



Massachusetts Bay Transportation Authority

GM Report

Steve Poftak, MBTA General Manager

April 28, 2022



Overview

- Red Line Incident (April 10)
- Ridership Update
- Government Center Garage Collapse (March 26), Green Line & Orange Line Tunnels
- Proposed Bus Network Redesign
- Blue Line Updates & Diversions
- April/May/June Diversion Schedule
- April 5 One-day Hiring Event
- Federal Grants
- Treasury's Bond Sale April 5
- U.S. Open Update
- Community Outreach for March



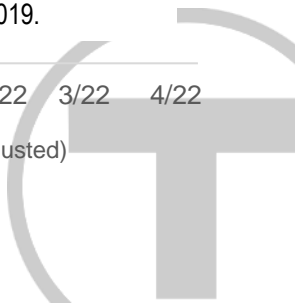
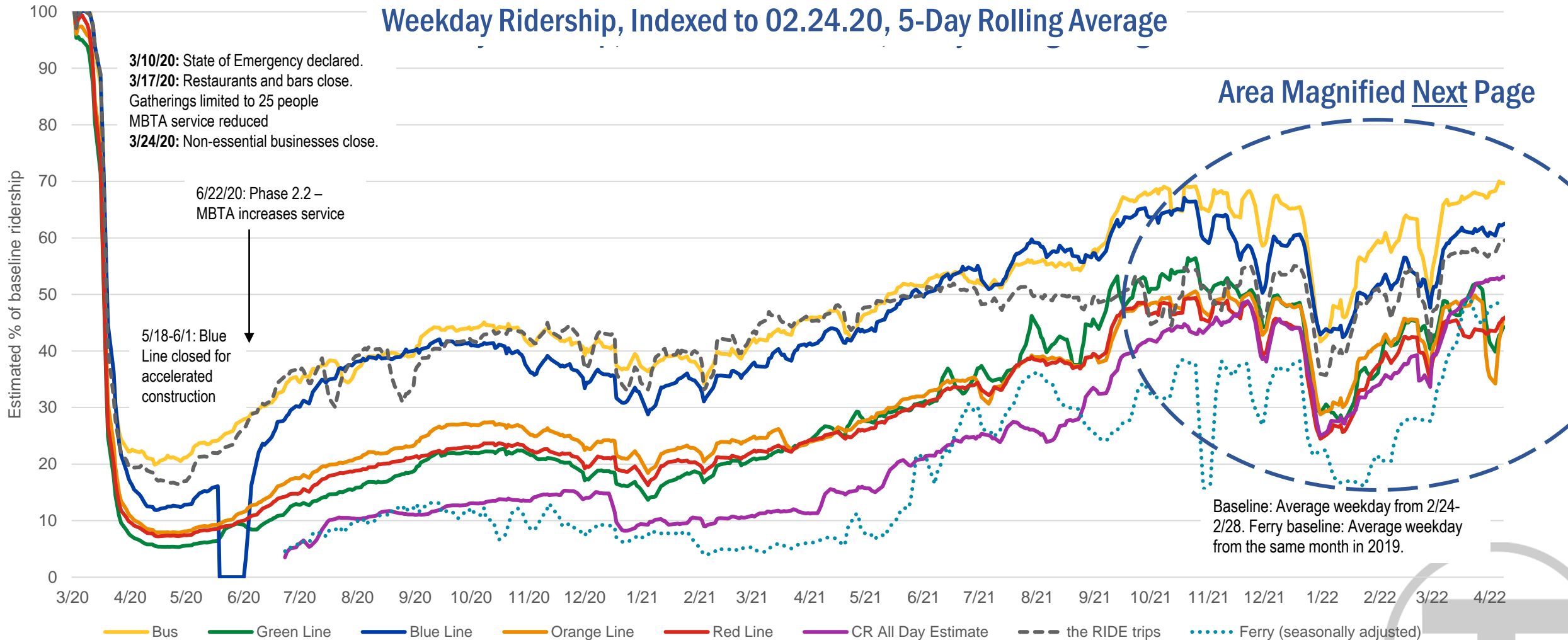
Red Line Incident



