



# 2023 FTA JOINT STATE SAFETY OVERSIGHT AND RAIL TRANSIT AGENCY WORKSHOP

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NOVEMBER 14 – 16, 2023 | ST. LOUIS, MISSOURI





# Session 19

## Risk-Based Inspection Panel Discussion: Lessons Learned

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Facilitator: Cyrell McLemore, FTA



# RISK-BASED INSPECTIONS

# Lessons Learned

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**Larry Barlow and Rebecca Zepeda**

*Valley Metro Rail*

**Cameron Phelps and Kevin Chandler**

*Ohio Department of Transportation*

**Daren Gilbert**

*California Public Utilities Commission*

**Robert N. Hanson**

*Commonwealth of Massachusetts Department of Public Utilities*

2023 FTA Joint State Safety Oversight and Rail Transit Agency Workshop

# Safety Data Acquisition & Analysis

Valley Metro  
Phoenix, Arizona

Presented by  
**Larry Barlow**, Rail Transit Safety Specialist  
**Rebecca Zepeda**, Rail Transit Safety Specialist



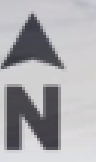




# Valley Metro Rail System Overview



- Two rail modes – Light rail and Streetcar
- Three fleet vehicles
  - 49 Kinkisharyo
  - 10 Siemens
  - 5 Brookville (Streetcar)
- 28-mile system
- 3-miles of Streetcar
- Two extensions are under construction
  - Northwest Phase II – Spring 2024
  - South Central / Downtown Hub – 2025 TBD





# Data Collection Overview

- Operations Daily Activity Log
- Activity Log Analysis
- Enterprise Asset Management System
- Tracking Logs
- Confidential Safety Reporting System

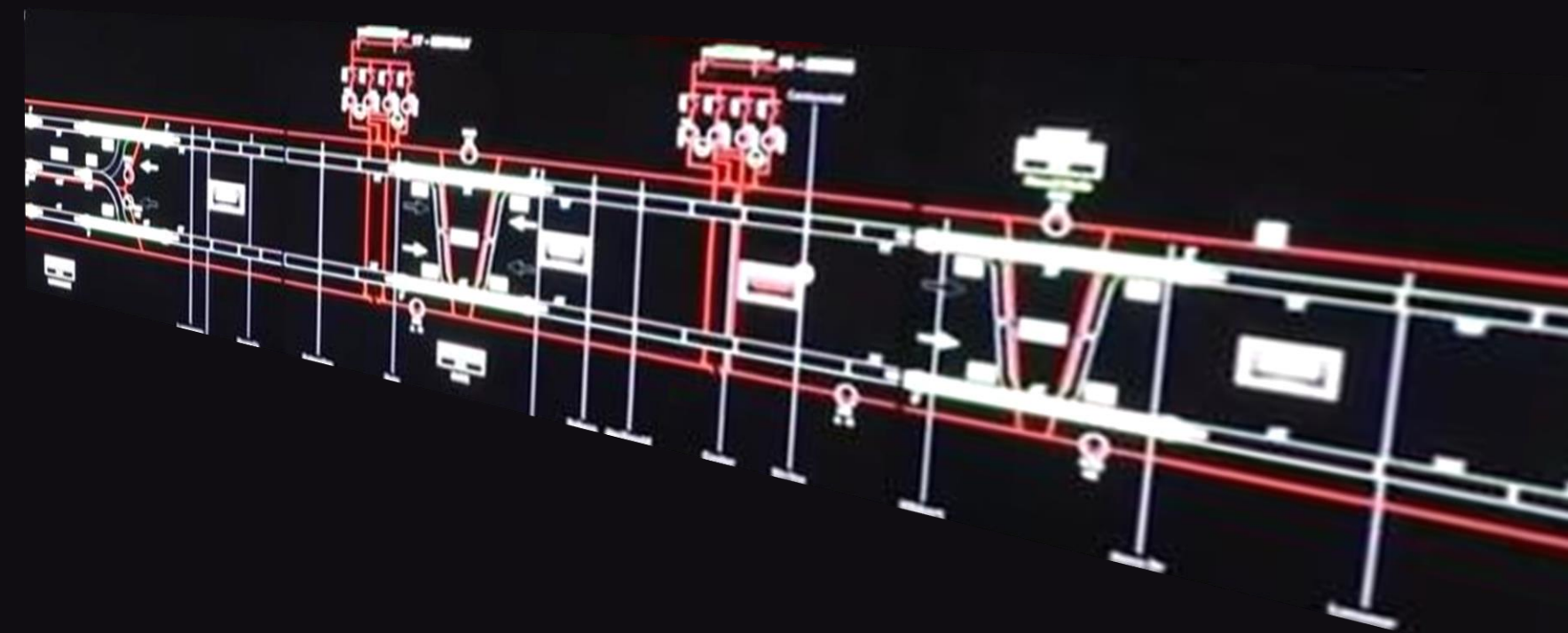




# Operations *Daily Activity Log*

The Operations Control Center documents all system activity:

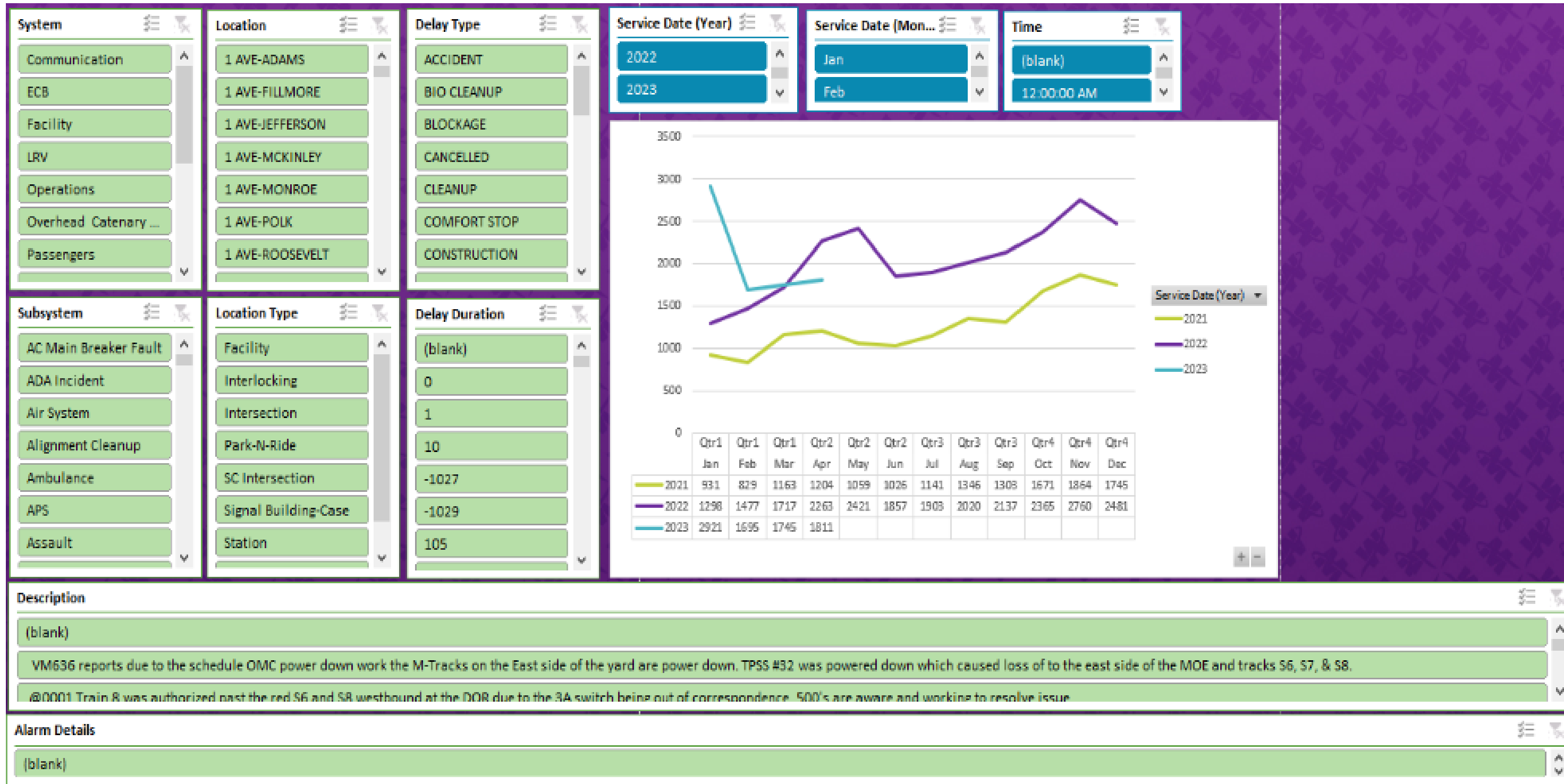
- Accidents/Incidents/Near Miss events
- Mechanical/System Failures
- Vehicle Failures/Troubleshooting
- Rule Violations



Service	Start Time	Reported By	Description	System	Notified	
9/11/23	6:32 pm 9/11	aahmad	@1830 Switch 1B went into overload at the MTB crossover dropping routes. @1832 510 notified. @1832 1B normalized at MTB, route re-established. @1832 510/311 on scene. <u>Resolution</u> 19:18 510/311 called clear of MTB Crossover.	Signals	510, 311	
<b>Location</b>		<b>Op ID</b>		Interlocking / MO19		Switch Trouble
		N/A				
<b>LRV</b>	<b>Track/Dir</b>	<b>Train ID</b>				
N/A	Main 1	N/A				
N/A		<b>Deleted</b>				
N/A	EB	NO				
^ <b>Alarm Details</b> (for above item) ^						
<b>Name:</b> SW1B-OVERLOAD <b>Desc:</b> SWITCH 1B OVERLOAD - MTB <b>Priority:</b> 1 <b>Location:</b> MO19						

Service	Start Time	Reported By	Description	System	Notified	
10/17/23	3:52 am 10/18	acordova	@0352 @YL1 train 1 notified OCC of a brake release fault coming out of LRV 107. LRVM supervisor 656 notified & advised OCC to have the operator pull back into C2 & take the MOW spare while LRVM uncoupled the affected car. @0406 train 1 notified OCC that he is ready to proceed to the yard limit & given authorization once train 2 cleared the 8T circuit in the yard. <u>Resolution</u> Train 1 will be turned EB @MTB for schedule recovery.	LRV	LRVM supervisor 656	
<b>Location</b>		<b>Op ID</b>		Station / YARD		Brakes
		200				
<b>LRV</b>	<b>Track/Dir</b>	<b>Train ID</b>				
111	Main 2	1				
112		<b>Deleted</b>				
107	WB	NO				
				<b>Trip</b>	<b>Delay</b>	<b>Time</b>
				18196	Incomplete	0

