



**Massachusetts Bay  
Transportation Authority**

# Maintenance of Way Update

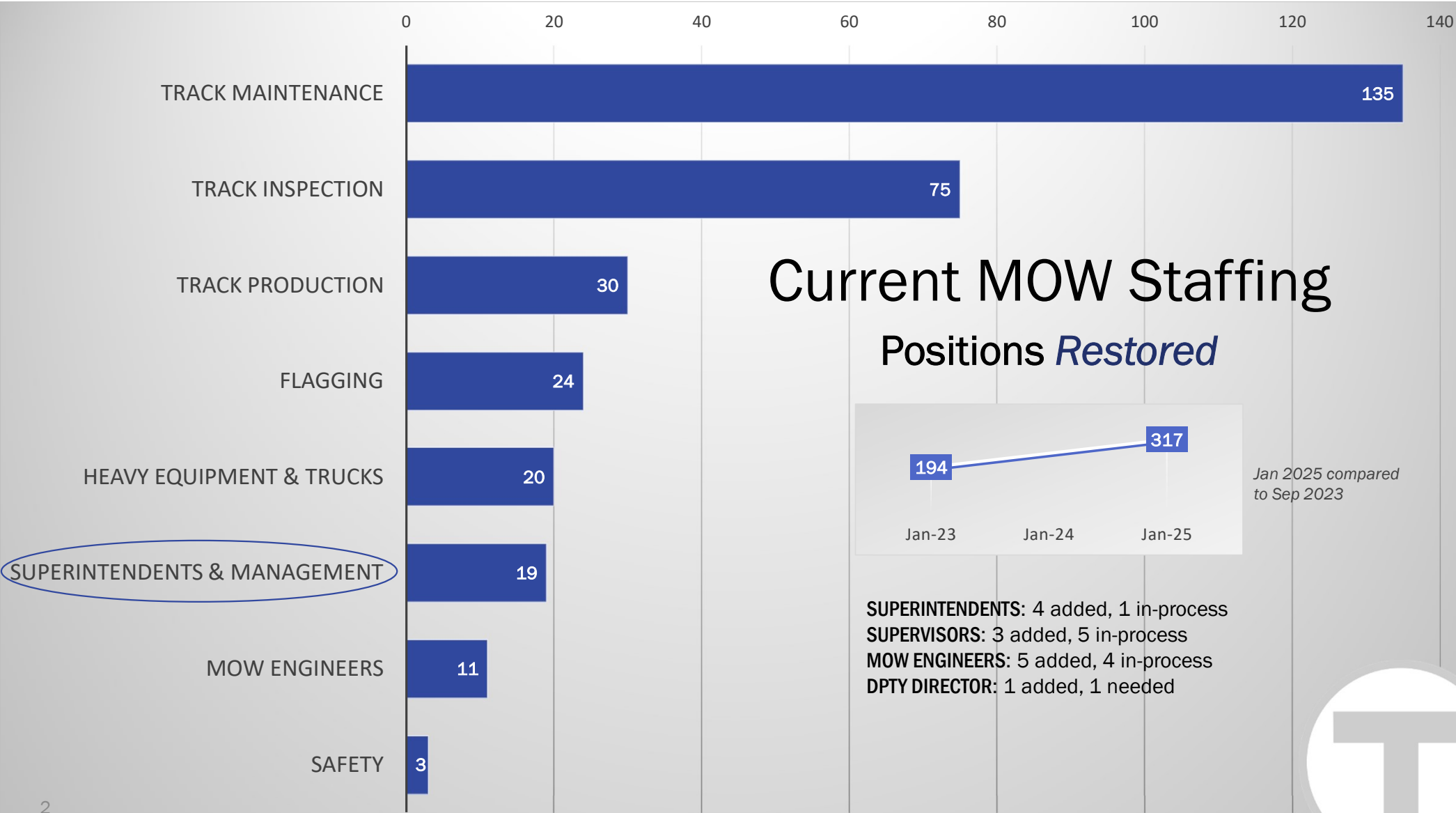
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# More to be Accomplished

Track Improvement Program: ~252,000 ft of rail replaced.