Ridership

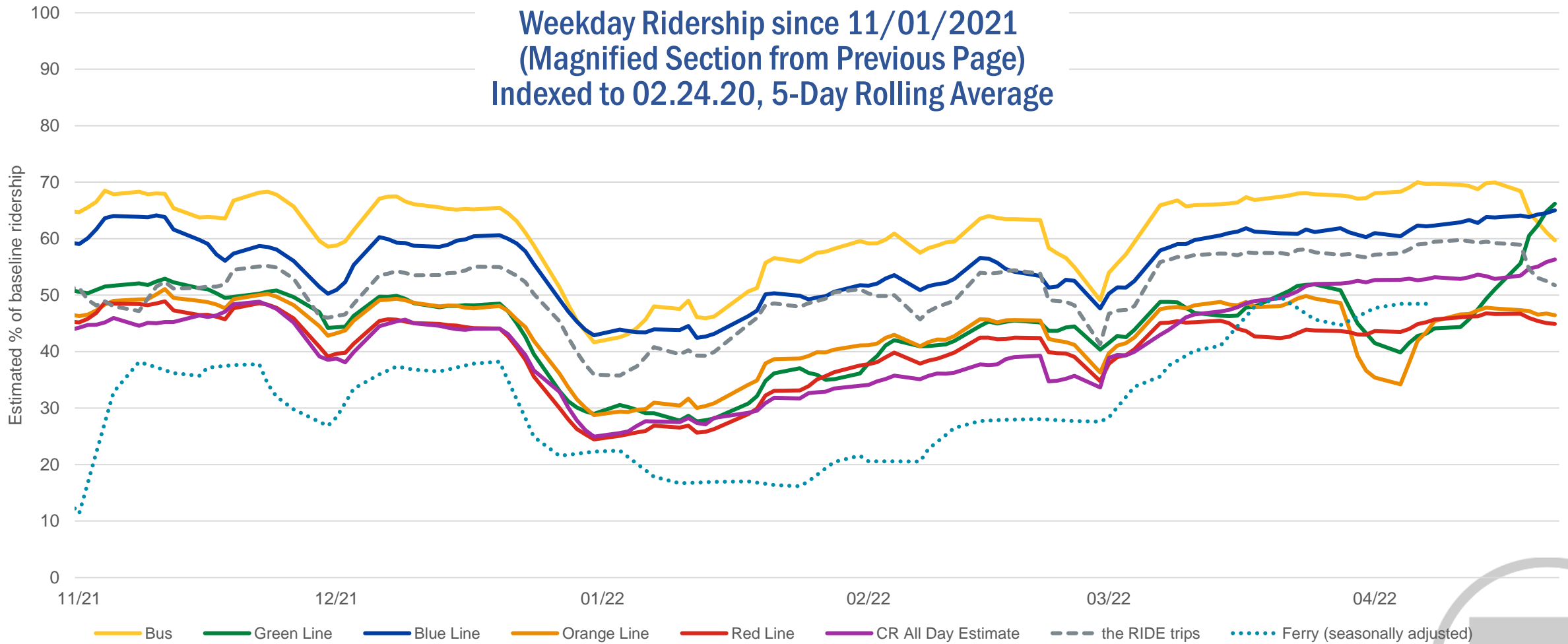


Pandemic Impact - Ridership Trend



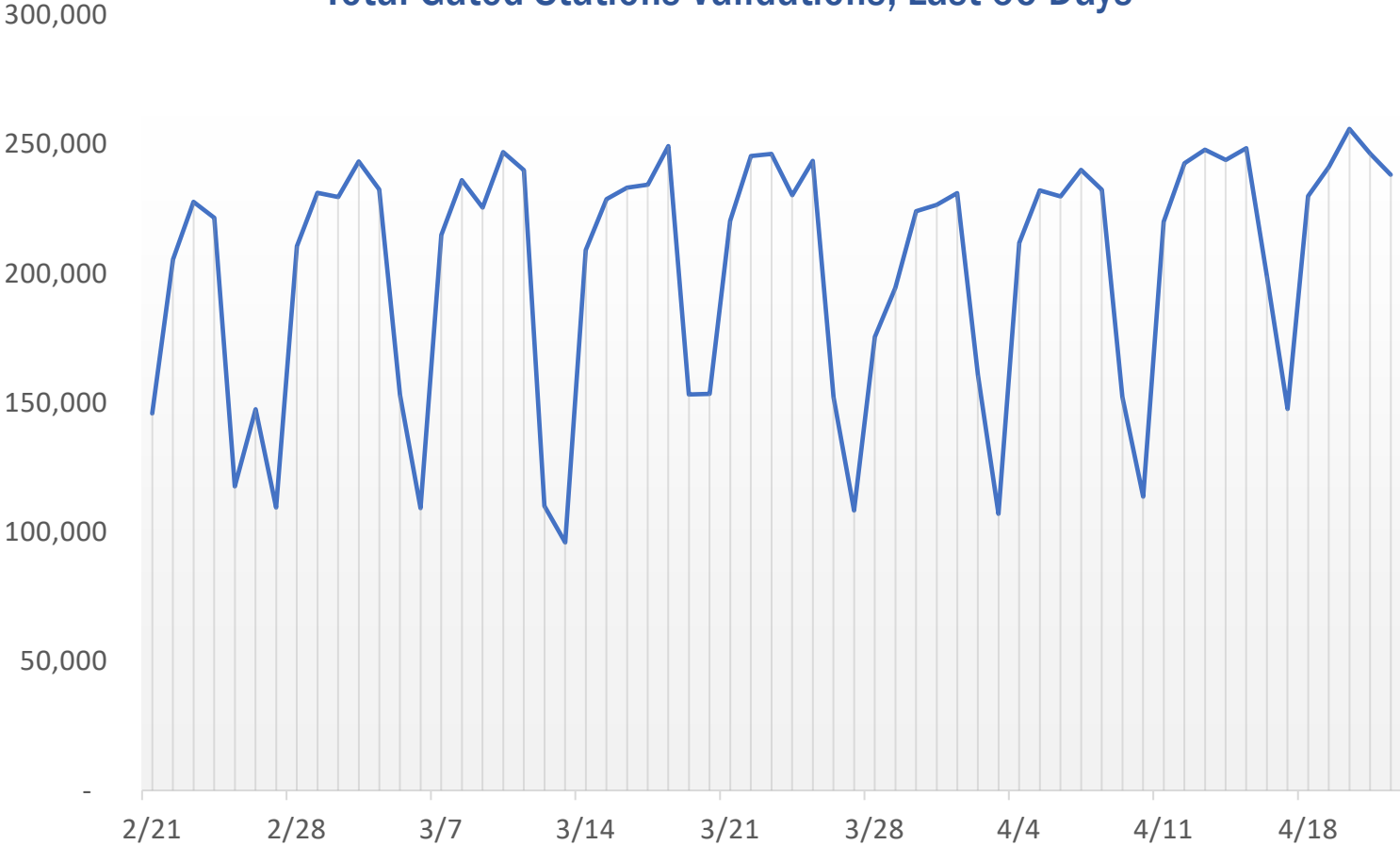
Pandemic Impact - Ridership Trend

Weekday Ridership since 11/01/2021
(Magnified Section from Previous Page)
Indexed to 02.24.20, 5-Day Rolling Average



Gated Rapid Transit Stations

Total Gated Stations Validations, Last 60 Days



Subway gates averaged 242K validations on weekdays last week - slightly higher than the previous week (4/11).

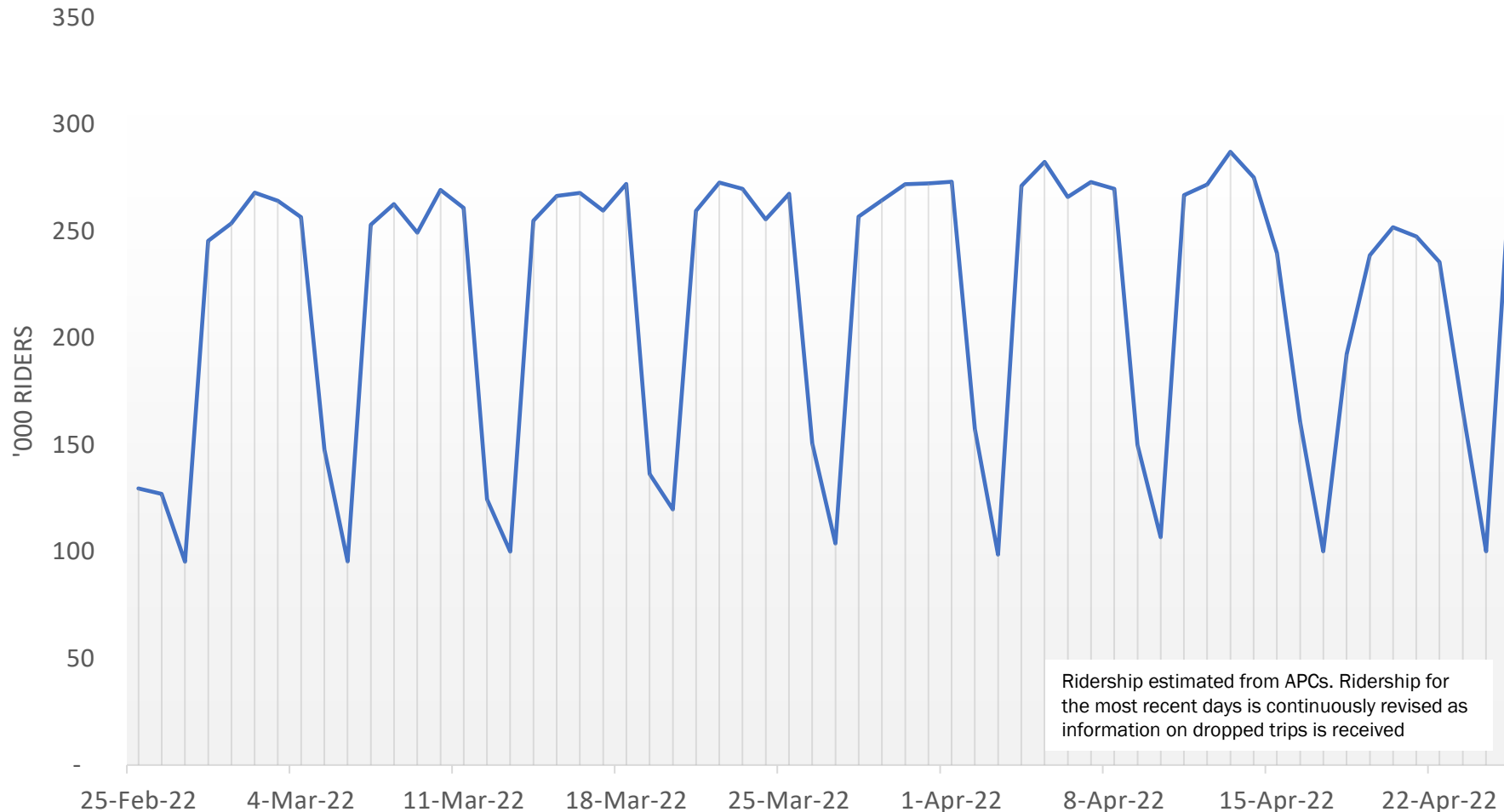
Subway gates recorded their **highest single-day total since November on Wednesday** and was particularly high on the Green Line with additional riders from the **Marathon** and **Red Sox games**.

