

2024 Track Improvement Program (TIP)

Massachusetts Bay Transportation Authority



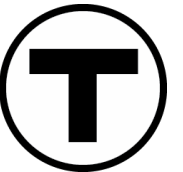
Agenda














- Overview of Program
 - Speed Restrictions
- Program Schedule
- Work Completed
- Work Remaining

Overview of Work

Track Improvement Program

- MBTA has launched the Track Improvement Program, an initiative to eliminate all existing speed restrictions and bring tracks closer to a State of Good Repair by the end of this year.
- The MBTA will be rebuilding track infrastructure across the Red, Orange, Blue, and Green Lines over a series of surges.
- The Program will increase train speeds, reduce delays and disruptions, improve safety, and support reliable and consistent service.
- We will also use this opportunity to improve station areas, including lighting upgrades, deep cleaning, and infrastructure improvements.



|  SYSTEMWIDE |  86 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> |  740,000 <i>Approx. Feet of Track</i> <small>(140 miles)</small> |  28 Years <i>Average Age of Track</i> |  611 <i>Signals</i> |  32 Years <i>Average Age of Signal System</i> |  132 <i>Stations</i> <small>(Unique, excluding Bus)</small> |  677,000 <i>Approx. Weekday Trips</i> <small>(2019)</small> |
|---|--|--|---|--|--|---|---|
|  RED LINE | 51 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> | 228,000 <i>Feet of Track</i> <small>(43 miles)</small> | 31 <i>Years</i> | 105 <i>Signals</i> | 40 <i>Years</i> | 22 <i>Stations:</i> <small>22/22 Meet Accessibility Standards</small> | 258,000 <i>Weekday Riders</i> |
|  ORANGE LINE | 20 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> | 121,000 <i>Feet of Track</i> <small>(23 miles)</small> | 38 <i>Years</i> | 81 <i>Signals</i> | 38 <i>Years</i> | 20 <i>Stations:</i> <small>20/20 Meet Accessibility Standards</small> | 191,000 <i>Weekday Riders</i> |
|  BLUE LINE | 0 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> | 67,000 <i>Feet of Track</i> <small>(13 miles)</small> | 23 <i>Years</i> | 40 <i>Signals</i> | 25 <i>Years</i> | 12 <i>Stations:</i> <small>11/12 Meet Accessibility Standards</small> | 143,000 <i>Weekday Riders</i> |
|  GREEN LINE <small>B C D E</small> | 9 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> | 297,000 <i>Feet of Track</i> <small>(56 miles)</small> | 20 <i>Years</i> | 385 <i>Signals</i> | 25 <i>Years</i> | 70 <i>Stations:</i> <small>48/70 Meet Accessibility Standards</small> | 78,000 <i>Weekday Riders</i> |
|  MATTAPAN LINE | 0 <i>Speed Restrictions</i> <small>(as of 7/10/24)</small> | 27,000 <i>Feet of Track</i> <small>(5.2 miles)</small> | 31 <i>Years</i> | Not signalized | Not signalized | 8 <i>Stations:</i> <small>7/8 Meet Accessibility Standards</small> | 7,000 <i>Weekday Riders</i> |



- ✓ Critical trackwork along entire system.
- ✓ Remove all speed restrictions.
- ✓ Ensure track reliability.

