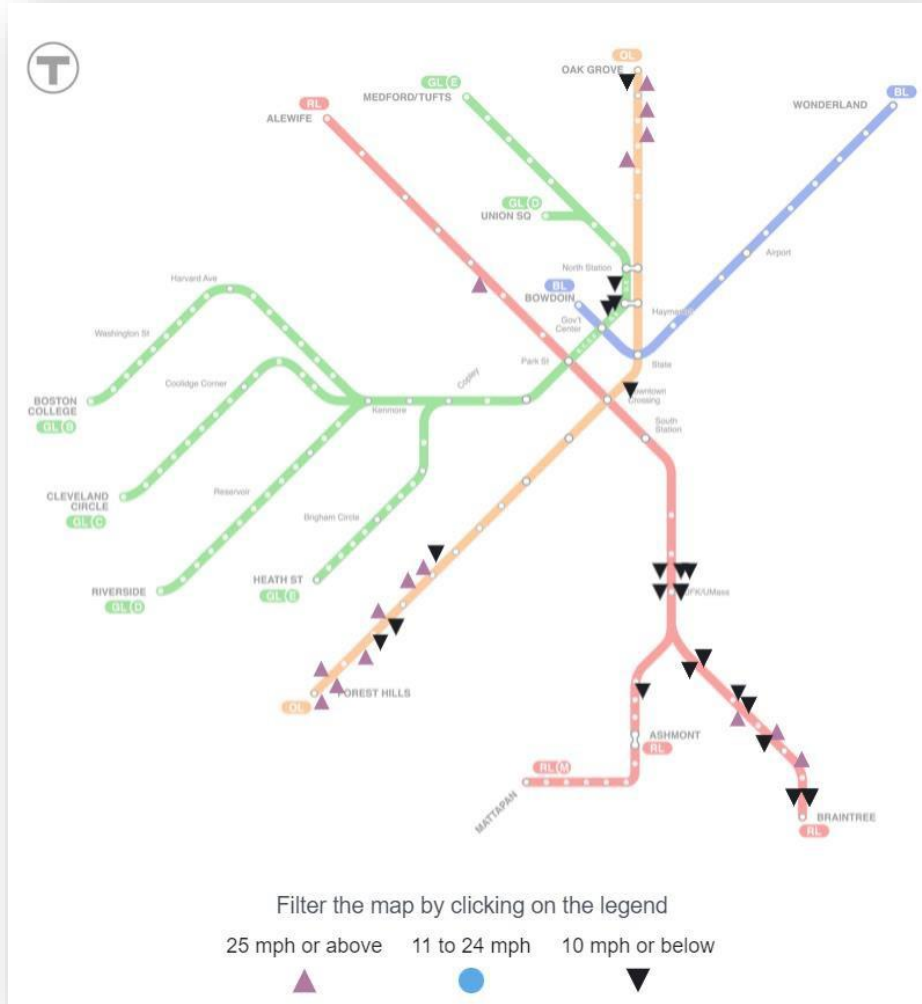
- Address 12 speed restrictions
- Concrete fixation slab repairs
- rail replacement
- tie replacement
- shoulder post replacement
- drainage repairs
- special trackwork
- contact rail insulator replacement
- surface, line, and tamping.