Fully 17% of system rail replaced.

*More to do to achieve State of Good Repair*

## MBTA ft of track

Red Line	222K	} ~717,000 ft of track
Blue Line	63K	
Orange Line	118K	
Green Line	287K	
Mattapan Line	27K	





## FOCUS & ATTITUDE

- Management joins to help find the problem plan the solution.
- Speed restrictions are temporary; not a solution. Used when necessary. Plan immediate repair to restore unrestricted service.

## SUPERINTENDENT'S RESPONSIBILITY & ACCOUNTABILITY

- Owns assigned line. Empowered to identify maintenance activities and execute the work.
- Encourages and supports problem-solving and decision-making to overcome obstacles that previously inhibited work and progress.
- Continuously improves assigned track infrastructure.

## TRAINING & EXPANDED ABILITIES

- *Thermite Welding* had become a “lost art.” Restoring this process to our workforce has been at the forefront of our goals. ***To maintain this system, the elimination of rail joints is a priority.***
- ~3,000 unnecessary rail joints account for ~30% defect backlogs weakening the track structure and creating speed restrictions.
- We are increasing internal training to develop more Electric Arc track welders to address those rail joints that must remain.

## RAIL REPLACEMENT

- We have greatly improved our ability to install continuously welded rail (CWR). A track maintenance crew can reliably install more than 500' in a standard ~2-hour maintenance period overnight.



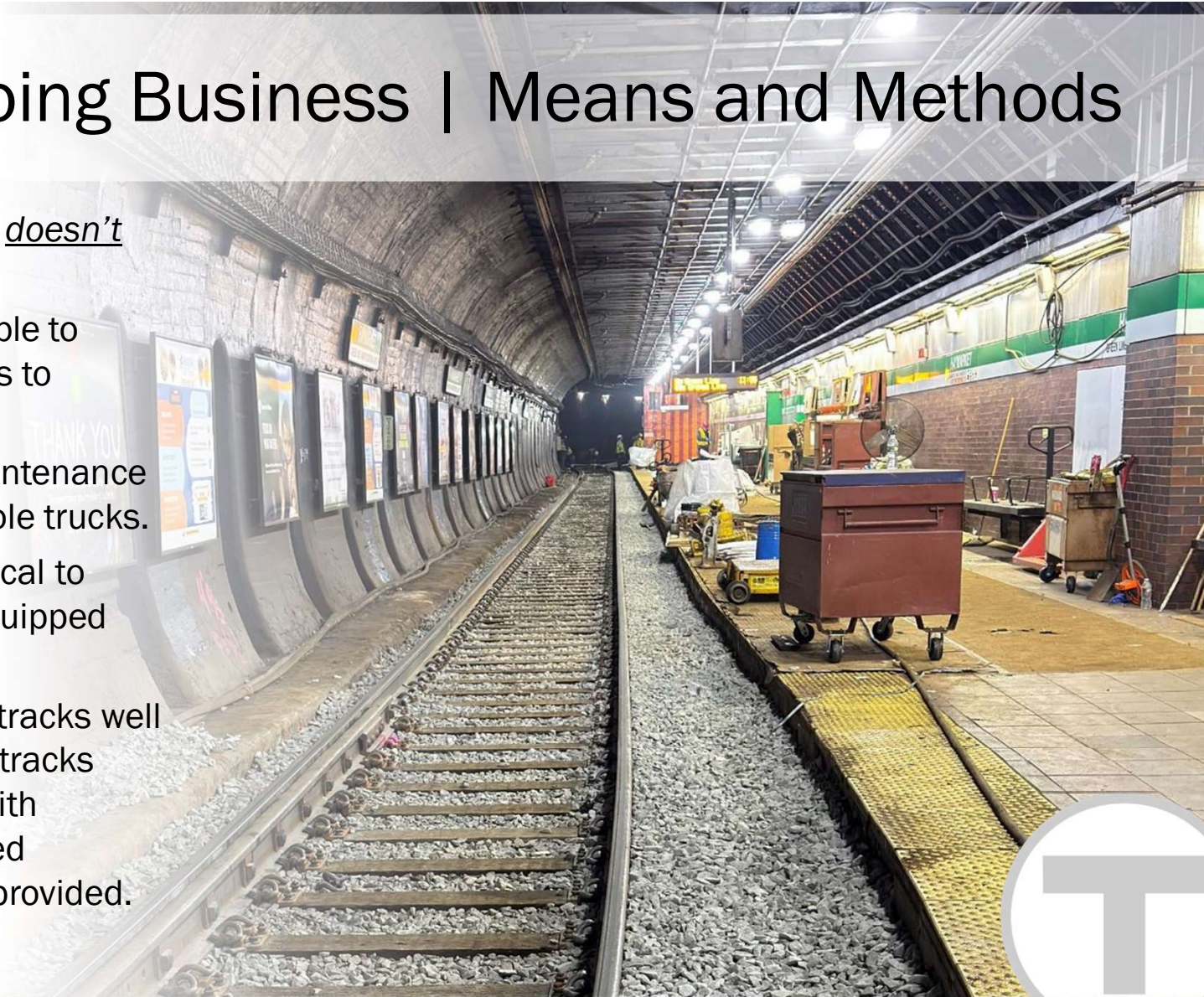
# Training & Development Grow Our Own Capabilities





