

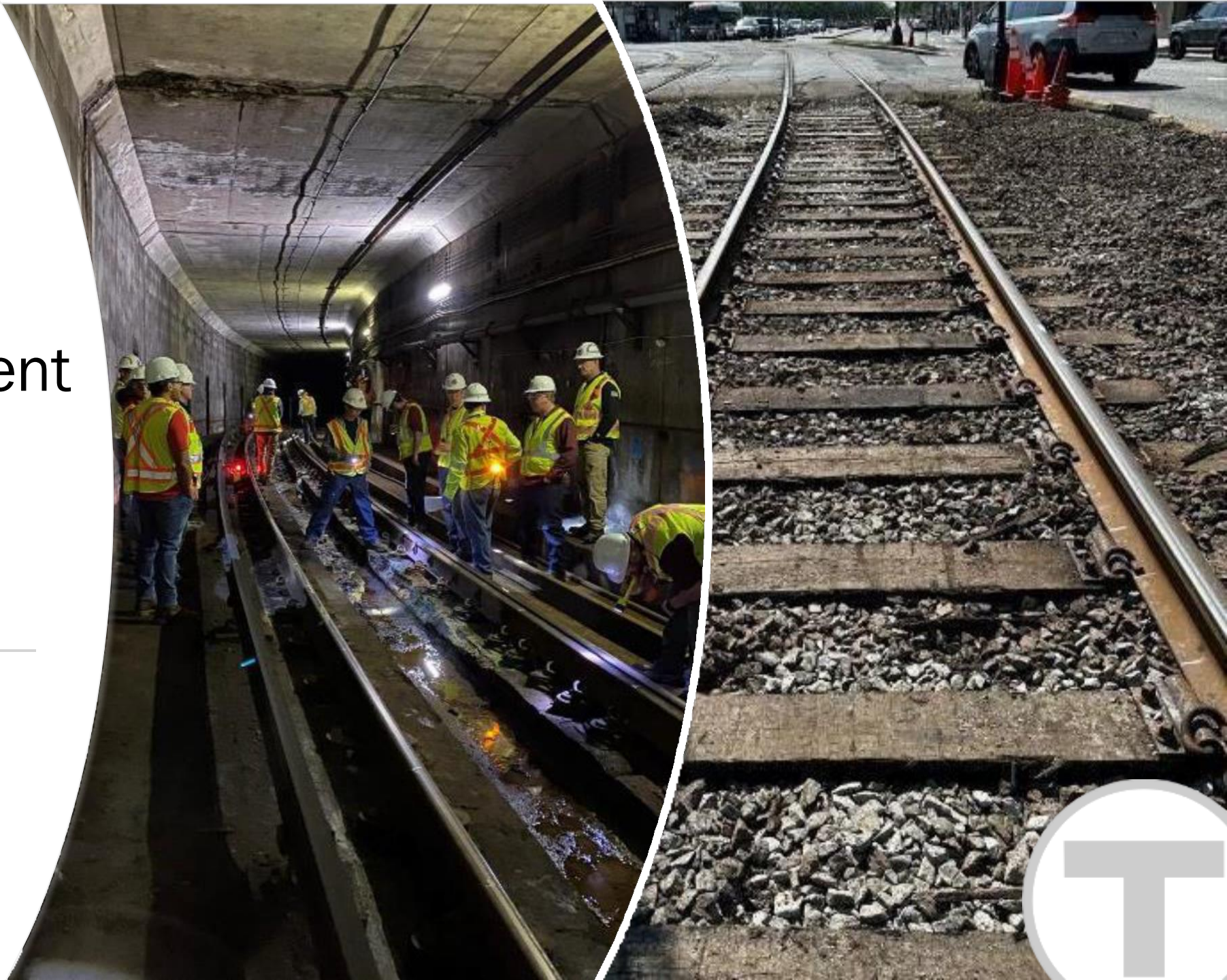


# Track Improvement Program Update

April 25, 2024

---

Ryan Jordan, Deputy Chief,  
Construction Field Services



# Track Improvement Program 2023-2024 | Timeline

Alternative Service Limits		Speed Restrictions	Modeled Time Savings (mins)	Diversion Duration (days)	2023		2024											
					NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A	Harvard to Central	<input checked="" type="checkbox"/>	1	1.7	Wknd													
B	JFK/UMass to Park St	<input checked="" type="checkbox"/>	6	2.7	EA/Wknd													
A	Oak Grove to North Station	<input checked="" type="checkbox"/>	2	1.9	EA/Wknd													
A	North Station to Kenmore, Heath, Babcock	<input checked="" type="checkbox"/>	10	4.3	9													
B	Riverside to Kenmore	<input checked="" type="checkbox"/>	20	9.2	10													
1	North Station to Lechmere		2	1.8	14													
2	North Station to Kenmore, Heath, Babcock	<input checked="" type="checkbox"/>	15	8.7	21													
3	Copley to St. Mary's, Babcock, Brookline Hills	<input checked="" type="checkbox"/>	9	4.2	18													
4	Boston College to Kenmore		7	1.7	10													
5	Cleveland Circle to St. Mary's		1	0.1	6													
1	Oak Grove to North Station		13	1.7	6													
2	Wellington to North Station		5	4.3	9													
3	Sullivan to Back Bay		6	2.3	10													
4	Haymarket to Jackson Sq	<input checked="" type="checkbox"/>	2	1.3	4													
5	Back Bay to Forest Hills		15	4.8	11													
1	Alewife to Harvard	<input checked="" type="checkbox"/>	9	6.5	9													
2	Alewife to Kendall		9	4.0	16													
3	Harvard to Park		3	0.8	6													
4	Kendall/MIT to Broadway		8	3.7	6													
5	Park to JFK/UMass		8	2.6	8													
6	Broadway to North Quincy		4	2.7	6													
7	JFK/UMass to Braintree		22	9.1	16													
1	Airport to Wonderland		12	5.3	12													
2	Bowdoin to Airport		2	0.7	Night Orders													

