

**Massachusetts Bay  
Transportation Authority**

# Accessibility at the MBTA

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Update on the MBTA's path towards compliance with the  
*Daniels-Finegold v. MBTA* settlement agreement

June 7, 2023

# Language Accessibility

Our Spanish Interpreter for the meeting today is:

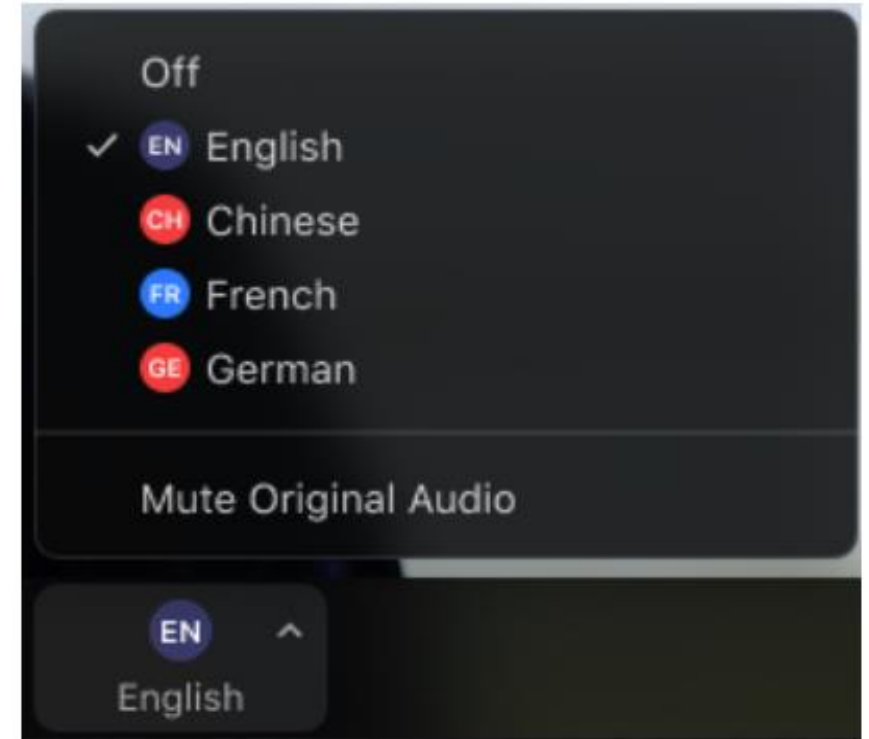
**Laura Chavez**

## English

- We offer interpretation during this meeting. In your meeting controls, click Interpretation (the small globe icon) and click the language that you would like to hear.

## Spanish

- Nuestra intérprete de español para la reunión de hoy es Laura Chavez
- Ofrecemos interpretación en español durante esta junta. Para escoger el audio en inglés o en español tendrá que seleccionar el botón de interpretación que tiene la imagen de un globo. Cuando seleccione la interpretación por favor de escoger el idioma cual le gustaría oír



# ASL Interpreters

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Our ASL interpreters are: **Denise Martinez** and **Sandy Lygren**

## To view their videos:

- Find the interpreter's video in the gallery
- In the top right corner of the interpreter's video, click the ellipses
- Then, click the "Pin Video" option. This will keep the interpreter's video on your screen.
- When the interpreters switch, follow the same steps to pin the other's video.



# CART Captioning

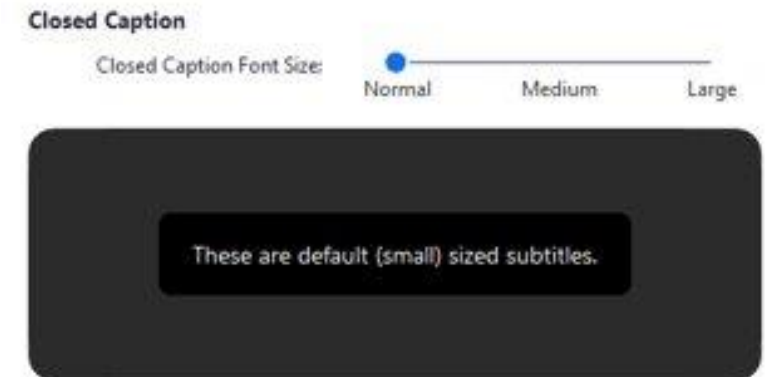
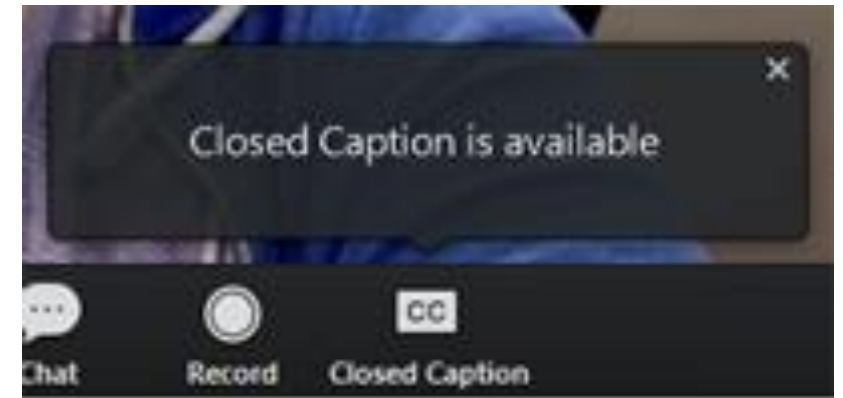
Our CART Captioner is **Denise Gracia**

To start viewing closed captioning click **Closed Caption** with the **CC** icon

**Tip:** Click and drag the closed captioning to move its positioning in the meeting window.

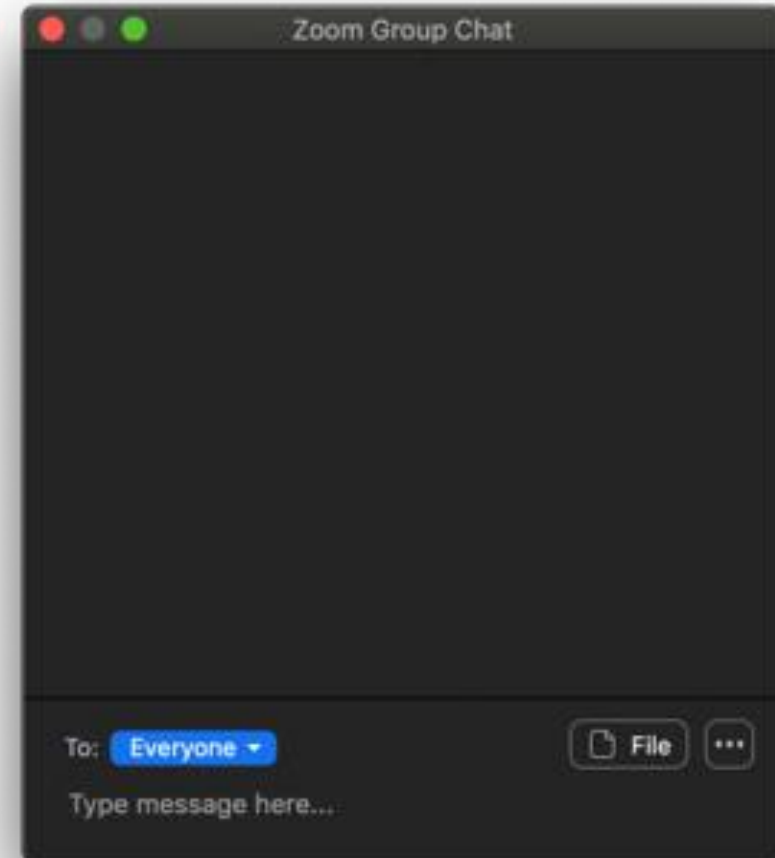
To adjust the caption size:

- Click the upward arrow next to **Start Video / Stop Video**
- Click **Video Settings** then **Accessibility**
- Move the slider to adjust the caption size



# Use Chat For Technical Questions

- If you have a technical question about Zoom or the features of the meeting, please use the chat function.
- Our technical assistant will attempt to troubleshoot your problem and get back to you.