# Daily Activity Log Analysis





**System**

- LRV
- SC

**Location**

- 1 AVE-VAN BUREN
- 1 AVE-WASHINGTON
- 12JF
- 19 AVE-COULTER
- 19CB
- 19DU
- 24JF
- 24WA

**Delay Type**

- INCOMPLETE
- MAINTENANCE
- NONE
- OTHER
- PREDICTED PRIORITY
- TRAIN ISSUE

**Service Date (Year)**

- 2022
- 2023

**Service Date (Mo...)**

- Jan
- Feb

**Time**

- (blank)
- 12:00:00 AM

**Subsystem**

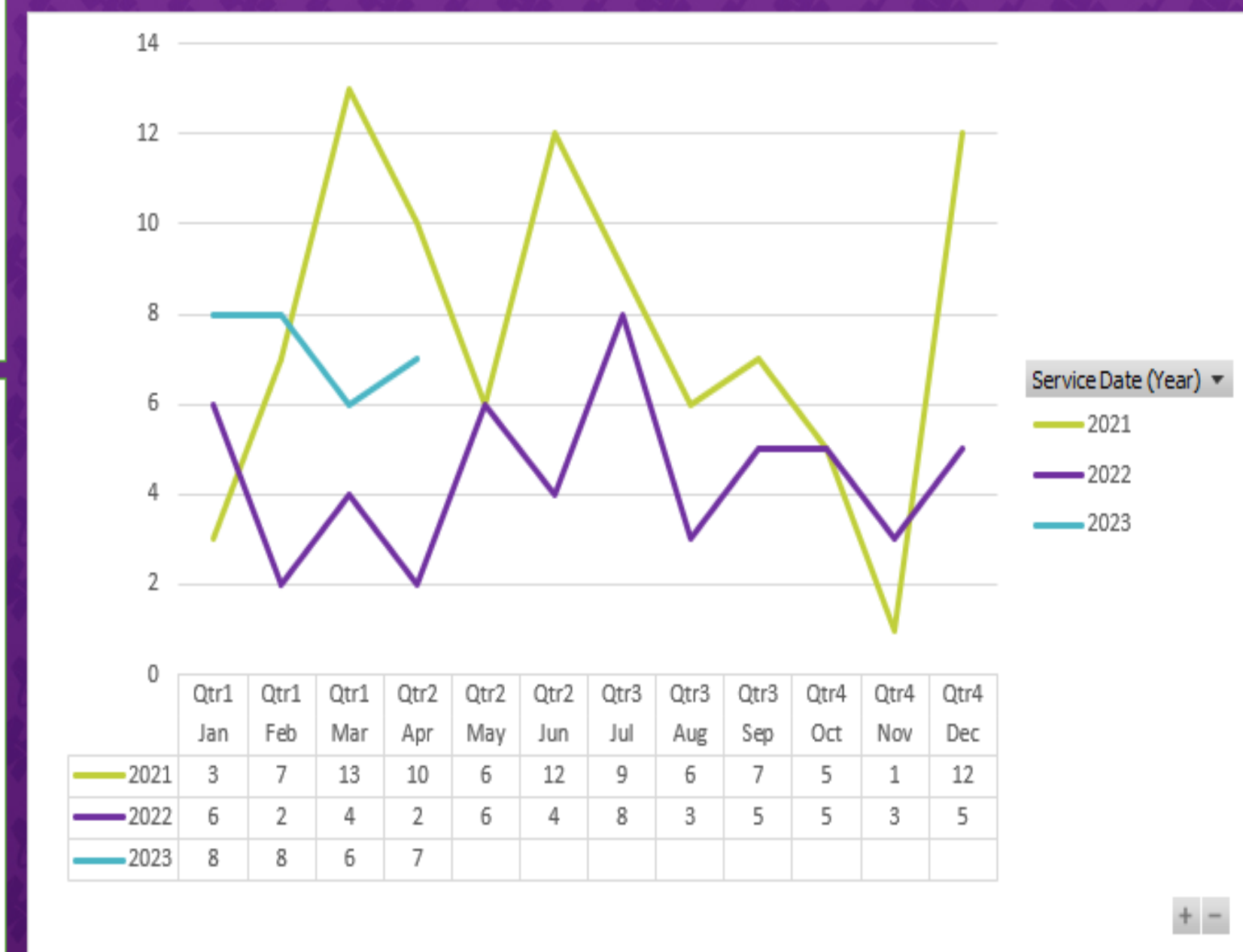
- Air System
- APS
- Brakes
- Bumper
- Cab Equipment
- Cameras
- Carbody
- Coupler

**Location Type**

- Interlocking
- Intersection
- SC Intersection
- Station

**Delay Duration**

- 0
- 1
- 10
- 11
- 12
- 13
- 15
- 16



**Description**

#3 Incomplete trip due to being delayed on prior trip from operator reporting loss of propulsion with brake issues at CNCB EB on track 1. Turned WB at MEMN. Bypassed GIMN-STMN.

#5 MB04 -1 DBA 2 Range coming from LRV 130B.

@0000 Train 2 reported that they had the following fault from LRV 141 A; MB04-1 class 3 error, MB04 DBA-1 Range, Dynamic brake loss, WSSDB Axle 1. @0007 T12 reported sparks from the rear LRV 146 A. @0008 LRV Maint notified. @0010 Train 2 ...


**Alarm Details**

(blank)



# Enterprise Asset Management – Maintenance

Messages Screens Reports



## VALLEY METRO PROD

Home EAM Issues Service Request Work Management Ad-Hoc Query Reporting Allocation and Assignment

Reporting

Reports:

- My Favorites
- Capital Planning
- Cost Analysis
- Enterprise Purchasing
- Equipment Info
- Fuel Info
- Greenhouse
- Incident Info
- Linear Info
- Motor Pool
- NAPA
- NTD
- Operations Info
- Parts Info
- Purchasing Info
- Shop Operations
  - Labor Info
  - Multi-Unit Projects
  - Utilities
  - VMTA Custom Reports

Shop Operations
Current Work Order Delays
Daily Shop Schedule
Daily Shop Schedule by Bay
Daily Shop Schedule by Employee
Excessive Work Orders by Asset
Late Work Orders by Location
Modified Tasks
Multi-Asset Open Work Orders
Part Request Status
Pending Work Order Part Requests
Planning Work Order Detail
PM Checklist Blank
PM Checklist Items
PM Compliance
PM Results Detail
Proactive vs Reactive Maintenance
Repair and PM Cost per Mile Exceptions
Service Request Detail
Service Request Details by Address Range
Service Request Follow Up

- Assists Valley Metro in maintaining a state of good repair
- Maintains a record of all assets in one place
  - Preventative and scheduled maintenance
  - Inspection records
  - Repairs and work orders



Current Filter

Months of History 
 Count of Tasks 
 All

Task ID  ...

Show Work Orders with no postings  
 Show Tasks with no Work Order

History for the last 6 months

Work Order ID	WO Date	WO Closed Date	Task ID	Task Date	WAC	Employee	Repair Reason
SIGCOM-2023-15475	10/16/2023 11:02 PM	10/18/2023 08:10 PM	SC0001 - MONTHLY 1/4 IN OBSTRUCTION TEST		PM - PM COMPLETE	263309	J - OTHER
SIGCOM-2023-15154	10/03/2023 09:54 PM	10/09/2023 07:14 PM	SC0071 - SWITCH ADJUSTMENT		01 - ADJUSTED	263728	C - WEAR AND TEAR
SIGCOM-2023-15144	10/03/2023 10:42 AM		SC0078 - DRAIN SWITCH BOX		06 - INSPECT		I - INSPECTION
SIGCOM-2023-15135	10/02/2023 09:51 PM		SC0071 - SWITCH ADJUSTMENT		01 - ADJUSTED	263855	J - OTHER
SIGCOM-2023-14324	09/16/2023 11:42 PM	09/18/2023 05:09 PM	SC0003 - QUARTERLY CLEAN, LUBE, OBSTRUCTION		PM - PM COMPLETE		J - OTHER
SIGCOM-2023-13107	08/20/2023 01:32 AM	08/21/2023 04:09 PM	SC0071 - SWITCH ADJUSTMENT		02 - CLEANED		J - OTHER
SIGCOM-2023-12795	08/19/2023 06:13 PM	08/21/2023 02:07 PM	SC0001 - MONTHLY 1/4 IN OBSTRUCTION TEST		PM - PM COMPLETE	263688	J - OTHER
SIGCOM-2023-12617	08/07/2023 12:34 PM	08/15/2023 07:59 AM	SC0070 - SWITCH OUT OF CORRESPONDENCE		00 - REPAIRED	264127	B - BREAKDOWN
SIGCOM-2023-12488	08/03/2023 07:55 AM	08/06/2023 06:38 PM	SC0072 - REPLACE MICRO SWITCH		09 - NO TROUBLE FOUND		J - OTHER
SIGCOM-2023-12485	08/02/2023 10:12 PM	08/09/2023 02:11 PM	SC0075 - REPLACE SWITCH LINKAGE		RPL - PART REPLACE	263309	J - OTHER
SIGCOM-2023-11642	07/18/2023 12:26 AM	07/18/2023 03:34 PM	SC0001 - MONTHLY 1/4 IN OBSTRUCTION TEST		PM - PM COMPLETE		J - OTHER
SIGCOM-2023-10454	06/14/2023 11:57 PM	06/15/2023 02:24 PM	SC0003 - QUARTERLY CLEAN, LUBE, OBSTRUCTION		PM - PM COMPLETE		J - OTHER
SIGCOM-2023-9425	05/17/2023 09:08 PM	05/18/2023 07:40 PM	SC0001 - MONTHLY 1/4 IN OBSTRUCTION TEST		06 - INSPECT	263661	J - OTHER



# Asset Review – LRV

Work Order Main

Asset ID	LRV107: 2007 KINKISHARYO KINKISHARYO KINKISHARYO LRV		
Repair Location	MOEVM - MOE VEHICLE MAINTENANCE		
Work Order ID	MOEVM-2023-33491	Job Status	OPEN
Job Type	REPAIR	Service Status	IS - IN SERVICE
WO Meter 1	759550 MILES	WO Meter 2	84573 HOURS
Projected Completion Date	10/24/2023 11:30 AM	Title	BRAKE RELEASE FAULTS
Priority	3 - MEDIUM		

Tasks: 2

		Task ID	WAC	Remaining Hours	
	Start	CAR.004 - GENERAL REPAIR		-1.33	🗨️
	Start	FBS.001 - TROUBLESHOOT FRICTION BRAKES		-2.62	🗨️

Actions

Main Page

View/Edit Detail

Finish Work Order

Parts History

Related Files

Equipment History

Test Results

Component Warranty

Messages

Print Work Order

Commercial Work

Postings

Relationships

Work Delay

Delay Code

Comment

Notes

10/18/2023 09:11 AM ASTEWART - STEWART,ANDREW

Task: FBS.001 - TROUBLESHOOT FRICTION BRAKES

SUPPLEMENTARY COMMENT:  
 CHECKED PINS ON LRV107 B 173/73 & 123/23 BOTH SETS LOOKED GOOD AND PINS DID NOT STICK.  
 COUPLED B END (WHICH WAS COUPLED DURING BRAKE RELEASE FAULT) TO LRV142 AND BUMP TESTED APPROX 20FT EACH WAY NO ISSUES  
 LRV107 COMPLETE AND READY FOR SERVICE

10/18/2023 09:09 AM ASTEWART - STEWART,ANDREW

Task: CAR.004 - GENERAL REPAIR

Service Requests / Defects: 0



# GIS Tracking – Accident/Incident/Occurrences

## Light Rail Safety Dashboard

Transit Safety Dashboard can be used by transit agencies to monitor the status of safety events and hazards.