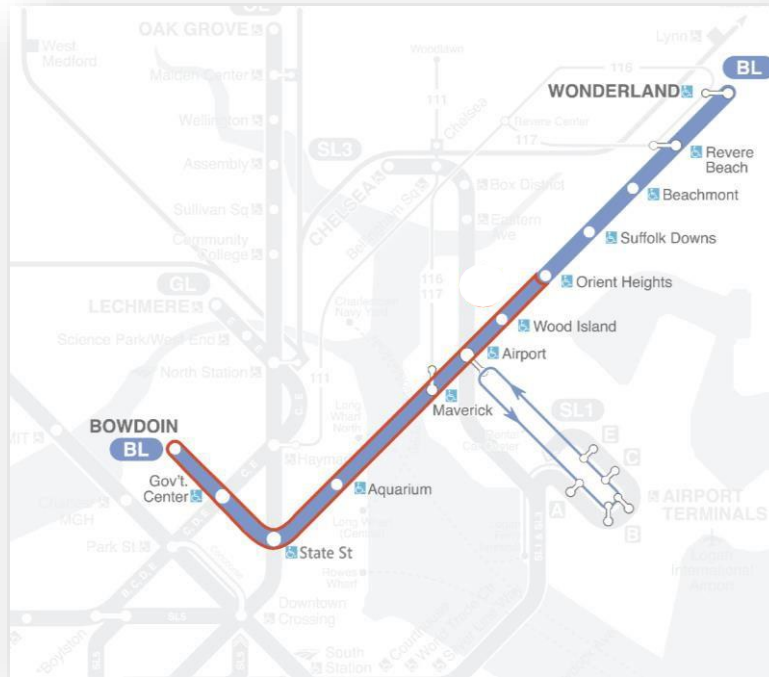
Today  
Apr 25

Data as of April 25, 2024

191 restrictions Lifted  
86.1 minutes saved  
207 days of work

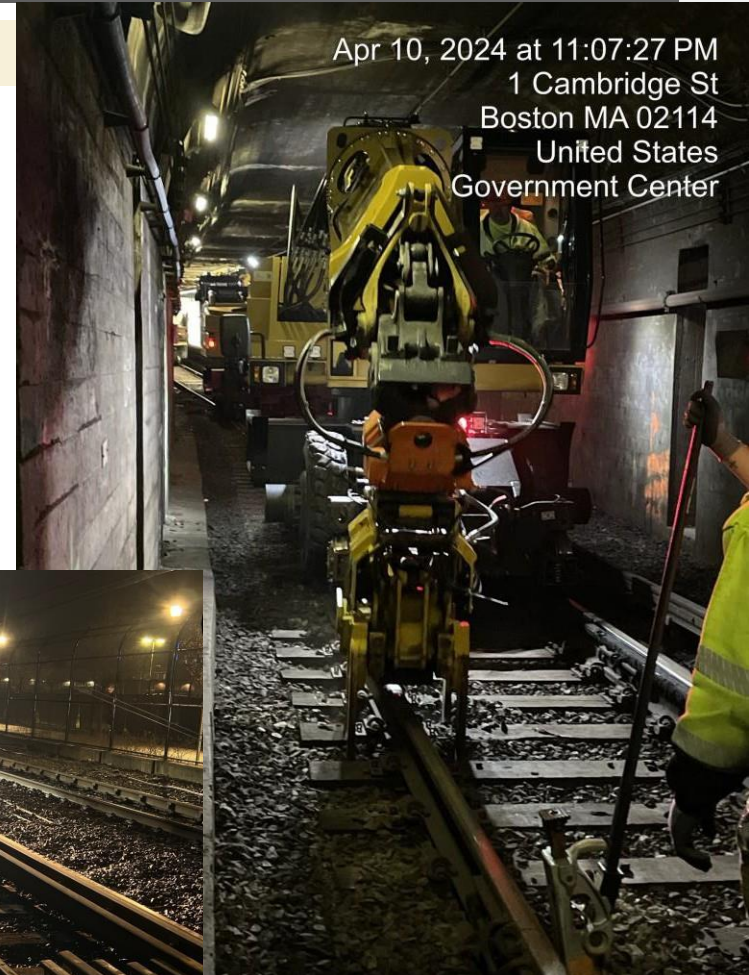
# Track Improvement Program | Completed Work

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



## Track Work

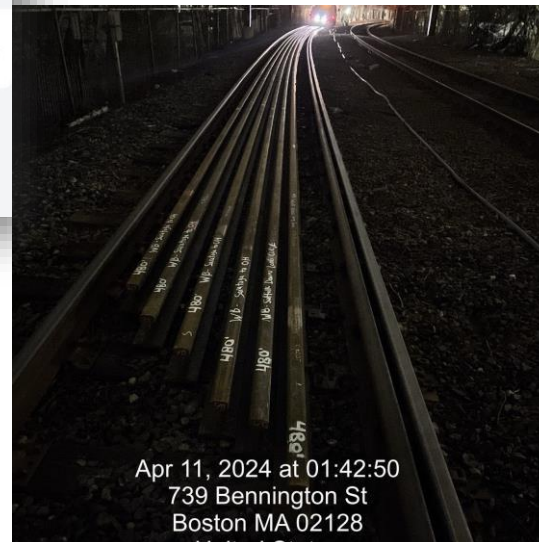
- Removed 3 speed restrictions.
- 778 ft surface tamping and aligning.
- *Prep for EOM April Diversion:*
  - Drilled 96 holes and installed bolts and assemblies on the 115 ft rail.
  - Relocated 24 rail stringers.
  - Staged 432 ties.