Track Improvement Program 2024 | Segmenting Track

| Alternative Service Limits | | Speed Restrictions Planned | Modeled Time Savings (mins) | Diversion Duration (days) | 2024 | | | | | | | | | | | |
|----------------------------|--|--------------------------------------|-----------------------------|---------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | | | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| 1 | Medford/Union to Park St | 2 | 1.8 | 14 | | | | | | | | | | | | |
| 2 | North Station to Kenmore, Heath, Babcock | 16 | 2.0 | 21 | ■ | ■ | | | | | | | | | | |
| 3 | Copley to St. Mary's, Babcock, Brookline Hills | 11 | 4.2 | 18 | | ■ | ■ | | | | | | | | | |
| 4 | Boston College to Babcock | 7 | 1.7 | 10 | | | | | | | ■ | | | | | |
| 1 | Oak Grove to North Station | 9 | 1.7 | 7 | | | | | | | | | | ■ | | |
| 2 | Wellington to North Station | 5 | 4.3 | 9 | | | | | | | ■ | | | | | |
| 3 | Wellington to Back Bay | 9 | 2.5 | 10 | | | | | | ■ | | | | | | |
| 4 | North Station to Jackson Sq | 7 | 2.2 | 4 | | | ■ | | | | | | | | | |
| 5 | Back Bay to Forest Hills | 12 | 4.8 | 11 | | | | | | | | | | ■ | | |
| 1 | Alewife to Harvard | 8 | 8.4 | 9 | | ■ | | | | | | | | | | |
| 2 | Alewife to Kendall | 7 | 4.0 | 16 | | | | | | | ■ | | | | | |
| 3 | Harvard to Park | 3 | 0.8 | 7 | | | | | | | | | | | ■ | |
| 4 | Kendall/MIT to JFK/UMass | 5 | 3.7 | 7 | | | | | | | ■ | | | | | |
| 5 | Park to JFK/UMass | 13 | 10.2 | 8 | | | | | ■ | | | | | | | |
| 6 | Broadway to North Quincy | 4 | 2.7 | 6 | | | | | | | | | | | ■ | |
| 7 | JFK/UMass to Braintree | 22 | 9.1 | 24 | | | | | | | | | ■ | ■ | | |
| 1 | Airport to Wonderland | 16 | 3.1 | 12 | | | | | ■ | | | | | | | |
| 2 | Bowdoin to Orient Heights | 3 | 0.7 | Early Access | | | | ■ | | | | | | | | |
| | | 191 original restrictions to address | 80.6 RT min | 212 days of work | | | | | | | | | | | | |

Track Improvement Work Highlights

2023-2024 Work Accomplishments

- Since November 2023, the following safety related speed restrictions and state of good repair work has been completed:

