



Service Disruption Updates

September 5, 2025: Operational Technology Network Disruption

August 29, 2025: Transbay Tube (Northbound) – Smoke Reported

October 7, 2025: Embarcadero (Southbound) – Loud Noise Reported

October 23, 2025 | BART Board of Directors Meeting

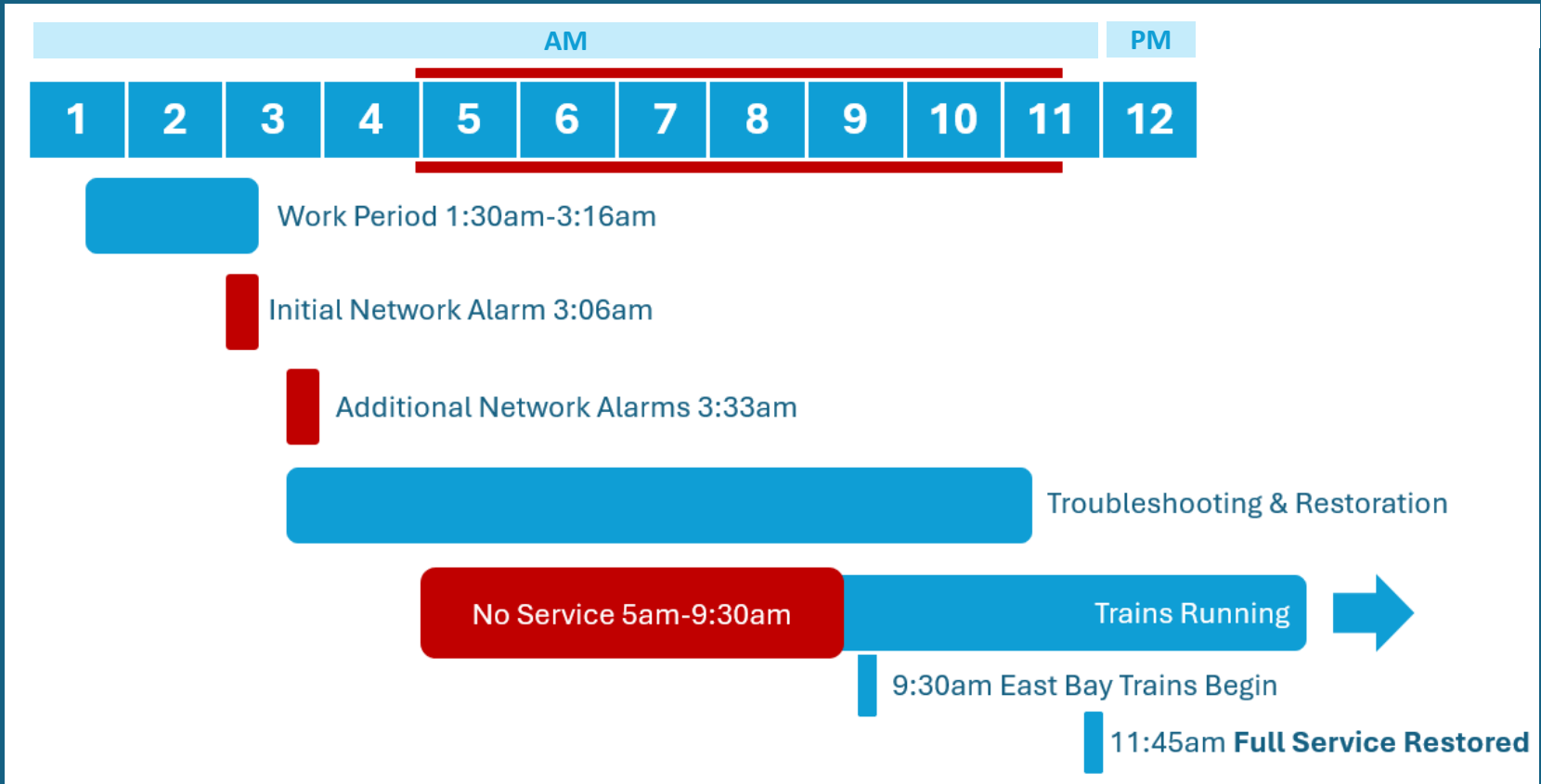


September 5, 2025
Operational Technology
Network Disruption



Network Event Timeline

September 5, 2025



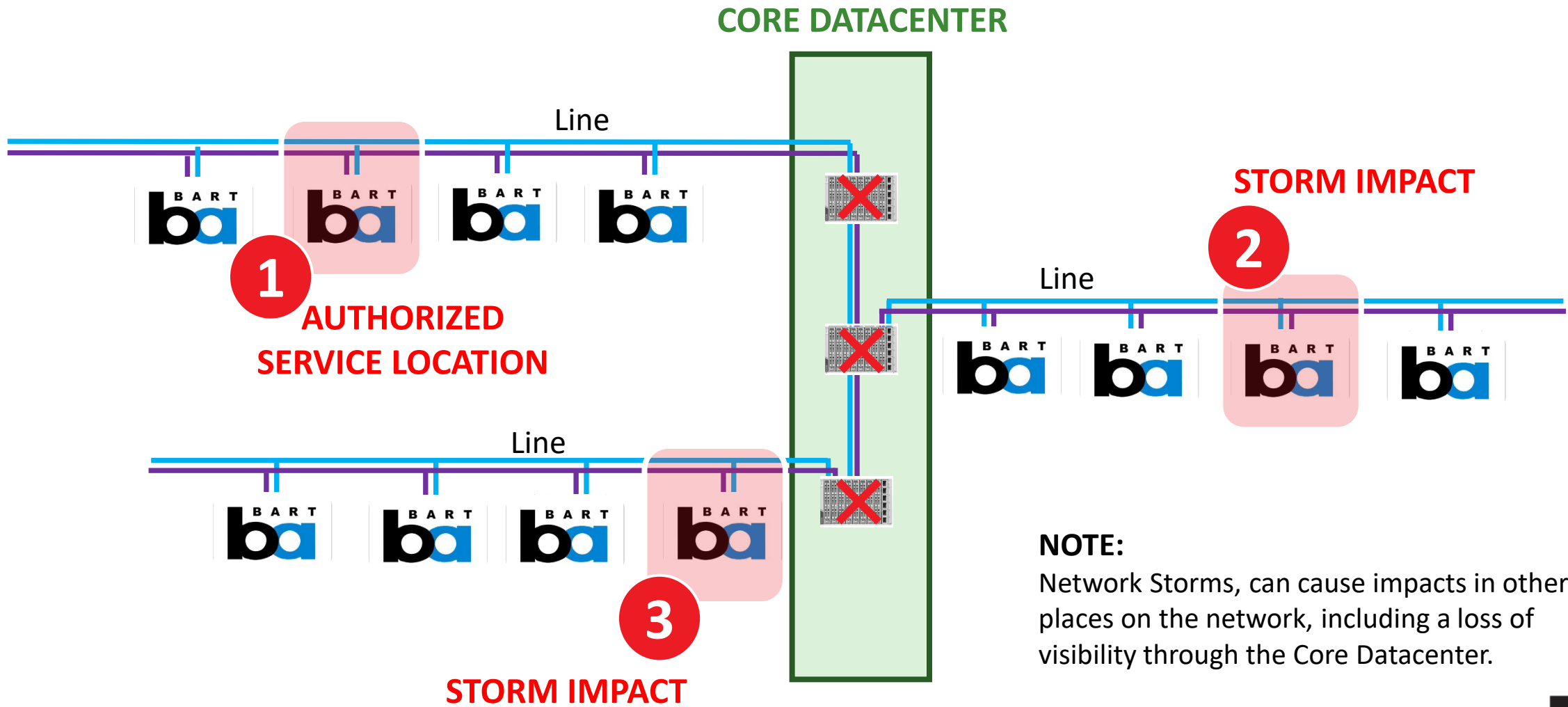
Public Notices

[BART.gov/Alternatives](https://www.bart.gov/Alternatives)

- 5:04AM** BART Communications
- 5:09AM** BART Updates
- 5:20AM** BART Comms requests help from 511 and S.F. Dept of Emergency Management
- 5:28AM** BART Communications
- 5:36AM** BART Updates
- 5:51AM** BART Updates
- 7:00AM** SF Emergency Management issues **NIXLE ALERT**
- 7:15AM** 511 issues NIXLE ALERT
- 9:30AM** BART Updates Limited service, East Bay
- 9:37AM** BART Updates No service in S.F. and Peninsula Area



Network Storm Impacts



Initial Actions Taken



Placed a freeze on all Network Modifications



Brought in the Cisco Train Control Network Engineering Team



Held several design workshops with BART Engineering, Office of the Chief Information Officer, and key Vendors



Developed a plan to modify our routing protocols to add more resiliency to the system and reduce the likelihood of network storms.



Worked with Cisco to create a temporary routing lab at their Headquarters in the South Bay to further test our assumptions

Key Lessons Learned

1. Longer Service Windows

All work related to core routing infrastructure should be performed in the longer weekend period

2. Emergency Backup Staff

Additional Network Engineering Staff must be pre-positioned in the core datacenters as well as station locations to more rapidly re-gain local control of the network in cases of lost visibility from the maintenance location