LINE	CHANGE IN VALIDATIONS
	Apr. 2019 weekday average vs. Apr. 18-22, 2022, weekday average
Blue	- 36%
Green	- 42%
Orange	- 54%
Red	- 56%
Total Gated Stations	- 51%



Bus Ridership Trends

Total Daily Bus Riders - Last 60 Days

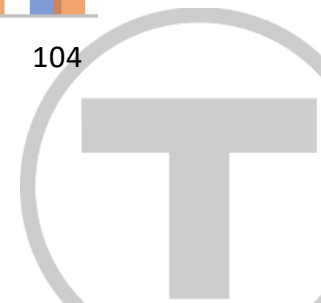
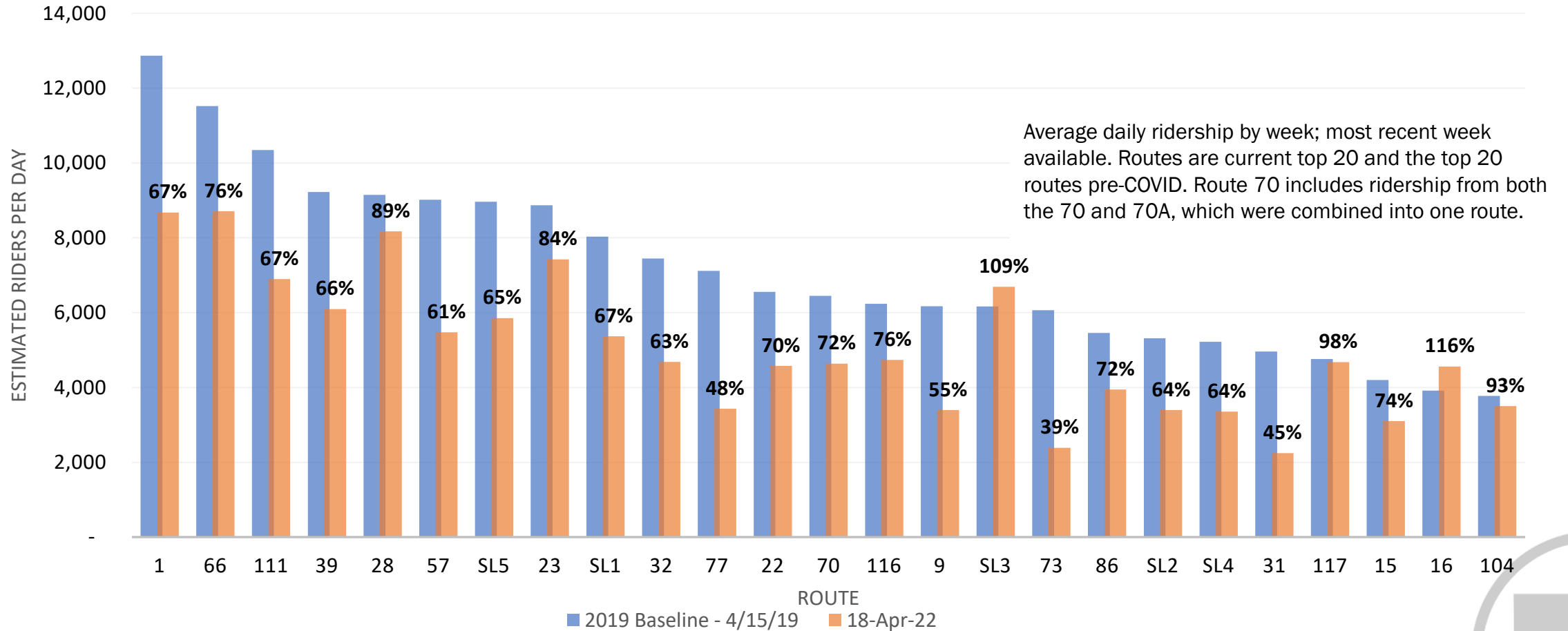


- Bus ridership was lower last week due to the school vacation.
- Ridership from Tuesday – Friday of last week averaged 243K riders per weekday last week, a decrease of 9% from the previous week, and about 30% below the 2019 baseline for this week.

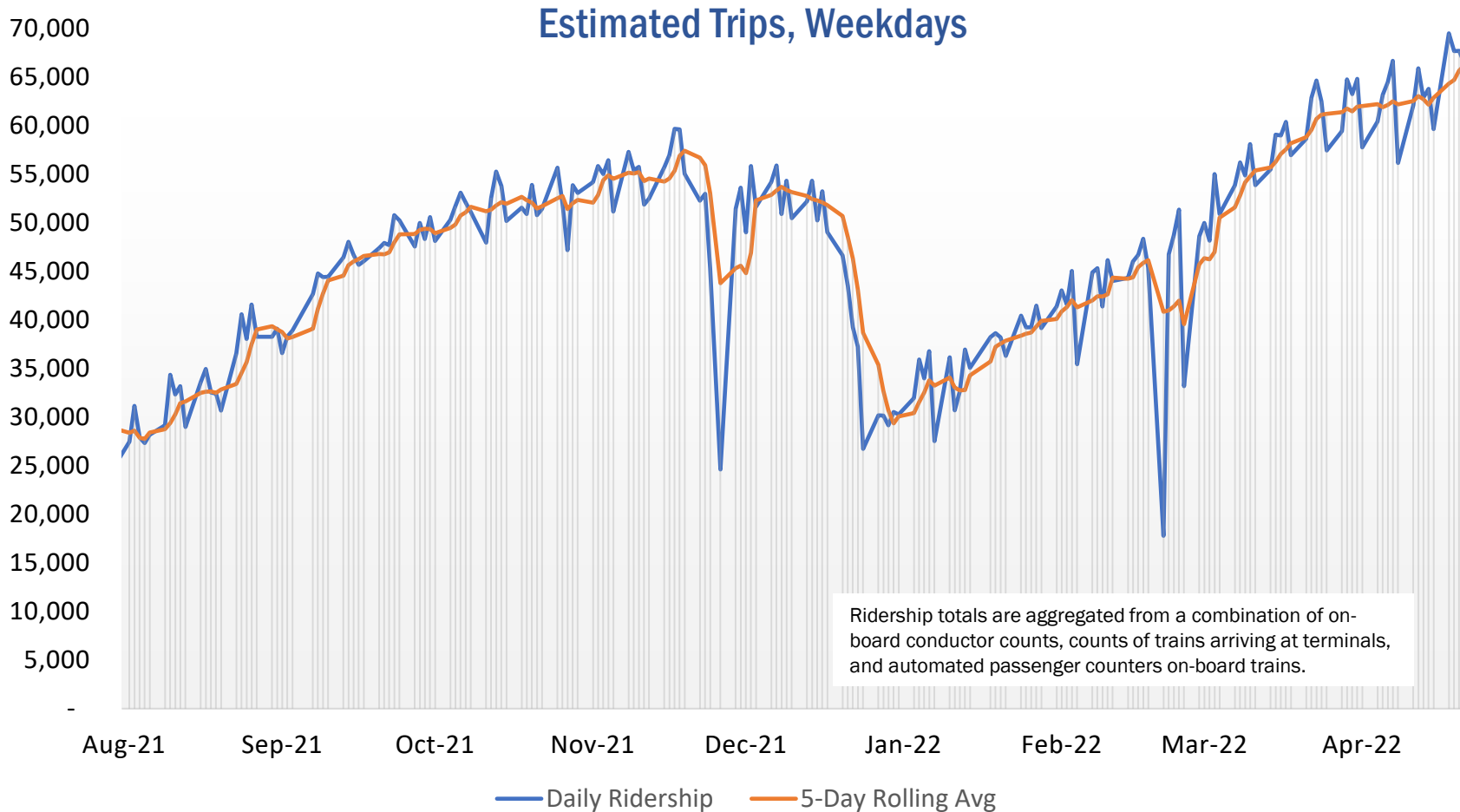


Bus Ridership Top Routes

Daily Bus Ridership, 4/15/19 vs. 4/18/22, Top Routes by Ridership



Commuter Rail Ridership



- Ridership is now averaging about 66K unlinked trips per weekday:
 - ~54% of the 2019 baseline
 - ~5% higher than the previous week.
- **Set another pandemic-era “high.”**
- Thanksgiving Day is excluded.