# Diversity and Civil Rights

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All MBTA activities, including public meetings, are free of discrimination.

The MBTA complies with all federal and state civil rights requirements preventing discrimination on the basis of race, color, national origin, disability, limited English proficiency, and additional protected characteristics.

We welcome the diversity from across our entire service area. If you have any questions or concerns, please visit [www.mbta.com/titlevi](http://www.mbta.com/titlevi) to reach the Office of Diversity and Civil Rights.

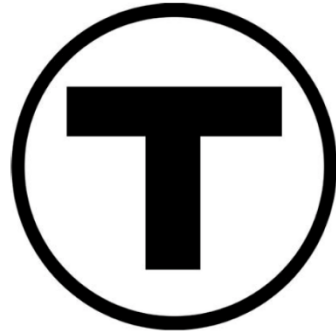


# Agenda

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- **Welcome** –Phillip Eng, General Manager
- **Status of Settlement Agreement** – Hon. Patrick King
- **Updates on Key Accessibility Initiatives**
  - Elevator Uptime Review
  - Digital Signage & Related Efforts
  - New Vehicle Procurement
  - Accessibility Marking Campaign
- **Statement from Plaintiffs**
- **Statement from Riders' Transportation Access Group**
- **Feedback and Q&A**





# **Massachusetts Bay Transportation Authority**

## Updates on Accessibility Initiatives

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Laura Brelsford, System-Wide Accessibility



# Examples of Major Initiatives Underway



- 26 inaccessible stations currently under design or in construction to be made fully accessible
- Refreshed accessibility trainings for front-line employees
- Scale up of Transit Ambassadors in subway stations

Complete Initiatives Report:  
[mbta.com/swa-initiatives](http://mbta.com/swa-initiatives)



# To Learn More

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- **Accessibility at the MBTA:** [mbta.com/accessibility](http://mbta.com/accessibility)
- **Questions, Complaints & Commendations?**
  - 617-222-3200
  - MBTA.com, click on "Support"
  - Tweet @MBTA
- **New Mobility Center**
  - 1000 Mass Ave., Boston or 617-337-2727
- **Upcoming R-TAG Meeting:** Thursday, June 29th at 5:30 PM
- **Judge King Semi-Annual Settlement Update Meeting:** December 6th at 5:30 PM





**Massachusetts Bay  
Transportation Authority**

# Elevator Uptime Review

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Mark Cunningham, Engineering & Maintenance

Mark Molewyk, Quality Management


# Executive Summary

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- 2022 saw a noticeable decrease in elevator uptime
- Almost all this decrease is attributable to long-term outages (greater than 3 hours)
- Six root causes were identified that contributed most to recent long-term outages
  - Broken Parts
  - Groundwater
  - Fire Department Doors
  - Environmental Exposure
  - Broken Glass
  - Employee Injury
- Supply chain issues prolonged many elevator repairs
- Age is not a significant factor in elevator downtime



# 2022 Saw a Noticeable Decrease in Elevator Uptime

 **99.6%**

Uptime in 2021

 **98.0%**

Uptime in 2022



## So why the decrease?

- What changed between these two years?
  - Are more elevators going out of service?
  - Are elevators staying out of service for longer periods of time?
  - Are there different reasons for elevators going out of service?



99.6%

Uptime in 2021



98.0%

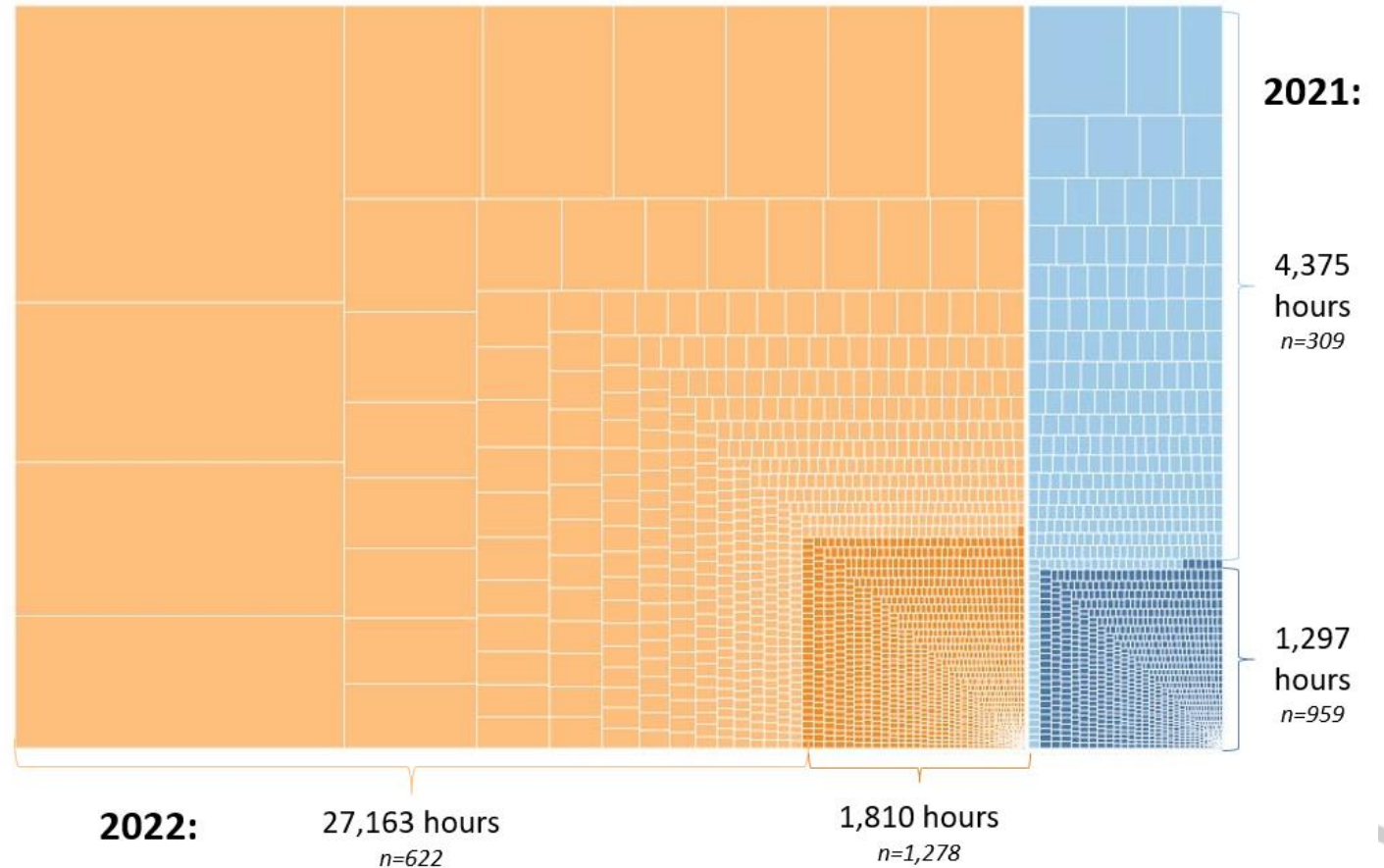
Uptime in 2022



# Every elevator outage in 2022 and 2021

- Outage time was **5x greater in 2022**
- Short-term outage time ( $\leq 3$  hours) increased by 40%
- Long-term outage time ( $> 3$  hours) increased by 521%
- The number of distinct outages increased from 1,268 in 2021 to 1,900 in 2022.