## 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.





As of 09.11.2024

### Track Improvement Program 2023-2024

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

1

Draft for Discussion & Policy Purposes Only

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

<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

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

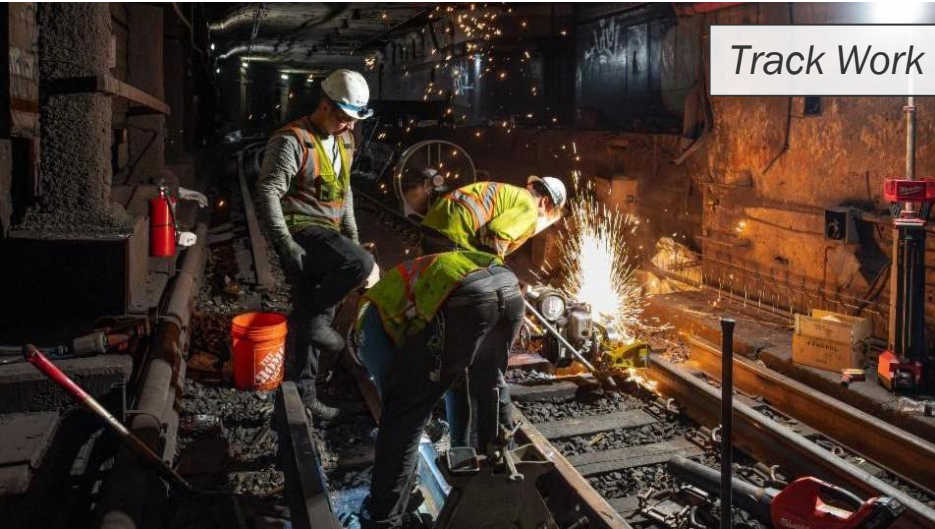


# Track Improvement Program | Completed Track Work – Red Line

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

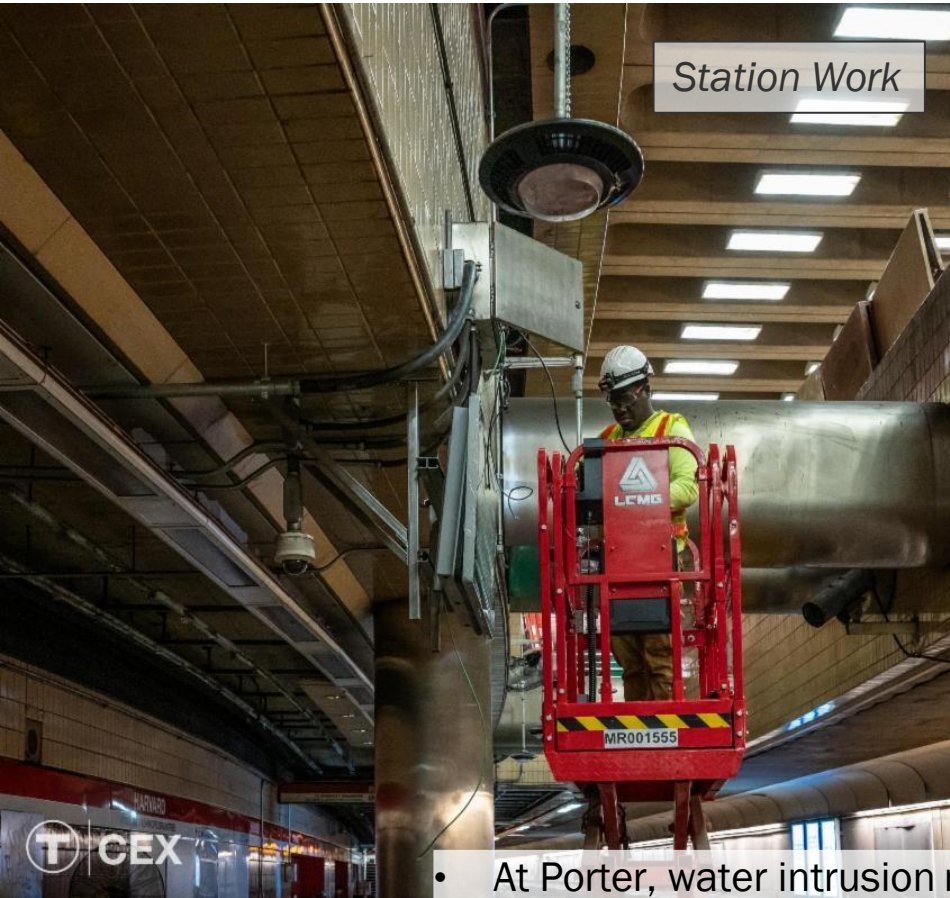
Reported  
08.22.2024

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

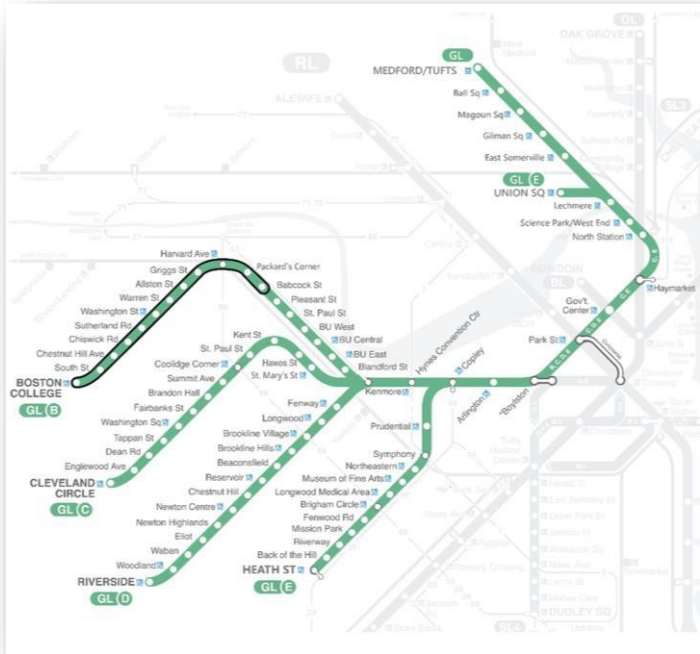


- Repaired broken tiles at Alewife.
- Sanded and repaired in-station benches throughout the shutdown stations.
- Stairway repairs were made throughout the shutdown area, including repairs to hand railing, concrete repairs, replacement of anti-slip treads, tile repairs, leveling and resetting, painting, 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 22-2024

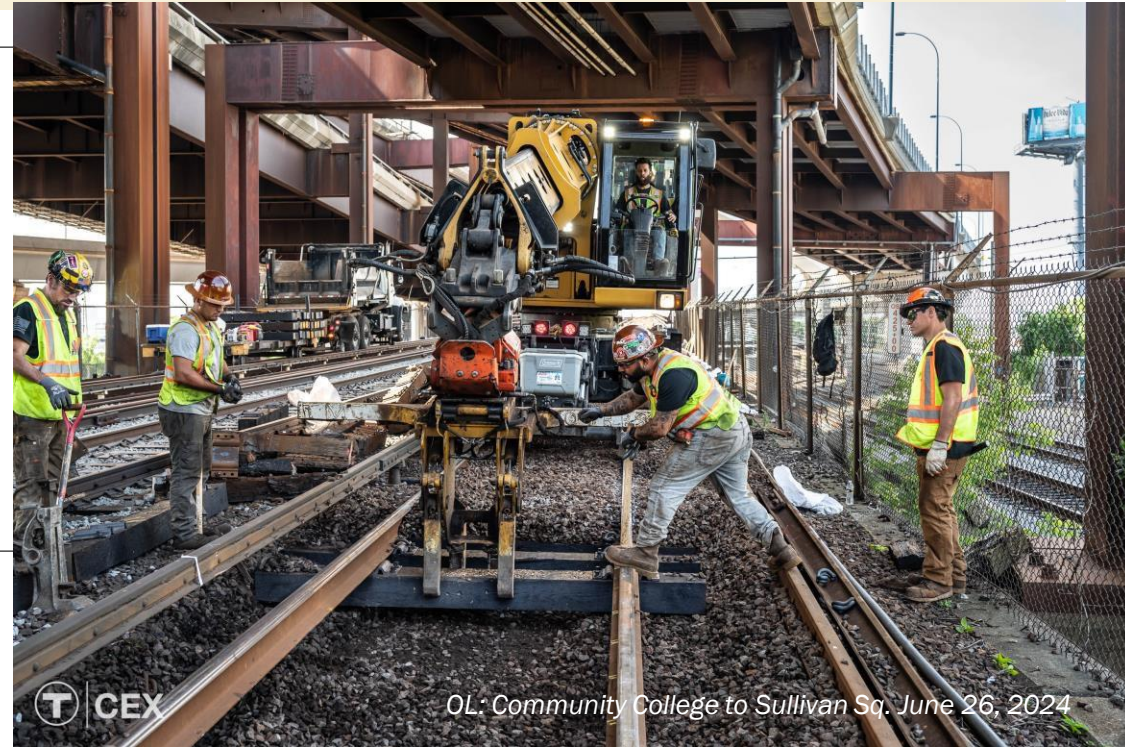
Reported  
07.25.2024

## Piggybacking on MassDOT Mystic Ave/Maffa Way Bridgework



### Track Work

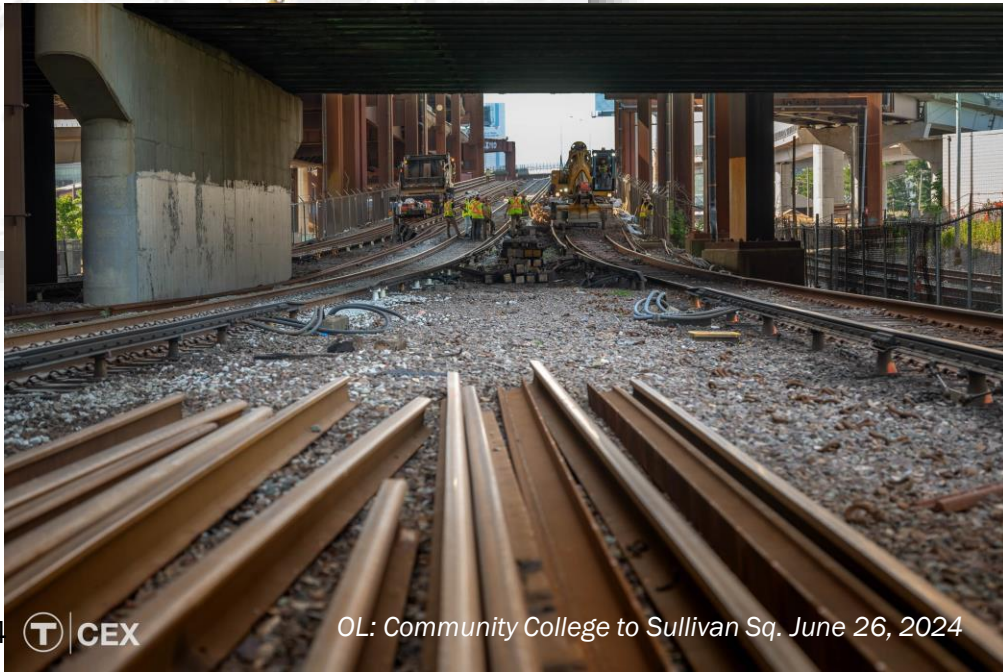
- Lifted 6 Speed Restrictions, 2 more than scoped.
- Replaced 5,701 feet of running rail.
- Replaced 3,261 ties.
- Resurfaced and tamped 11,236 feet of track.
- Performed 657 feet of full-depth track construction.
- Performed critical signal and switch modernization work between Oak Grove and Assembly.
- 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