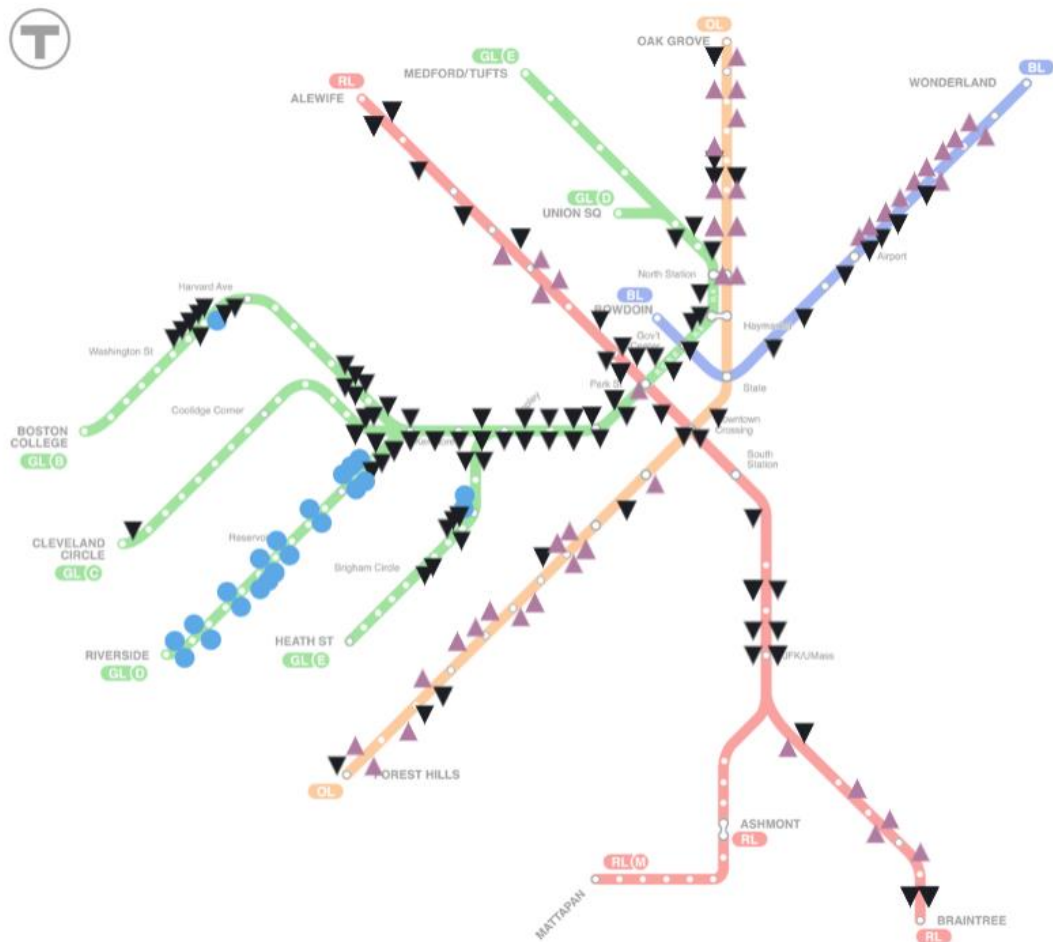
| Line | # Surges Completed | # Completed Speed Restrictions | Full Depth Track Replacement (Feet) | Rail Replacement (Feet) | Tie Replacement (Each) | Surface, Line, and Tamping (Feet) |
|--------------|--------------------|--------------------------------|-------------------------------------|-------------------------|------------------------|-----------------------------------|
| Green | 4 | 61 | 4,026 | 36,237 | 5,249 | 80,587 |
| Blue | 2 | 19 | 808 | 17,844 | 6,473 | 42,428 |
| Red | 2 | 19 | 1,180 | 12,203 | 252 | 25,560 |
| Orange | 3 | 22 | 1,787 | 23,452 | 3,684 | 19,176 |
| Total | 11 | 121 | 7,801 | 89,736 | 15,658 | 167,751 |

- Critical work has included: installation new rail, signal work, tunnel inspections and repairs, station inspections, repairs, and cleanings, and improvements to station security systems.
- This important work means that riders will experience a more reliable trip with fewer unplanned service disruptions, and a safer ride because of this state of good repair project.



Speed restriction status as of 11/24/2023

| Restriction Distance | Restricted Track Percent | Restriction Count |
|----------------------|--------------------------|-------------------|
| 30.3 mi | 22% | 179 |