# New Ways of Doing Business | Means and Methods

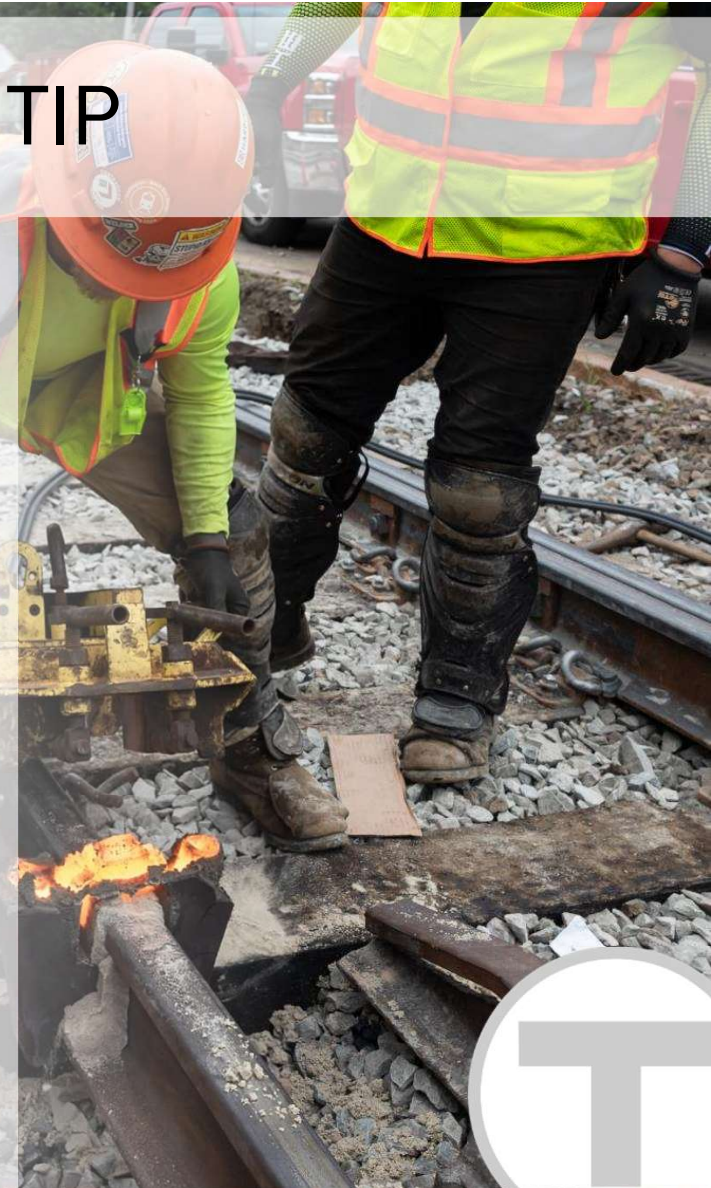
- *Doing it the way we always did doesn't work.*
- New position added: Responsible to create new, more efficient ways to maintain the track systems.
- Modernizing our truck and maintenance equipment fleets using multi-role trucks.
- New types of equipment is critical to establish a well trained and equipped workforce.
- Change is needed to keep the tracks well maintained. Limited access to tracks requires new methods along with improved training and expanded utilization of the various tools provided.