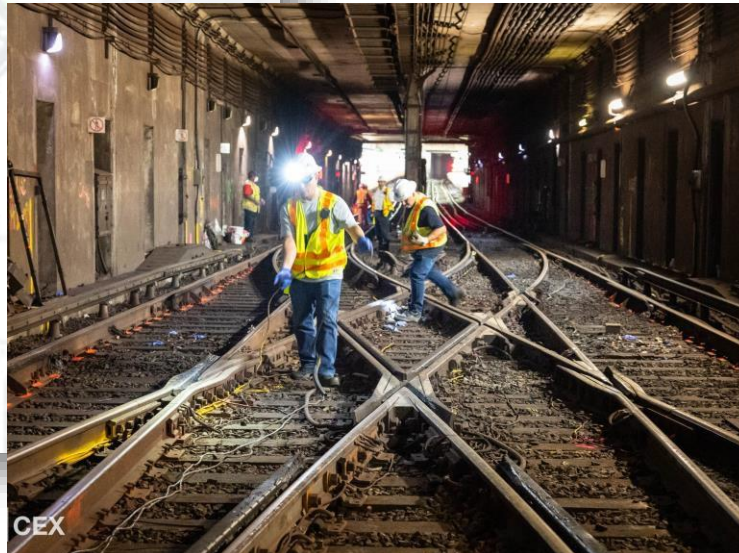
OL-003 Wellington to Back Bay May 28 – Jun 6, 2024



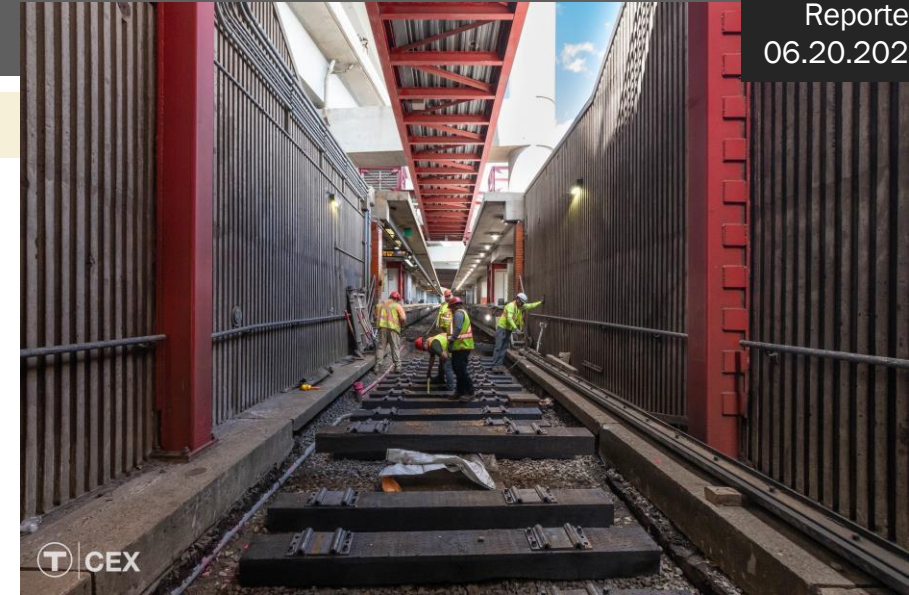
## Track Work

- 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 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 Strn.
- 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.