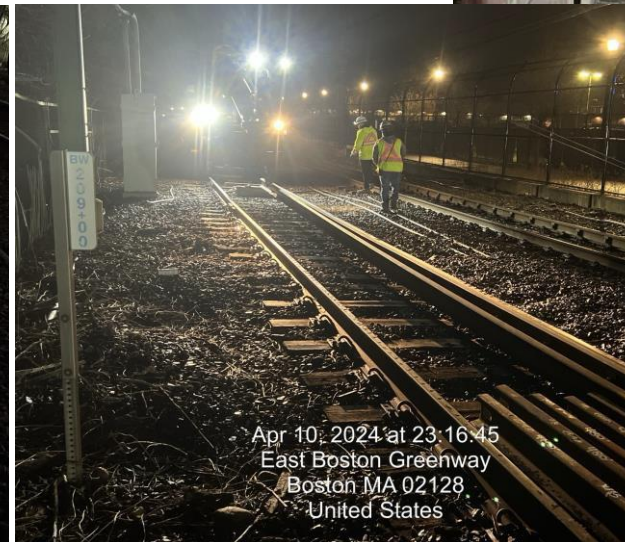
Apr 10, 2024 at 11:07:27 PM  
1 Cambridge St  
Boston MA 02114  
United States  
Government Center

## Piggyback Work

- Painted Sand boxes at Orient Heights, Wood Island, Airport & Maverick
- Started repair Wonderland operators' platform.
- Standpipe testing at Aquarium.
- Visual survey & recorded measurements of tunnels, communication rooms and Emergency exits from Bowdoin Station to the portal at Airport Station.



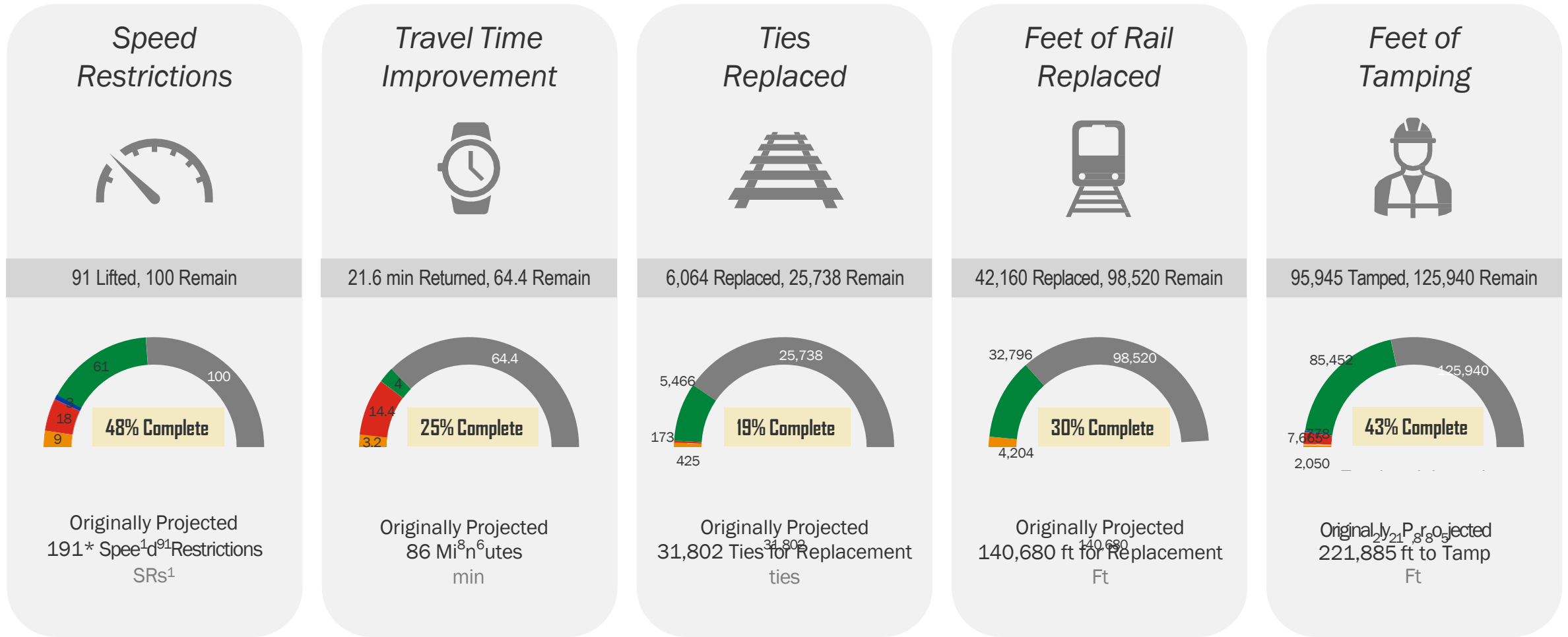
Apr 11, 2024 at 01:42:50  
739 Bennington St  
Boston MA 02128  
United States