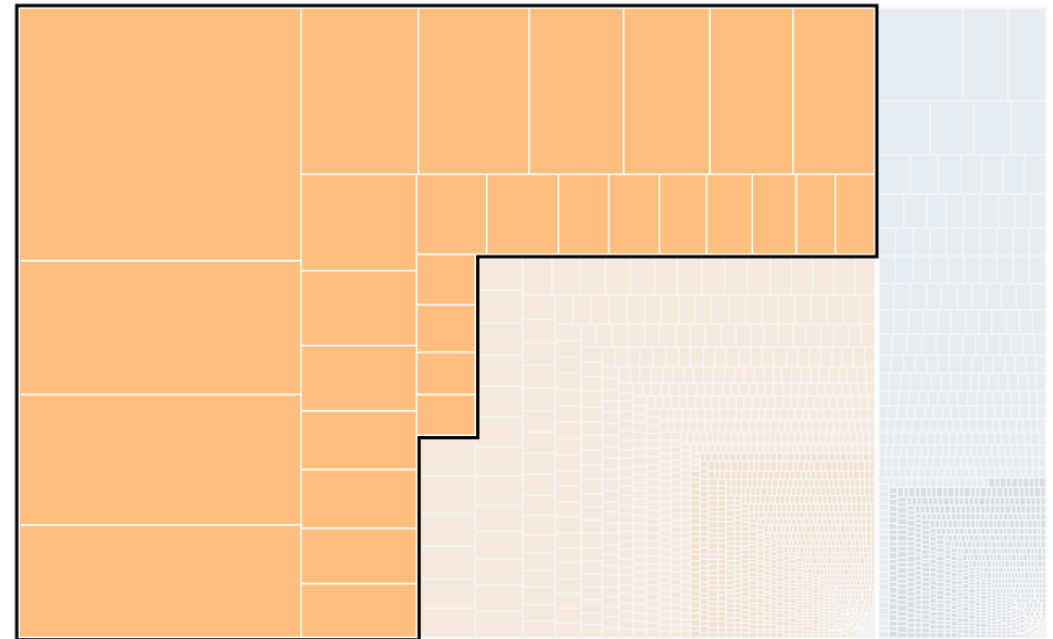
**Key finding: 98% of the total increase in outage time is attributable to long-term outages**



Each box represents one work order  
 2022 work orders are colored **Orange**, 2021 work orders are colored **Blue**  
 Darker colors represent all short-term work orders less than or equal to 3 hours in length

# Top 30 Elevator Outages in 2022

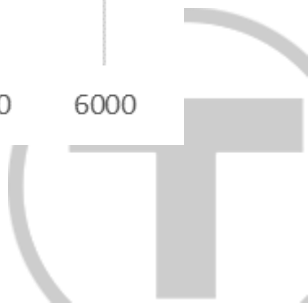
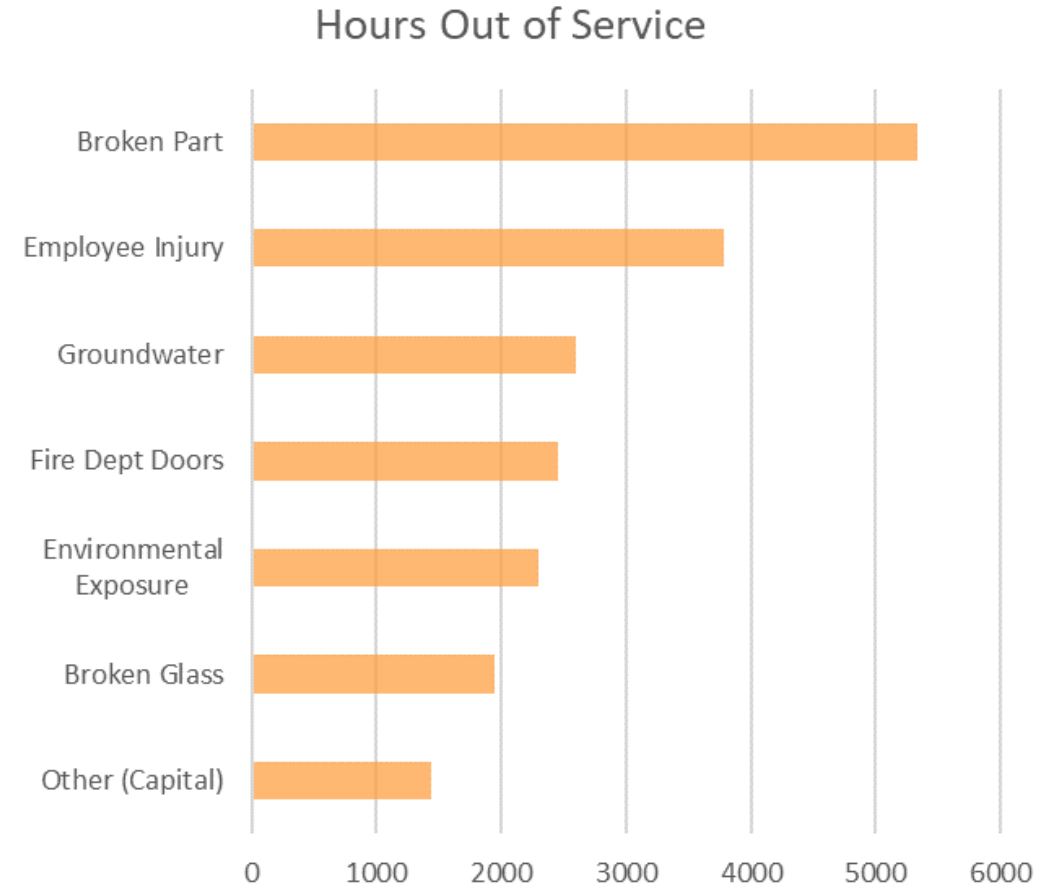
- Understanding the increase in downtime requires understanding the longest elevator outages
- Why were these elevators out of service for such long periods of time?





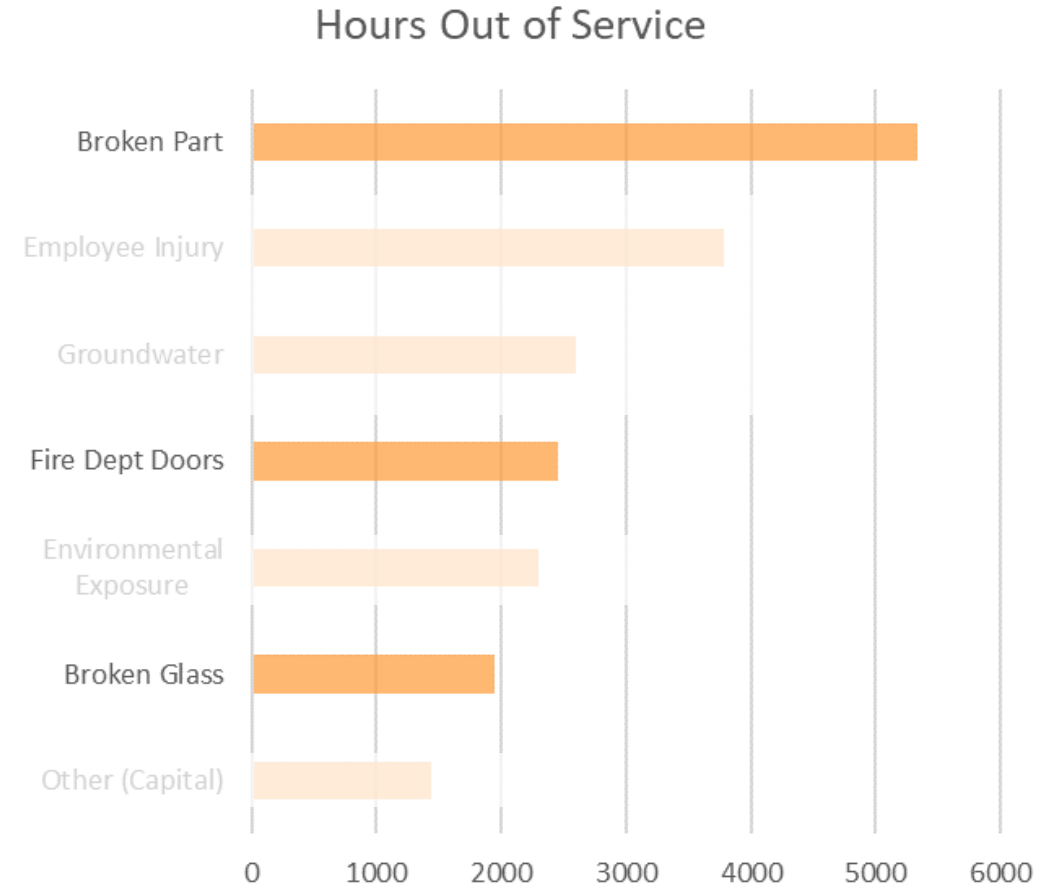
# What was the initial cause of these top 30 outages?