3. Risk Reduction

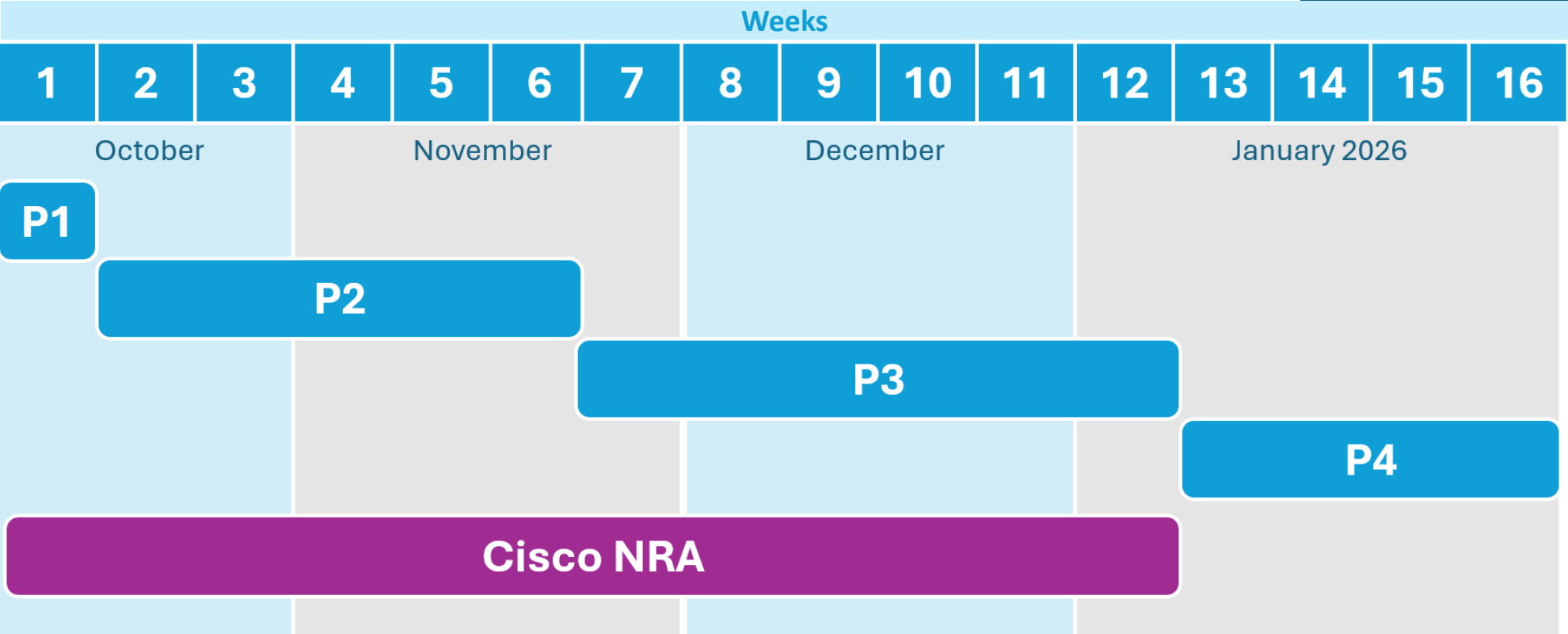
The District must de-risk the existing network to reduce the likelihood of service failures by limiting our use of Layer-2, Spanning Tree Protocols.



Realignment within the Organization

- To better utilize physical assets, consolidate in-house expertise, and leverage service providers, BART has realigned network and technical staff from the **Office Infrastructure Delivery**, to the **Office of the Chief Information Officer**.
- This realignment is beneficial to:
 - Streamline a consistent approach to managing and monitoring our technology framework and tools
 - Shape strategies for a more resilient and dependable infrastructure
 - Capitalize on available expertise to develop a network architecture which can evolve with the next 50 years of BART.