Adjust the filters or current map extent to refine the results.

Occurrence Date:  
Last 90 Days

Event Type:  
Accident

Event Mode:  
Lightrail, Rail 2

Event Preventable:  
All

Accidents



9

Incidents and Occurrences



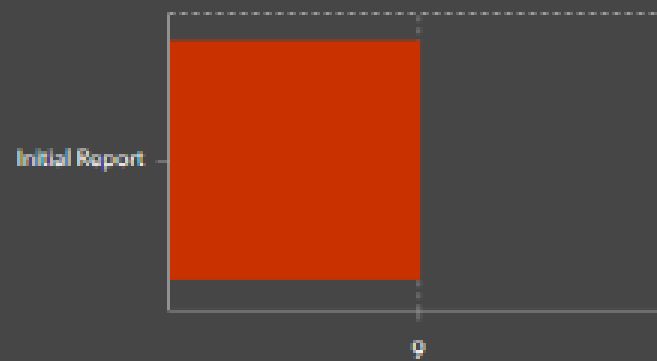
60

Injuries

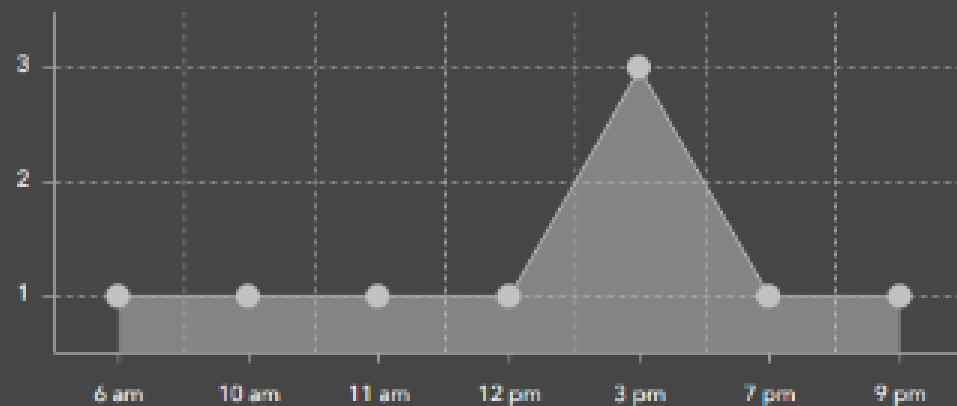


5

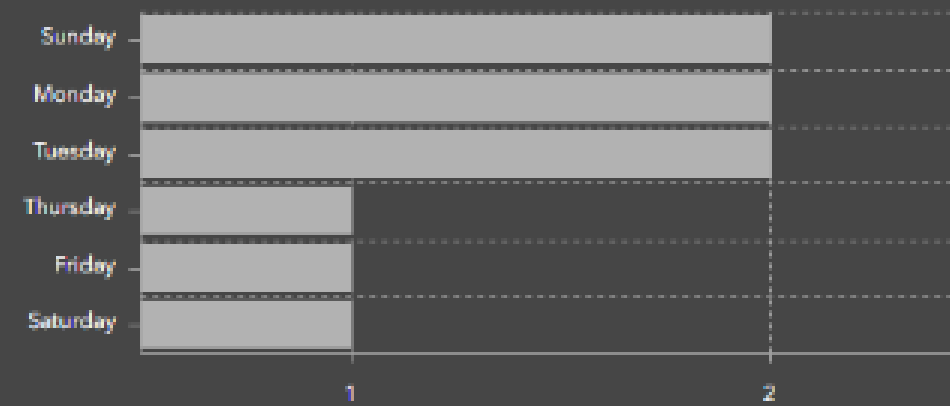
Accident Status



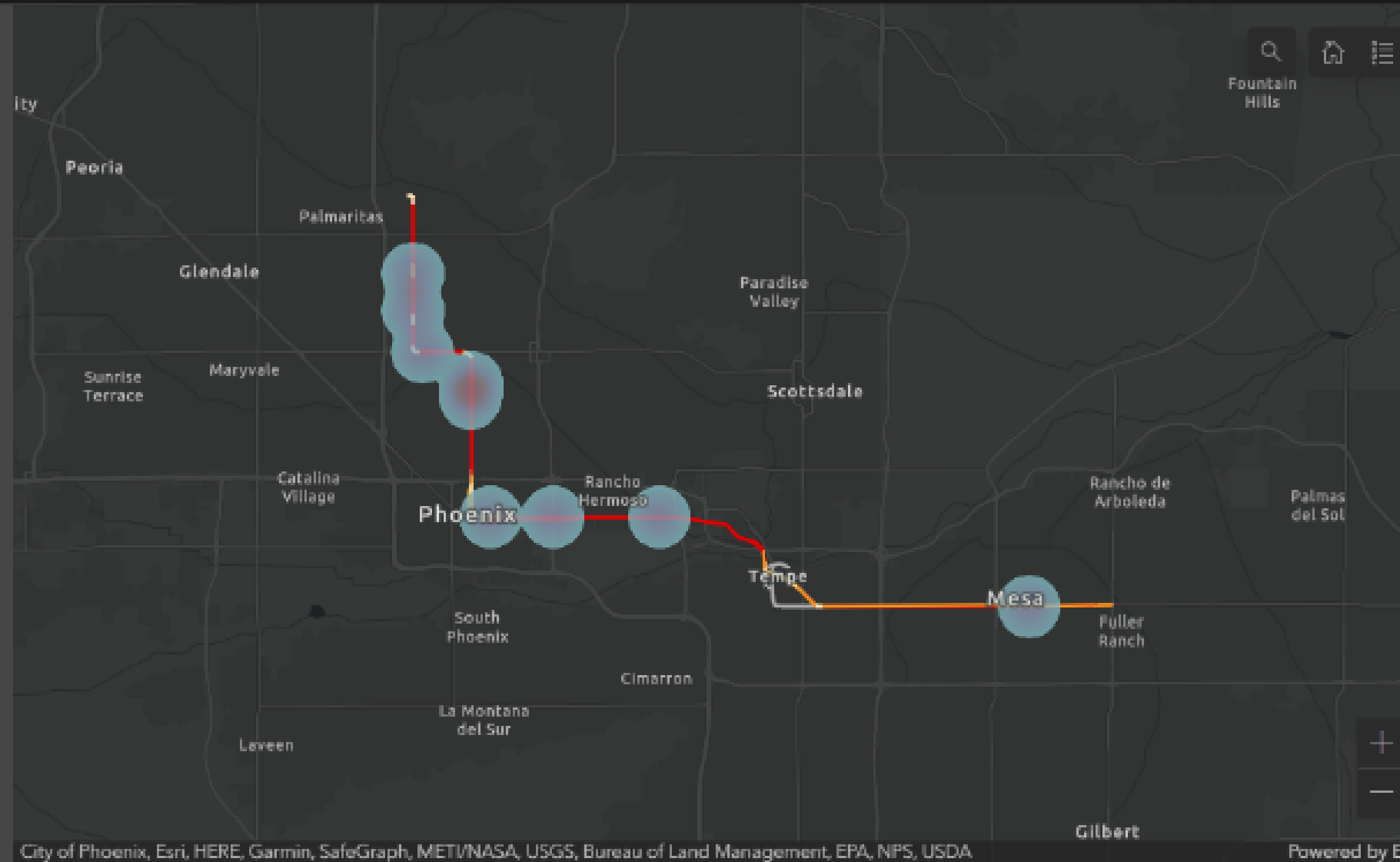
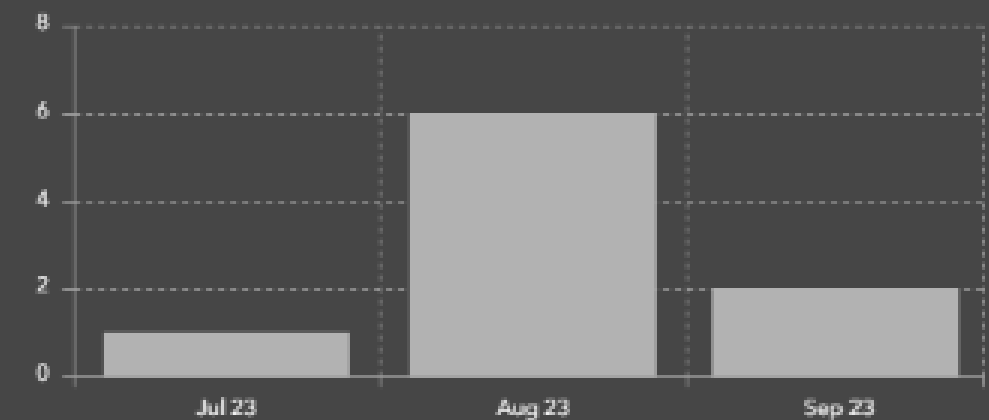
Hour of Day



Day of Week



Events by Month



Rail Accident

● Occurred on 9/10/2023, 3:47 PM  
Probable Cause:

Rail Accident

● Occurred on 9/5/2023, 12:15 PM  
Probable Cause:

Rail Accident

● Occurred on 8/19/2023, 9:18 PM  
Probable Cause:

Rail Accident

● Occurred on 8/14/2023, 6:05 AM  
Probable Cause:

Rail Accident

● Occurred on 8/11/2023, 11:51 AM  
Probable Cause:

Rail Accident

● Occurred on 8/8/2023, 3:20 PM  
Probable Cause:

Rail Accident

● Occurred on 8/6/2023, 10:10 AM  
Probable Cause:

Rail Accident

● Occurred on 8/3/2023, 3:08 PM  
Probable Cause:

Rail Accident

● Occurred on 7/31/2023, 7:35 PM  
Probable Cause:



Overview

Events

Hazards



# Confidential Reporting System




## WE ARE ONLY AS SAFE AS ME

KNOW OBSERVE REPORT REPEAT

It's important for all Valley Metro employees and contractors to follow safety guidelines to keep everyone safe on the job. If you see something, we've made it easier to say something.