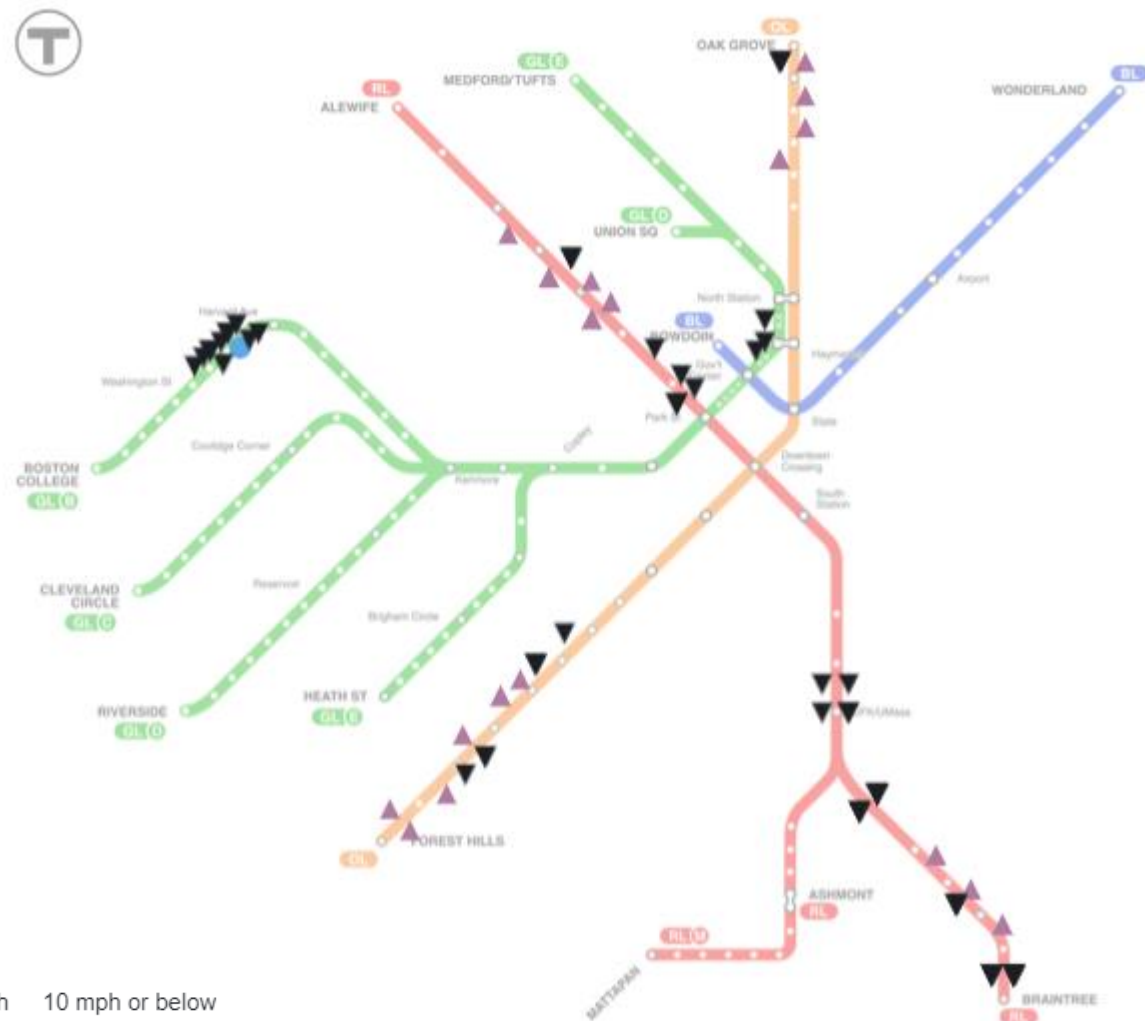
25 mph or above 11 to 24 mph 10 mph or below



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

Speed restriction status as of 12 AM 7/10/2024

| Restriction Distance | Restricted Track Percent | Restriction Count |
|----------------------|--------------------------|-------------------|
| 10.8 mi | 8% | 80 |



Red Line

Work Completed

| Surge Segment | Location | Dates | # Completed Restrictions | Full Depth Track (Feet) | Rail (Feet) | Tie (Each) | Surface, Line, and Tamping (Feet) | Concrete Floating Slabs |
|---------------|--------------------|------------------|--------------------------|-------------------------|---------------|------------|-----------------------------------|-----------------------------|
| RL-001 | Alewife to Harvard | 2/5/24 – 2/10/24 | 8 | - | 2,002 | 27 | 1,360 | 38 Primary; 61 Secondary |
| RL-005 | Park to JFK/UMass | 5/2/24 – 5/10/24 | 11 | 1,180 | 10,201 | 225 | 24,200 | |
| TOTAL | | | 19 | 1,180 | 12,203 | 252 | 25,560 | |

Piggyback Work Completed:

- General station maintenance and repairs
- Replaced signal bonds and signal cable
- Alewife crossover work
- Tunnel inspections and repairs
- Critical ceiling repairs
- Signal modernization work at Alewife, Davis, Porter, and Harvard
- New standpipe at Kendall/MIT
- Improved security cameras
- Overhead inspections of platforms and lobbies
- Fireproofing work at Downtown crossing
- Replaced glass panels at Ashmont on early access