Next Steps

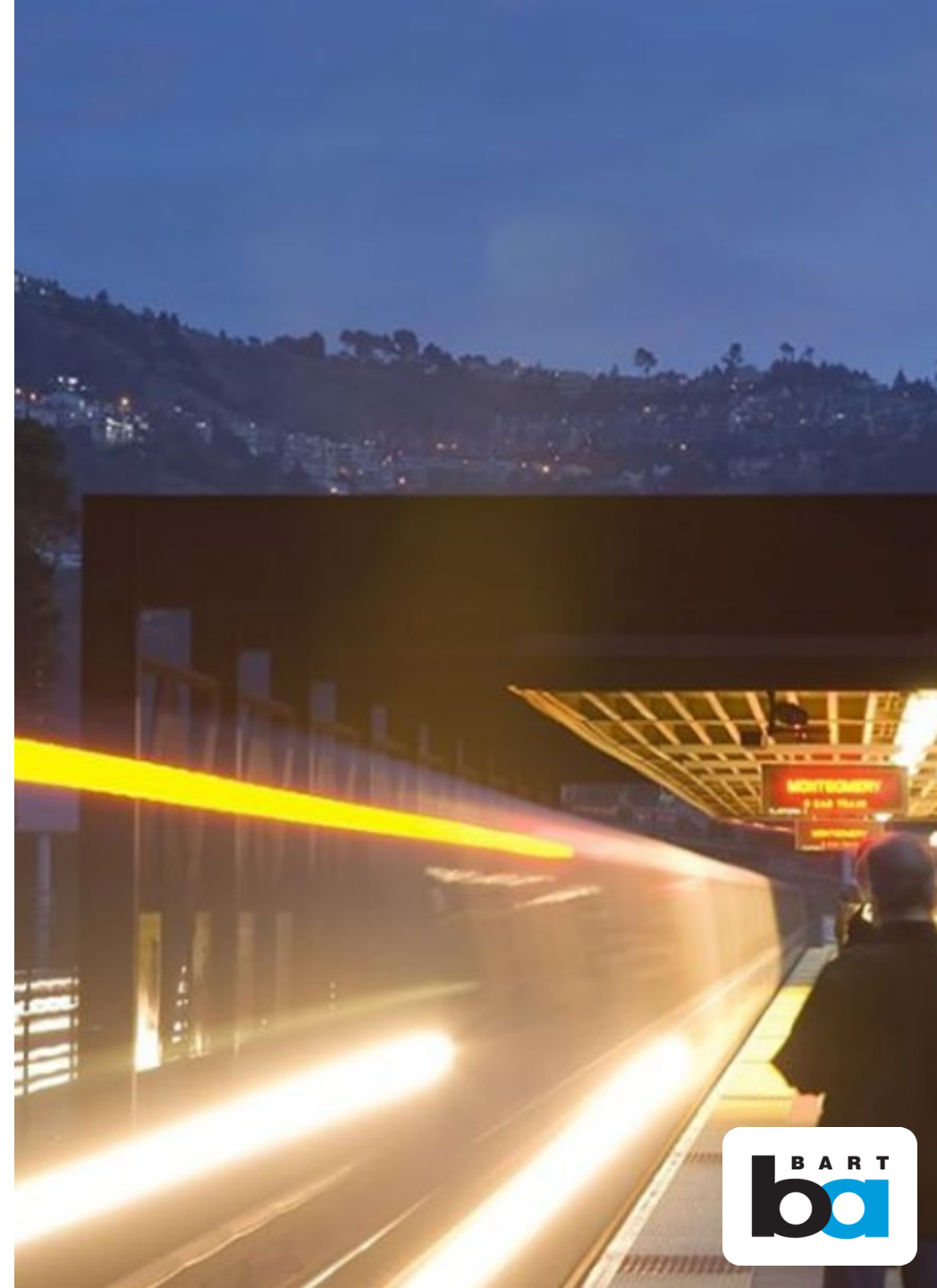


- P1. Phase 1, **Stabilization**: Electronically eliminate loop potential in all network rings
 - P2. Phase 2, **Standardization**: Perform a manual link audit in all stations
 - P3. Phase 3, **Updated Protocols**: Update all core protocols to limit the use of Layer-2 Spanning Tree
 - P4. Phase 4, **Modernization Plan**: Consolidate findings for recommended Board Action.
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- Cisco NRA, **Cisco Network Resilience Analysis (NRA)**: Full Logical Architecture Review. Wiring Audit of all stations included in the impacted network segment.



Procedural Updates

- **Update:** Change Management Process
- **Update:** On-Call Monitoring Plan
- **NEW** Configuration Control Board (CCB)
 - Close coordination with potentially disruptive work, i.e. electrical work, changes to the datacenters, battery systems, or other facilities & equipment.
 - Review, approve, and document network configuration changes and hardware deployments.





Near Term

- Reduce risk of network storms
- Minimize dependency on Spanning Tree Protocol (STP)
- Standardize network traffic flow
- Repair single-leg fiber breaks on two Unified Optical Network (UON) rings
- Deliverable: Establish a network operational baseline and verified **Stability Report**

Mid-Term

- Expand redundant network paths.
- Establish a modern Border Gateway Protocol (BGP) plan for datacenters and stations.
- Deliverable: Documented topology with verified failover functionality.



Longer-Term



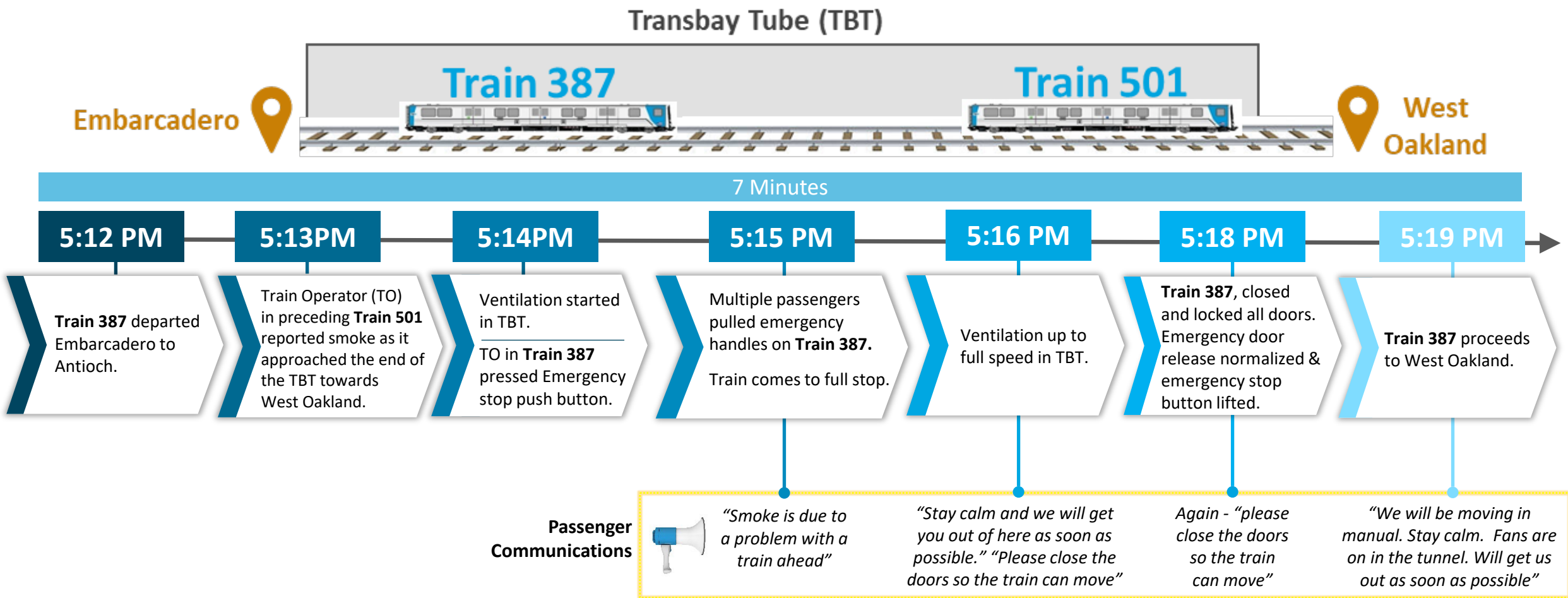
- Define and enforce network design standards:
 - Uptime: 99.999%
 - Recovery Time Objective (RTO)
- Deliverables:
 - Enterprise Network Design Standard
 - Lifecycle Management Plan
 - Network Monitoring and Logging Implementation Report