- Broken parts and damage due to water infiltration (groundwater and environmental exposure) are key causes for elevator outages in 2022
- Outages can occur after fire departments respond to entrapments, damaging the doors and other components in the process.
- The outage time from employee injuries was the result of a single elevator at Haymarket.



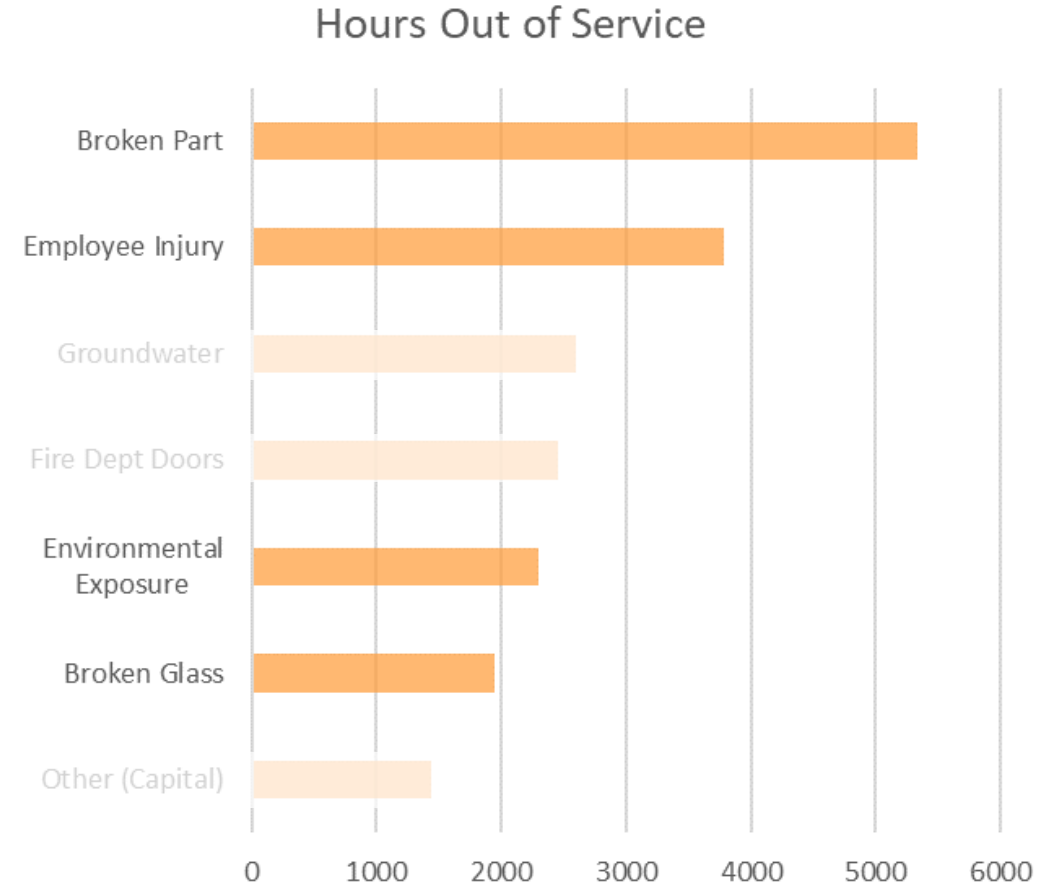
# What was the initial cause of these top 30 outages?

- In 2022, at least 9 of the top 30 elevator outages were prolonged by **supply chain issues**. These units remained out of service until the needed part could be procured.
- Some broken parts that previously took days to replace now take weeks to procure.



# What was the initial cause of these top 30 outages?

- At least 8 of the top 30 elevator outages were prolonged by **interagency coordination**. These delays were mainly due to the requirement of retesting the units by the state's Department of Occupational Licensure (DOL) before they could be reopened.
- Last year, the MBTA collaborated with the DOL to expedite the re-inspection process and reduce the time it took for out-of-service elevators to be reopened.



# Actions to Date

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- **Broken parts and supply chain issues**
  - Since 2005, we have multiple stock rooms for elevator parts on MBTA property
  - We have worked with our maintenance vendor to make sure that more specialized parts are always on hand. This reduces supply chain issues.
- **Groundwater and Environmental Exposure**
  - Transit Facilities Maintenance (TFM) department working to waterproof several elevator pits throughout the system
- **Doors Damaged by Fire Department**
  - Work with local fire chiefs to retrain responding fire units in non-emergency situations
- **Broken Glass**
  - Maintenance vendor is subcontracting a new glass vendor, which will expedite the procurement process when the need arises



# 2023 Stats

# 98.4%

## Uptime YTD in 2023

- Uptime in 2023 is higher than it was in 2022
- Our analysis has increased our focus on this year's long-term elevator outages
  - Broken parts contributed to outages at Downtown Crossing and Porter stations
  - Groundwater caused outages in elevators at North Station and Harvard



Photo of an elevator at the lower busway of Ruggles Station.

# Recommendations

## **Ensuring Timely Notifications to Riders regarding Outages and Provision of Alternative Service**

- The MBTA employs numerous methods for notifying riders about current and upcoming elevator outages. These include but are not limited to:
  - Detailed information on our website
  - Real-time alerts that can be sent to a rider's cell phone
  - Dedicated hotline for elevator/escalator information
  - Customer Information Displays that contain real-time elevator information in several station lobbies.
- Additionally, since 2012, the MBTA has required shuttle buses to be provided when elevators are out of service and there is no suitable alternative path.
- SWA team recommends reviewing:
  - The efficacy of notification methods as well as opportunities for improvement or expansion.
  - Relevant protocols and assess shuttling resources to ensure shuttles are available as needed.



# Recommendations

## **Integration of Elevator Maintenance into Enterprise Asset Management System**

- E&M recommends that KONE technicians in the field receive tablets to directly report elevator outages; improving the integration of elevator maintenance into the MBTA's Enterprise Asset Management (EAM) System
- Integration of EAM will enable:
  - More accurate record keeping and reporting of elevator maintenance
  - Additional feedback from elevator technicians to maintenance planning
  - Clear symptoms of root causes for elevator outages
- With better details on the reason for each outage, E&M can better identify trends leading to elevator outages.



# Recommendations

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## Replacement of Obsolete Elevators

- E&M recommends that obsolete units be prioritized for replacement.
  - These are units for which parts are no longer available.
  - Obsolete units are not necessarily the oldest units. Many older units perform well and have readily available parts.
- When units with obsolete parts break down, the time needed to repair them is significantly increased.
- By prioritizing the replacement of these units first, elevator outage time can be decreased.
- MBTA has money earmarked in FY24 for elevator replacements which will enable the replacement of these obsolete units





# Recommendations

## Quality Assurance Program for Elevators

- The Quality Management team recommends a MBTA Elevator Quality Assurance (QA) that collectively address our findings and provide a sustainable path to continuously reducing the MBTA's elevator safety and reliability risks. This program would consist of a clear written QA policy reviewed by the Chief of Engineering and Maintenance and Chief Engineer annual.
- Key elements of this plan include:
  - Established quality assurance (QA) policy with leadership buy-in
  - Regular meetings with expanded stakeholder team
  - Improve reporting, dashboards, and KPIs to track performance and quality
  - Documentation audit of preventative maintenance
  - Inspection safety critical, code requirements, and common issues



# How to Confirm Elevator Availability before you Travel

The following channels will provide information on current and upcoming outages, along with details regarding what alternative service can be used during the elevator outage:

- [MBTA.com/alerts/access](https://www.mbta.com/alerts/access)
- Sign up to have alerts sent directly to your phone
- Call elevator hotline at 617-222-2828
- Customer Information Displays in various station lobbies

Elevator redundancy available at many stations; elevator shuttles available at others.