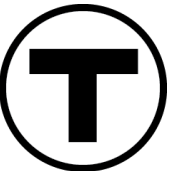
7/17/2024



Red Line

Remaining Work

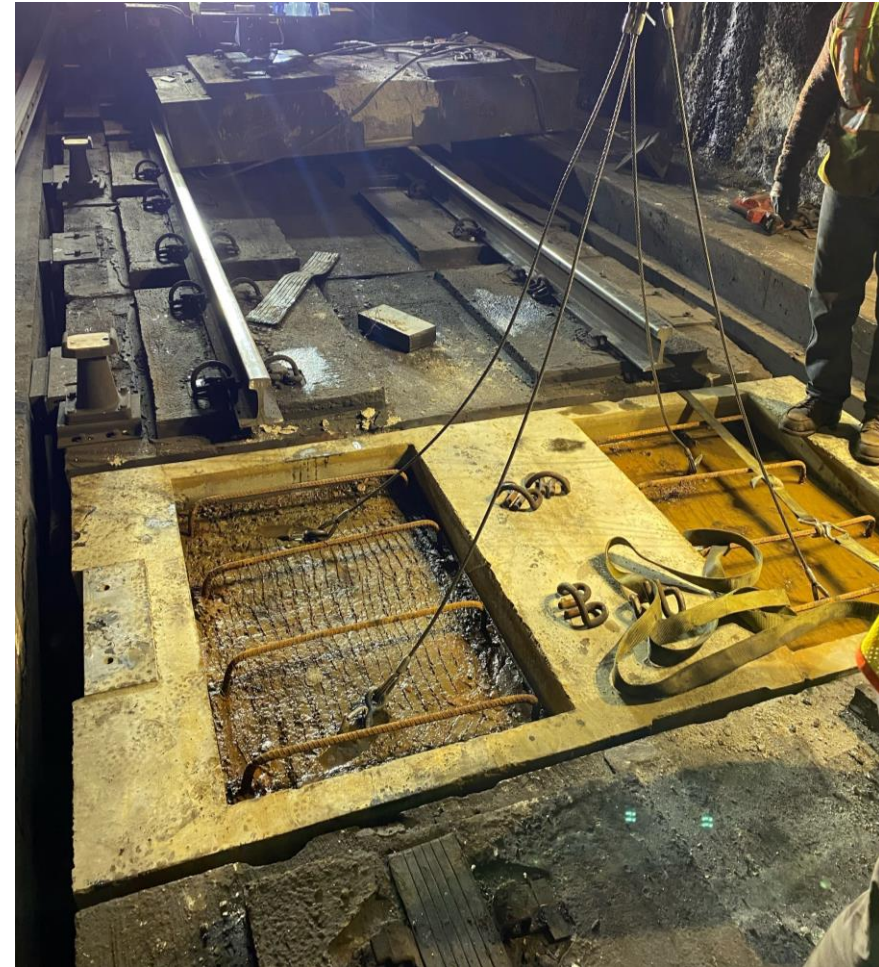
| Surge Segment | Location | Dates | # Restrictions |
|---------------|-------------------------------------|---------------------|----------------|
| RL-002 | Alewife to Kendall, Park Extensions | 7/13/24 – 7/28/24 | 10 |
| RL-003 | Harvard to Park | 11/18/24 – 11/24/24 | 3 |
| RL-004 | Kendall/MIT to JFK/UMass | 8/19/24 – 8/25/24 | 5 |
| RL-006 | Broadway to North Quincy | 11/5/24 - 11/10/24 | 4 |
| RL-007 | JFK/UMass to Braintree | 9/6/24 - 9/29/24 | 22 |



Overview of Work – Alewife to Kendall/MIT

Red Line, July 13 – July 28

- On the Red line, we intend to remove a total of 7 speed restrictions.
- We will be replacing approximately over 19,000' rail, approximately 250 ties, tamping and aligning about 9,300' of track, repairing 18 primary and 46 secondary direct fixation slabs, and replacing over 5,000 plates.
- At the stations, maintenance and repairs will be performed such as rub rail replacement, paint, bench repairs, concrete repairs, floor repairs, stair tread replacement, handrail replacement, signage repairs, roof replacements, camera upgrades, plumbing & HVAC maintenance and inspection activities.



