



**Massachusetts Bay
Transportation Authority**

MBTA Winter Preparedness

2023 – 2024 Season

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Winter Preparedness Overview

Guiding Principles



Ensure a solid baseline informed and refined by past experience and learnings

- ✓ All tools and equipment thoroughly tested and prepared
- ✓ Snow & Ice plan completed by every department
- ✓ Test scenarios run (Tabletop Exercise)



Be prepared to be flexible and adaptable to enable the most efficient and appropriate response to any scenario

- ✓ Understand the tools available and how to utilize them optimally
- ✓ Evaluate what the situation calls for (not "one size fits all")



Prioritize situational awareness during winter events to enable timely response and communication flow to both internal and external stakeholders

- ✓ Be alert and plugged into your own area
- ✓ Communicate what you are seeing



Winter 2022–2023 Recap

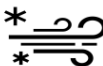


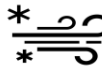
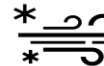
4 EOC Activations | 1 Emergency Operations Call

Ice Conditions (Temperature Drop Along with Precipitation)

- Ice on tracks and catenary system
- Resulted in broken pantographs and disabled trains on Orange, Red, and Green Lines (in general, ice often leads to broken catenary wire, as well)

Extreme Cold (Polar Vortex)

- Resulted in pneumatic system and heat issues on buses, and facilities with no heat
- Requests for warming buses for customers

January 24, 2023	February 4, 2023	February 23, 2023	February 27, 2023	March 14, 2023
				
EOC Activation Winter Weather	EOC Activation Extreme Cold	Emergency Operations Call Ice Conditions	EOC Activation Winter Weather	EOC Activation Winter Weather



2023–2024 Preparations: Rail Vehicles

	Winterization Program *	Special Pantograph Carbons **	Supplemental Systems †	Snow-Fighting Capabilities	Traction Motor Type
Blue	✓ Complete	✓ Available for select cars	✓ Preparations complete	✓ Built-in plows	AC
Red	✓ Target Completion 12/15	N/A	✓ Preparations complete	✓ 40 under-vehicle plows installed	Type 1 & 2 - DC Type 3 & 4 – AC
Orange	✓ Complete	N/A	✓ Preparations complete	✓ Built-in snow wipers	AC
Green	✓ Target Completion 12/15	✓ Available for select cars	✓ Preparations complete		Type 7 - DC Type 8 & 9 – AC PCC Cars – DC



*Focuses on brakes, auxiliary heaters, pneumatic and HVAC systems

**Remove ice buildup on overhead catenary system; aggressive ice-removal capabilities but can cause catenary damage

† Light rail vehicles use sand boxes to assist with traction; heavy rail vehicles use anti-icing equipment



2023–2024 Preparations: Bus and Commuter Rail

Bus



Winterization Inspection Program

- Focuses on pneumatic, cooling, and HVAC systems and auxiliary heaters
- Target completion: 12/31

Commuter Rail

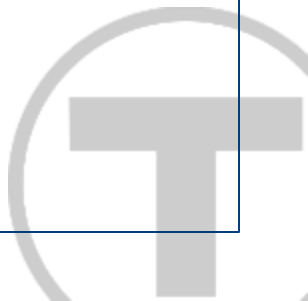


Locomotive and Coach Prep

- Checking HVAC/heating and locomotive layover systems, preparing to switch from summer- to winter-blend diesel fuel
- Target completion: 12/25

Other Equipment

- Two snowplows and flanger are ready to be deployed



2023–2024 Preparations: Transit Infrastructure and NRVs

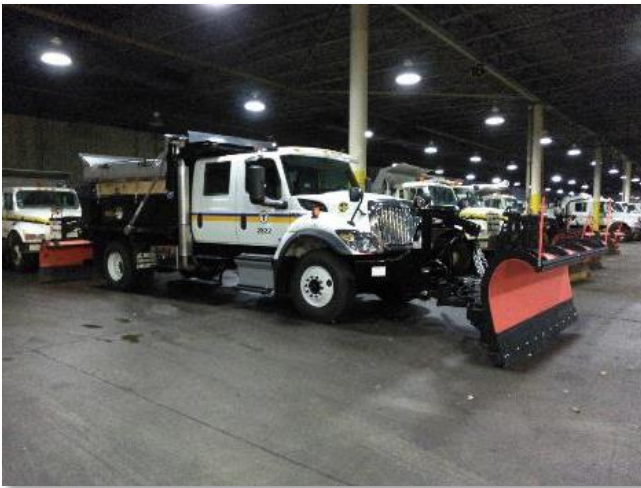


System Switch Heaters

- Testing underway for switch heaters both in yards and in the system
- Target completion: 11/30

Non-Revenue Vehicle (NRV) Winterization Inspection Program

- Applies to both on-road and off-road snow equipment as well as specialized equipment used during cold temperatures (e.g., sanders, snow augers, loaders, sweepers, gas turbine engine-mounted jets, plow trucks, Gradalls, skid steers)
- Equipment undergoes full-service oil/grease applications, inspection, repairs/replacements as necessary, and road testing
- Target completion: 11/30