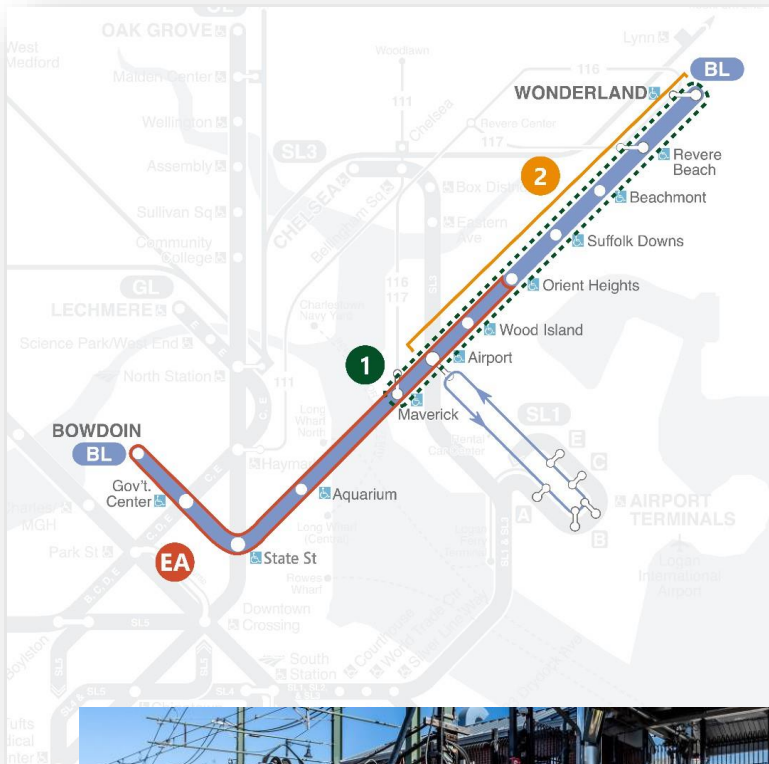


Reported  
06.20.2024

# Track Improvement Program | Completed Work

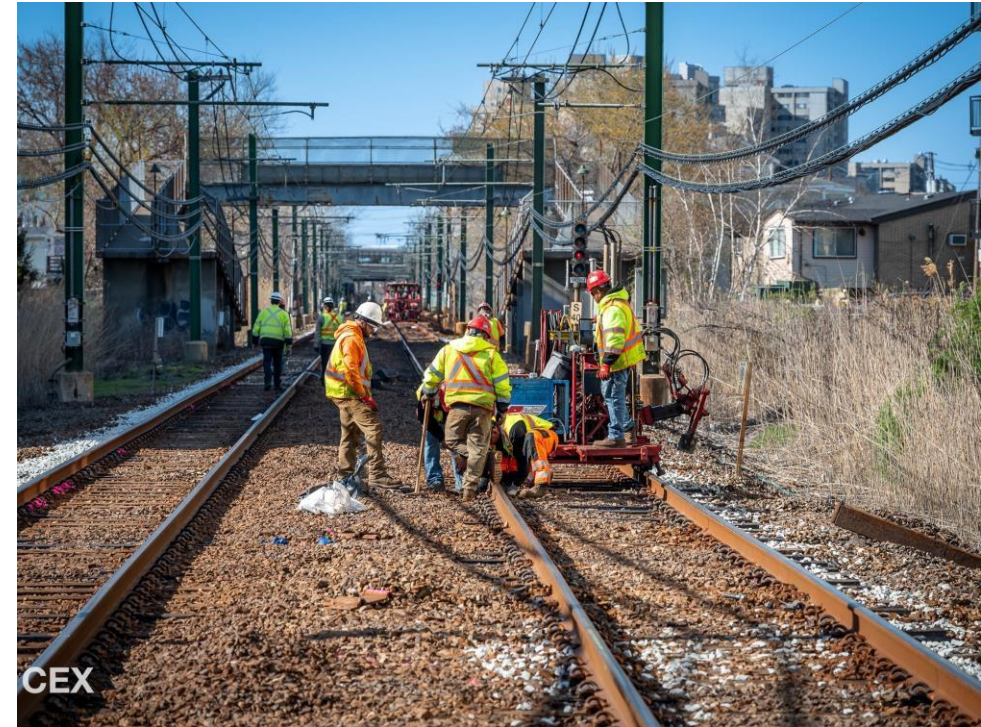
Reported  
05.23.2024

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

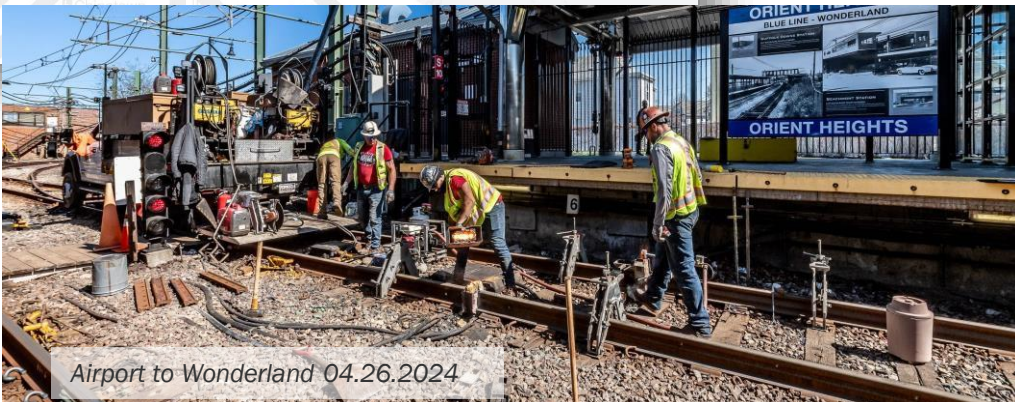


## Track Work

- 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.



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

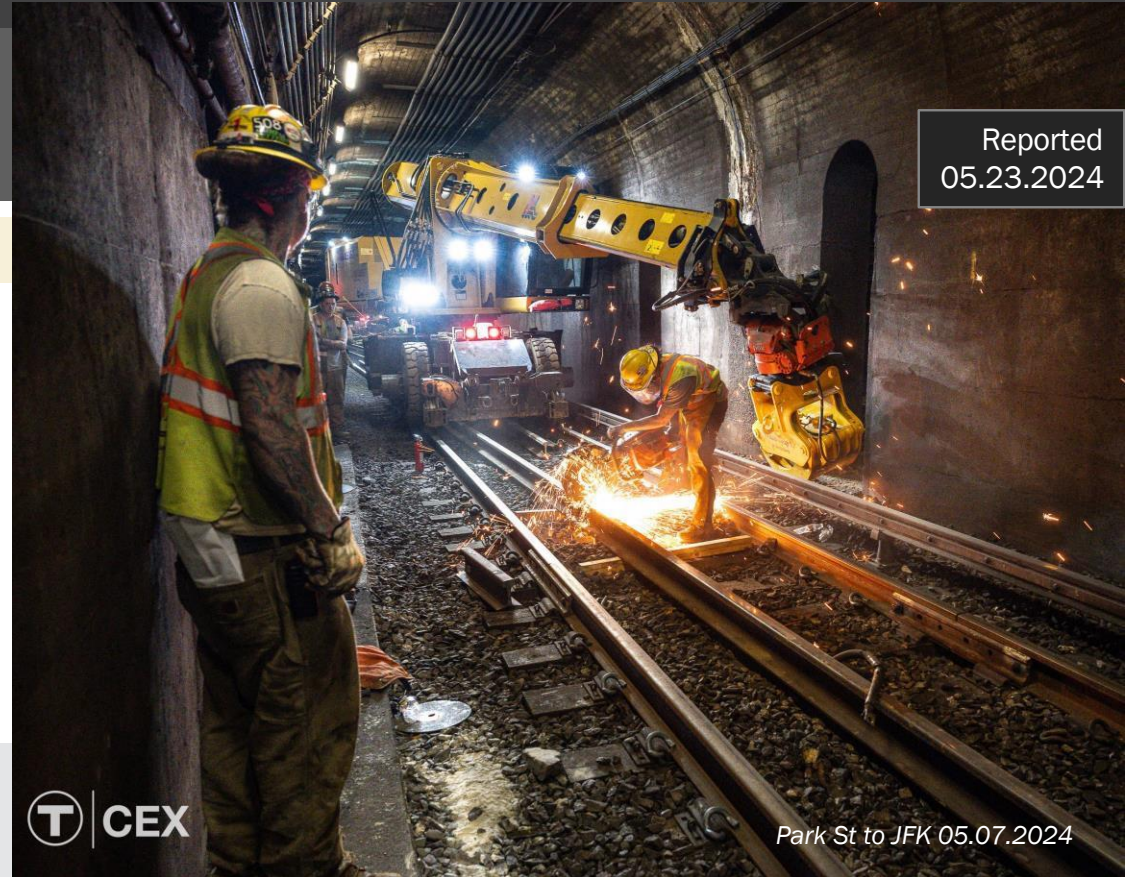


## Track Work

- 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

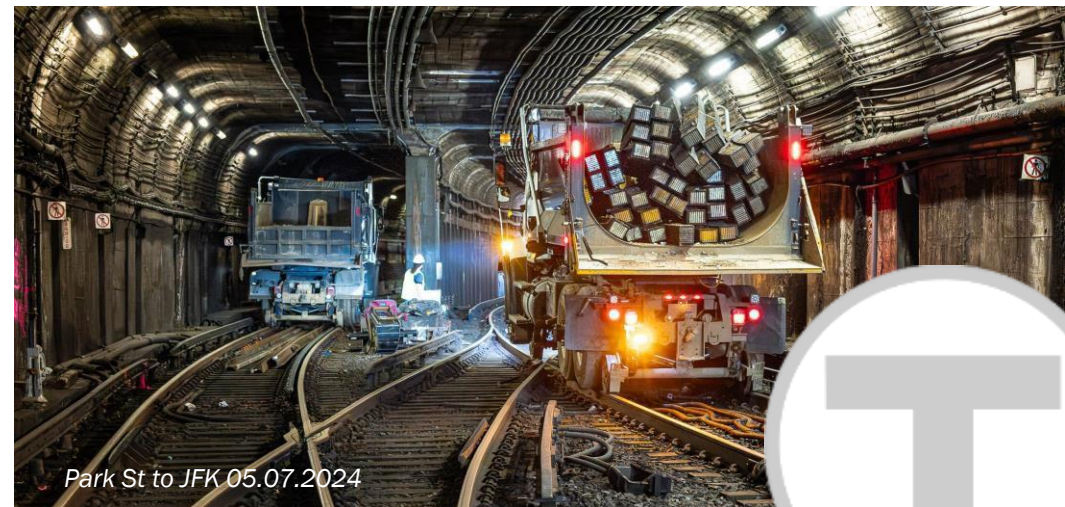
- Overhead inspections of platform & lobbies.
- Security improvements JFK/UMass.
- Tunnel inspections between Broadway and JFK/UMass.
- Completed critical ceiling repairs.
- Fireproofing work Downtown Crossing. Could not have been done during overnight periods alone.
- Replaced ~180 sq ft glass panels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