COMMUTER RAIL LINE	Estimated Daily Ridership, Weekdays Apr. 18-22, 2022	Estimated % of 2018 Weekday CTPS Counts
Fairmount	1,638	62%
Fitchburg	4,000	43%
Framingham/Worcester	12,050	65%
Franklin	5,811	50%
Greenbush	1,539	25%
Haverhill	3,263	46%
Kingston/Plymouth	2,989	49%
Lowell	5,719	52%
Middleborough/Lakeville	3,911	57%
Needham	2,784	42%
Newburyport/Rockport	8,096	54%
Providence/Stoughton	13,985	54%

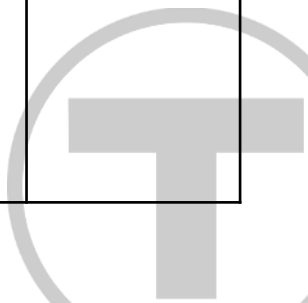


Government Center Partial Garage Collapse & OL/GL Tunnels



Government Center Garage Partial Collapse and Haymarket Service Recovery Timeline

Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
<p>03.26</p> <p>MBTA implements service diversion at the start of service for a weekend diversion for the planned garage demolition activities.</p> <p>At ~5:39 p.m., three large concrete T Beams fall uncontrolled from the 8th and 9th levels of the garage impacting the former Haymarket busway directly above the roof of the green line tunnel.</p>	<p>03.27</p> <p>OSHA begins investigation of accident</p> <p>Garage demolition contractor started the installation of partially demolished member stabilization</p> <p>MBTA forces and Mass. Aeronautics forces piloted a drone through the green and orange line tunnels to look for evidence of major structural damage such as mass-collapse of the tunnels – none was found.</p>	<p>03.28</p>	<p>03.29</p> <p>Partially demolished garage member stabilization work complete</p> <p>MBTA engineers and 3rd party structural engineers inspected the Orange Line tunnel and determined that the tunnel was safe for reopening</p> <p>Orange Line service resumed at ~4:40 p.m.</p>	<p>03.30, 03.31, 04.01</p> <p>Ongoing Activities Mar 30- Apr 5 -----</p> <p>Contractor development and execution of debris pile.</p> <p>MBTA Engineering Analysis to understand possible orders of magnitude of the forces on the tunnel and potential overstresses/damage scenarios (listed in next cell)</p>		
<p>04.02, 04.03, 04.04, 04.05</p> <p>Contractor development and execution of debris pile</p> <p>MBTA Engineering Analysis to understand possible orders of magnitude of the forces on the tunnel and potential overstresses/damage scenarios, (Observe debris focused on topside damage. Underside inspection to identify damage that could be attributed to the collapse. Additional Engineering Analysis focusing on why we did not see significant damage. Developed a load testing protocol.)</p>				<p>04.06</p> <p>Debris Pile removed from Green line Tunnel Roof</p>	<p>04.07</p>	<p>04.08</p> <p>Proof (Load) Testing of Green line Tunnel Roof</p>
<p>04.09</p> <p>Proof (Load) Testing of Green Line Tunnel Roof. Proof Testing (Test Train) of Green Line tunnel structure under vibration from train operation.</p>	<p>04.10</p> <p>Green Line service resumed at ~3:00 p.m.</p>					



Government Center Garage Partial Collapse Description



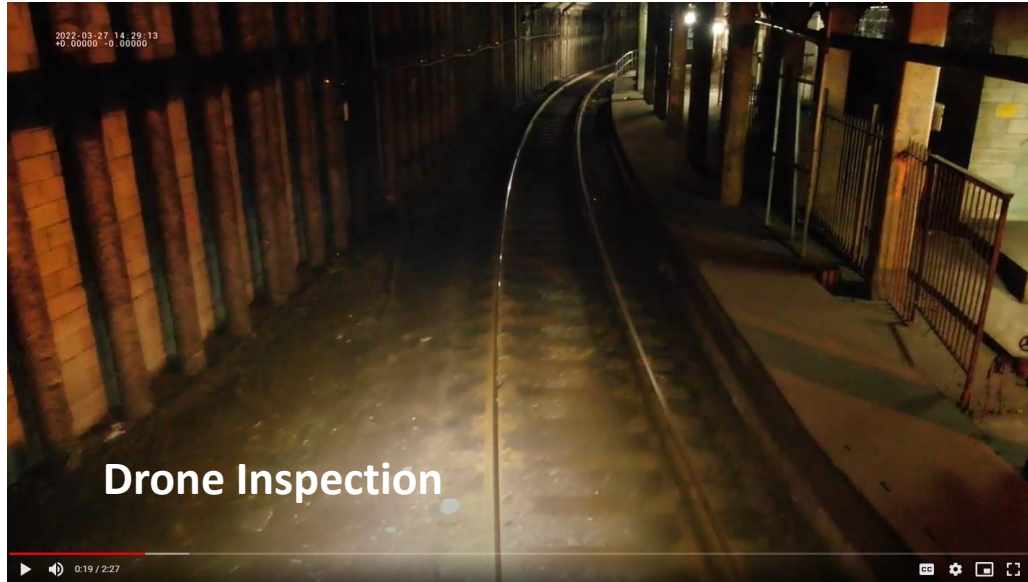
Impact 1



Impact 2



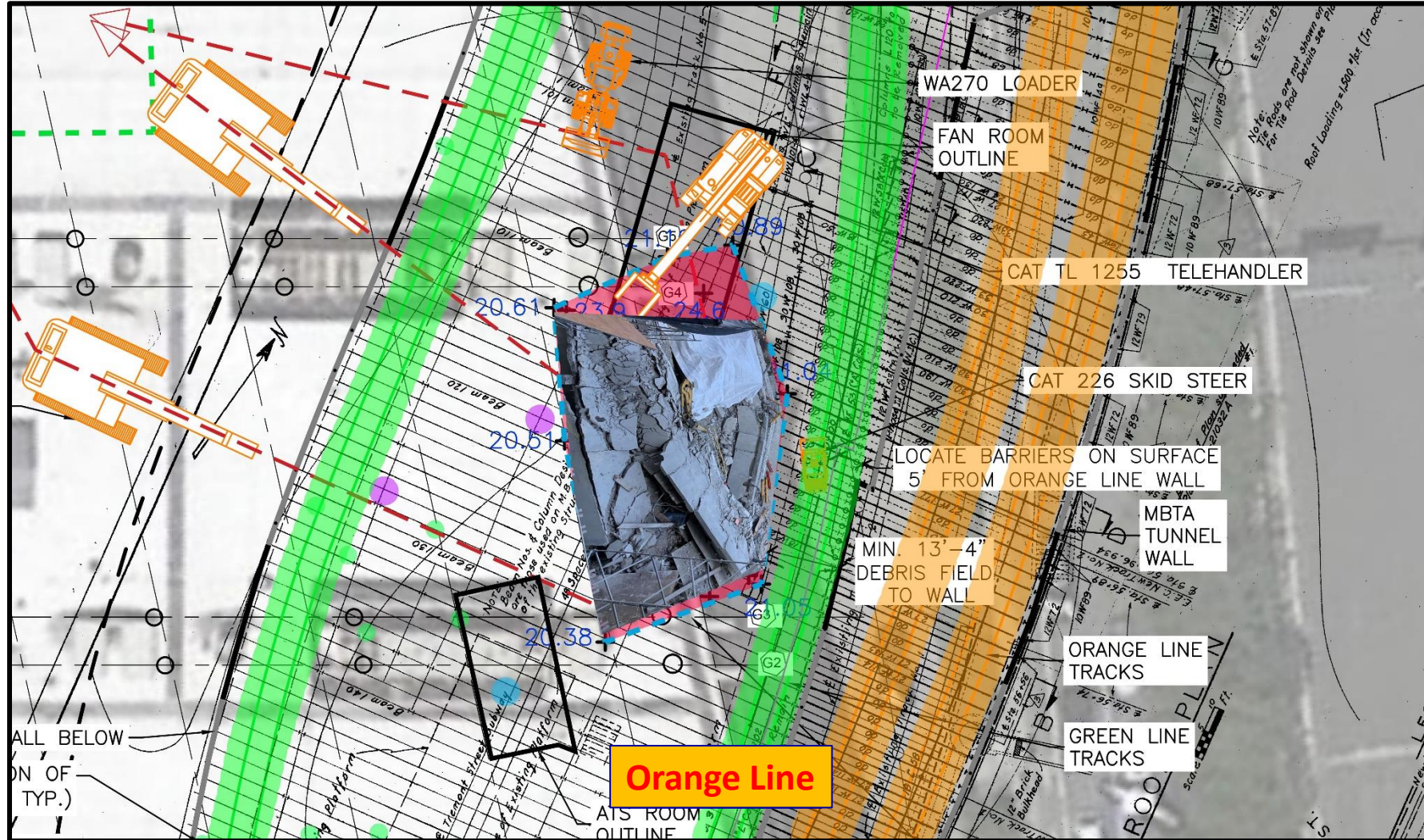
Haymarket Service Recovery Structural Investigations