2023–2024 Preparations: Snow Clearing

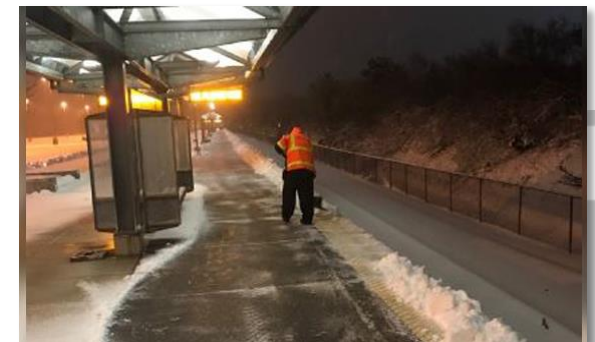
- **Facilities snow removal** is primarily performed by contractors; road-bound NRV winterization program in progress for equipment used by MBTA for snow clearing at select locations
- Snow removal on **heavy and light rail tracks** is completed by Maintenance of Way (MOW); rail-bound NRV winterization program complete
- **Completed staging** of all salt boxes and equipment throughout the system



Contractor	Manager	Scope
Case	E&M	<p><i>MBTA responsible for snow clearing at roughly 800 of 7,200 stops.</i></p> <ul style="list-style-type: none"> • Busways, bus stops on MBTA property • Landing pads, snow berms at bus stops/bus shelters along Key Bus Routes, Silver Line, and Columbus Ave BRT corridor <p><i>Remainder are the responsibility of municipal partners, or property owners.</i></p>
SJ Services	E&M	<ul style="list-style-type: none"> • All heavy and light stations, pedestrian walkways
Leahy	E&M	<ul style="list-style-type: none"> • Bus and rail yards
Keolis	Commuter Rail	<ul style="list-style-type: none"> • Commuter Rail stations and parking lots • Keolis utilizes contractors on some lines (Greenbush and Fairmount)

Changes this year:

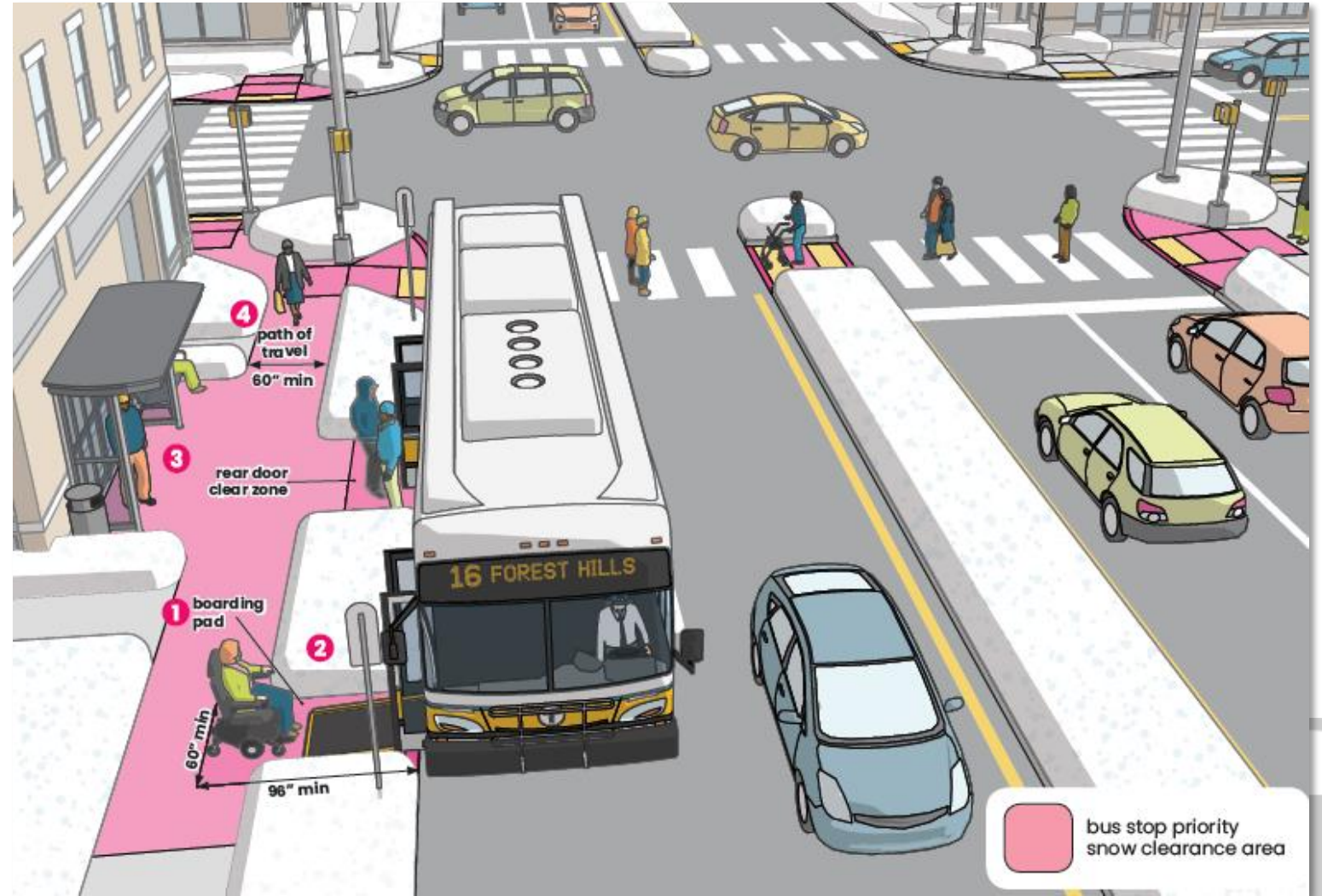
- SJ Services awarded Green & Orange Line stations; previously Case
- Contractual ability to have Case spread de-icing substance on bus stops