Primary Direct Fixation Slab Replacement Completed February 2024



Work Limits– Alewife to Kendall/MIT

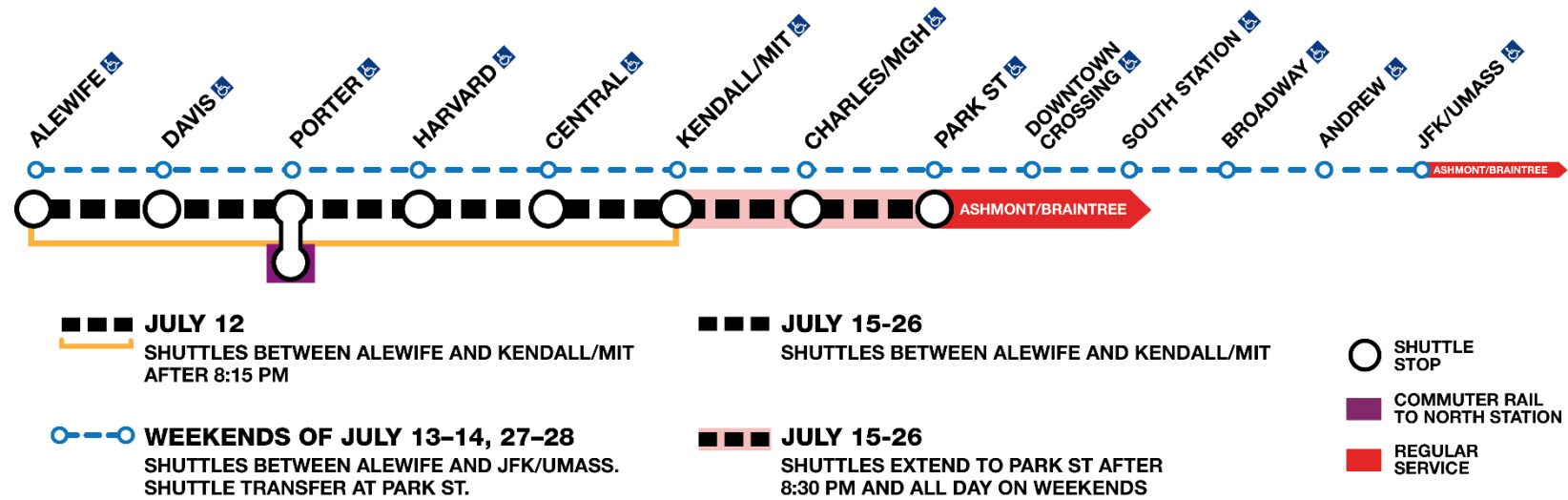
Red Line, July 13 – July 28

- Friday, July 12th – Alewife to Kendall/MIT
- Saturday, July 13th & Sunday July 14th – Alewife to JFK/UMass
- Monday, July 15th – Friday, July 19th
 - Alewife to Kendall/MIT from start of service to 8:30PM
 - Alewife to Park St from 8:30 PM to end of service
- Saturday, July 20th & Sunday, July 21st – Alewife to Park St
- Monday, July 22nd – Friday, July 26th
 - Alewife to Kendall/MIT from start of service to 8:30PM
 - Alewife to Park St from 8:30 PM to end of service
- Saturday, July 27th & Sunday, July 28th – Alewife to JFK/UMass



Service Impacts

Red Line, July 13 – July 28



Red Line trains between Alewife to Kendall/MIT from 8:30 PM on July 12, 2024, to the start of service on July 29, 2024, between Alewife to Park St starting at 8:30 PM on weeknights from July 15-19 and July 22-26, and between Alewife to JFK/UMass on the weekends of July 13-14 and July 27-28, and between Alewife to Park St on the weekend of July 20-21.