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# Digital Signage & Related Efforts

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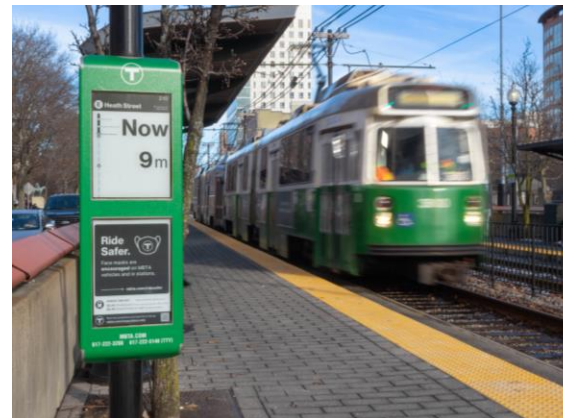
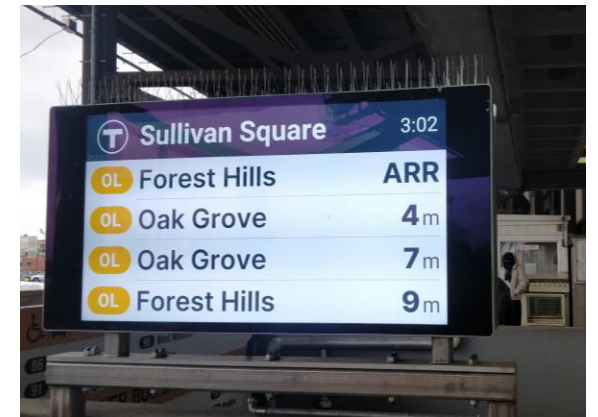
Karti Subramanian, Customer Technology Department

# MBTA Digital Signage Program

## Purpose

To make more—and more types—of real-time information available throughout the system.

(And ensuring two-way, audio- & visual-equivalence wherever possible.)



Six photos of different types of digital signage currently installed throughout the MBTA system.



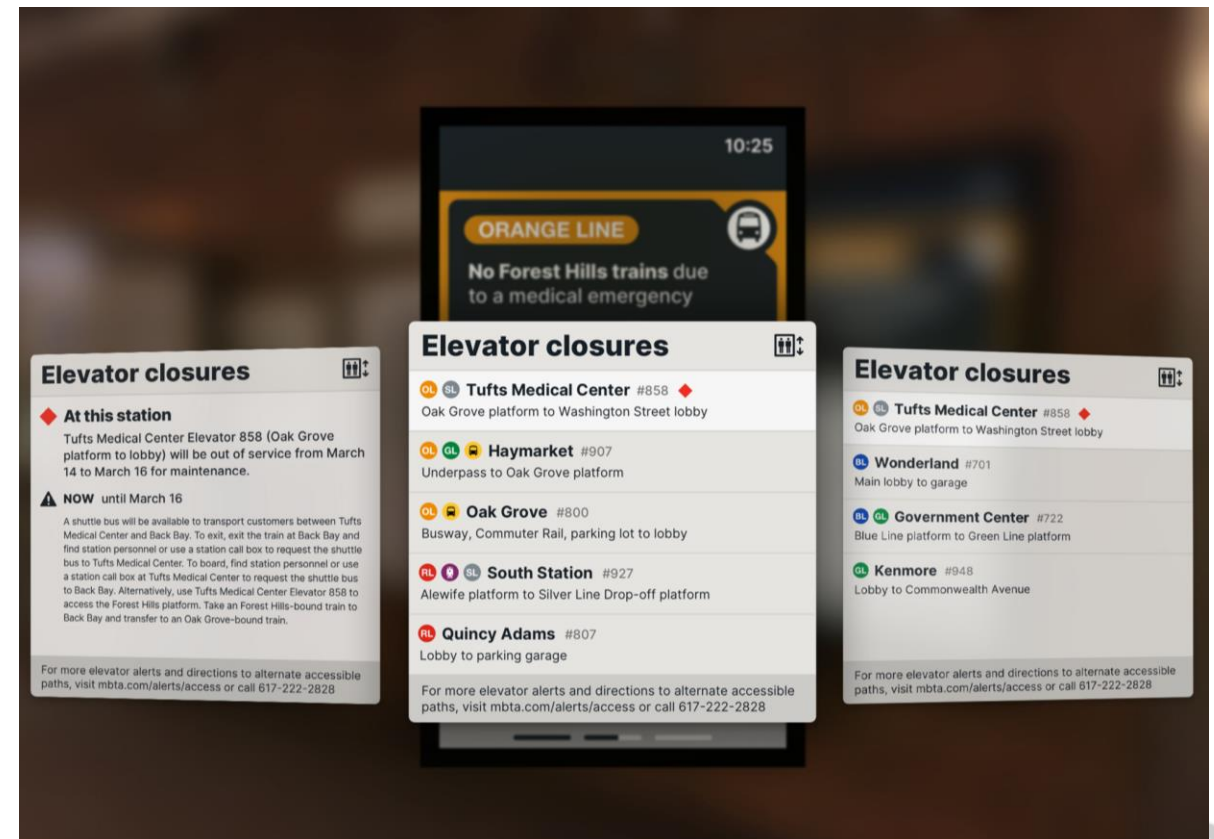
# Update on Pre-fare Screens (“CIDs”)

## Current Status

- Screens installed in 10 station lobbies
- Display all elevator out-of-service alerts
- Display alternative path of travel for any outage at *this* station or on *this* line

## Next Steps

- Contract for 250 screens signed in June '23
- Next installs in late 2023/early 2024
- Major data improvements to dynamically display only alerts that are relevant for trips starting *here*



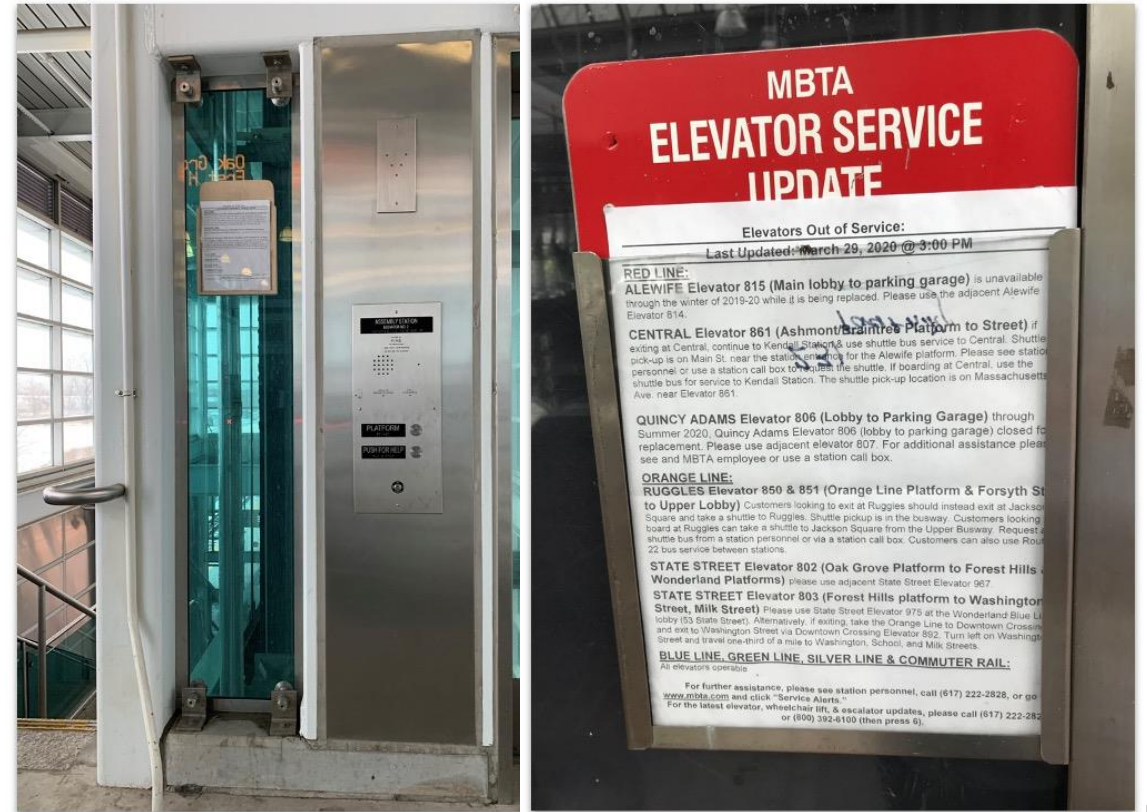
Rendering of how the real-time list of out-of-service elevators appears on the new, pre-fare screens.