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



# Progress Metrics



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

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

Data date: April 17, 2024

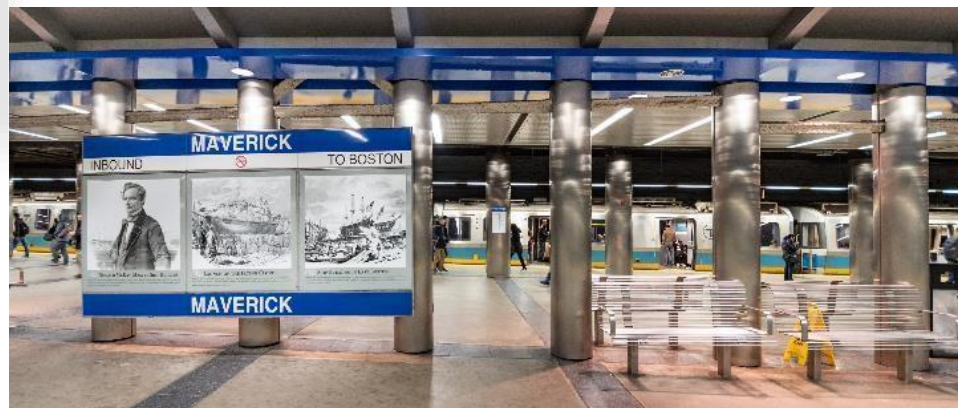
# Track Improvement Program | *Current Work*

BL (001) Maverick to Wonderland, Apr 17-19 | Airport to Wonderland Apr 20-28, 2024



## Proposed Track Work

- Address 16 speed restrictions.
- Replace rail, Replace ties.
- Full depth reconstruction at Beachmont, Orient Heights and Wood Island stations.
- Two truck pad reconstructions: Cambell's Gate, Beachmont.
- Surface, Line and Tamp.



## Proposed Piggyback Work

- Cleaning, Painting, Standpipe testing.
- Overhead structural inspections.
- Suffolk Downs platform edge repairs, stair demo.

# Track Improvement Program | *Upcoming Work*

RL Park to JFK/UMass May 1-9, 2024



## Proposed Track Work

- Address 8 speed restrictions.
- Improve SGR.
- Full depth reconstruction at three locations.
- Surface, Line and Tamp
- Rail Replacement
- Replace ties

## Proposed Piggyback Work

- Overhead structural and tunnel inspections.
- Downtown Crossing mezzanine signal rack relocations; ceiling, stair repairs.
- DC Cable replacement and hand hole repairs.
- Security Improvements.