# How MOW Supported TIP

- MOW was fully engaged and committed to the successful TIP program.
- MOW Engineers, Supervisors and Superintendents created all work scopes assigned to the various TIP contractors. The development of each scope required hundreds of scoping inspections.
- MOW provided 99%+ of the materials used during each Diversion: furnishing more than 250K feet of CWR. Welded - including up to 3 electric flash-butt welding plants simultaneously.
- MOW crews delivered the welded strings of rail. During the few available hours each night for weeks in advance of the start of each surge.
- MOW forces were also assigned significant portions of the scope to leverage every minute of the surge once underway. In many instances MOW performed work assigned to a contractor that was finding it difficult to keep to schedule.
- Keeping the material supplies available in time for each surge was a huge effort requiring expedited orders only succeeded due to the help of Procurement.
- MOW forces also pre-plated ties in as many as 16 different configurations. MOW took on this work after issues with improper gage on earlier projects.



# Safety

Construction derailments  
doesn't equal unsafe practices

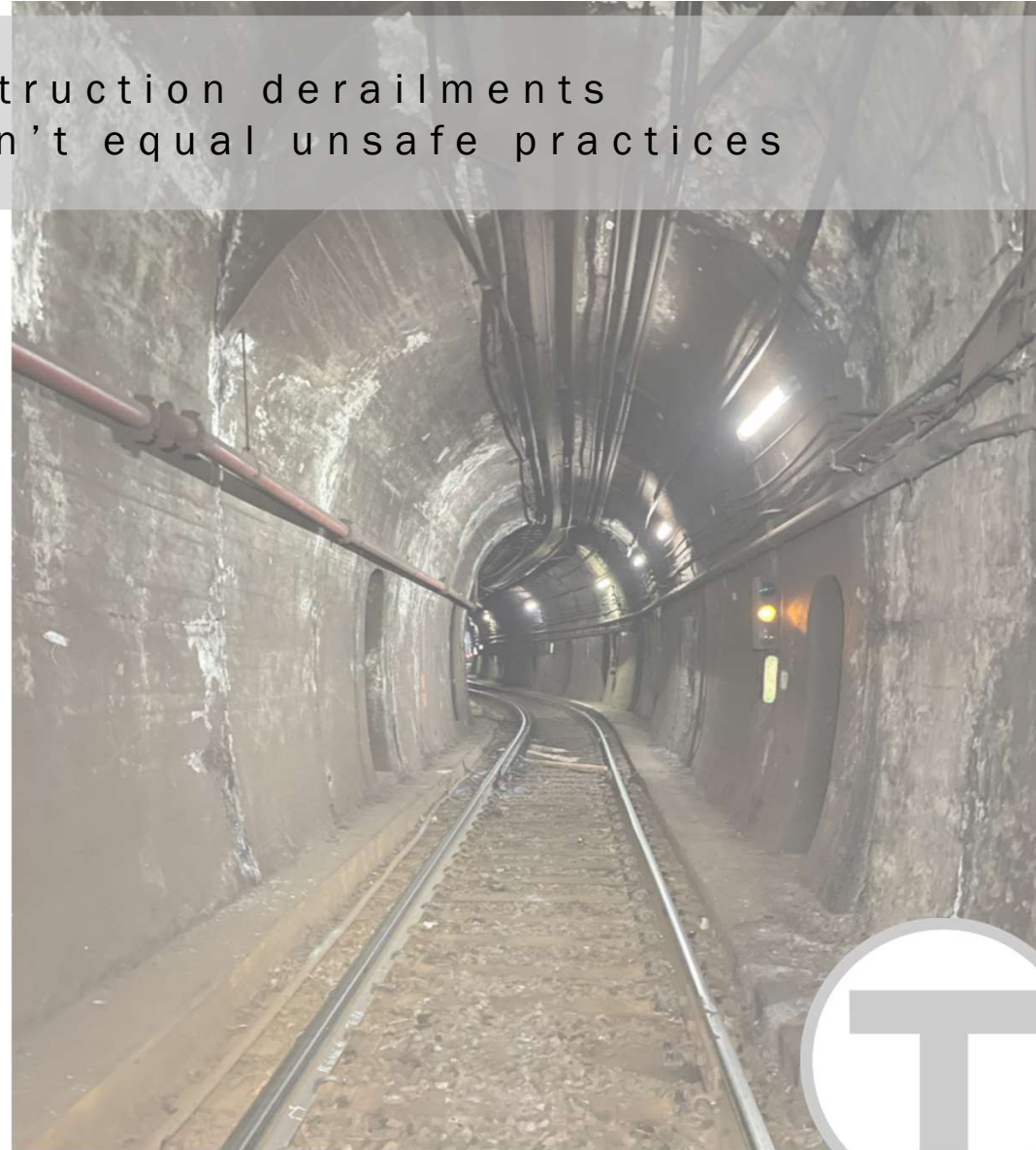
Construction derailments can be anticipated and actions defined to prepare for and mitigate. MOW created a map indicating location of increased derailment potential – a standard included in our safety plans submitted prior to each diversion.