Reported  
05.23.2024

CEX

Park St to JFK 05.07.2024

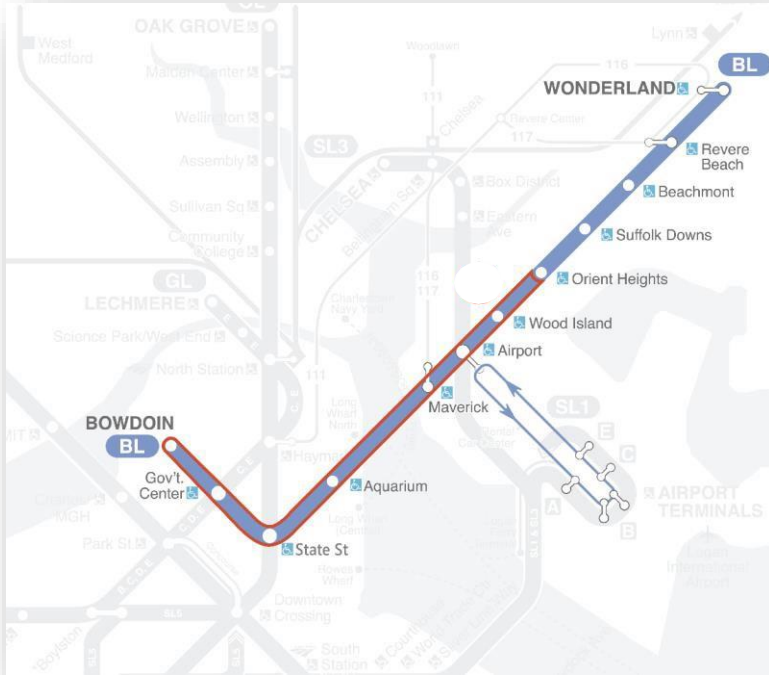


Park St to JFK 05.07.2024

# Track Improvement Program | Completed Work

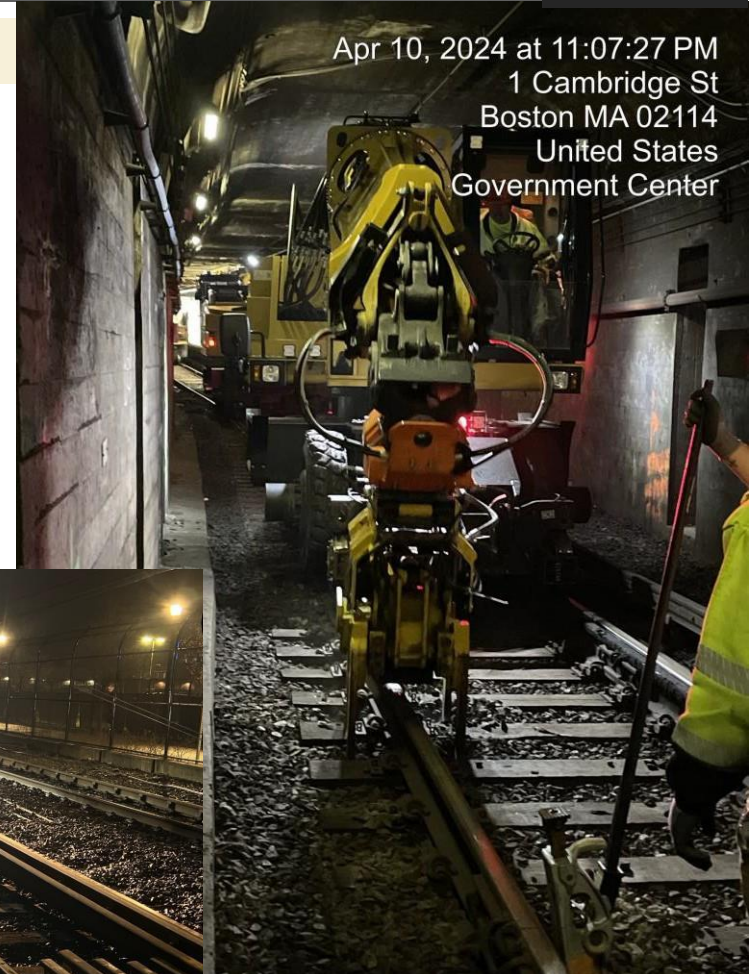
Reported  
04.25.2024

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



### Track Work

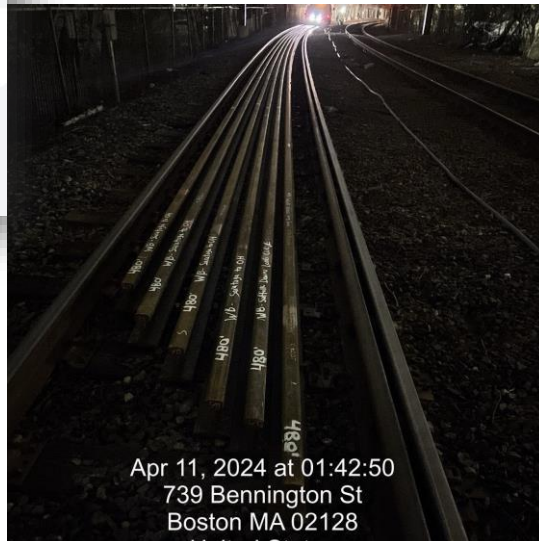
- Removed 3 speed restrictions.
- 778 ft surface tamping and aligning.
- *Prep for EOM April Diversion:*
  - Drilled 96 holes and installed bolts and assemblies on the 115 ft rail.
  - Relocated 24 rail stringers.
  - Staged 432 ties.