The SubwayNut





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>

As of 04.17..2024



# Upcoming Community Engagement Events | *Calendar*

## *Open Houses*

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

Wed., 2/21, 6:30 – 8pm, Zoom

Thu., 3/7, 6:30 – 8pm, Zoom

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

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

Mon., 8/19, 6 – 7:30pm, English High School

## *Station Pop-ups*

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

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

Thu., 6/20, 5:00 – 6:30pm, Kenmore

Mon., 6/24, 6 – 6:30pm, Davis Square Station

Thu., 6/27, 5 – 6:30pm, Alewife Station

Thu., 8/08, 6 - 7:30pm, Malden Center Station

Tue., 8/20, 5 - 6:30pm, Quincy Center

Tue., 10/01, 5 - 6:30 pm, Park Street Center

*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.*





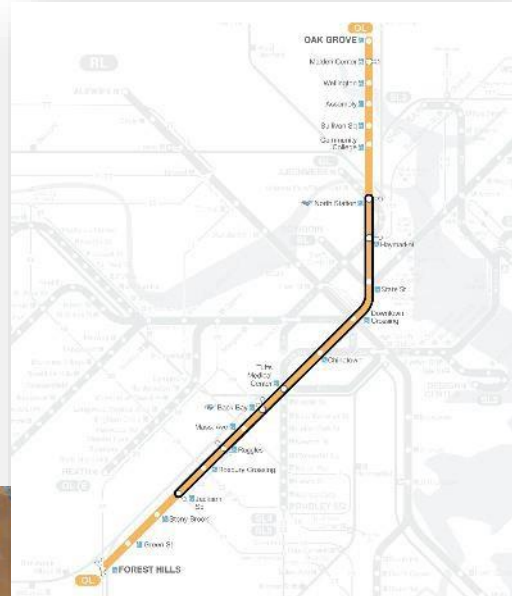
# Questions



# Previous Board TIP Updates



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



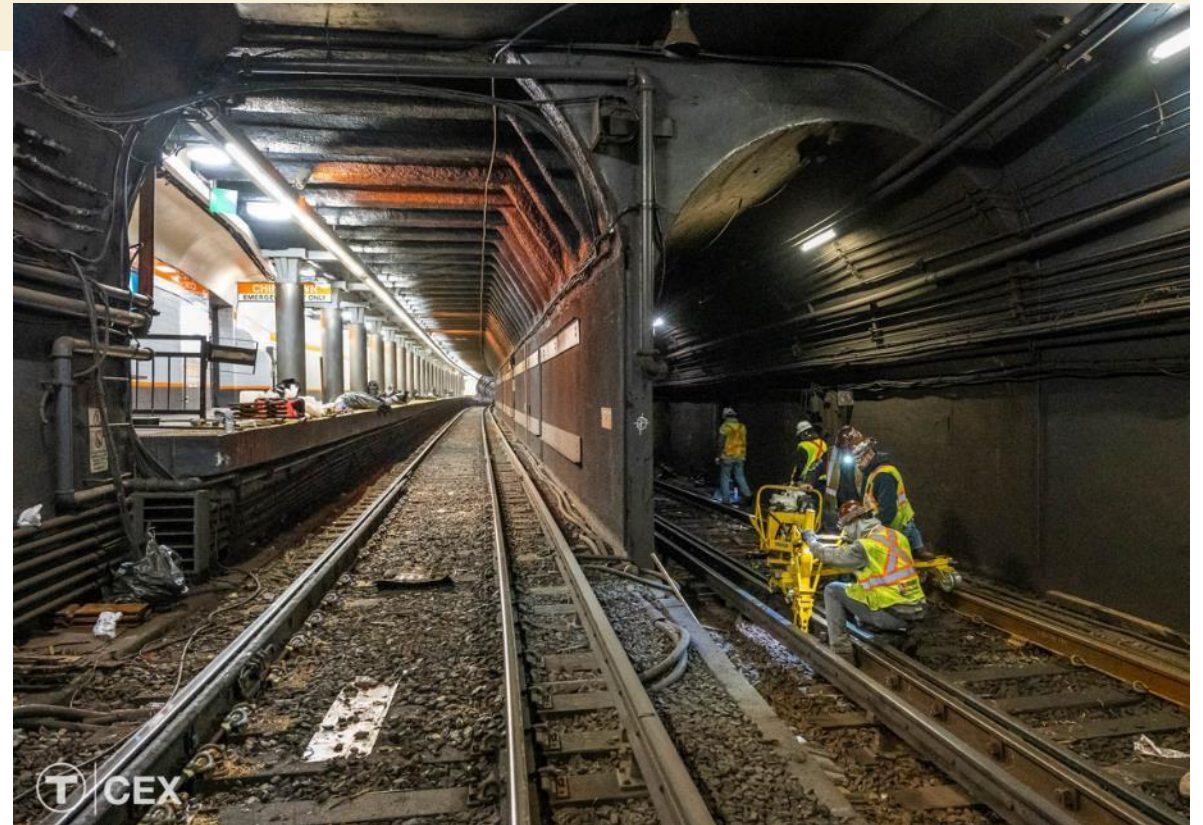
### Track Work

- 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.



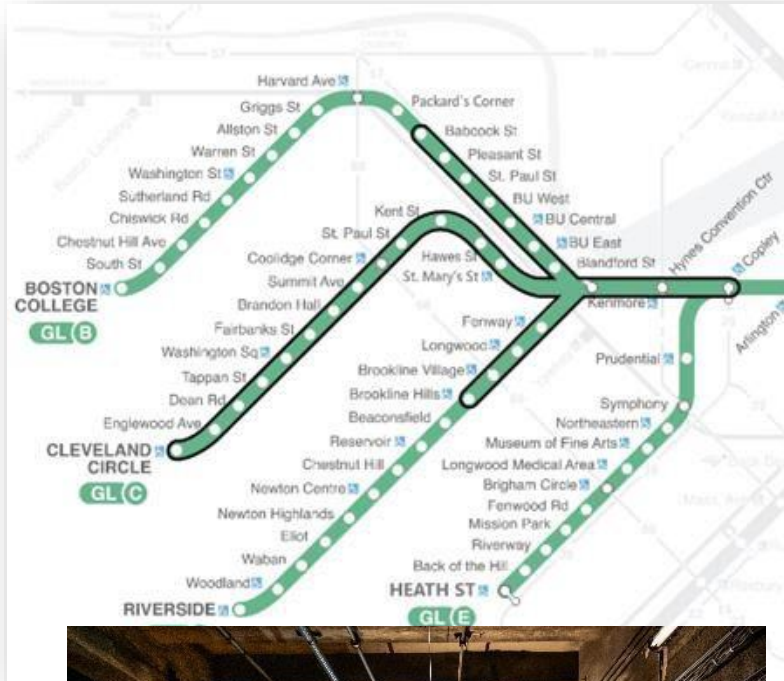
### Station Work

- 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 Work

Reported  
03.28.2024

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

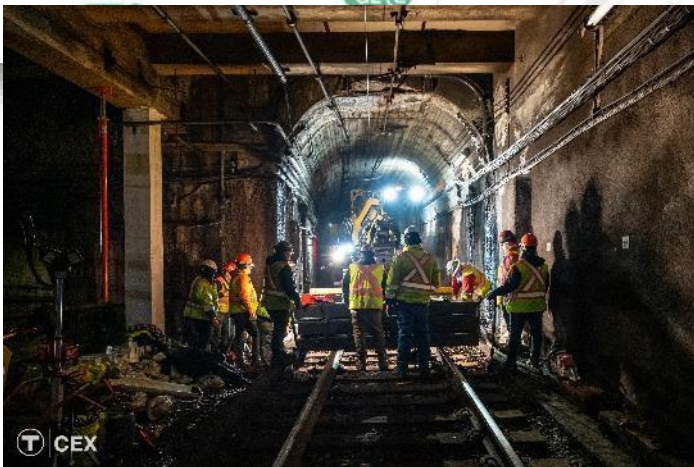
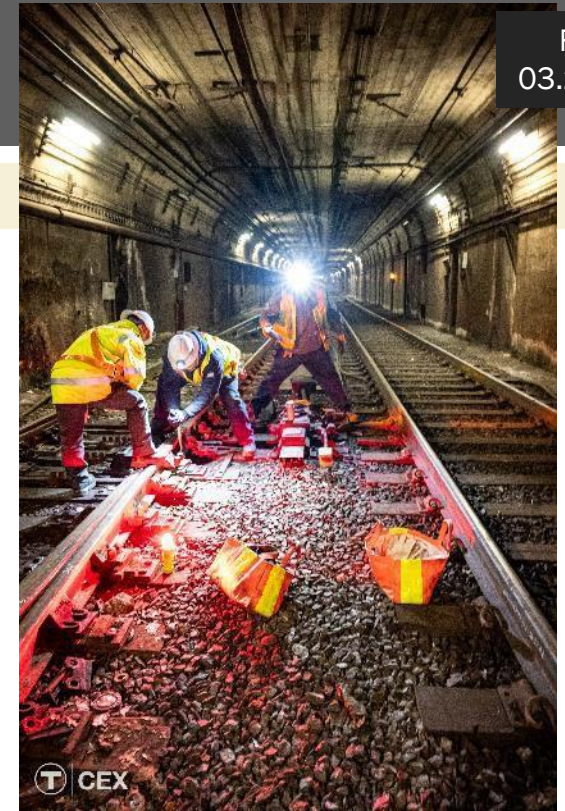