2023–2024 Preparations: Snow Removal Guidance

Focus Areas

- **Landing Pad** - Clear the boarding pad 60" x 96" where the front door of the bus aligns so there is room for the ramp to deploy, as well as room for a customer using wheeled mobility to turn off the ramp.
- **Berm** - At times, snow may pile up between the sidewalk and roadway. When this happens adjacent to the front door of the bus, the ramp will not deploy. Be sure to shovel out an 80" cut in the berm adjacent to the landing pad.
- **Connections** - Property owners should clear snow from the landing pad (60" width) to the closest cleared sidewalk, corner curb ramp, and station entrance and make a clear path of travel between these connections.



2023–2024 Preparations: Municipal Partnerships

MBTA prepares for winter weather in coordination with municipal partners by reviewing topics such as:

- **Snow-clearing** responsibilities
- **Roadway de-icing materials' impact** on grade crossings

City of Boston Snow & Ice Coordination Meeting

November 16 | BTD, MassDOT, DCR

Municipal Winter Prep Meeting

November 29 | All MBTA-service area municipalities



2023–2024: Public Information Strategy

The **winter campaign** sets expectations for customers and assists them in navigating services.

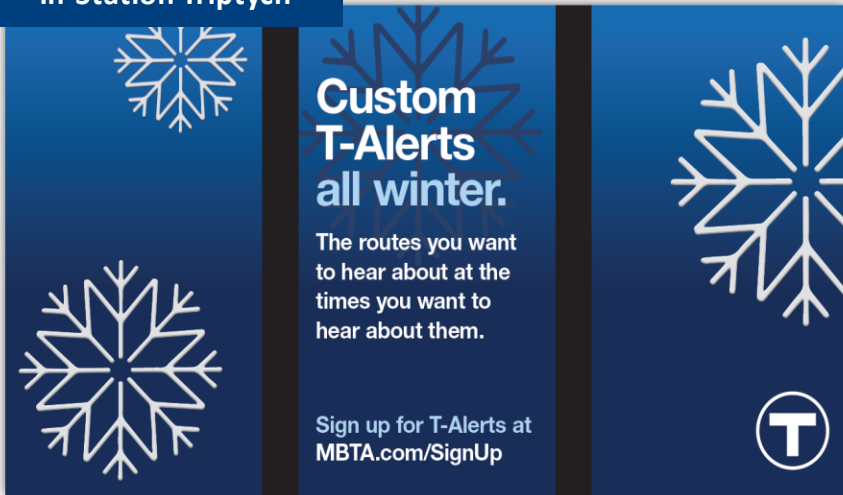
Topics include:

- Winter Preparedness
- Winter Convenience
- Winter T-Alerts

Service information is also communicated to customers before, during, and after **storms**.

- **Omni-Channel Messaging:** e.g., PA systems, T-Alerts, social media, press, website
- **Before the Storm:** What service is planned
- **During/After the Storm:** Delays or disruptions, next day’s planned service

In-Station Triptych



Billboards



2023–2024: Storm / Event Management



Snow & Ice Operations Plan 2023 – 2024

- The Snow & Ice Operations Plan details the **overall approach** the MBTA will utilize to identify storm events and mobilize resources to adequately prepare, respond and recover
- **2023 - 2024 revisions** (submitted 11/10) will address recommendations from After-Action Reports for weather events last winter, such as:
 - Direction and procedures for managing extreme cold and icy rail conditions
 - Guidance to shelter customers on berthed trains in extreme cold during service delays when possible
- Target completion: 12/1

Tabletop Exercise

- Scheduled: 11/20
- Scenarios: Heavy snow, severe cold



2023–2024: Storm / Event Management

Alternative Schedules

- Bus and Light Rail “**emergency schedules**” and Commuter Rail “**extreme weather schedules**” are finalized and may be activated during storms
- Timely **inter-agency and municipal coordination** is essential for MBTA to make decision to activate alternative schedules early enough to mobilize alternative schedule and provide customers reasonable advance notice



Emergency Operations Center (EOC) Improvements

- **Enhancing coordination** between Storm Desk and OCC PIOs; plan to clarify Situation Report (SitRep) responsibilities before an event
- **Adding sections to SitRep** to capture station closures, bussing, flood barriers, and current EOC priorities
- **Updating storm staffing process** to include operational information for each department (e.g., service schedule, contracted services)