**ANONYMOUSLY REPORT ANY SAFETY ISSUES OR CONCERNS AT**  
[safe.valleymetro.org](https://safe.valleymetro.org)  
**33.232.SAFE (7233)**



SCAN ME



### KNOW

#### WHAT IS MY ROLE IN OUR SAFETY MANAGEMENT SYSTEM



- WORK SAFELY | WEAR PPE when Required
- COMPLY with Rules, Procedures & Directives
- REPORT Safety Hazards, Concerns & Suggestions

### REPORT

#### WHAT CAN I REPORT?

- ✓ Hazards | Potential Hazards
- ✓ Safety Issues & Concerns
- ✓ Possible Solutions & Safety Improvements
- ✓ Close Calls | Near Misses | Incidents

CALL THE CONFIDENTIAL REPORTING SYSTEM  
**33.232.SAFE (7233)**




## WE ARE STRONGER WITH ME

KNOW OBSERVE REPORT REPEAT

Valley Metro employees are now encouraged to recognize coworkers for their contribution to safety in the workplace. Keep an eye out now for team members who are showing strong safety practices.

**SHARE THESE STORIES BY SCANNING THIS QR CODE**

Thank you for taking time to celebrate safety in the workplace.



SCAN ME

Safety Reporting and Recognizing Dashboard Hello Rebecca Zepeda! Log out Report Now Recognize Employee Contact

### Safety Report Edit

Status:

Date: 7/19/2023 2:09:52 PM

My Name: Cec 210

Email:

Phone:


Mode: Rail

Concern:

Location: Veterans way and college track 2 west end

Action:

Suggestions:

Picture Files: 

Safety Reporting and Recognizing Dashboard Hello Kenneth DeBow! Log out Report Now Recognize Employee Contact

### My Dashboard

**By Case Status**

Year-to-date Group By Case Status

Case Status	Count	Percentage
Resolved	19	55.9%
In Progress	3	8.8%
New	12	35.3%

**By Transit Mode**

Year-to-date Group By Transit Mode

Transit Mode	Count	Percentage
Bus	16	47.1%
Rail	8	23.5%
Administrative	9	26.5%
Streetcar	1	2.9%

**General**

[Safety Report List](#) [Safety Recognize List](#)

**Report**

[Aggregate Statistics](#)

**Settings**

[User Permission](#) [Add User](#)


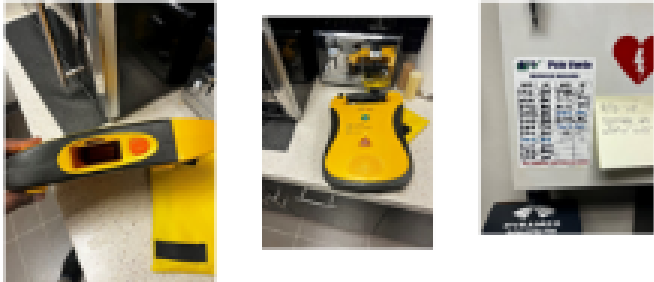
# Safety Concerns Web Portal & Dashboard



# Safety Concerns Tracking Log

- Method of reporting
- Safety Concerns in Detailed Writing
- Risk ranking using Military Standard 882E

RISK ASSESSMENT MATRIX				
SEVERITY \ PROBABILITY	Catastrophic (1)	Critical (2)	Marginal (3)	Negligible (4)
Frequent (A)	High	High	Serious	Medium
Probable (B)	High	High	Serious	Medium
Occasional (C)	High	Serious	Medium	Low
Remote (D)	Serious	Medium	Medium	Low
Improbable (E)	Medium	Medium	Medium	Low
Eliminated (F)	Eliminated			

Valley Metro Safety Concerns Tracking Log												
Mode	Date	Method of Reporting	Reported by	Concern	Pre Mitigation Risk Ranking	Assigned to (in SSQA)	Action Items Taken	Post Mitigating Risk Ranking	Date Actions Communicated to Concerned Party	Safety Assurance	Status	
Bus	5/11/2023	VH Safety Concerns Website	Nikola Toljok	Bus stop located in the HOV 3 lane close to entrance door.	2E	Rebecca Casella	<p>Facilities department assessed this concern and approached the concerned employee and advised that they would get in touch with the Facility Maintenance Manager, Derek Bradford, to have a site assessment conducted to remove the bus stop.</p> <p>It was also communicated that work that has been completed to the concern that will be done once they received their site approval.</p> <p>5/12/2023: D. Bradford contacted the Safety Department and the concerned employee advised that the bus stop area was empty but will remain until.</p>	7	<p>5/11/2023: Facilities was notified through the VH Safety Reporting Website.</p> <p>5/12/2023: Email communication was made with the Safety Department and the Facility Maintenance Manager.</p> <p>5/12/2023: Facility Manager confirmed to remove all the materials that were in the Safety Department and removed employee.</p>	VH Safety closed the loop with the concerned employee and all items 5/12/2023, the bus stop was removed.	Closed	
Bus	6/5/2023	VH Safety Concerns Email	Christopher Norman	Web floor RED at 9th floor 9th fl.	2D	Larry Borlau	<p>6/5/2023: After receiving the 9th floor Safety Concerns Larry Borlau contacted the concern and assembled the battery for the RED unit not working. Staff were also the RED, and around the Web floor direct to personnel for the closed RED unit on floor 9th fl.</p> <p>6/12/2023: Larry Borlau contacted Rachel Kaufman who in turn contacted Paula Benda to see if they could replace the battery unit.</p> <p>6/12/2023: Rachel Kaufman received notification from Paula Benda (PM) regarding the RED unit that the battery unit could not be replaced. Rachel Kaufman has placed order for a new RED unit for the 9th floor. Larry Borlau has arranged to work with and coordinate with the Web floor direct to personnel for the closed RED unit and informed appropriate staff on 6/12/2023 that it had been purchased.</p> <p>6/14/2023: Contractor Paula Benda replaced outside RED unit with new battery. DVB removed old battery on 10th floor 4th fl.</p>	4E	<p>6/14/2023: Email communication was made from the Safety Department to Mr. Christopher Norman on the concern to date.</p> <p>7/17/2023: Borlau communicated with report to company.</p>	Outgoing repairs have been made as per monthly.	Closed	

# You Spoke, We Listened

- All employees are made aware of reported concerns
- Mitigations that were implemented
- Information listed and summarized

**REPORT**



**SAFETY REPORTING OPTIONS**




- Notify your immediate supervisor
- Call the Confidential Reporting System **833.232.SAFE (7233)**
- Website [safe.valleymetro.org](http://safe.valleymetro.org)





**SCAN ME**

**You Spoke We listened.**

<b>Date of Report:</b>	4/10/2023
<b>Safety Concern:</b>	<p>Pedestrian striping near the 19<sup>th</sup> Avenue &amp; Montebello crosswalk is wider than the opening across track #2. Yellow paint that was previously applied has faded and appears to be the same color as the concrete which may present a tripping hazard.</p>  
<b>Action Taken:</b>	<p>Maintenance-of-Way repainted curb bright yellow to aid in curb identification and reduce the potential for trips/falls.</p> 
<b>Date Closed:</b>	4/13/2023

CALL THE CONFIDENTIAL REPORTING SYSTEM **33.232.SAFE (7233)**



# Hazard Tracking Log

<b>Hazard Tracking Log</b>											
Valley Metro Hazard ID	HAZ Status	Reporting Source	Reporting Person	Date	Time of Event	Date of SSQA Notification	SSO Notification Compliant (within 30 Days)	Location of Hazard	Hazard	Findings	Safety Risk Before Mitigation
HZ1-002-17	3	Incident	Citizen - Manuel Jaramillo 480.949.5268	11/16/2017	5:51	11/16/17	N/A	51st and Washington	Signal Timing Issue	On 11/16/17 @ 05:51 a WB Vehicle in left turn SB lane stopped for a light. Observed an LRV exit yard lead on to WB track. The vehicle received a green arrow prior to the LRV clearing the intersection	3D
HZ1-003-17	3	Incident	Dave Zebro	5/1/2017	13:00	5/1/17	N/A	OMC 605 S. 48th St Phx	OMC Fencing had multiple locations where the fence could potentially be easier to climb because of the surroundings.	Razor wire was needed to secure these identified locations.	3D
HZ1-004-17	3	Incident	Dave Zebro	Ongoing		N/A	N/A	Campbell/Central Platform Station	Vehicles striking island curb in on north side of platform	Re-painting of the island needed.	3C
HZ1-005-17	3	Incident	Dave Zebro	Ongoing		N/A	N/A	19th Ave/Dunlap Crosswalk	Crosswalk striping faded	Re-painting of crosswalk stripes needed. Additional striping to be added.	3D
HZ1-006-17	3	Inspection	Facilities Maintenance			N/A	N/A	Operation and Maintenance facilities	Some OMC staff members are unfamiliar with how to use the emergency P/A system to make announcements during emergencies.	Training and system testing required.	3E

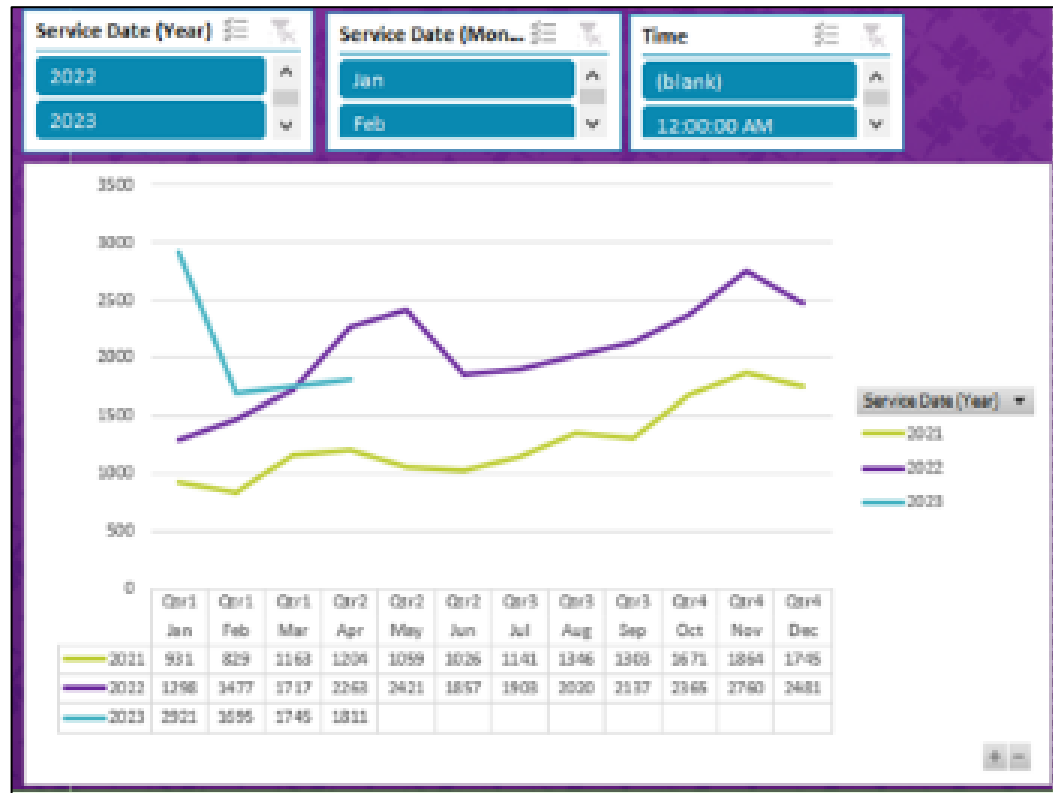
- Hazard ID #
- Date/Time/Notification
- Location of Hazard/Hazard/Findings
- Safety Risk Before Mitigation
- Begin Mitigation Process Date
- Expected Mitigation Close Date
- Safety Risk after mitigation
- Safety Assurance
- Date SSO received Final Investigation Report
- Date of Monthly Status Notification