August 29, 2025
Transbay Tube (Northbound)
Smoke Reported



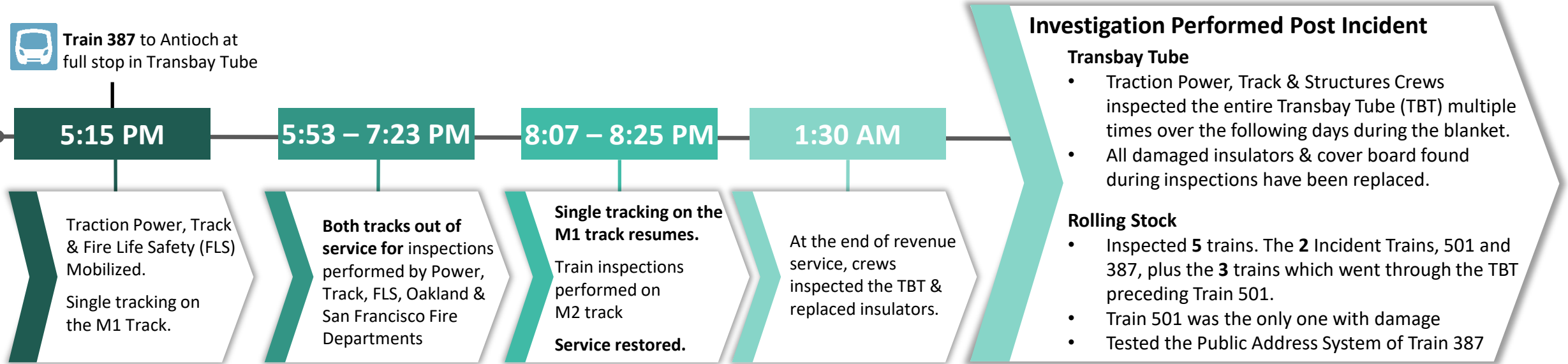
Sequence of Incident Events (Train Movements)

August 29, 2025 (5:12 – 5:19 PM)



Root Cause Analysis

August 29 (5:15 PM) – August 30, 2025 (1:30AM)



Public Communications:

5:30 -8:30 PM - BART Service Advisory (BSA) Issued

- Via text and email subscribers, posts on all *bart.gov* pages, BART app & platform digital signs
- Public Address (PA) System announcements made

5:35 -8:37 PM

Media response activated & questions answered

SERVICE ADVISORY:

There is a major delay in the San Francisco and East Bay direction due to an equipment problem on the track between Embarcadero and West Oakland.

Continued Passenger Communications

 **5:22 PM** Updates passengers on moving train

5:24 PM “Plan is to stop at West Oakland to air out the train”

5:26 PM “Train will stop at West Oakland to air out” “Stay calm”

5:32 PM Train arrives at West Oakland “Do not board while we let the train air out”

Final Investigation Findings

Inspection of **Train 501** vehicle components showed damage to the undercarriage of 6 cars such as dents, scrapes, arc burns and open fuses. Also, collector shoe fuse was burned on the outside.