Additional details:

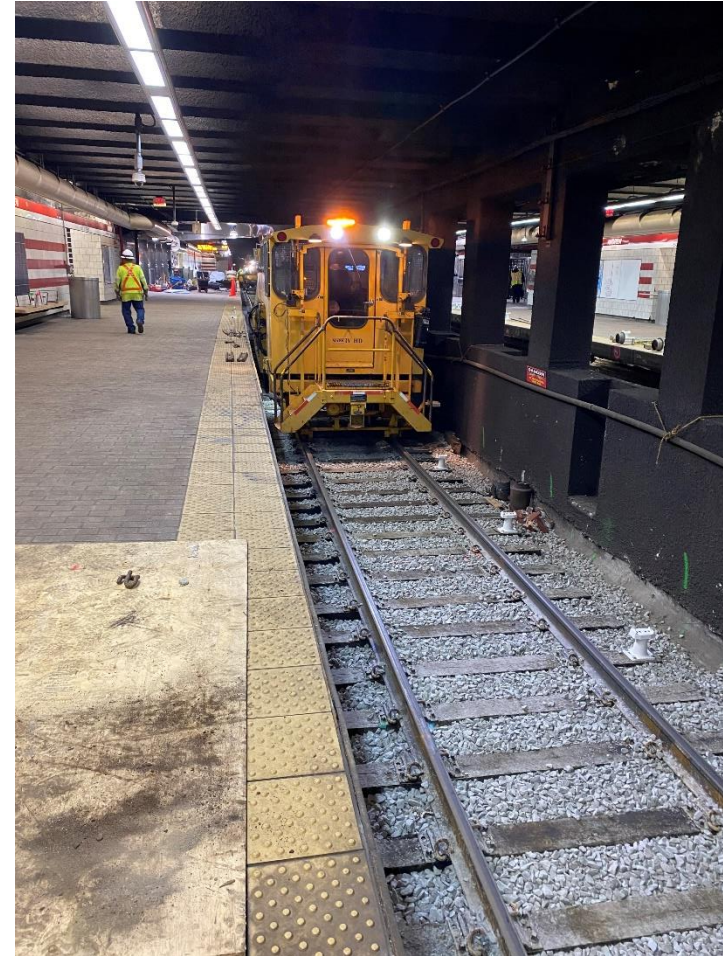
- During peak weekday service hours, **Red Line shuttle buses** will operate:
 - 8 minutes Monday through Friday between Alewife and Kendall/MIT.
 - 3 minutes Monday through Friday between Harvard and Kendall/MIT (Circulator).
 - 7 minutes Monday through Friday between Alewife, Porter, and Kendall/MIT (Express).
- During off-peak weekday service hours, **Red Line shuttle buses** will operate:
 - 8 minutes Monday through Friday between Alewife and Kendall/MIT.
 - 5 minutes Monday through Friday between Harvard and Kendall/MIT (Circulator).
 - 7 minutes Monday through Friday between Alewife, Porter, and Kendall/MIT (Express).
- During weekday Early Access hours, **Red Line shuttle buses** will operate:
 - 6 minutes between Alewife and Park St (Alewife to Kendall/MIT on 7/12)
- During weekend service hours, **Red Line shuttle buses** will operate:
 - 5-6 minutes between Alewife and Park St. (Alewife to Park St and Park St to JFK/UMass on 7/13-14 and 7/27-28)
- Shuttle buses will be wheelchair accessible.
- Transit Ambassadors and other MBTA personnel will be available at each shuttle stop to assist riders.
- Riders are encouraged to allow extra travel time.



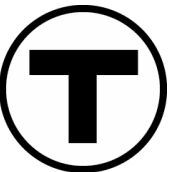
Overview of Work – Kendall/MIT to JFK/UMass

Red Line, August 19 – August 25

- On the Red line, we intend to remove a total of 5 speed restrictions between Kendall/MIT and JFK/UMass.
- We will be completing full depth reconstruction; replacing rail, ties, plates, third rail, and contact rail insulators; tamping, surfacing, and aligning; and special trackwork.
- At the stations, maintenance and repairs will be performed such as rub rail replacement, paint, bench repairs, concrete repairs, floor repairs, stair tread replacement, handrail replacement, signage repairs, roof replacements, camera upgrades, plumbing & HVAC maintenance and inspection activities.
- Service impacts to be provided closer to the start of the surge.