## Metrics

- ✓ 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

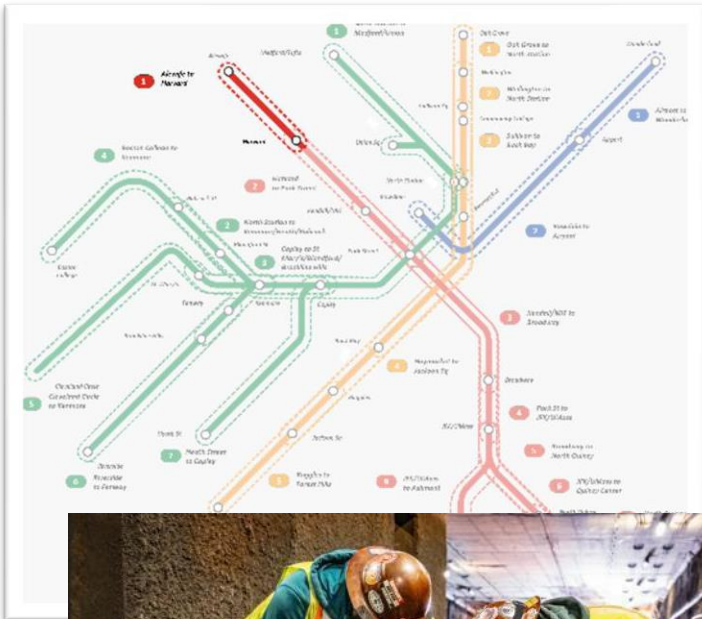
- Stations: maintenance and repairs such as paint, bench repairs, concrete, floor repairs, stair tread replacement, hand-rail replacement, ceiling panel removals, waste receptacle replacement, plumbing & HVAC maintenance and inspection activities.
- E-Ink sign poles & solar panels installed - various 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

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.