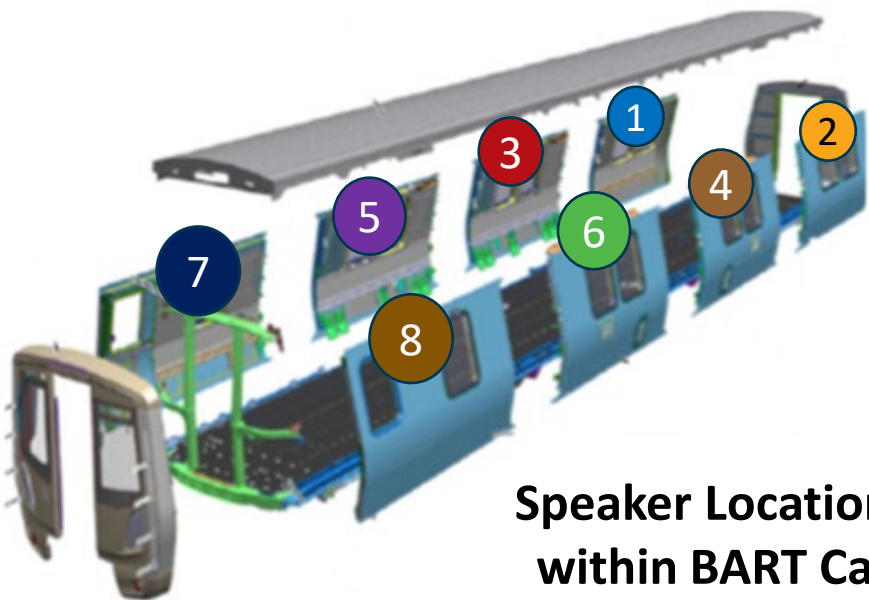
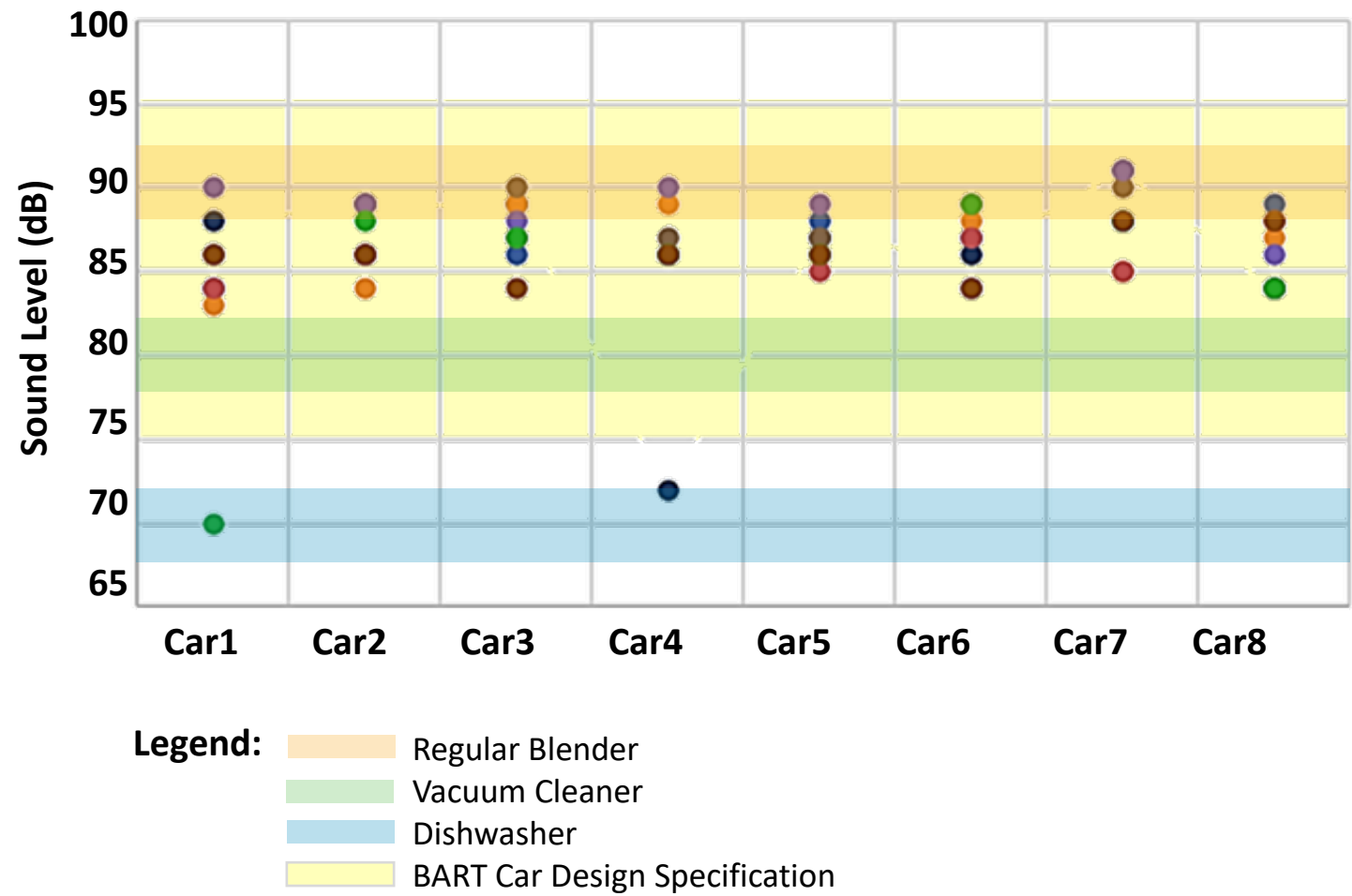
Debris found at incident location not associated with **Train 501**.

Train 387 performed as designed and Train Operator managed the movement of the Train properly upon encountering smoke.

Passengers use of emergency door handles in **Train 387** delayed the movement of the Train to exit the Transbay Tube.