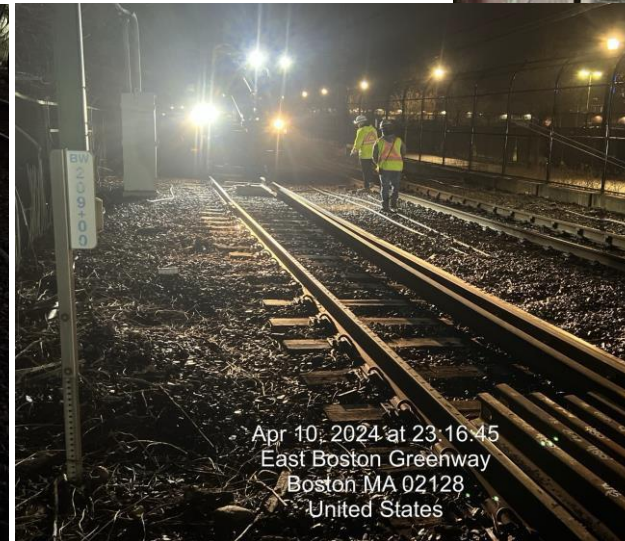
Apr 10, 2024 at 11:07:27 PM  
1 Cambridge St  
Boston MA 02114  
United States  
Government Center

### 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



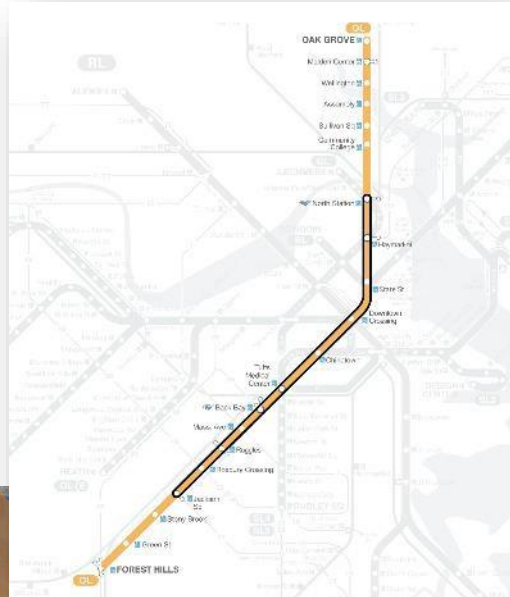
Apr 10, 2024 at 23:16:45  
East Boston Greenway  
Boston MA 02128  
United States



# 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.



- 2.2 min. (RT) improved time.

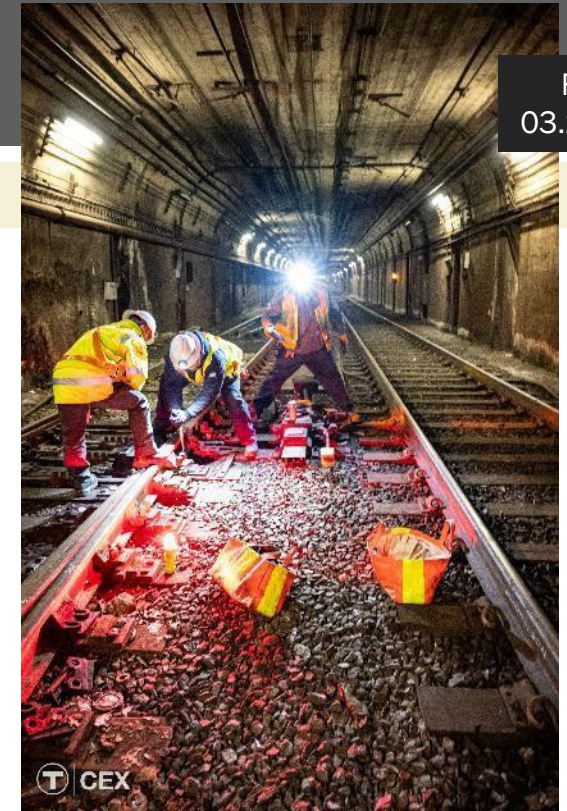
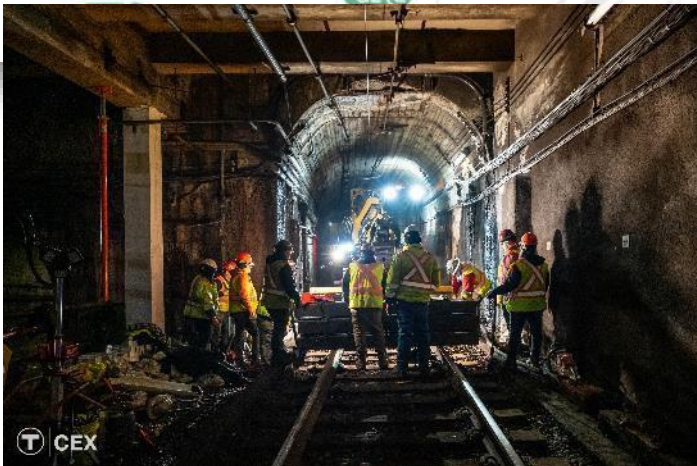
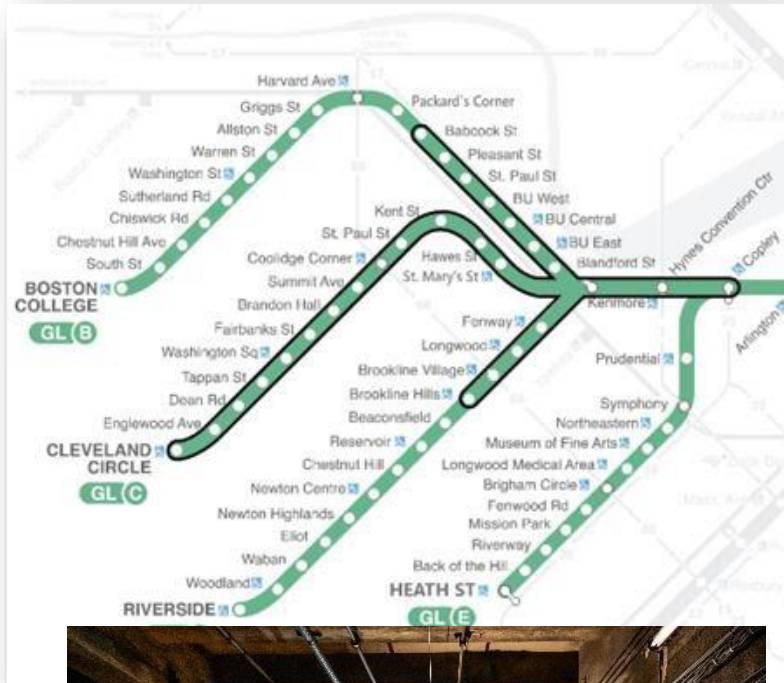


## Station Work

- 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



Reported  
03.28.2024

## 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

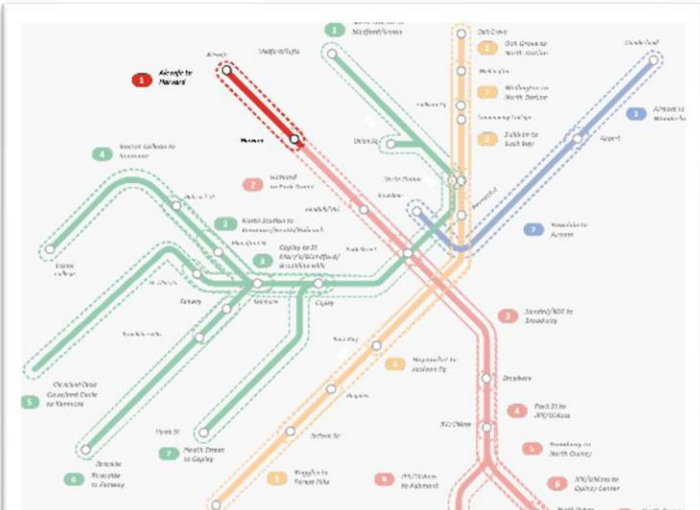
## Piggyback Work

- 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

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

## Piggyback Work:

- ✓ 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.