# Working Together

Providing this information can help support ADOT's risk-based inspections and oversight activity to and for Valley Metro



### 2023 ADOT Tracking Log

#### Accidents

Please provide information regarding all accidents meeting the thresholds established in Revision 7 of the ADOT Program Standard. Cover thresholds and specific reporting units.

VM Internal Tracking No.	Date	Time (Hours:MM:SS)	MTB Mode	Operator ID	Event Type	Collision With	Event Location	Drift Crossing Location	Day	Fatalities				Injuries					
										Message	Passenger	Public	Motor	Message	Passenger	Public	Motor		
C-230010-LRV	11/06/23	1:15:00	JK	275	Collision	LRV	Linnwood	Intermodal	Phoen										
C-231815-LRV	11/17/23	11:58:00	JK	275	Collision	LRV	Tracy	Intermodal	Phoen										
C-230916-SC	10/20/23	12:00:00	DC	430	Collision	LRV	Tracy	Stadium	Tracy										
C-231820-LRV	11/17/23	11:58:00	JK	275	Collision	LRV	Tracy	Intermodal	Phoen										

#### Work Order Main

Work Order ID: MODVM-2023-0451

Job Status: OPEN

Service Status: IN SERVICE

Priority: 1 - High

Task ID	Task Name	Task
1	INSTALL - SERVICE ORDER	-1.00
2	INSTALL - SERVICE ORDER	-1.00

Actions:

- Main Page
- View/Edit Detail
- Print Work Order
- Print History
- Print Results
- Print Work Order
- Commercial Work
- Postings
- Relocation

Work Order Details:

Delay Code: [ ]

Comment: [ ]

Start Delay: [ ]

Notes:

10/10/2023 10:00 AM - STEWARD - STEWARD ANDREW

Service Requests / Defects: 0

Add Manage

Service	Start Time	Reported By	Description	System	Notified
9/11/23	8:32 pm	9/11 ashmad	@1830 Switch 1B went into overload at the MTB crossover dropping routes. @1832 510 notified. @1832 1B normalized at MTB, route re-established. @1832 510/311 on scene.	Signals	510, 311
Location: Interlocking / MO19			Op ID: N/A	Switch Trouble	
LRV	Track/Dir	Train ID	Resolution: 19 18 510/311 called clear of MTB Crossover	Trip	Delay
N/A	Main 1	N/A		N/A	NONE
N/A	EB	Deleted			0
N/A		NO			
Alarm Details (for above item)					
Name: SW1B-OVERLOAD Desc: SWITCH 1B OVERLOAD - MTB Priority: 1 Location: MO19					



Thank you



**Rebecca Zepeda**

Valley Metro Rail  
Safety Specialist

[rzepeda@valleymetro.org](mailto:rzepeda@valleymetro.org)



**Larry Barlow**

Valley Metro Rail  
Safety Specialist

[lbarlow@valleymetro.org](mailto:lbarlow@valleymetro.org)





# RISK BASED INSPECTIONS (RBI) HOW TO MANAGE ACCESS

*NOVEMBER 16<sup>TH</sup>, 2023*



Ohio Department of  
Transportation

# AGENDA

- Introduction
- Overview of GCRTA/Cincinnati/ODOT
- Access to Physical Assets
- Access to Data
- Access to Personnel/Executive Management



# INTRODUCTION

- Cameron Phelps  
[Cameron.phelps@dot.ohio.gov](mailto:Cameron.phelps@dot.ohio.gov)  
614.466.4558
- Kevin Chandler  
[chandler@vitalassurance.com](mailto:chandler@vitalassurance.com)

## Topics we will cover

- What level of access is needed?
- How to work with your RTAs to ensure proper access is obtained.
- How to determine what data is relevant to your RBI and how to ensure you get the data.



# ODOT

- Currently just under 3 FTE (Including Contractors).
- I designated ODOT staff.
- Out of the Central Office.



## 49 U.S.C. § 5329(K)(I)(B)

- A State safety oversight agency, in consultation with each rail fixed guideway public transportation agency that the State safety oversight agency oversees, shall establish policies and procedures regarding the access of the State safety oversight agency to conduct inspections of the rail fixed guideway public transportation system, including access for inspections that occur without advance notice to the rail fixed guideway public transportation agency.

# SPECIAL DIRECTIVE – SSOA REQUIRED ACTION

## FTA-22-41-D004-ODOT

- Submit SSOA Program Standard and citation of Agency Safety Plan language for each RTA that the SSOA oversees that demonstrate comprehensive policies and procedures that address SSOA access to each rail fixed guideway public transportation system for risk-based inspections, both with and without notice. These policies and procedures must be developed in consultation with each rail transit agency the SSOA oversees.



# ACCESS TO PHYSICAL ASSETS

- Collaborative approach with RTAs to determine the appropriate level of access to each RTA's physical assets.
- Two Categories of Access
  - Unsupervised Access – Public spaces within the rail systems.
  - Supervised Access – Access to non-public spaces of rail systems.



# GREATER CLEVELAND RTA

- Mostly At-Grade system with 2 tunnels
- 37 Miles of double track
- Both Heavy Rail and Light Rail Vehicles (27 Light Rail, 39 Heavy Rail)
- 17 Substations
- 52 Stations (34 Light Rail, 18 Heavy Rail)
- 13 Departments
- Transit Police are county-wide authorized

## Rapid Transit System





# ACCESS TO PHYSICAL ASSETS

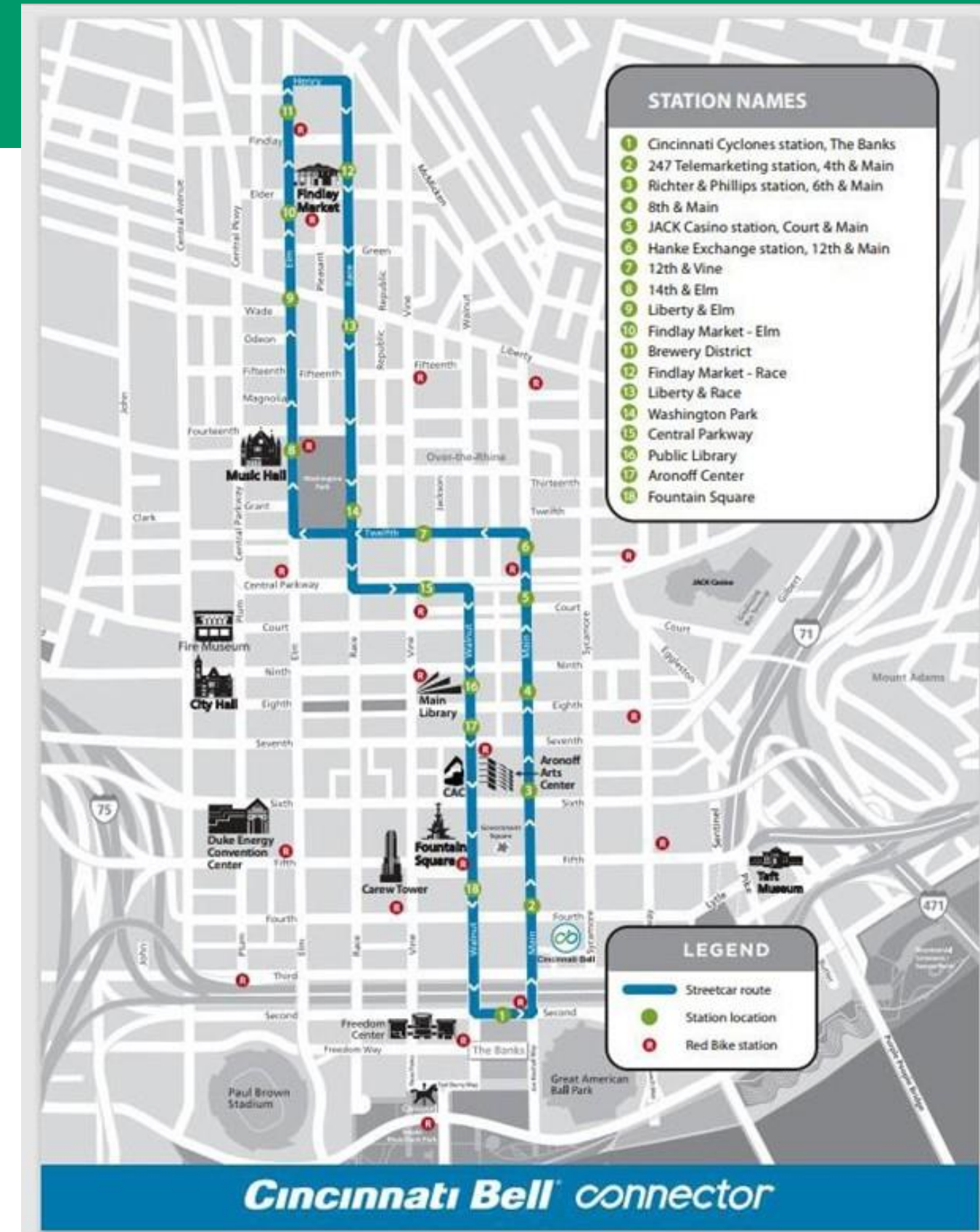
## GCRTA

- ODOT will never intentionally violate GCRTA's Agency Safety Plan.
- ODOT Staff and Contractors badges.
  - The Rail Yard, Central Rail Maintenance Facility, and Downtown Headquarters.
- Appropriate escorts in restricted areas.
  - Substations and The Right of Way.