Train 387 Speaker Evaluation

SPEAKER TEST RESULTS
Measured at 12" from Speakers

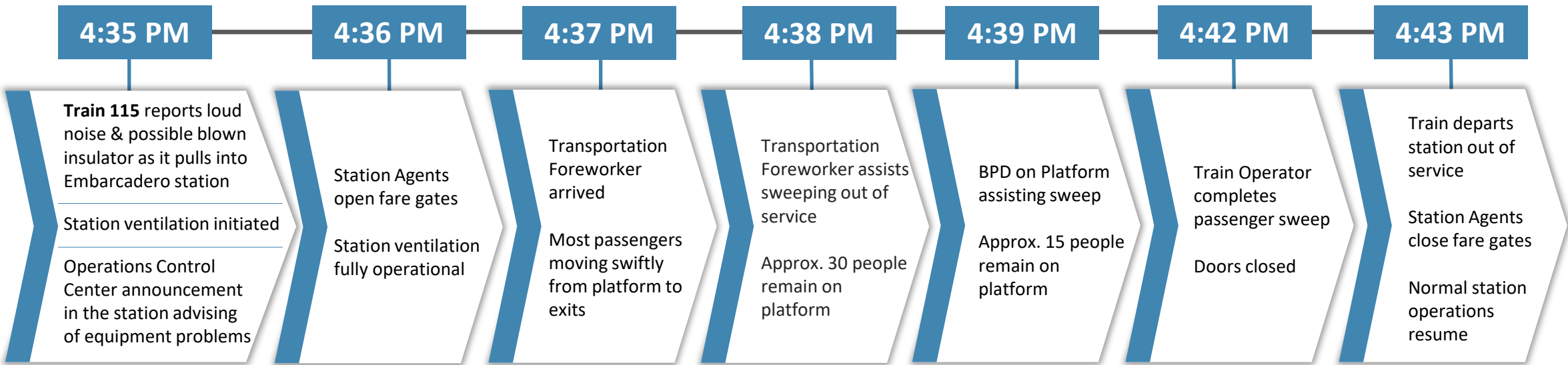


October 7, 2025
Embarcadero (Southbound)
Loud Noise Reported

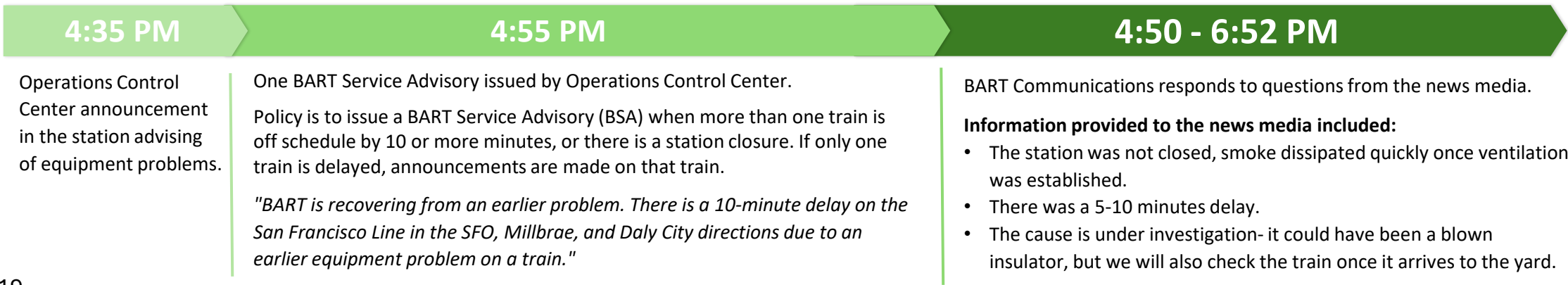


Event Timeline (No Service Disruptions)

October 7, 2025 (4:35 – 4:43 PM)



Post Incident Communications (4:35 – 6:52 PM)



Incident Summary

RESOLVED IN 8 MINUTES

- Immediate response by Train Operator and station staff.
- Rapid ventilation activation and platform clearance minimized passenger exposure.
- Coordination between OCC, SFFD, and field teams prevented escalation and ensured timely restoration of service.

COMMUNICATION CLARITY

- Station Agent / Foreworker communication proved to be key to maintaining passenger calm and order.
- Continued emphasis on Station Agent emergency response drills and ventilation protocols is recommended.

FINDINGS

- No blown insulators found after initial inspection.
- Two cantilever plates adjacent to the blast were found to have damage after inspection during blanket.
- Evidence suggests wayside debris made contact with third rail or ground as the train traversed through the location causing arc flash.

Lessons Learned

August 29, 2025: Transbay Tube (Northbound)

October 7, 2025: Embarcadero (Southbound)



Lessons Learned & Corrective Action Plans

Completed

- ✓ **Sept 26, 2025:** Transportation Notice issued to Train Operators to reinforce proper microphone use instructions for Public Address (PA) system announcements.
- ✓ **Sept 29, 2025:** Transportation Notice issued to Train Operators to deactivate HVAC in cars when smoke present.

Immediate

- Augment regular cleaning program in subway areas.
- Evaluate future insulator cleaning/replacement in subway areas.

Medium Term

- Utilize technology on rail inspection vehicle to determine health of wayside power system.
- Review traction power system for resiliency.