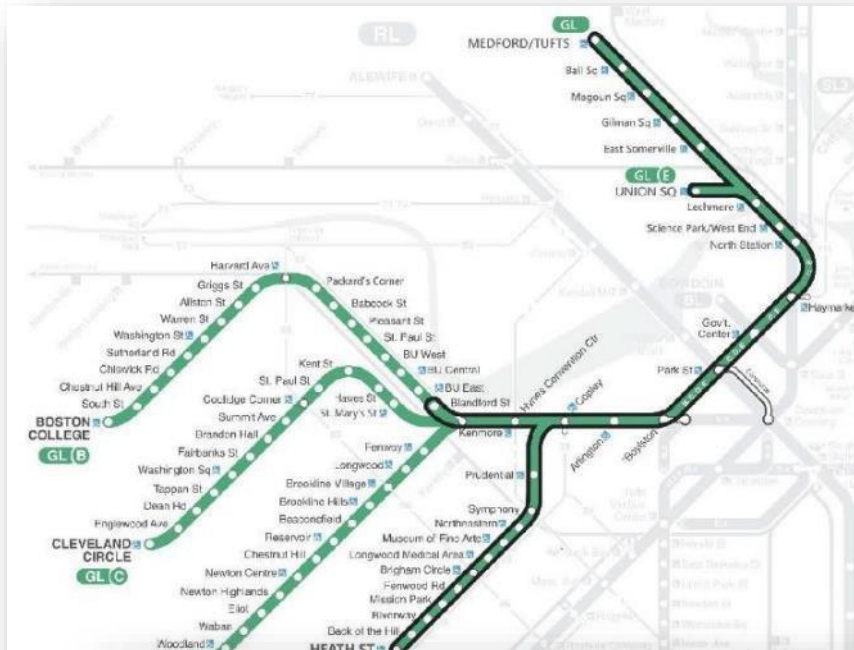
Track work on the Red Line



# Track Improvement Program | 2-Phase January Surge, Completed

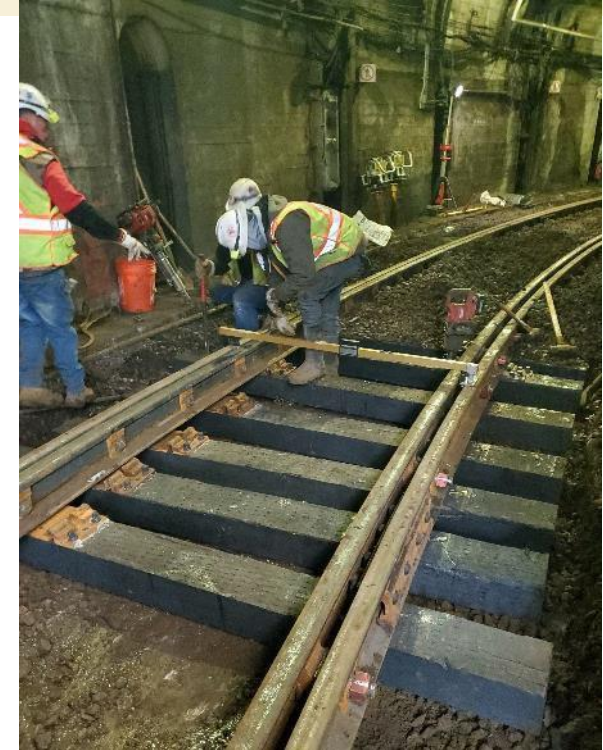
Reported  
02.29.2024

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

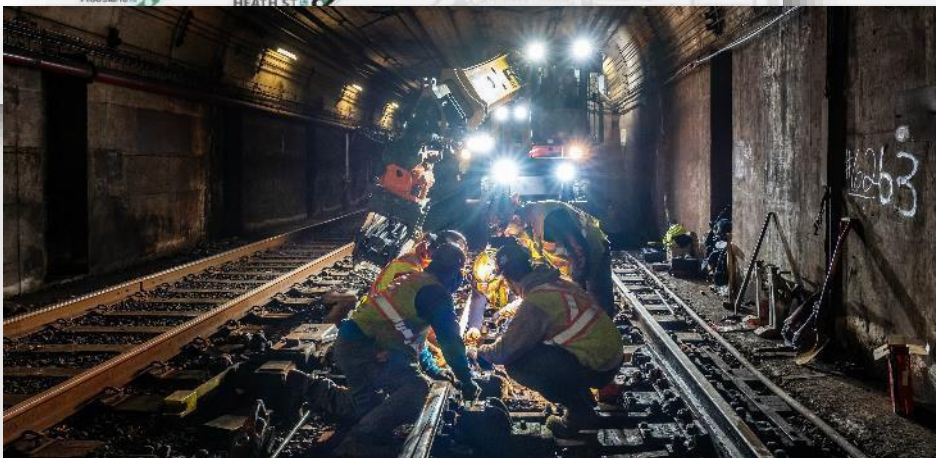
- ✓ 16 Speed Restrictions cleared.
- ✓ 1306 ties replaced.
- ✓ 10,845 ft rail replaced.
- ✓ 1280 ft full depth track repairs
- ✓ 8887 ft track resurfaced & tamped - smoother ride.
- ✓ 12 Switch Replacements/Rehabilitations.
- ✓ 66 thermite welds.



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 (1<sup>st</sup> portion of January Surge)