# THE CITY OF CINCINNATI

- Street-running system.
- 3.6-Mile single track loop.
- 5 Light Rail Vehicles.
- 5 Substations.
- 18 Stations throughout Downtown.
- 4 Departments.
- Utilize the City Police.





# ACCESS TO PHYSICAL ASSETS THE CITY OF CINCINNATI

- ODOT will never intentionally violate their Agency Safety Plan.
- ODOT Staff and Contractors badges.
- Appropriate escorts in restricted areas.
  - Substations.
- ODOT Badge gives full access to City Hall.



# ACCESS TO PHYSICAL ASSETS

## ODOT

- ODOT contract staff (Vital Assurance) with an ODOT badge.
  - Central Office Entry.
- Vital Assurance represents ODOT and can act in ODOT's authority.
- State staff and Contract staff are one in the same.





# CHALLENGES? SOLUTIONS?

- Badge Access Expired.
  - New Tracking Method.
- Disagreements with Access.
  - Collaborations with Executive Management.
- Staff Turnover (SSOA/RTA).
  - Processes in place to ensure consistency.





# SPECIAL DIRECTIVE – SSOA REQUIRED ACTION

## FTA-22-41-D002-ODOT

- Submit Program Standard and relevant documentation that demonstrate the SSOA has the authority and capability to inspect RTA activities, including infrastructure, equipment, records, **personnel**, and **data**.

# ACCESS TO DATA

- Collaborated with RTAs on what Data.
  - Analyzed Data vs Raw Data.
- RBI Program will be guided by the Data.



# ACCESS TO PEOPLE

- Focus more on positive collaboration, not authoritative.
- Access to the Accountable Executive.
  - Executive Management.
- Access to Contractors through Engineering Department.
- Access to Transit Police.
  - Oversight over Security.





# ACCESS TO PERSONNEL

- At GCRTA, ODOT's main conduct is the Safety Department.
  - 6 positions (1 vacant).
  - ODOT has access and meets with all departments.
- At the City of Cincinnati, ODOT's main conduct is the Chief Safety Officer.
  - Transit Coordinator is the backup.
  - Transdev is the Operations contractor.
    - Full access to Transdev Management.



# THANK YOU



- Cameron Phelps  
[Cameron.phelps@dot.ohio.gov](mailto:Cameron.phelps@dot.ohio.gov)  
614.466.4558

# **CPUC Rail Safety Division**

## **Rail Transit Safety Branch**

### **CPUC Inspectors – Denial of Access**

**FTA SSOA-RTA Workshop**

**St. Louis, MO**

**November 14-16, 2023**

**Daren Gilbert, Program Manager**



**California Public  
Utilities Commission**



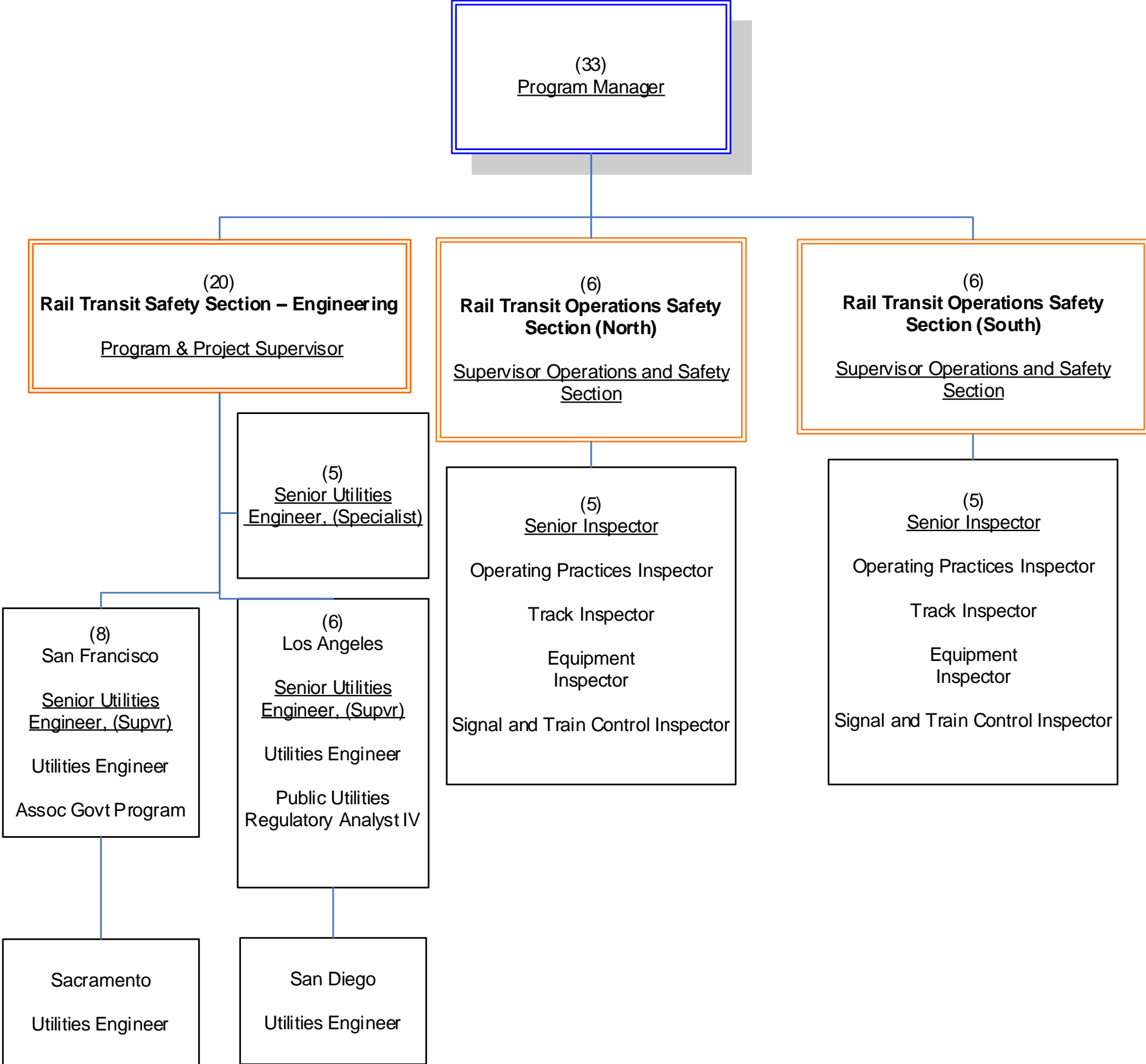
# CPUC Rail Transit Inspections

- In 2008, the CPUC requested to add inspectors to its existing safety oversight program, which was approved by the CPUC, the Governor's office, and the legislature.
- The CPUC's first rail transit inspectors began in 2009, with the primary 4 disciplines: Operating Practices, Signal and Train Control, Track, and Mechanical Equipment (vehicles).
- Follows FRA model to deploy field inspectors to verify compliance with applicable state statutes and Federal and state regulations (General Orders).
- Badges and ID cards were acquired and issued, as well as testing equipment and vehicles.

# CPUC Inspections

- Just after bringing the inspectors on-board, Branch management and Inspectors held meet and greets with each RTA to:
  - Make introductions,
  - Discuss initial forms and documents CPUC inspectors would use,
  - Review initial inspector procedures for conducting various inspection types,
  - Request RTAs make their employees aware of CPUC and our statutory authority and jurisdiction to conduct inspections, and
  - Discuss RTA requests or concerns.

# Rail Transit Safety Branch





# California RTAs Subject to FTA Regulations

- Bay Area Rapid Transit District (BART) – includes Oakland Airport Connector APM
- Los Angeles County Metropolitan Transportation Authority (LACMTA or Metro)
- North [San Diego] County Transit District (NCTD or Sprinter)
- Orange County Transportation Authority (OCTA or OC Streetcar) (currently under construction)
- San Francisco Municipal Transportation Agency (SFMTA or Muni) – includes Muni Cable Cars
- Sacramento Regional Transit District (SRTD)
- San Diego Trolley, Inc. (SDTI)
- Santa Clara Valley Transportation Authority (VTA)

# CPUC Inspections

- Although the RTAs were informed about the inspectors as the request was made and approved, at the beginning, there were often issues with gaining access and cooperation by employees, as the inspection program was rolled out.
  - The entire process was new to RTAs and their employees.
  - Most had never seen a CPUC employee in the past, and some were now interacting directly with CPUC inspectors as part of the inspections.
  - CPUC conducted unannounced inspections, sometimes during overnight hours.

# CPUC Inspections

- Early initial findings often identified failures by particular individuals or groups.
- This resulted initially in some resentment by employees.
- The first few years of the program were sometimes contentious with front line employees.
- There were many examples in the first few years where RTA employees tried to limit inspector access or activities.



# Access Denial Examples

- Just after the inspection program began, the CSO for one agency threatened to have CPUC inspectors arrested if they came to facilities unannounced.
- In a 2009 inspection an RTA employee at a maintenance facility tried to prevent an inspection, despite CPUC identifying itself and providing ID credentials, and made physical threats. CPUC disengaged and reached out to a supervisor, who had security remove the employee from the facility. The employee was suspended for 5 days.
- Spring of 2023, an Operations inspector was riding trains in the cab to observe the operators. At one point an operator questioned the inspector and indicated she was not comfortable allowing that. The inspector logged the incident and exited the train and inspected the following train/operator. The operator had been subject of a prior inspection.

# Access Denial Examples

- RTA maintenance facility, unannounced inspection, October 6, 2013
  - RTA employees informed one of our inspectors about a concern about the frequency of preventive maintenance (PM) of RTA vehicles and management's recordkeeping intended to confuse mileage calculations for PMs.
  - Staff planned an unannounced inspection at the maintenance facility to look into the matter.
  - The Facility Director at the time was out in the field, and when informed came racing back to the shop, and took intimidating actions toward our inspectors and tried to prevent the inspection.
  - Findings included not following blue flag safety protocols and threatening actions towards CPUC inspectors.
  - A formal proceeding was initiated (I.14-01-005)
  - Agency was fined \$10,000, directed to correct the blue flag compliance issue and to have agency management work with CPUC management to resolve regulatory issues.

# Access Denial Examples

- Recently, in 2022, an Operations Inspector was denied access two times in the same day: first by a station agent and then at the OCC.
- At one agency a new safety department employee mistakenly believed that he could prevent any inspection activities until someone from the safety department could be present.
- Recently an Operations inspector approached an operator and identified himself, and indicated he'd like to conduct a brief ride in the cab to conduct an inspection. The operator accommodated the CPUC inspector and called OCC to notify them of the inspector's presence in the cab. It was the controller at OCC that repeatedly questioned the operator about allowing the inspector in the cab. The operator rightfully noted he was just informing OCC, not requesting permission.
- GO 172 (Personal Electronic device prohibition) compliance checks are sometimes denied.