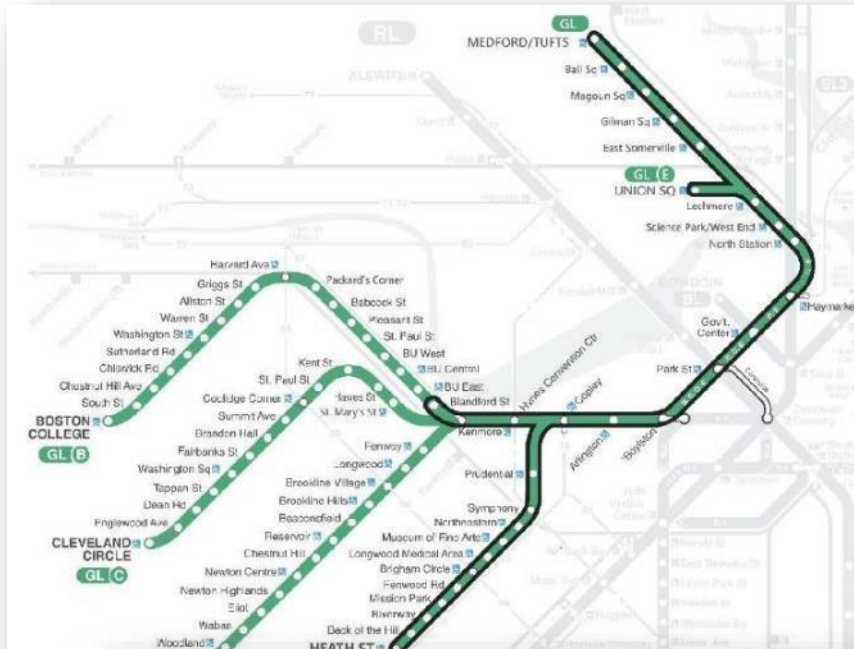
Track work on the Red Line



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

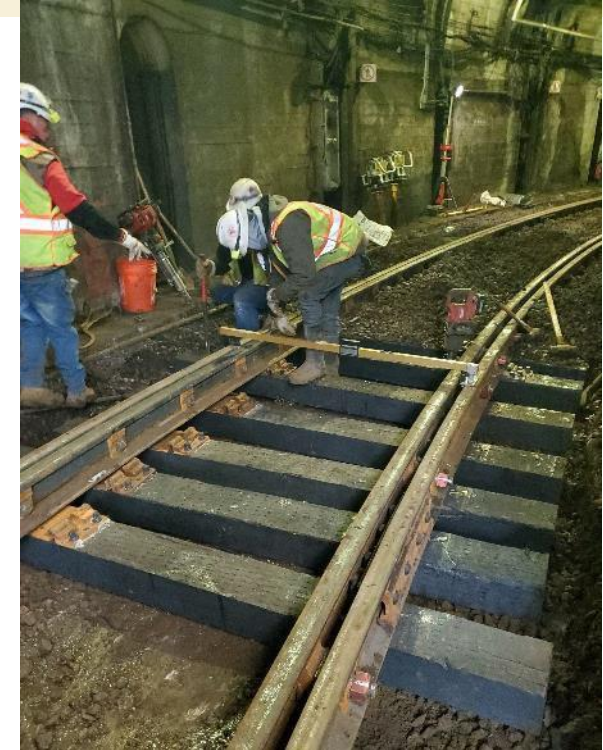
Reported  
02.29.2024

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



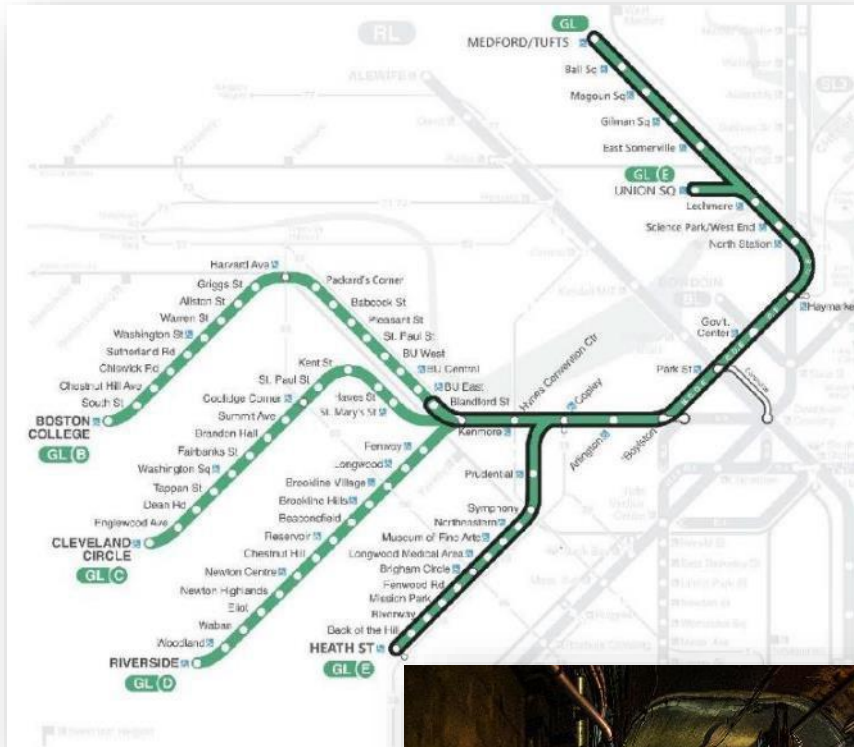
Copley Square  
01.18.2024



# Track Improvement Program | Completed Work (1<sup>st</sup> portion of January Surge)

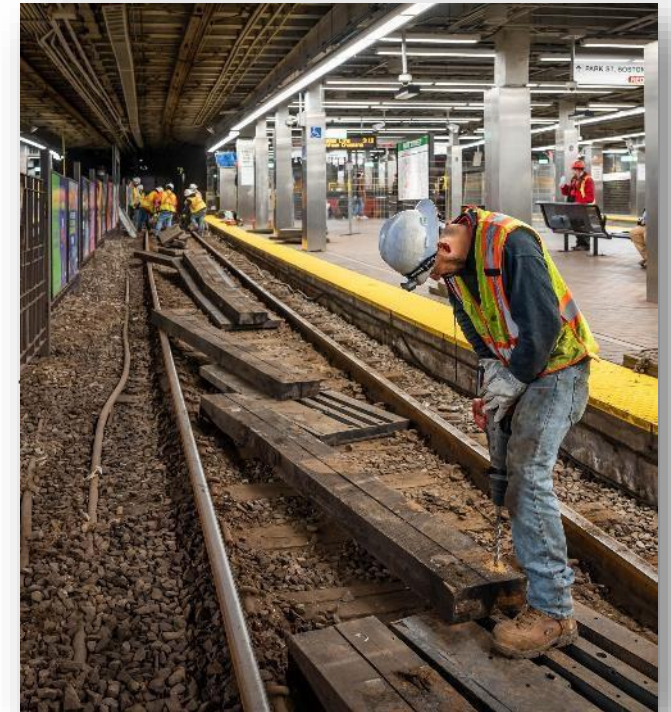
Reported  
01.25.2024

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

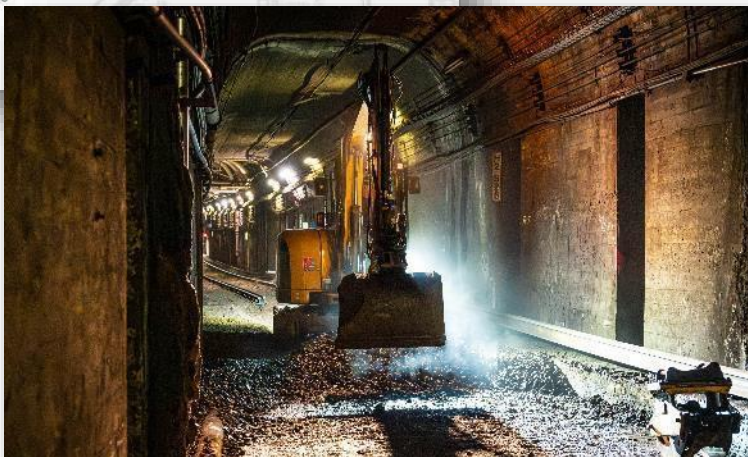


## Metrics

- ✓ 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

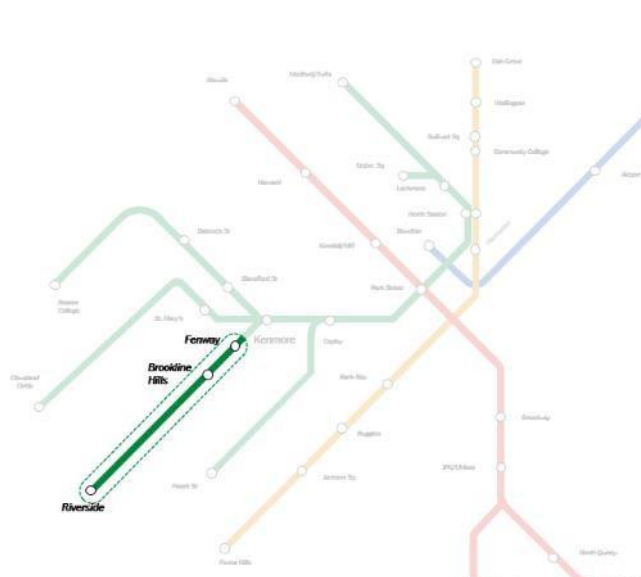
- ✓ Boylston & Copley roof structural repairs
- ✓ Haymarket to North Stn tunnel inspections
- ✓ Hynes stair repairs and replacements and handrails/benches restored
- ✓ New Arlington elevator sump pump installed