# Pilot of Screens at Elevator Entrances

## Why

Riders who depend on elevators need better ways to plan their trips & navigate outages.

Paper-based notices are a poor way to communicate information—and difficult for the MBTA to keep up-to-date.



Photos of the MBTA's current paper elevator report.

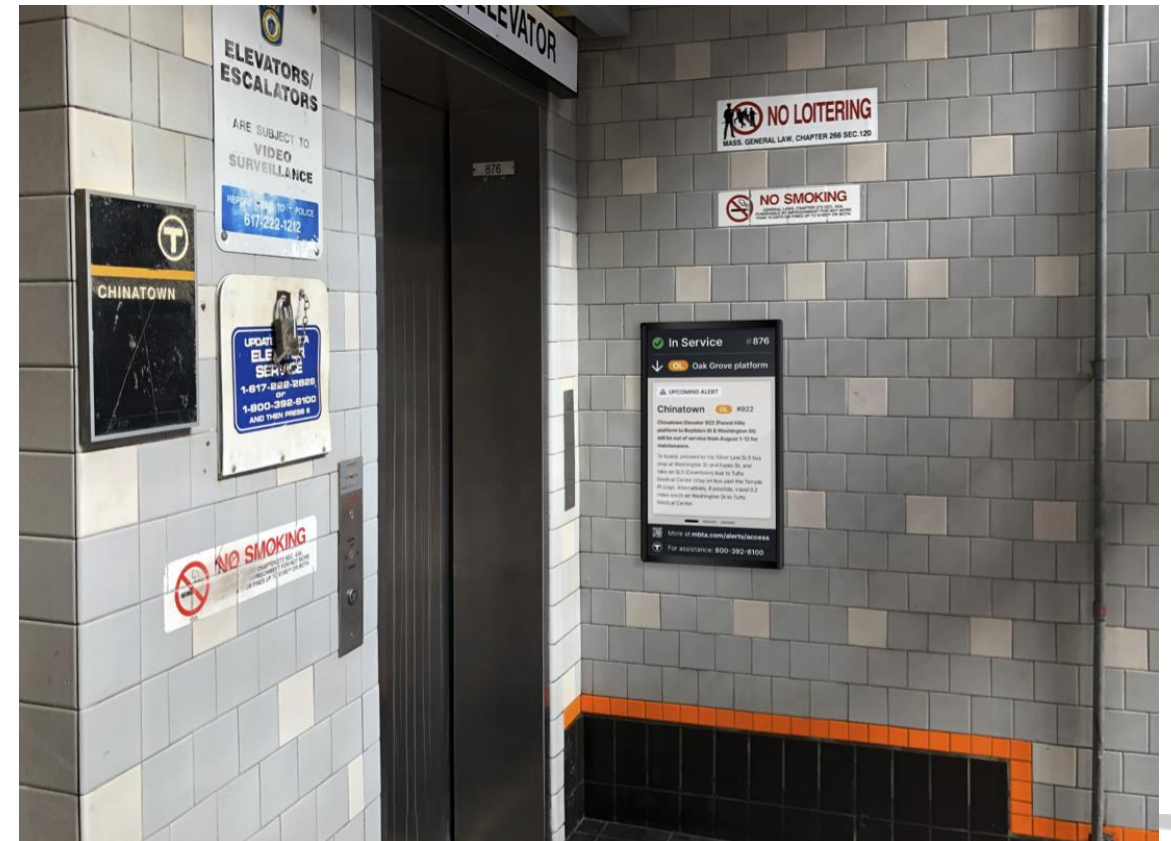
# Pilot of Screens at Elevator Entrances

## Why

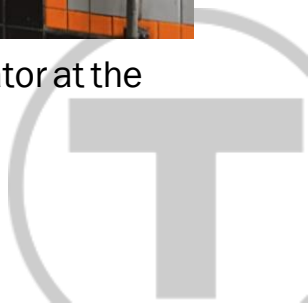
Riders who depend on elevators need better ways to plan their trips & navigate outages.

Paper-based notices are a poor way to communicate information—and difficult for the MBTA to keep up-to-date.

Should a screen become a standard part of the MBTA's elevator specification?



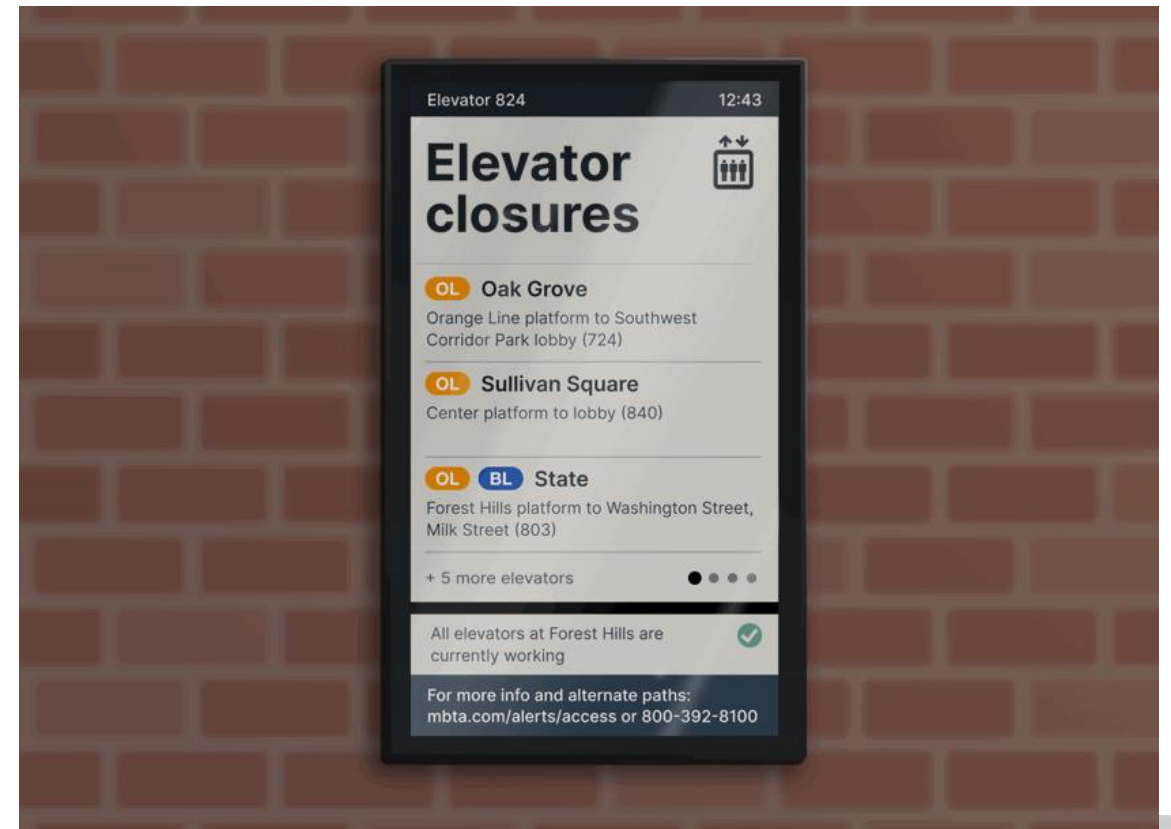
Mockup of a proposed screen at the entrance of an elevator at the Chinatown station.



# Pilot of Screens at Elevator Entrances

## About the pilot

- 1-station pilot at Forest Hills
- Summer 2023 (delayed from last fall)
- ~3 months to gather rider & stakeholder feedback
- SWA to organize R-TAG site visit



An animated rendering of the information that will be displayed on screens at elevator entrances at Forest Hills.