# Access Denial

Since CPUC has broad statutory authority to inspect facilities under CPUC jurisdiction, in all cases CPUC staff provided sufficient authorities to the RTAs early on, and simply contacted Safety Department to inform them of the denial.

- Inspectors are instructed to explain clearly their authority, identify the RTA employees involved, and record the denial on the inspection form.
- Inspectors are advised not to become confrontational with RTA employees.
- Work with RTA management to resolve.

# Access Denial

The primary ongoing concerns relate to:

- Large agencies with large employee numbers, particularly as it relates to our Operations inspectors who interact with Operators (including riding in the Cab), station agents, and RTA control center staff, etc. some of which have not always provided access as required.
- Newer employees who may not have encountered CPUC in the past, and who may not recall initial training that should have included an orientation to regulatory inspections, and exposure to CPUC IDs/badges and background.
- GO 172 Compliance checks are a frequent source of employee non-cooperation.

# Current Status of RTA/CPUC Inspections and Access

- Access denials are infrequent now but can still occur.
- RTA staff are now largely used to seeing, and occasionally encountering CPUC inspectors.
- Since the program began in 2009, the RTAs and CPUC staff have developed a mutual understanding and the relationship between inspectors and RTAs is mostly going smoothly.
- CPUC Inspection teams and RTA managers and supervisors have become used to interacting and for the most part RTA personnel are comfortable interacting with CPUC inspectors and other staff.
- We are updating protocols under the RBI Special Directive for CPUC inspectors when confronted with access denials.



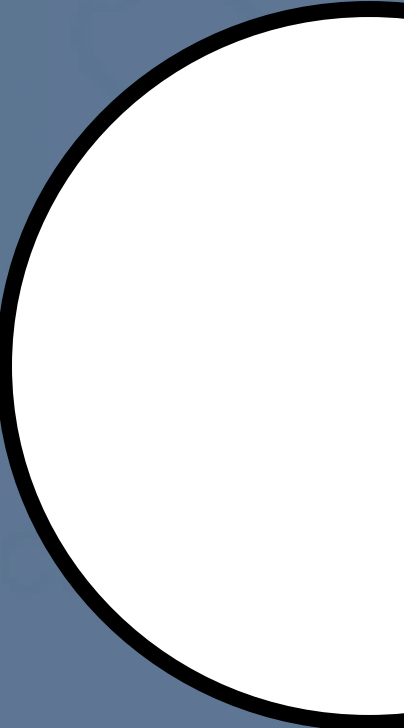


Daren Gilbert  
California Public Utilities Commission  
[Daren.gilbert@cpuc.ca.gov](mailto:Daren.gilbert@cpuc.ca.gov)



**Commonwealth of Massachusetts  
Department of Public Utilities  
Rail Transit Safety Division**

**MBTA March 2023 Systemwide Slowdown  
2023 FTA SSOA/RTA Workshop  
November 16, 2023**



- DPU Strategy Shift
- SSOA Program Development
- Engagement/Collaboration
- March 2023 Slowdown
- Discussion / Q&A



*In 2022, 214 million people traveled on the MBTA. MBTA is the 4<sup>th</sup> largest rapid transit system in the country.*





On January 3, 2023, the Massachusetts Department of Public Utilities (DPU) created the Rail Transit Safety Division (RTSD).

- Previously, DPU's Transportation Oversight Division – which also oversees common carriers (bus, moving, and towing companies) in Massachusetts – housed the state safety oversight (SSO) program.
- In December 2022, there were 9.5 full-time equivalent (FTE) staff.
- In November 2023, there are 18.5 FTE, which is a near-doubling in less than one year.
- Following a series of safety incidents and a 2022 Safety Management Inspection (SMI) by the FTA, DPU established the RTSD.

DPU's RTSD oversees the safety of light and heavy rail equipment and operations of the Massachusetts Bay Transportation Authority (also known as MBTA or "the T").



*Boston's South Station, home of the DPU's RTSD, the designated SSO Agency.*

*Photo courtesy of MBTA*



## Targeted Objectives and Strategy:

- Reduction of Fatalities/Serious Injuries
- Zero National Transportation Safety Board (NTSB) investigations
- Ensure transparency in data reporting from the MBTA to the DPU
- Reduction of MBTA employee injury rates
- Reduction in MBTA rules violations

## Identify the Workforce and Talents of the SSOA:

- Workload assessment conducted
- Assessment determined staffing level need of 17 FTEs, including consultant support, by July 2023
- Engineers
  - Discipline experts of rail transit: Signals, Track, Power, Vehicles
- Compliance Officers
  - Experts in investigation, oversight, compliance, and fact finding



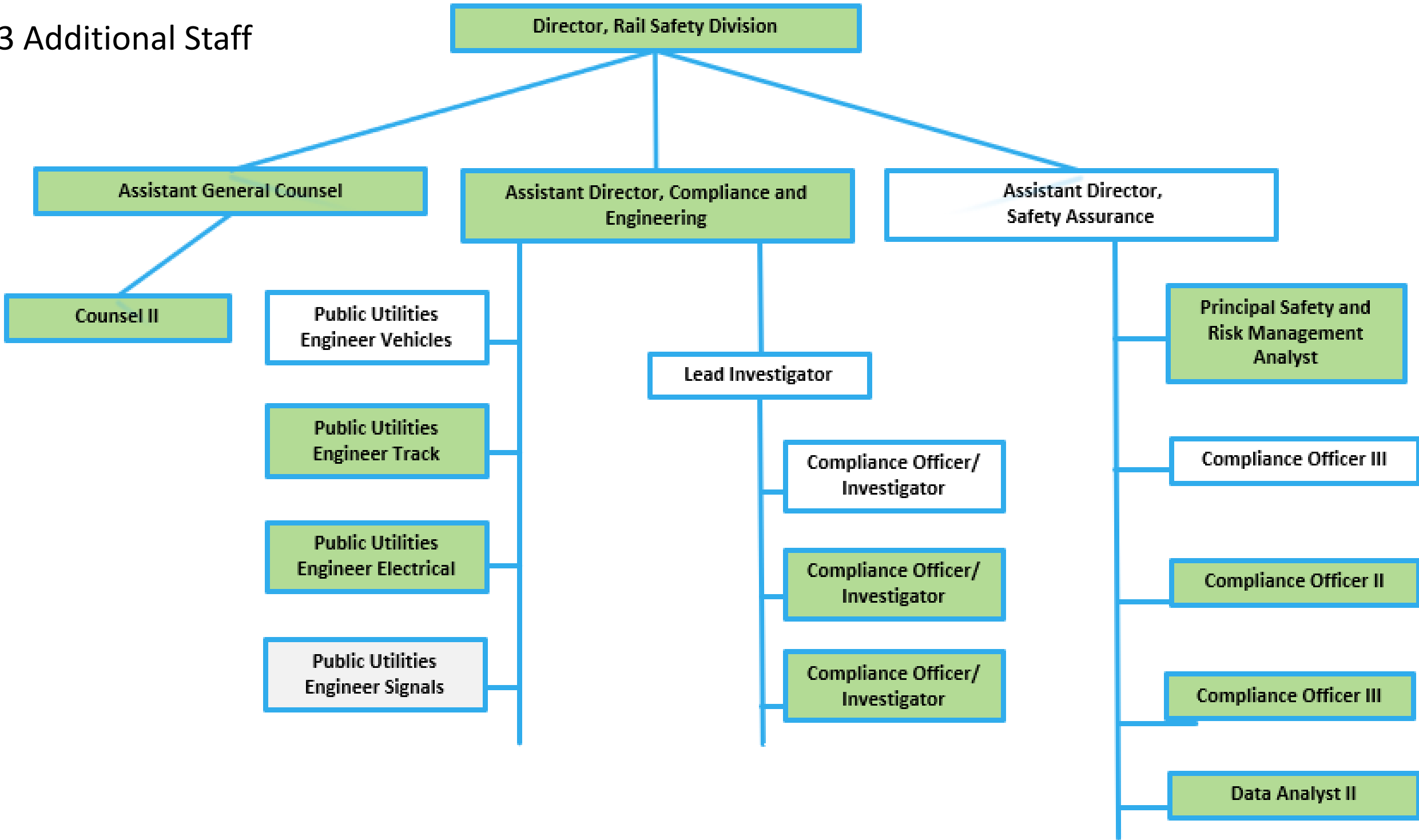


# SSOA Staffing Development

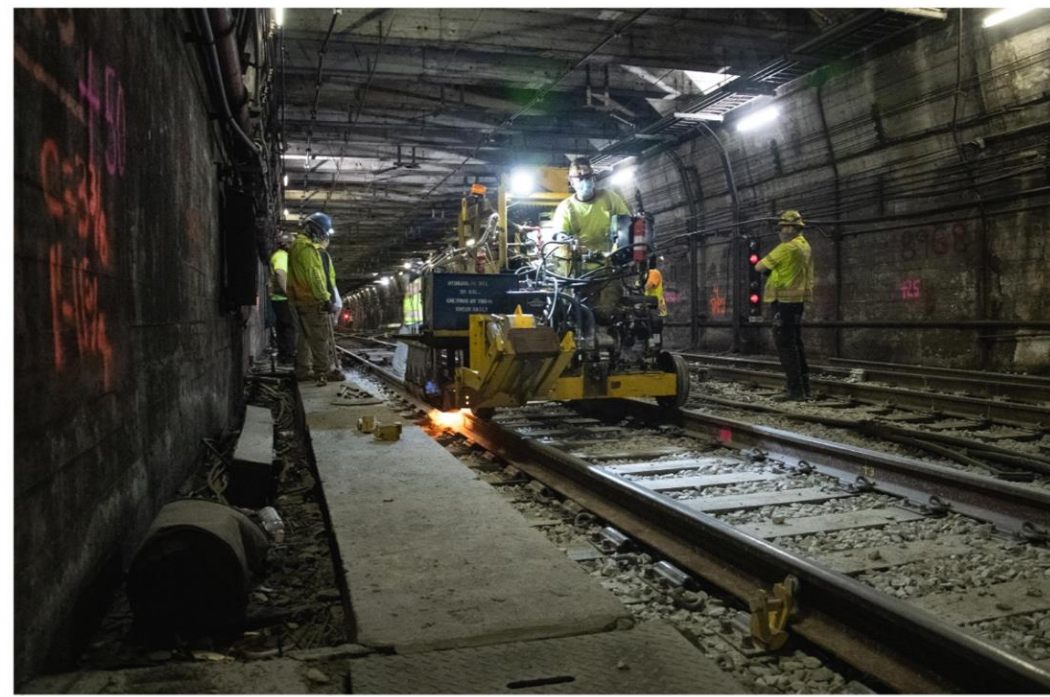


2022 Staff

2023 Additional Staff







## Field Engagement

DPU staff are:

- track-walking the MBTA's entire heavy and light rail system;
- monitoring right-of-way worker protection practices to keep MBTA employees, contractors, and customers safe; and
- reviewing procedures: operations, track inspections.