Debris Pile



Haymarket Service Recovery Structural Investigations



Tunnel Layout Relative to Debris Pile

Draft for Discussion & Policy Purposes Only



Haymarket Service Recovery Structural Investigations

Tunnel Observations - Buckled Stiffener, Crack in Bricks at Splice

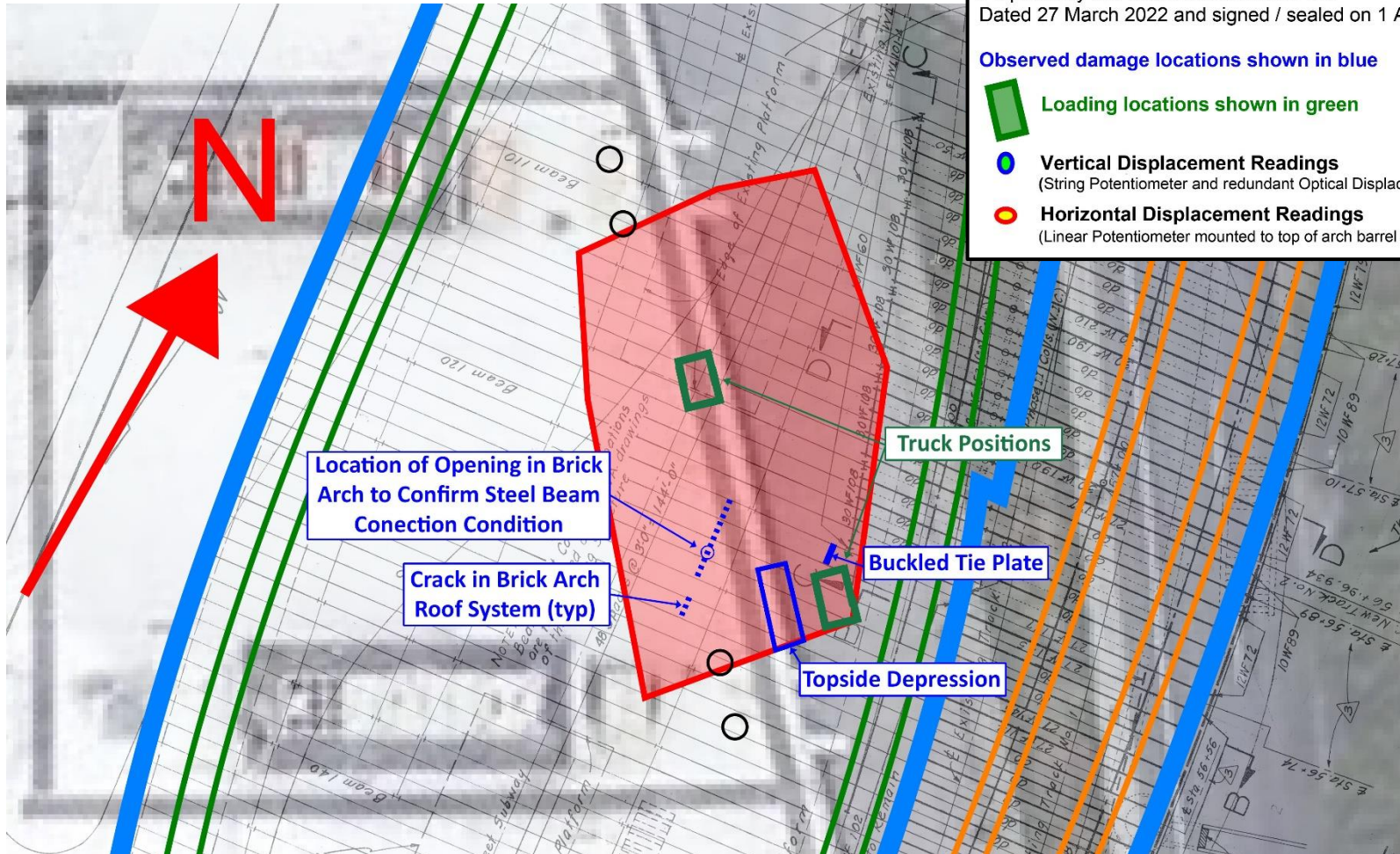


No notable damage attributable to collapse observed except one buckled stiffener and cracks in brick near initial impact locations



Haymarket Service Recovery Structural Investigations

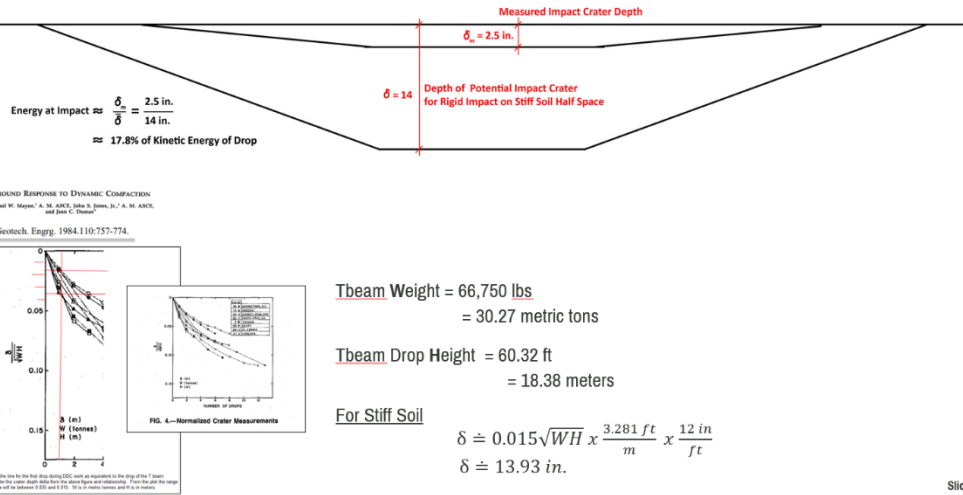
Tunnel Load Test



Haymarket Service Recovery Structural Investigations

Comparison of Impact Crater Observed vs. Potential Impact Crater for Rigid Block of Mass Equal to Tbeam Falling from 8th Floor

SGH



Tbeam Weight = 66,750 lbs
= 30.27 metric tons

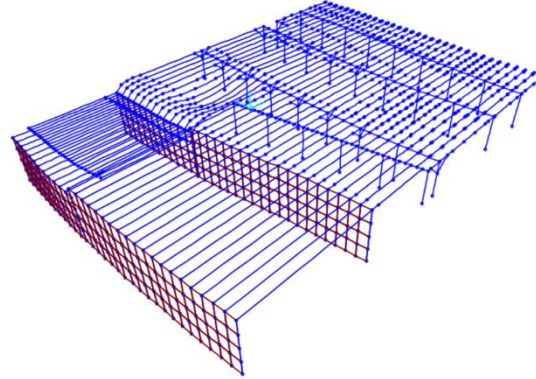
Tbeam Drop Height = 60.32 ft
= 18.38 meters