# Other updates from Customer Tech

## Related projects

- Pilot of urine-detection sensor recently complete

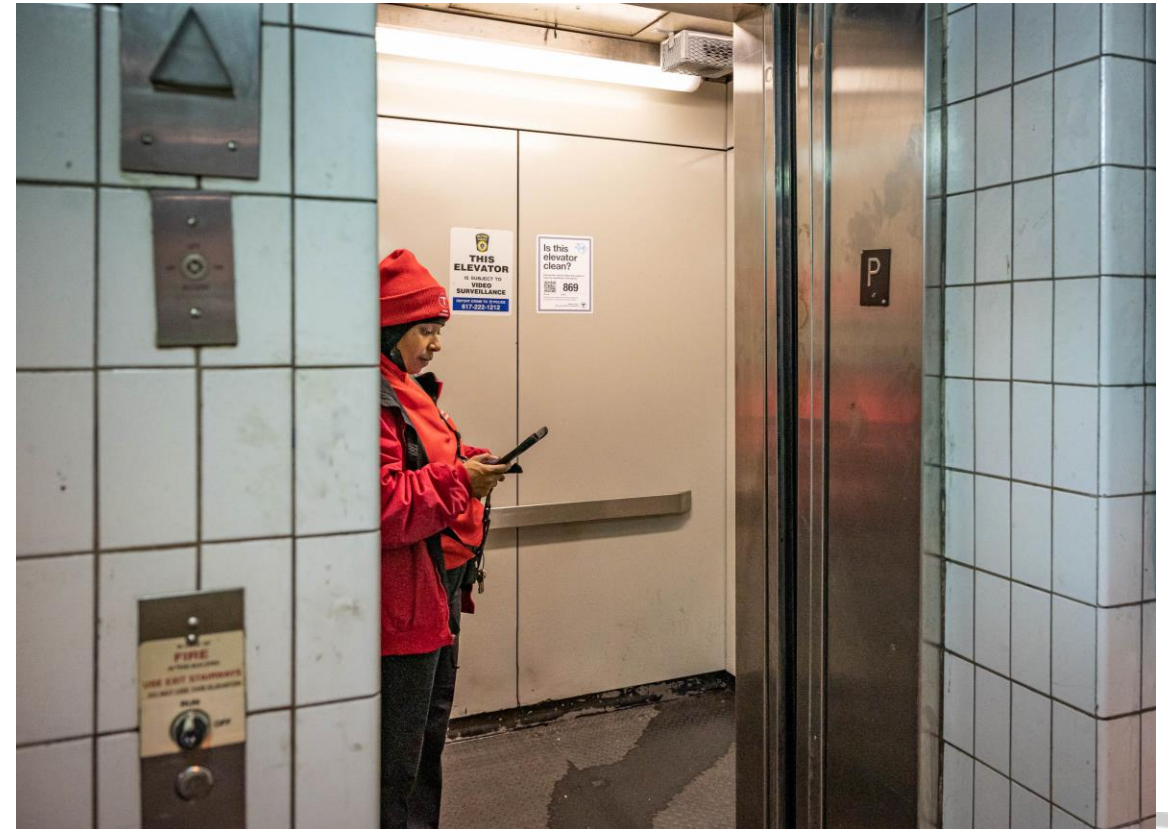


Photo of a Transit Ambassador entering data into a tablet, assessing the accuracy of a urine-detection sensor.



# Other updates from Customer Tech

## Related projects

- Pilot of urine-detection sensor recently complete
- Green Line and Bus E-Ink rollouts to continue in CY2023-2024 (will include audio button)

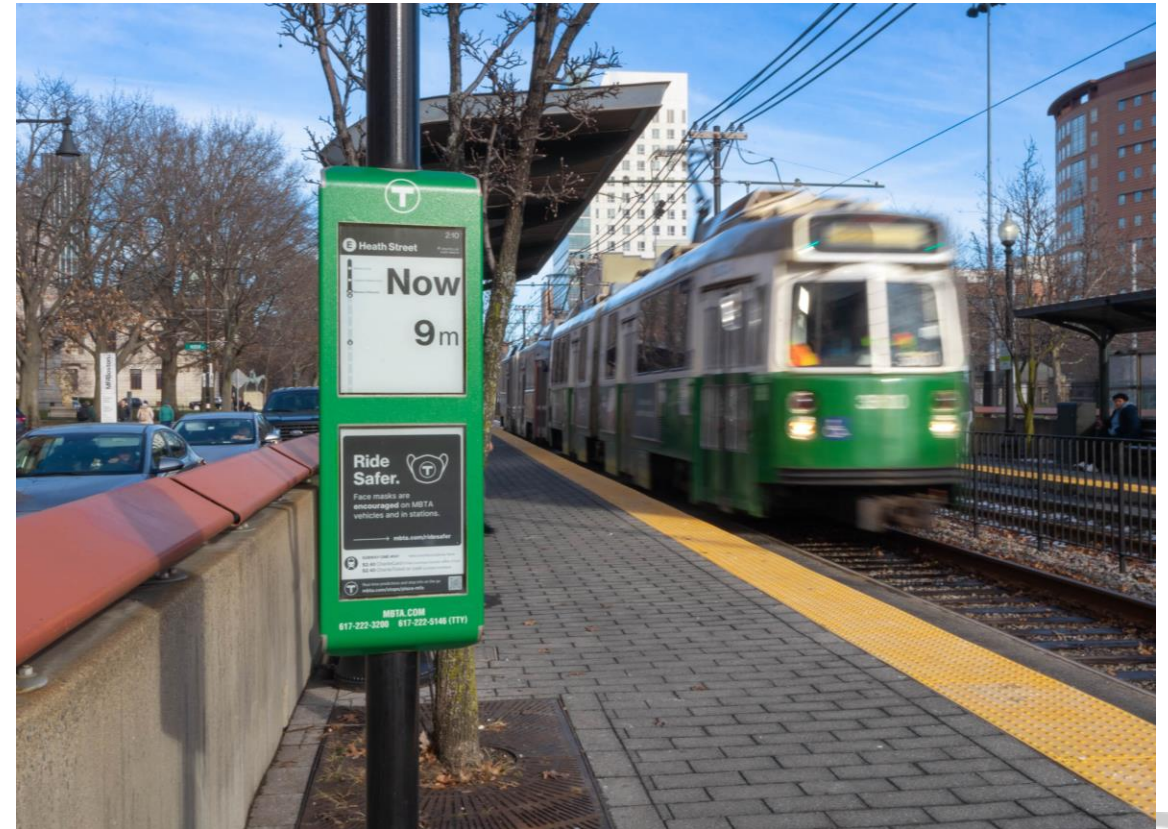


Photo of a solar-powered electronic ink (E-Ink) screen at the MFA station.



# Other updates from Customer Tech

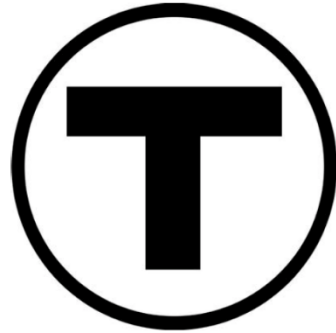
## Related projects

- Pilot of urine-detection sensor recently complete
- Green Line and Bus E-Ink rollouts to continue in CY2023-2024 (will include audio button)
- Major countdown clock & PA system modernization underway



Photo of a countdown clock at Boylston station.