Of the on-track construction derailments:

- **No** injuries or even potential for injuries.
- **No** meaningful equipment or property damage.
- **No** derailment that was not identified in advance.

Further reduction of derailments continued due to continued training of operators and even further with investment into and use of equipment less prone to derailment.

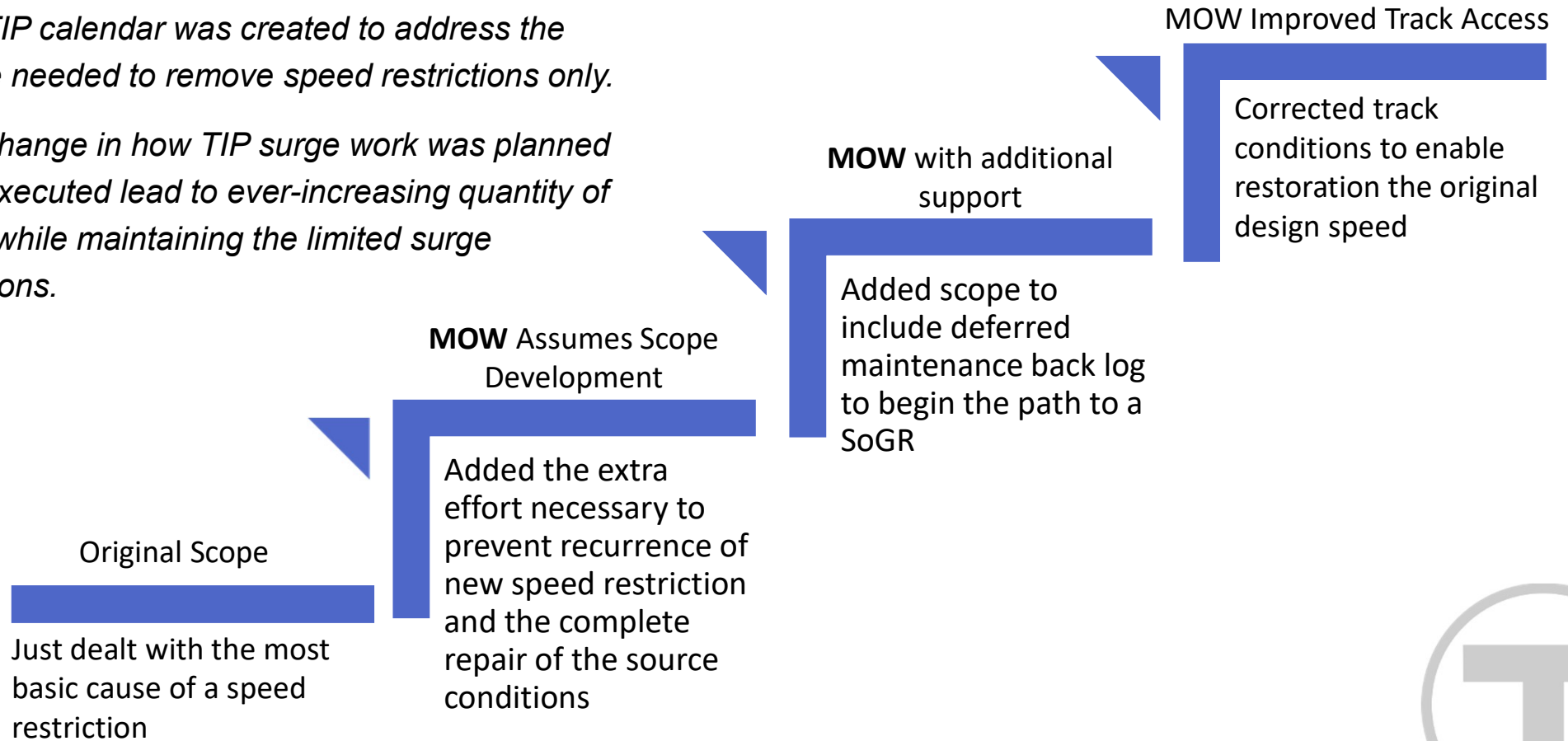
Robust involvement in the SRM process identified all the higher risk activities. Increased professionalism with the SRM process and ultimately the outcome.