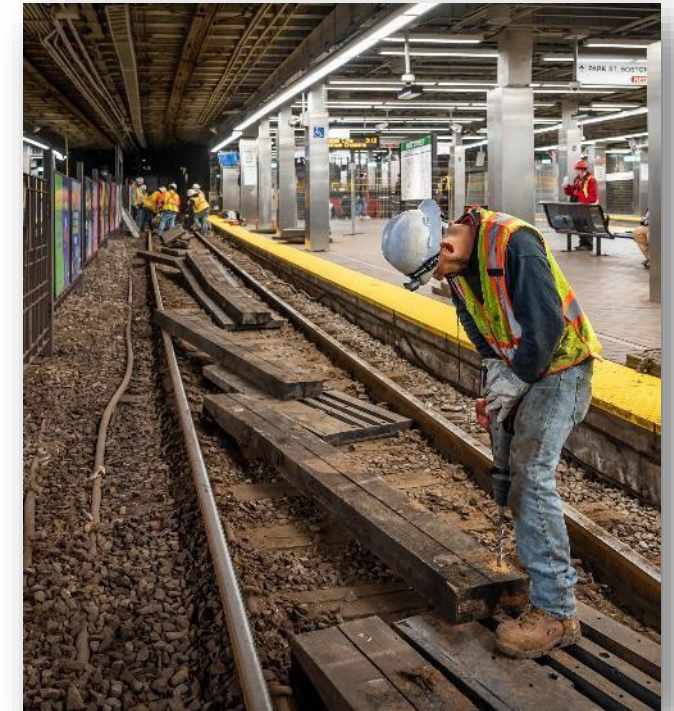
Reported  
01.25.2024

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

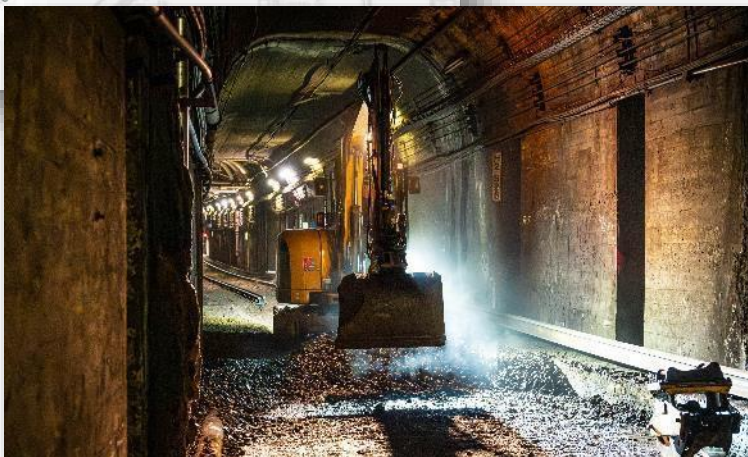


## Metrics

- ✓ 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

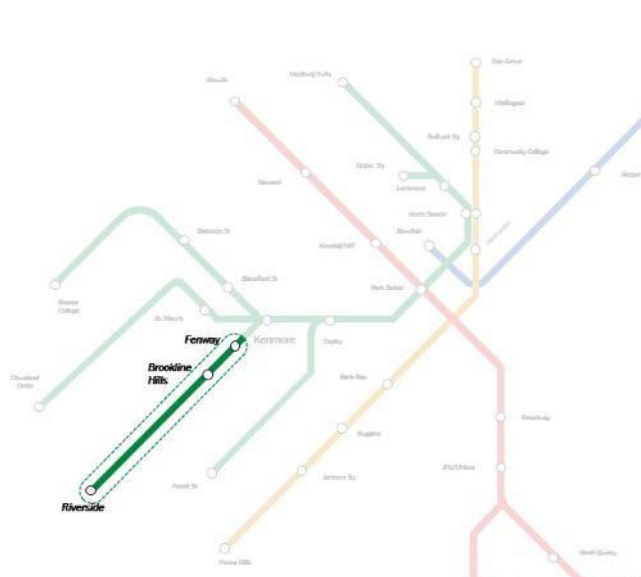
- ✓ Boylston & Copley roof structural repairs
- ✓ Haymarket to North Stn tunnel inspections
- ✓ Hynes stair repairs and replacements and handrails/benches restored
- ✓ New Arlington elevator sump pump installed



# 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

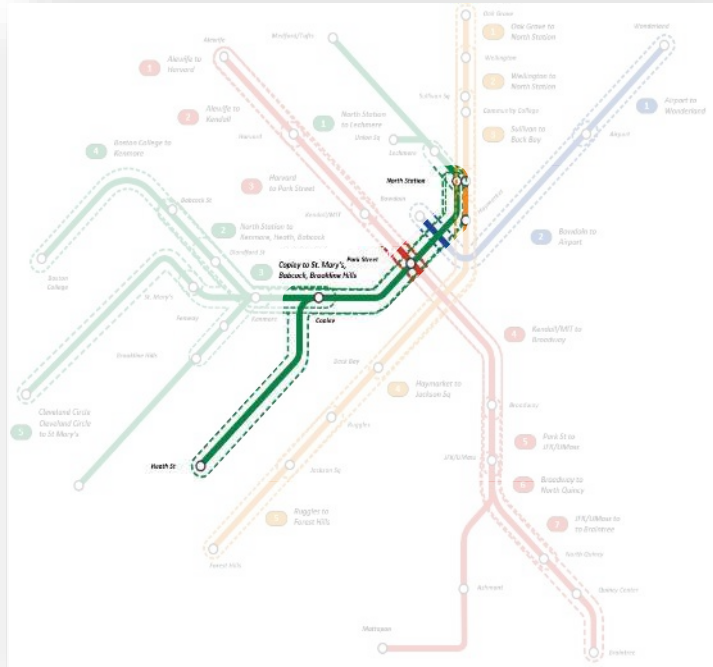




# Track Improvement Program | Completed Work (Surge)

Reported  
12.13.2023

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

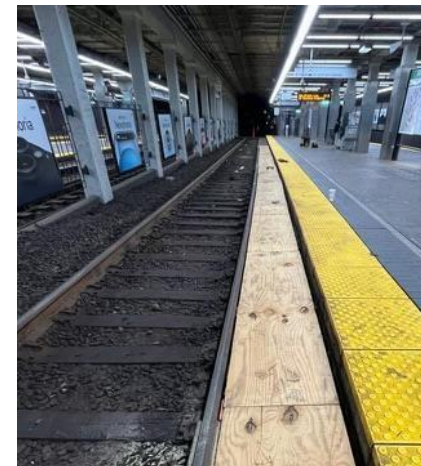


## Metrics

- ✓ 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

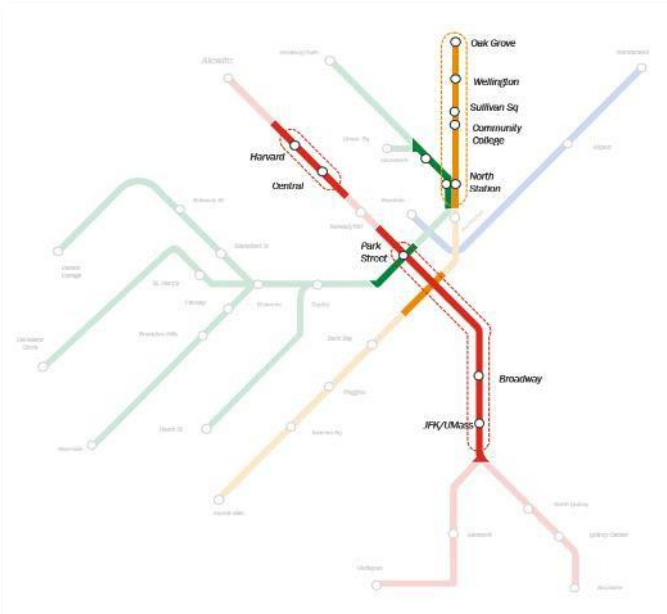


# Track Improvement Program | Completed Work (Weekend and Early Access)

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

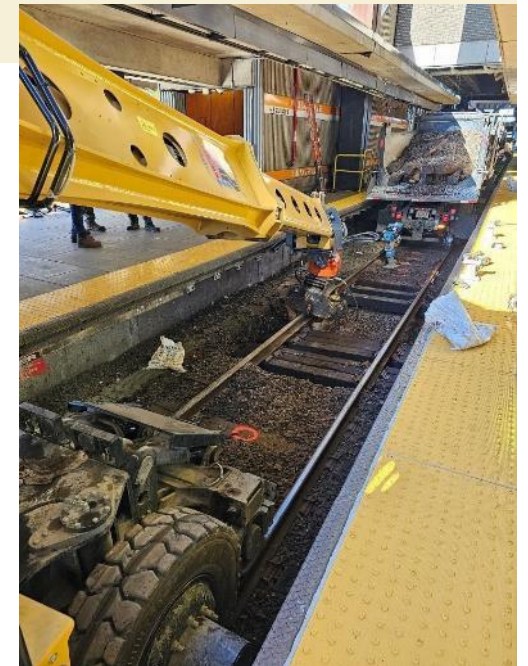
#### Red Line

- ✓ 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