Real Time Communication Tools

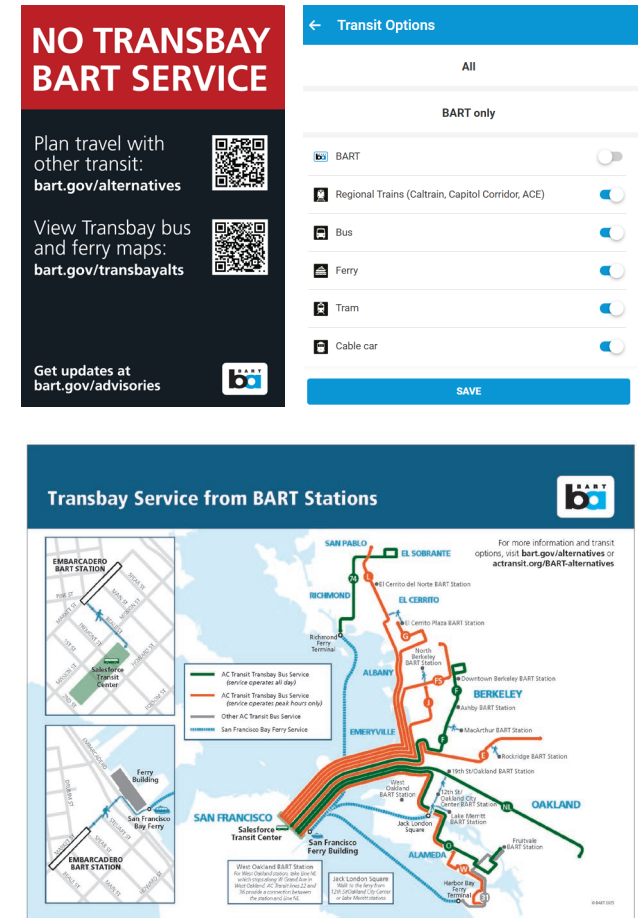


Real Time Communication Tools

Tools Available

BART Service Alerts (BSA) issued by Operations Control Center (OCC)

- Time of delay, where, direction, and preliminary reason category, also when the issue has been resolved, and we are on recovery mode
 - Posted on top of every bart.gov page, BART app, platform digital signs, X @sfbartaalert, Bluesky @alerts.bart.gov
 - Offered to third parties via open data
 - Text/email opt in at bart.gov/alerts (11k text subscribers, 12k email subscribers)
 - Customized in-app notification, opt in via app
-
- Train and Station PA announcements
 - Transportation staff deployed with vests and megaphones; extra staff from headquarters can be deployed
 - Sandwich boards with posters about alternatives, signs on fare gates
 - Communications Dept. does news media outreach
 - Communications Dept. can offer more details beyond the BSA on X and Bluesky, and can write a news article on bart.gov
 - Communications Dept. can contact 511 (MTC) and/or SF Dept of Emergency Management for Nixle alerts



POSTERS

NO TRANSBAY BART SERVICE

Plan travel with
other transit:
bart.gov/alternatives

View Transbay bus
and ferry maps:
bart.gov/transbayalts

Get updates at
bart.gov/advisories



TRIP-PLANNING

← Transit Options

All

BART only

 BART

 Regional Trains (Caltrain, Capitol Corridor, ACE)

 Bus

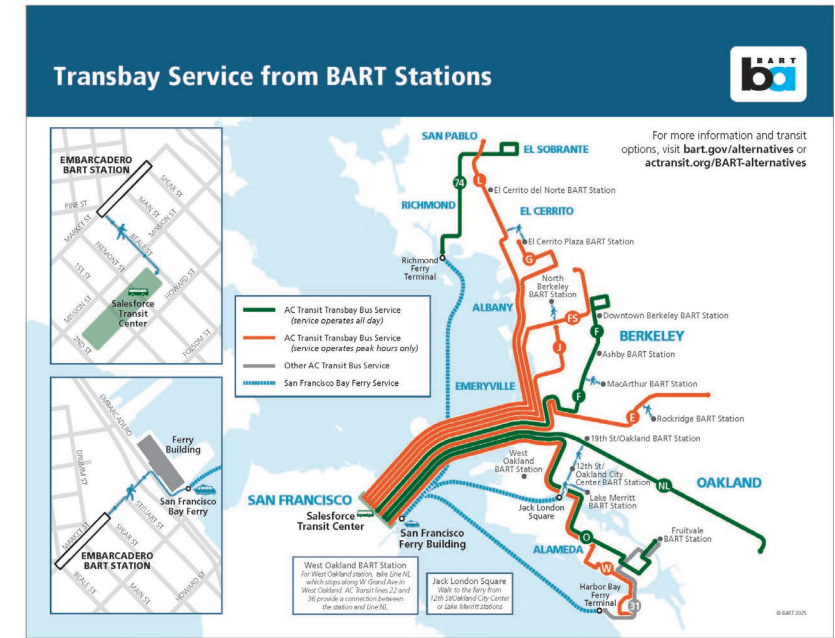
 Ferry

 Tram

 Cable car

SAVE

BUS & FERRY



Real Time Communication Tools

Tools that are currently NOT available

- Digital monitors and screen on board train cars- all content is pre-programmed; once cars have WiFi, we can explore workflows for posting BART Service Advisories (BSA's) when issued.
- Geofencing to target phones or BART Watch app users to specific trains and areas.
 - BART Police can send a message to all users of the app via an in-app notification.
 - There is no way to target a message to specific areas or groups of people.



Thank You