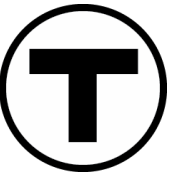
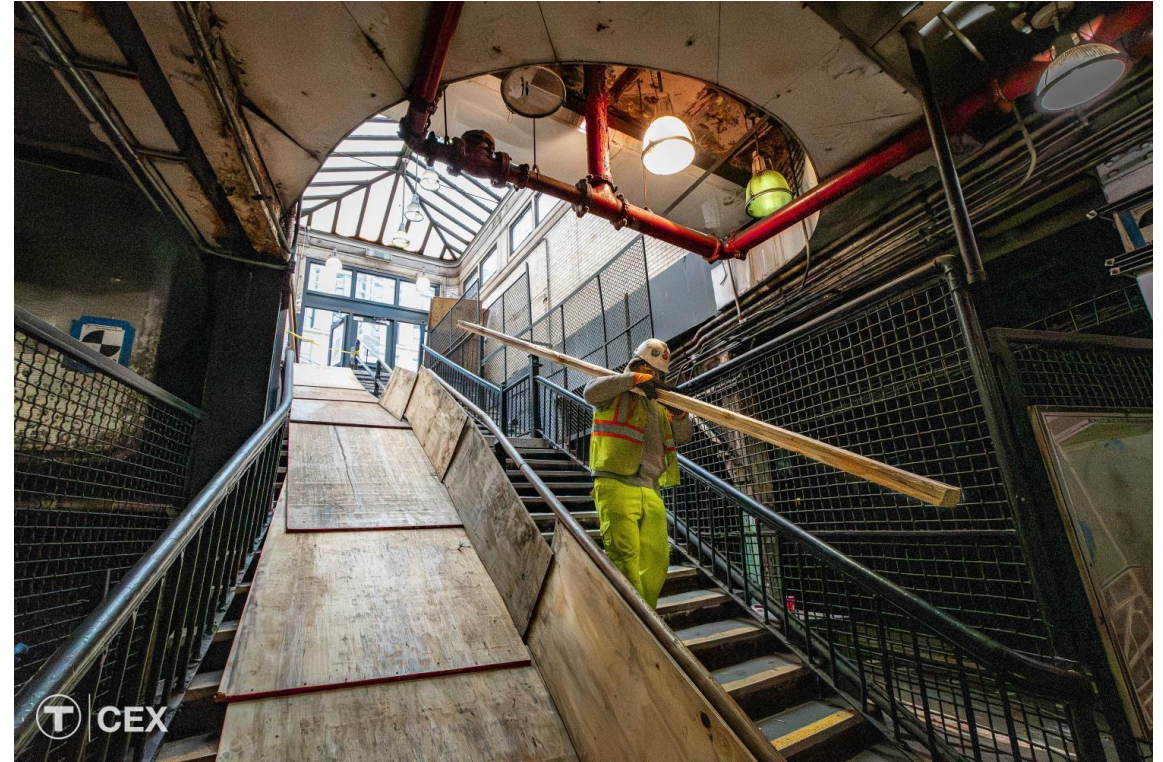
Andrew Station Full Depth Completed May 2024



What to Expect During Construction

2024 Track Improvement Program

- Crews will complete this important program by having multiple shifts, around the clock during each surge to accomplish work.
- The MBTA will mitigate noise levels wherever possible—including through noise-dampening blankets, low impact backup alarms, and noise monitoring. A hotline will be made for the public to report noise, and other construction-related issues will also be available.
- During individual surges, specific wayfinding signage, and additional transit ambassadors will be deployed to assist riders navigate the free alternative shuttle service.



Thank you