# MOW | Integral to the Success of TIP

*The TIP calendar was created to address the scope needed to remove speed restrictions only.*

*The change in how TIP surge work was planned and executed lead to ever-increasing quantity of work while maintaining the limited surge durations.*



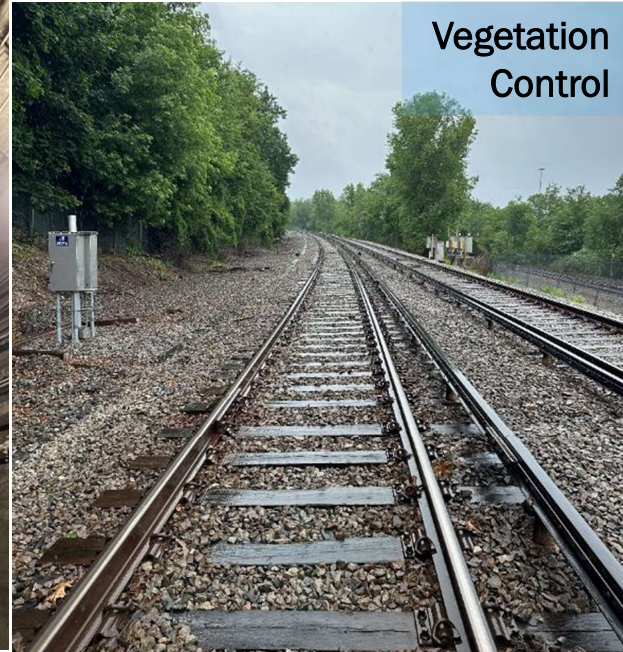




Full Depth  
Reconstruction



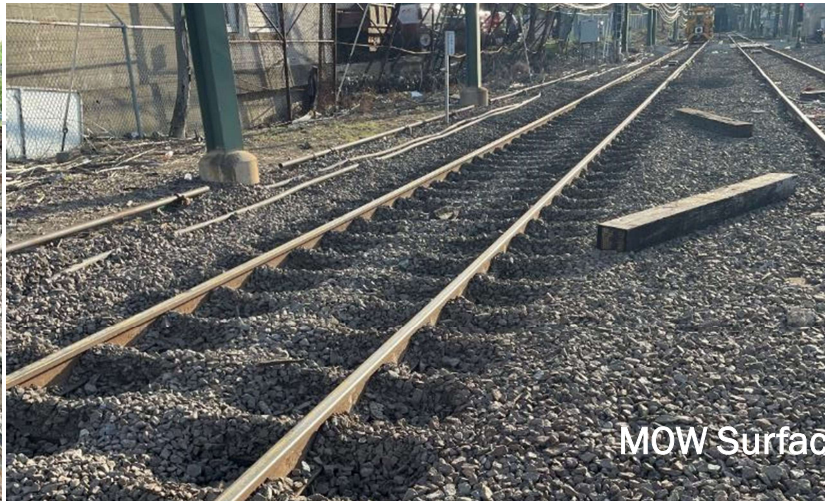
Removal of decades  
of obsolete tunnel  
infrastructure



Vegetation  
Control



Restoring original  
design speeds



MOW Surfacing Crews





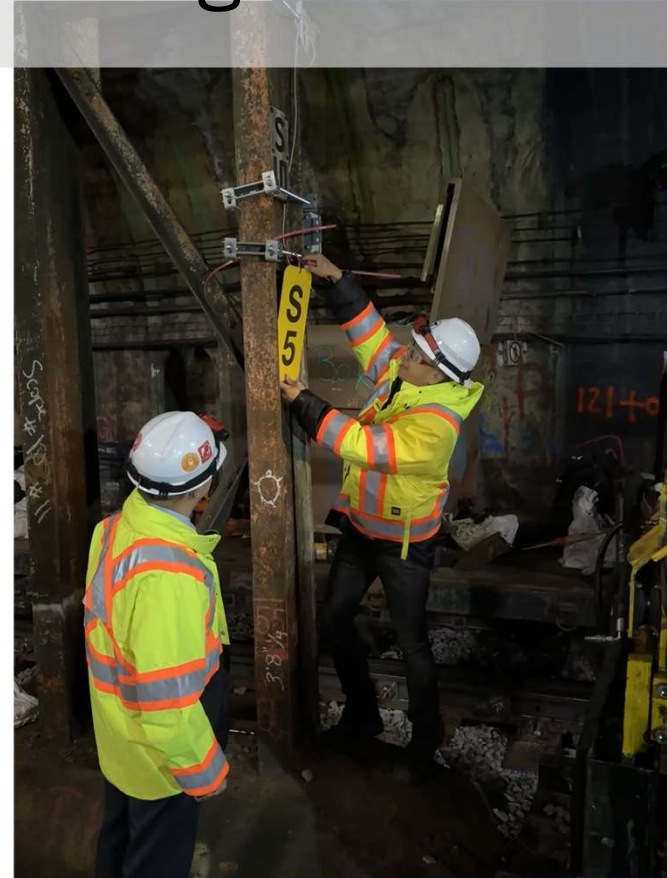
# Work Continues

- Continue to develop improved Truck pads and maintenance access points.
- Track Repairs expanded during TIP \$212M = ~10% of projected SoGR backlog.
- MOW Operating Budget for track materials < \$4M annually.
- Critical to create Capital Inventory of long lead items, some with 3-4 year delays.
- Develop internal MOW track surfacing capacity.
- Establish 2 electric arc welding teams on each line.
- Expand mechanization of maintenance activities.
- Review old and outdated policies that prevent maintenance access time.
- Adopt new safety technologies wherever appropriate.
- Work closely with other departments to maximize work completed while minimizing passenger impacts.
- Enhance adoption of safety initiatives with proven results.



# The 2024 TIP | 1<sup>st</sup> Step of a Longer Term Strategy

- Any new restrictions are **now** removed without delay.
- Speed restrictions are a tool but it is NOT the tool required for every job.
- Retraining/enhancing track inspection techniques to detect developing rail deficiencies before a speed restriction is required.
- Becoming proficient in identifying track deficiencies earlier, to plan and execute the repair before a speed restriction is required.
- New tools, vehicles, equipment and training underway... and also a continuous process.





**Choose Transit: Full  Ahead**