For Stiff Soil

$$\delta \approx 0.015\sqrt{WH} \times \frac{3.281 \text{ ft}}{m} \times \frac{12 \text{ in}}{\text{ft}}$$

$$\delta \approx 13.93 \text{ in.}$$

Slide



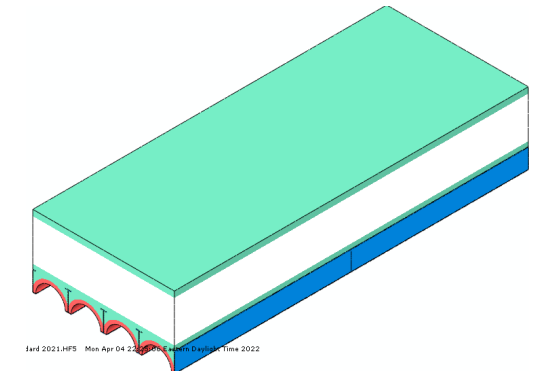
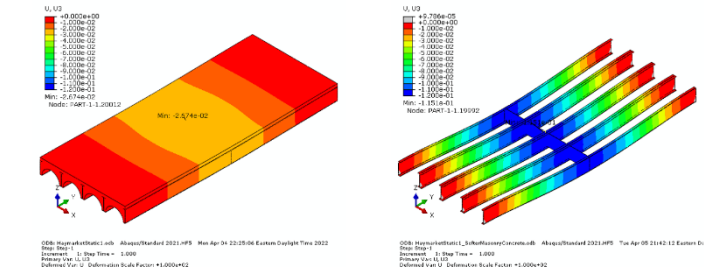
3D SAP Frame Finite Element Analysis

VERTICAL DISPLACEMENT FOR 100 KIPS AT ROADWAY SURFACE DEFORMED SHAPE (X100)

SGH

Composite Action between Steel Beam and Masonry/Concrete

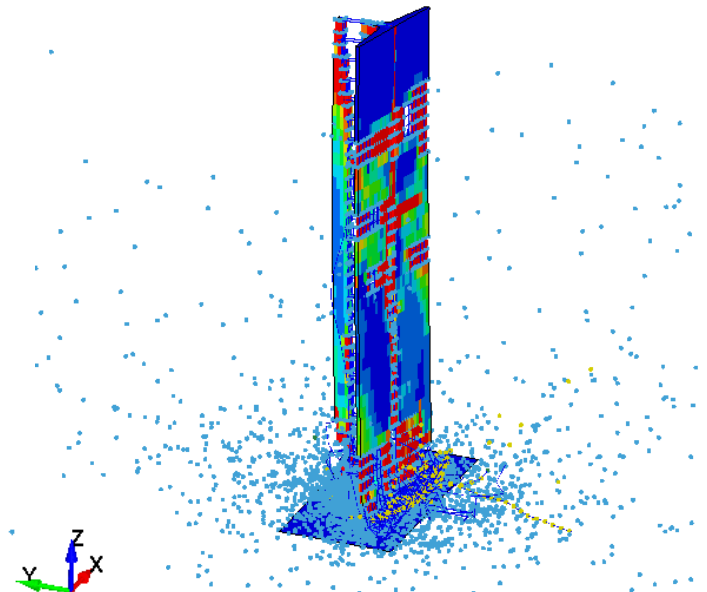
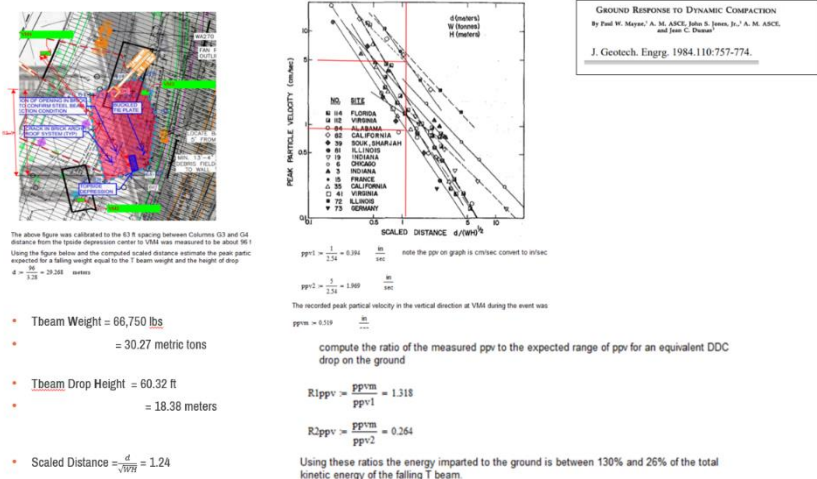
Steel Beam Only



Abaqus 3D FEA

Comparison of Impact Peak Particle Velocity Measured at VM4 to Potential PPV for an Equivalent Rigid Mass Equal to Tbeam Falling from 8th Floor Modeled as a Deep Dynamic Compaction Event

SGH



LS Dyna FEA Impact Analyses

Slide

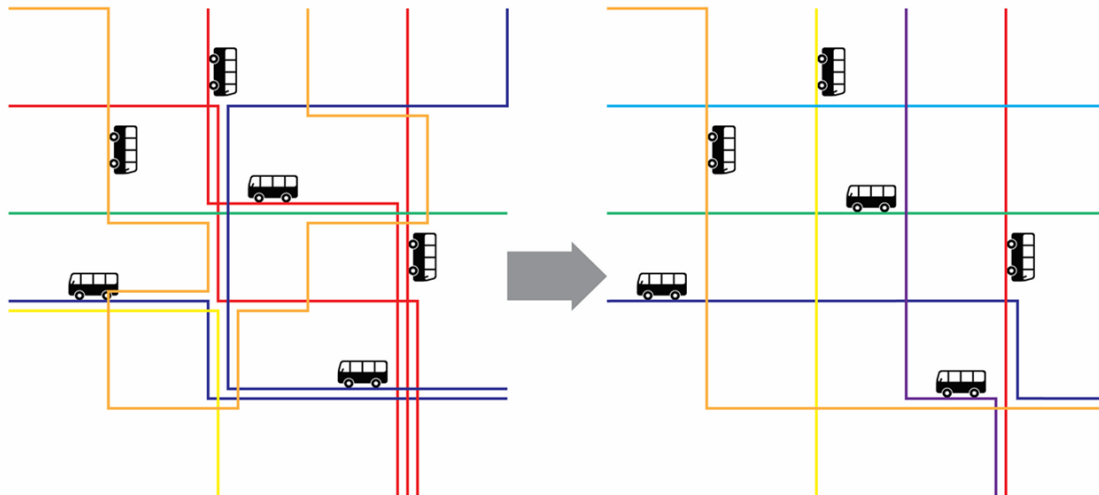
Proposed Bus Network Redesign



Proposed Bus Network Redesign

WHAT IS BUS NETWORK REDESIGN (BNRD)?

A complete re-imagining of the MBTA's bus network to better reflect the travel needs of the region and create a better experience for current and future bus riders.



WHY ARE WE DOING THIS?

The region has changed.

But our bus network has not changed with it.

Transit is essential to the region's economy. And **the bus serves our most transit-dependent populations.**

So, it is essential that our bus network adapts to change.



Proposed BNRD Highlights & Draft Network for Public Review

BUS NETWORK REDESIGN HIGHLIGHTS

- **25% increase in bus service** across the network
- **70% increase in weekend service**
- **275,000 more residents** would be near high frequency service
 - **115,000 residents of color** gain access to high frequency service
 - **40,000 low-income households** will gain access to high frequency service

DRAFT NETWORK MAP FOR PUBLIC INPUT STARTS IN MAY

May 16: Draft network map will be available online: mbta.com/BNRD

May 19: Virtual Public Meeting Kick-Off (systemwide).

Ten additional Community Meetings will be held May 24 through July 18.

We are also planning for station outreach and street teams. Dates to be announced soon.