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# New Vehicle Procurements

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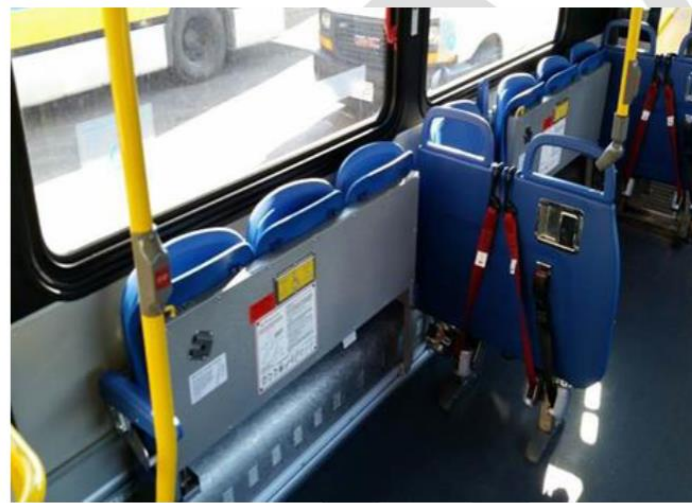
William Wolfgang, Vehicle Engineering

# Current Bus Projects

- 45 New 60ft Enhanced Electric Hybrid Buses
- Completion Est. June 2023
  - 42 buses delivered with the last 3 anticipated to be delivered by mid June 2023
- 160 New 40ft Enhanced Electric Hybrid Buses
- Completion Est. October 2023
  - 15 buses delivered to date. Average 6 buses delivered per week through October 2023



Wheelchair Ramp



Wheelchair Securement System



Noise Generation System

# Current Bus Projects (continued)



- 60 Legacy 40ft Hybrid Bus Overhaul
- Completion Est. October 2024
  - Pilot bus return anticipated July 2023
- 25 Legacy 60ft Hybrid Bus Overhaul
- Completion Est. June 2023
  - Final bus delivered on June 16<sup>th</sup> 2023



# Type 14 Orange Line & Type 4 Red Line

## Vehicle Inventory

- Type 14 Orange Line: 90 cars
- Type 4 Red Line: 12 cars

## Accessibility Features

- 32” wide clearance per door leaf
- Audio and visual indications for doors opening, closing, and wayfinding
- Audio and visual station announcements
- 4 dedicated seating areas per car for wheeled mobility users
- Gap Mitigation Device (GMD) available upon request



Gap Mitigation Device Deployment in Service – 5/31/23

# Green Line Type 10 Procurement

## Type-10 Light Rail Vehicle Procurement

- (102) 100% low-floor vehicles planned for pilot phase est. Q1 2026, delivery start est. Q1 2027
- Type-10 Accessibility Features
  - 36” wide clearance per single-panel doors and 53” wide for double-panel
  - Audio and visual indications for doors opening, closing, and wayfinding
  - Audio and visual station announcements
  - 4 seating areas per car for wheeled mobility users
  - Bridge plates available upon request
  - Accommodates future level boarding





# Hyundai 83 Bi-Level Coach Procurement (FC-712)



Hands-Free Faucet in Restroom



Non-Skid Surface in Vestibule



LED Lighting replaced Fluorescents

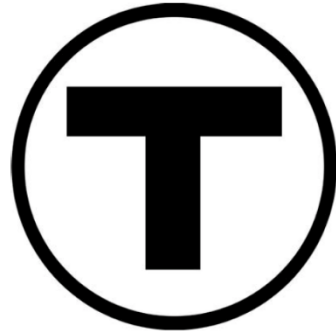


30 Coaches currently in Massachusetts, with 8 in Revenue Service:

- 8 Coaches beginning Dynamic Testing prior to entering Revenue Service
- 14 Coaches undergoing Static Testing

8 Coaches currently in transit to Massachusetts





**Massachusetts Bay  
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# Accessibility Marketing Campaign

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Jennifer Ross, System-Wide Accessibility

Erica Baker, Customer Experience

# Campaign Goals

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- Highlight the fact that the MBTA is more accessible than ever before, with many improvements in the pipeline
- Raise awareness regarding key accessibility policies and station/physical features
- Emphasize the fact that accessibility benefits everyone
- Opportunity to collaborate with plaintiffs' group, RTAG, and other riders in a creative and fun way



# Samples of Key Messages

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Heart conditions. Arthritis. Depression. The most common disabilities are the ones you can't always see.

We've built over 50 new station elevators in the past 15 years, with dozens more in the pipeline.

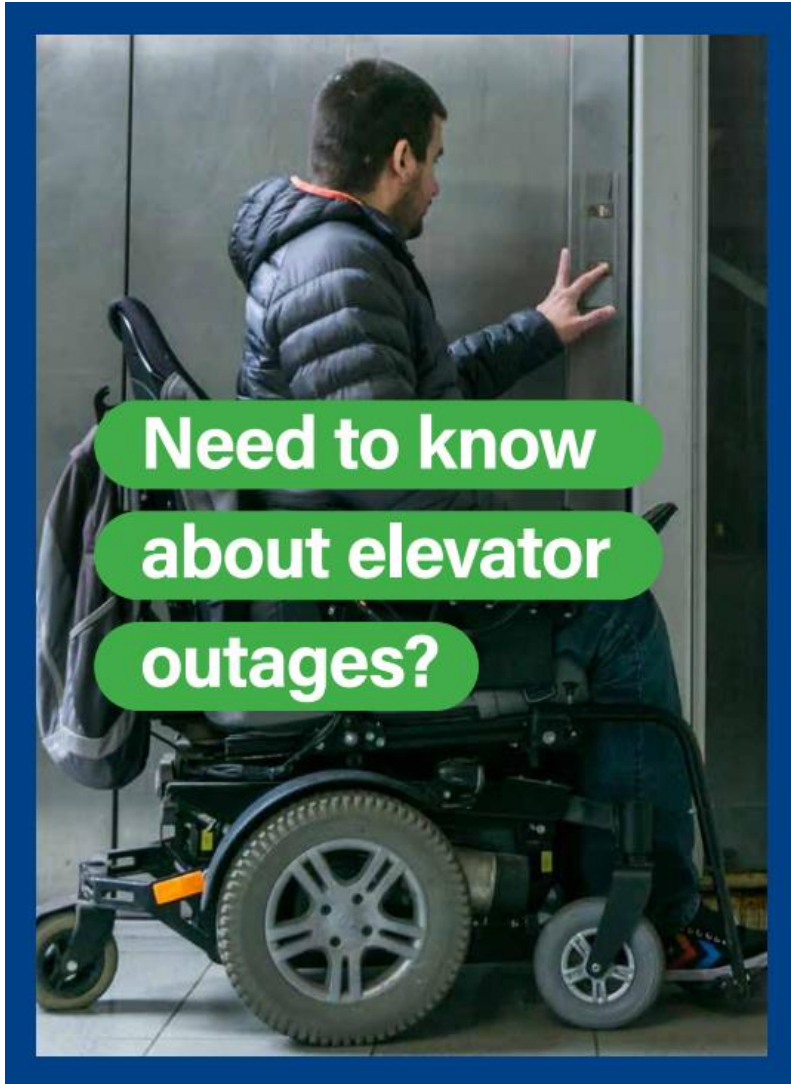
Our 100% low-floor bus fleet includes more priority seating and ramps at every front door.

We include experiences shared by real riders in our employee trainings on accessible service.

An accessible T benefits us all.



# Sample Marketing Draft



**Get alerts  
sent straight  
to your phone.**

Visit [mbta.com/alerts/access](https://mbta.com/alerts/access)

**Access  
In Motion**



# Communication Plan

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## **Streaming Audio**

- Utilize mass scale audio platforms to reach riders on-the-go with an audio & visual experience
  - Pandora & Sirius XM

## **In-station & Mobile Displays**

- MBTA subway, bus & commuter rail stations
- Car cards
  - Subway
  - Commuter Rail
  - Bus
- Static posters in-station
- In-station digital screens

## **Radio Broadcasts**

- Top stations and live reads by on-air personalities
- Expand reach to Spanish audience by partnering with top station: WAMG-FM
- While also reaching a Portuguese audience through WJFD-FM

## **Print Media**

- Globe/Herald
- Community Papers
- Foreign Language Press

## **Social Media**

- Facebook
- Twitter
- Instagram



# Plaintiff Statement

Joanne Daniels-Finegold



# R-TAG Co-Chair Statement

- Elizabeth Foster





# Questions?

- To indicate that you have a question, please use Zoom's "Raise Hand" feature located at the bottom of the screen.
  - When you raise your hand, it alerts the moderator that you'd like to speak. The moderator will unmute attendees to ask questions in the order that they raised their hands.



To speak, click  
"Reactions"  
then "Raise hand"



**Alt + Y**



**\*9 Raise Hand**