# 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.

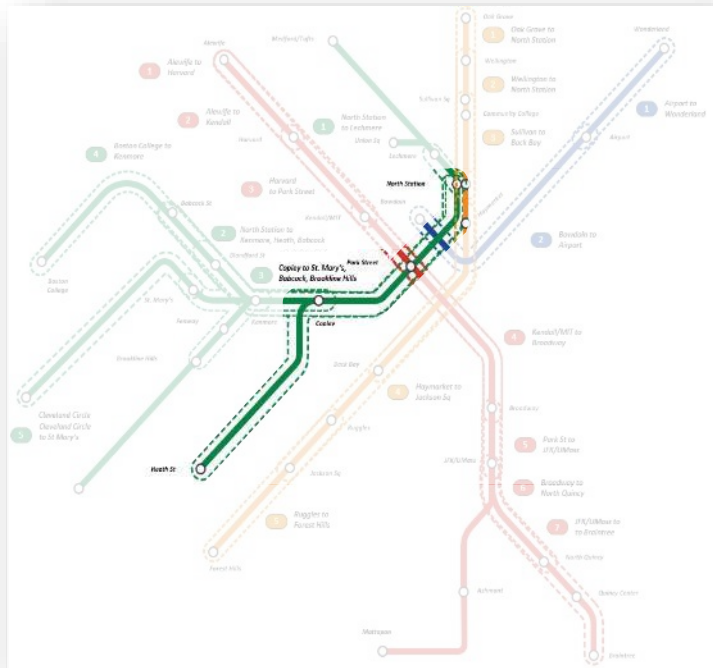


GL D Branch 12.12.2023





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

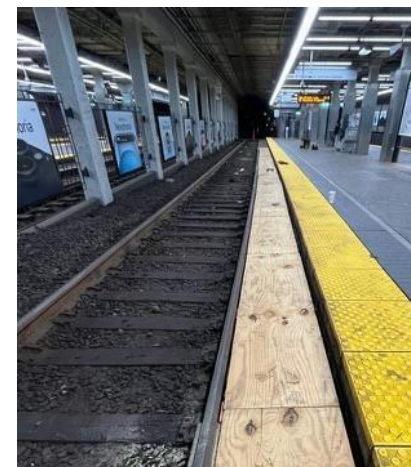


### Metrics

- ✓ 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

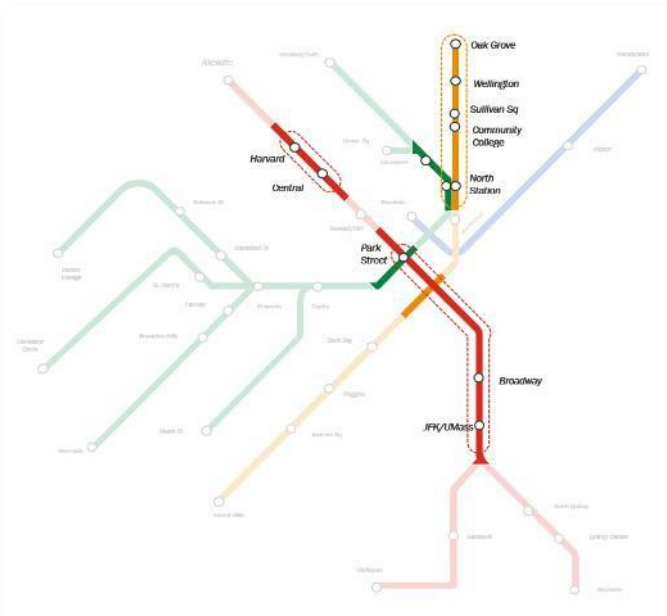


# Track Improvement Program | Completed Work (Weekend and Early Access)

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

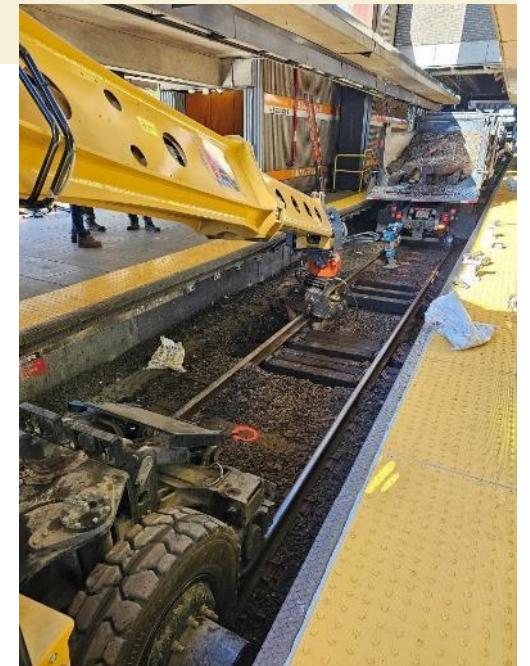
#### Red Line

- ✓ 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