BNRD Public Outreach Activities

IN PERSON EVENTS

- 10 Street teams
- 10 Station open houses
- 2 in-person events: 1 open house, 1 public hearing
- Targeted outreach w/ community groups
- Ongoing engagement with community orgs, municipal staff, electeds, bus operators, other key stakeholders

Locations based on ridership

VIRTUAL EVENTS

- 7 Virtual meetings: 1 systemwide, 6 geographically-based
- 1 Virtual public hearing
- 3 Systemwide Virtual Meetings to report back on how finalizing map (*fall 2022*)
- Other events as needed

STAKEHOLDER BRIEFINGS

- 1-1 briefings with stakeholders (advocates, community groups, municipal planning staff, etc.)
- External Task Force meetings
- Metro Mayors meeting
- MBTA Caucus, Boston delegation, other electeds

MATERIALS & MARKETING

- Neighborhood booklets in 9 languages
- Flyers: 9 languages promoting events
- Input Questionnaire in 9 languages
- Trip Planner update, mbta.com
- Paid print & radio ads, different languages
- Video (English & Spanish)
- Utilize all MBTA assets (digital, car cards, buses! etc.)
- Better Bus Project email listserv



Springtime Blue Line Diversions





Blue Line Surge 1

Airport to Bowdoin – April 25 through May 8

Scope

- Railworks: 1600' of full depth track replacement
- SPS (contractor): Leak/spall repair, asbestos abatement, drainage investigation at Aquarium
- Michael Baker: Tunnel inspections
- OCE consultant survey to inform BL Master Plan
- E&M Piggybacking on Diversion

Benefits

- Increased reliability of Blue Line service





Blue Line Surge 2

Airport to Bowdoin – May 12 through May 29

Scope

- Suffolk Downs: Re-construct pedestrian bridge over tracks
- Wonderland: PVC conduit remediation
- Beachmont: Sidewalk repairs

Benefits

- Safety and state of good repair for Blue Line Operations



April/May/June Diversions Schedule





2022 Diversion Calendar (CY 2022 Q2)

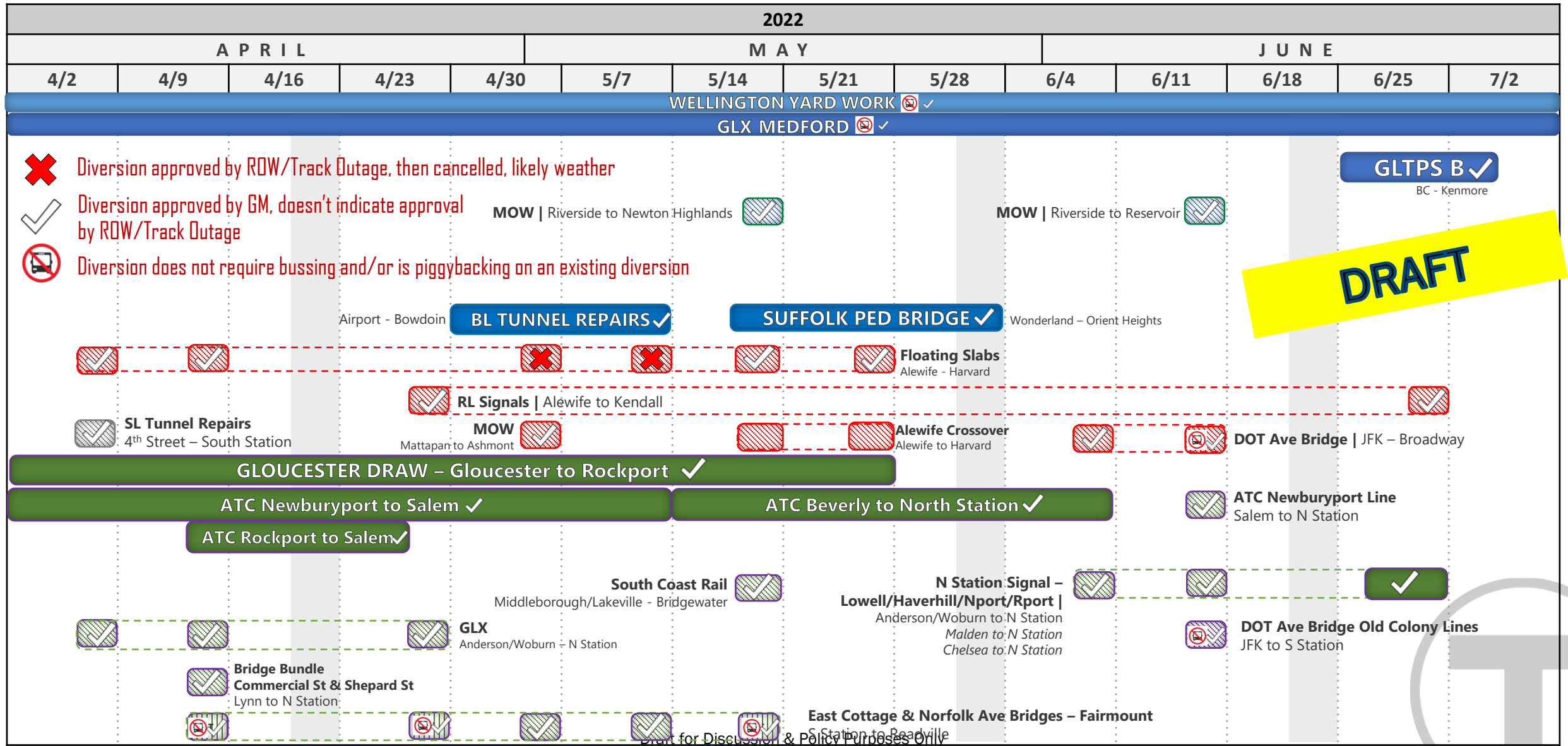
Updated 4.29.22

- Full Outage
- Weekend Diversion
- Single Track Weekend Impact

HOLIDAYS

- Boston Marathon (Patriots Day) – 4/18
- Memorial Day – 5/30
- Juneteenth (US Open) – 6/19

- CANCELLED DIVERSION
- APPROVED DIVERSION
- NO BUSSING REQUIRED



One-Day Hiring Event



Bus Operator One-Day Hiring Event Apr. 5



18 OFFERS EXTENDED IN ONE DAY PLUS 91 FOR FOLLOW-UP!
vs. 20 per month, typical.

- Registered attendees: 65. (281 registered – 216 no-shows)
- Add 44 walk-ins. Social Media and morning News!
- Interviews conducted: 109 ... (65+44)
- 109 Work Force Assessments (WFA) performed.
- 18 candidates with CDL → conditional offer letters
 - 16 on-the-spot clinic appointments and eligible for hire April 25, 2 rescheduled.
- 91 without CDL will be contacted regarding CDP testing and CDL familiarization class
- Great teamwork production for staffing
 - Pride in work
 - Connect with candidates to truly understand customer service



Federal Grants Overview



MBTA Federal Grants Updates

Summary Federal
Grants
submitted,
SFY2022

Won
\$23.9M

Awards
Received
3

Applications in
Development
6

Awaiting Award
Notification
9

RECENT WINS

- We won 2 discretionary awards since March Audit & Finance Subcommittee Report
 - FY2021 FTA Passenger Ferry Grant Program | **Won \$3.9 million, catamaran overhauls**
 - FY2021 FTA Bus and Bus Facilities Program | **Won \$5 million, Quincy Bus Maintenance Facility**

WORK IN PROGRESS

- Six applications are in development with due dates ranging from May to November 2022
- Upcoming Submissions:
 - Due May 23: Combined INFRA, MEGA, Rural Surface Transportation grant programs to the Multimodal Project Discretionary Grant Program
 - Due May 31: Combined Low/No Emissions & Bus/Bus Facilities Programs
- Capital Investment Grant (CIG) submission for Green Line Transformation
 - On March 16, the MBTA submitted a letter to FTA to request entry into the Project Development (PD) phase of the CIG Core Capacity Program for the Green Line Transformation Program.
 - The letter was accepted on April 12 and FTA has 45 days to review and respond.
 - If our application is accepted into PD, it would begin a two-year PD phase, followed by a Project Engineering (PE) phase, which results in a Full-Funding Grant Agreement (including match).



MBTA Bond Sale



Successful MBTA Bond Sale, Apr. 5

Sold \$295.17M AAA-rated Assessment Bonds

- \$197.97M Refunding Bonds + \$97.2M New Money Sustainability Bonds.
- Yields range 1.64% to 3.29%. All-in true interest cost is 3.60%.
- Assessment Bond Trust Indenture changes for new investors **will provide additional flexibility to MBTA**: (i) lower additional bonds test, (ii) eliminated existing debt service reserve fund requirement.

MBTA Benefits from the Assessment Bond Transaction

- **Reduces refunded bonds debt service by ~\$84.4M** (= \$30.68M PV), = 12.3% of the par amount of the refunded bonds. Predominant savings impact will be years 2025-2027.
- Allows for **release of ~\$30.8M existing debt service reserve fund monies** – put into a defeasance account to reshape existing service.
- **Reduces the maximum annual debt service** for Assessment Bonds from \$82.8M to \$69.7M million (despite the issuance of additional new money debt)
- **Funds ~\$103.7M of Sustainability projects, CIP**



US Open



MBTA Fares, Parking & Security for the U.S. Open

The MBTA has partnered with the USGA to provide parking, transportation, fare/media communication, website information and systemwide event promotion.



The US Open is promoting the MBTA on their website in the Fan Information, Parking & Transportation section to direct ticket holders to the T's US Open microsite.

PARKING

- No general U.S. Open parking at the club and street parking is restricted.
- The MBTA offers parking for U.S. Open at [100 MBTA stations with parking facilities](#)...then take bus, subway, or Commuter Rail.
- **The U.S. Open will reimburse the MBTA for all parking during the event at all MBTA lots.** An MOU is being finalized.
- U.S. Open staff and attendees to use Rt. 128 Commuter Rail parking garage, take commuter rail to Forest Hills.



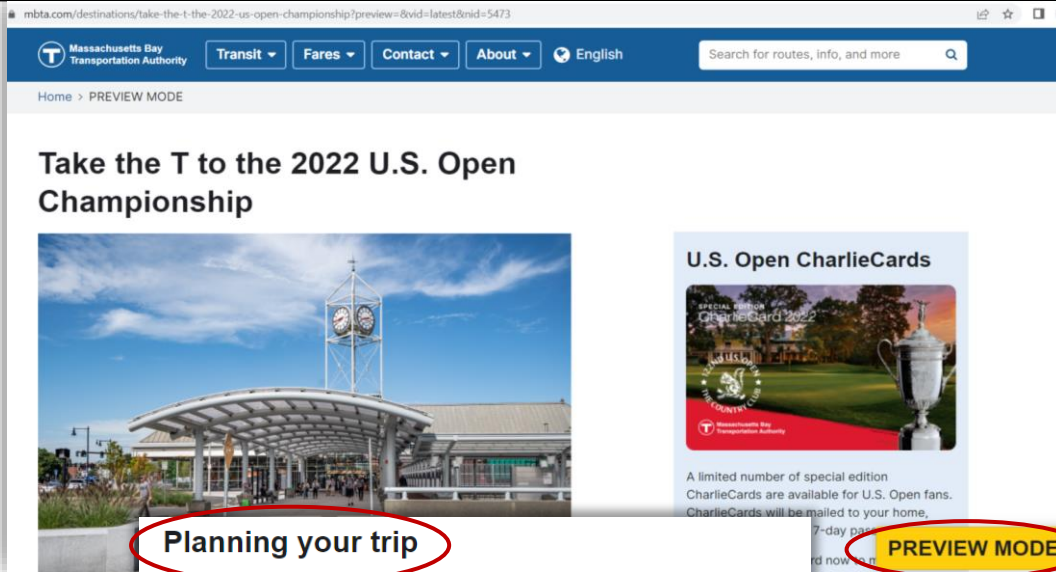
Limited edition, commemorative US Open CharlieCards with a **One Day or Seven Day LinkPass**. Distribution begins May 23 week.

SAFETY, SECURITY

- Extra MBTA staff and Transit Police will work at Forest Hills, Cleveland Circle and Reservoir or anywhere else needed.
- Transit Police have attended mtgs w/ Public Safety event coordination, municipalities and agency police depts.



“Take the T to the U.S. Open Championship”



MBTA Web Page

The MBTA's Customer Technology team built a web page so riders can plan ahead for the event. Attendees can visit mbta.com/USOpen:

- To [buy commemorative passes](#),
- To [plan a trip to the tournament](#), and
- To [learn more about safety and accessibility](#).

Similar model to existing web pages for other popular destinations, such as Fenway Park (mbta.com/fenway) and the Boston Marathon.

Planning your trip

The MBTA is the easiest and most convenient way to get to the U.S. Open Championship. Riders can take the [subway](#), [bus](#), or [Commuter Rail](#).

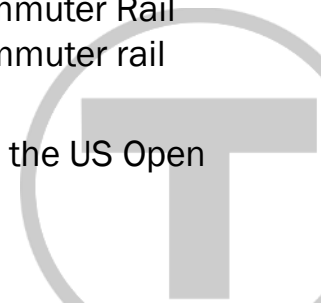
Complimentary shuttles will be provided between The Country Club and the stations listed below. Select a station from this list to plan your trip, or visit our [trip planner](#) to compare routes.

OL Forest Hills	Drop downs to plan trip	▼
D Reservoir		▲
At Reservoir, follows signs to the Beacon Street shuttle depot for complimentary shuttles to and from the U.S. Open Championship.		
Plan a trip to Reservoir		
C Cleveland Circle		▼
B Boston College		▼

PREVIEW MODE

Transportation

- US Open will run two separate private shuttle bus routes (Yankee Bus Lines): from Forest Hills and from BC/Chestnut Hill/Reservoir to the event.
- The Authority will run additional service throughout the event on the Orange and Green lines. Rush hour levels of service will be provided at key times during the event week.
- MBTA Bus will run an early morning shuttle to pick up employees for the US Open.
- Commuter Rail will run additional trains to support the lines that utilize 128 Commuter Rail Parking Garage. US Open will market the use of the Rt. 128 parking garage. Commuter rail schedules are being finalized.
- Route 51 Bus Line will run a modified route + additional buses to accommodate the US Open passengers.



Community Outreach for March



Community Outreach – March 2022

Building Relationships



- Created relationship w **Office of Neighborhood Services for the City of Boston**; adding **MBTA** Community Engagement email updates to their **neighborhood news**.
- Connected w/ 6 community organizations **solely for relationship** vs. projects.



Critical service needs input from **Chelsea & Everett community orgs focus groups**.



Initiated bi-monthly outreach with **Quincy Chinese communities**.



Created connections w 2 homeless youth orgs.



Socialized the **Capital Investment Plan** Public Mtg with every municipality. Various municipalities appreciated the invitation.

Structural Changes



Working to get **flyers** created for all **systemwide public** meetings to better share information. Followed w/ reminders.



Secured a dedicated line for verbal feedback to ensure **access for all riders!**



Standardizing support for other teams with respect to focus groups & public meetings/hearings.

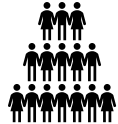


Increased **language access** for all systemwide public meetings.

Meeting Attendance



Hosted the **two of three CIP public meetings** with **>70 attendees per mtg.**



Drove **>50** attendance **Fare Media Public Mtg.** And Hosted the **Spring Service Changes** Meeting with **>50** attendees



Consistently socializing public meetings, hearing and events with **>500 community organizations!**

With additional outreach resources just onboard, comprehensive efforts have commenced to implement structural change and ramp toward broadening community engagement.

Future-Looking



New DD of Community Engagement is **attending various neighborhood association meetings** to share upcoming public meetings, how to submit comments and locate MBTA job openings. **Recruitment now includes community organizations.**



Shared Apr 5 Job Fair with **community organizations.**



The **goal is to build community-specific relationships**, rather than project-specific.



Thank you!