## Data Reporting

DPU is:

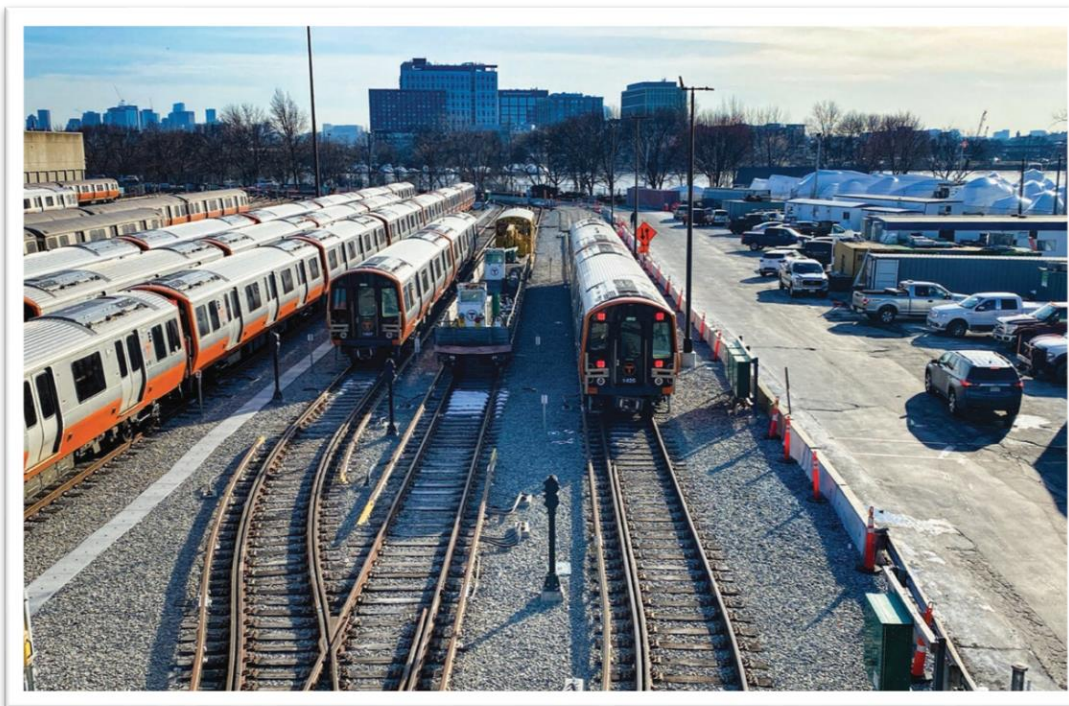
- focused on data-driven decision making;
- using data to develop an understanding of MBTA hazards and risks; and
- using data to perform probable cause analysis, review month-over-month trends.

## Investigation

All RTSD staff are:

- performing root cause analysis of MBTA Safety events; and
- reviewing internal MBTA documentation.





## On-Site Activity

DPU responds to all events that require a field oversight response, including all FTA-reportable events.

DPU conducts weekly track walks reviewing personal protective equipment (PPE), infrastructure, and rules compliance.

## Collaborative Meetings

DPU and MBTA meet weekly as an entire team and at the leadership level.

## Documentation Review

Requests for information that follow field engagement now require MBTA to review its material prior to submission to DPU.





In early March 2023, DPU personnel performed a track walk in an area not related to the FTA's 2022 SMI. This section of track had a high number of speed restrictions in place. The purpose of the track walk was to confirm compliance with the MBTA's Agency Safety Plan.

DPU track engineers identified numerous concerns. Following the walk, on March 6, 2023, DPU issued a request for information for geometry inspections and associated speed restrictions to confirm that MBTA was aware of the poor track conditions.

MBTA provided reports on March 8 for both August 2022 and February 2023 with several urgent and priority conditions noted.

## MBTA Geometry Inspection Results

Description	Engineering Station (ft)	Value (in)	Length (ft)	Speed (mph)	TSC	posted Speed (mph)	Exception Color	Response Action
WP	36+36.333	2.42	53.15	10.52	C	25	Yellow	PRIORITY
TW	37+50.106	-1.52	31.57	10.62	E	40	Yellow	PRIORITY
WG	40+74.403	57.34	22.28	11.05	T	40	Yellow	PRIORITY
WG	42+11.475	57.35	44.4	12.5	T	40	Yellow	PRIORITY
WG	43+71.812	57.39	11.71	12.24	T	40	Yellow	PRIORITY
WG	44+00.737	57.32	22.11	12.47	T	40	Yellow	PRIORITY
WG	44+83.128	57.5	18.6	12.46	T	40	Red	URGENT
WG	45+14.744	57.34	9.77	12.57	T	40	Yellow	PRIORITY
WG	46+16.098	57.27	7.44	12.13	T	40	Yellow	PRIORITY
WG	47+12.452	57.41	12.89	12.3	T	40	Yellow	PRIORITY
WG	54+32.186	57.28	16.52	11.65	T	40	Yellow	PRIORITY
WG	56+98.042	57.31	15.39	7.86	T	40	Yellow	PRIORITY
TW	62+93.771	1.76	20	2.09	B	40	Red	URGENT
RP	73+17.65	2.66	54.87	9.37	B	25	Yellow	PRIORITY
TW	73+96.978	1.87	59.55	10.43	B	25	Red	URGENT
WP	81+29.647	2.3	25.2	8.02	C	25	Yellow	PRIORITY
WG	83+92.67	57.34	12.25	9.11	E	25	Yellow	PRIORITY
WG	85+84.719	57.3	8.91	10.99	T	25	Yellow	PRIORITY
WG	89+80.499	57.26	42.81	12.82	T	40	Yellow	PRIORITY
TW	95+07.109	1.57	45.29	13.35	B	40	Yellow	PRIORITY
WG	95+45.213	57.43	25.53	13.35	B	40	Yellow	PRIORITY
WG	96+08.082	57.32	31.46	13.66	B	40	Yellow	PRIORITY
WG	97+02.49	57.28	10.84	14.76	C	40	Yellow	PRIORITY





*Photo depicting rail end batter*

*Photo courtesy of DPU Staff*

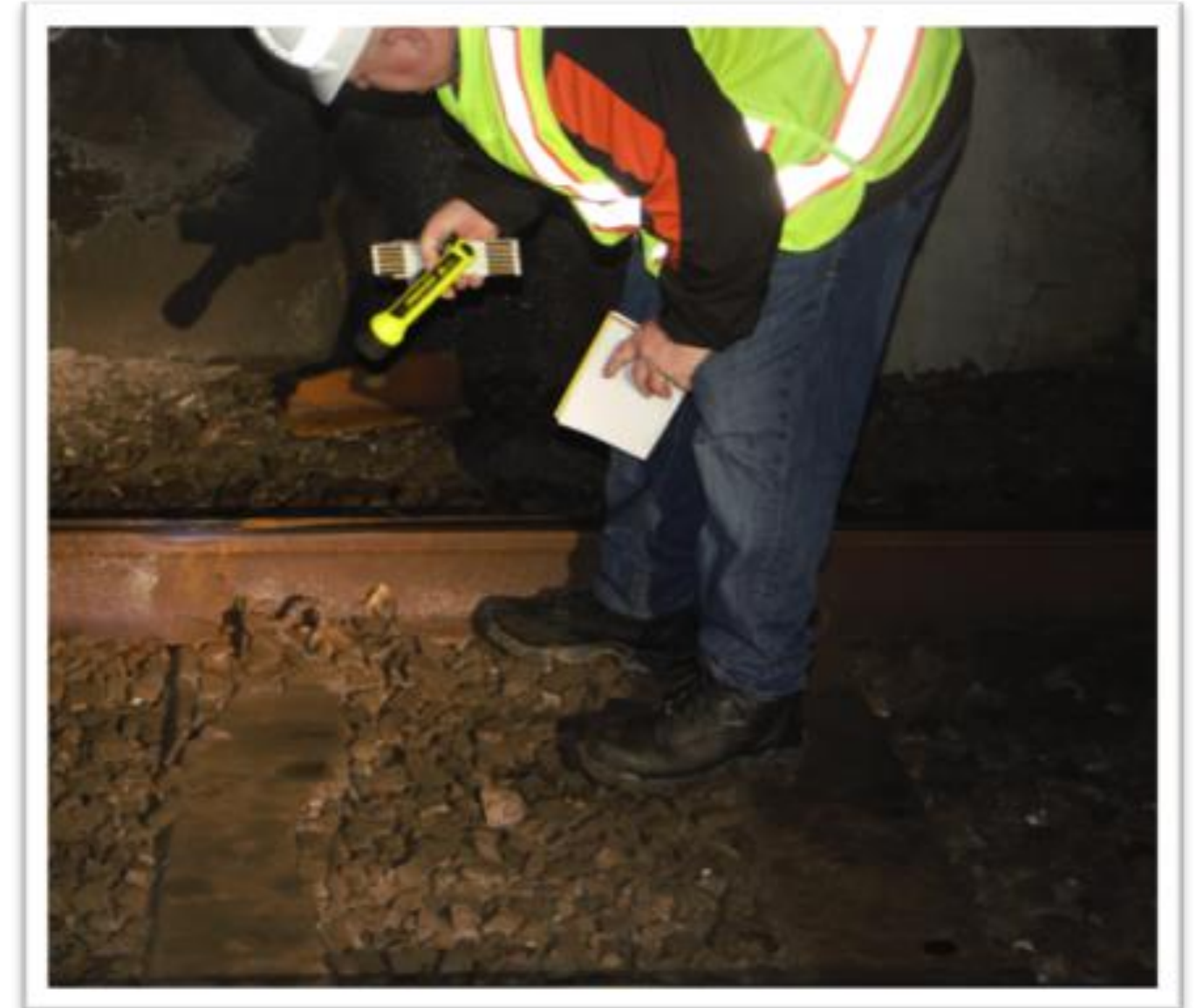


DPU's review of geometry reports found 71 Red conditions (requiring a 24-hour fix) and over 1,000 Yellow conditions (priority conditions requiring an expedited response in accordance with MBTA standards).

As a result of the track walk and review of the geometry reports, DPU issued 6 directives concerning:

- Third Rail Insulators
- Electrical Boxes
- Headlights
- Personal Protective Equipment Briefing
- Priority 1 Track Defects
- Overshooting Platform

DPU also required MBTA to provide documentation on each condition identified in the geometry report to indicate it was complete.



*A DPU track engineer examines running rail.*

*Photo courtesy of DPU Staff*



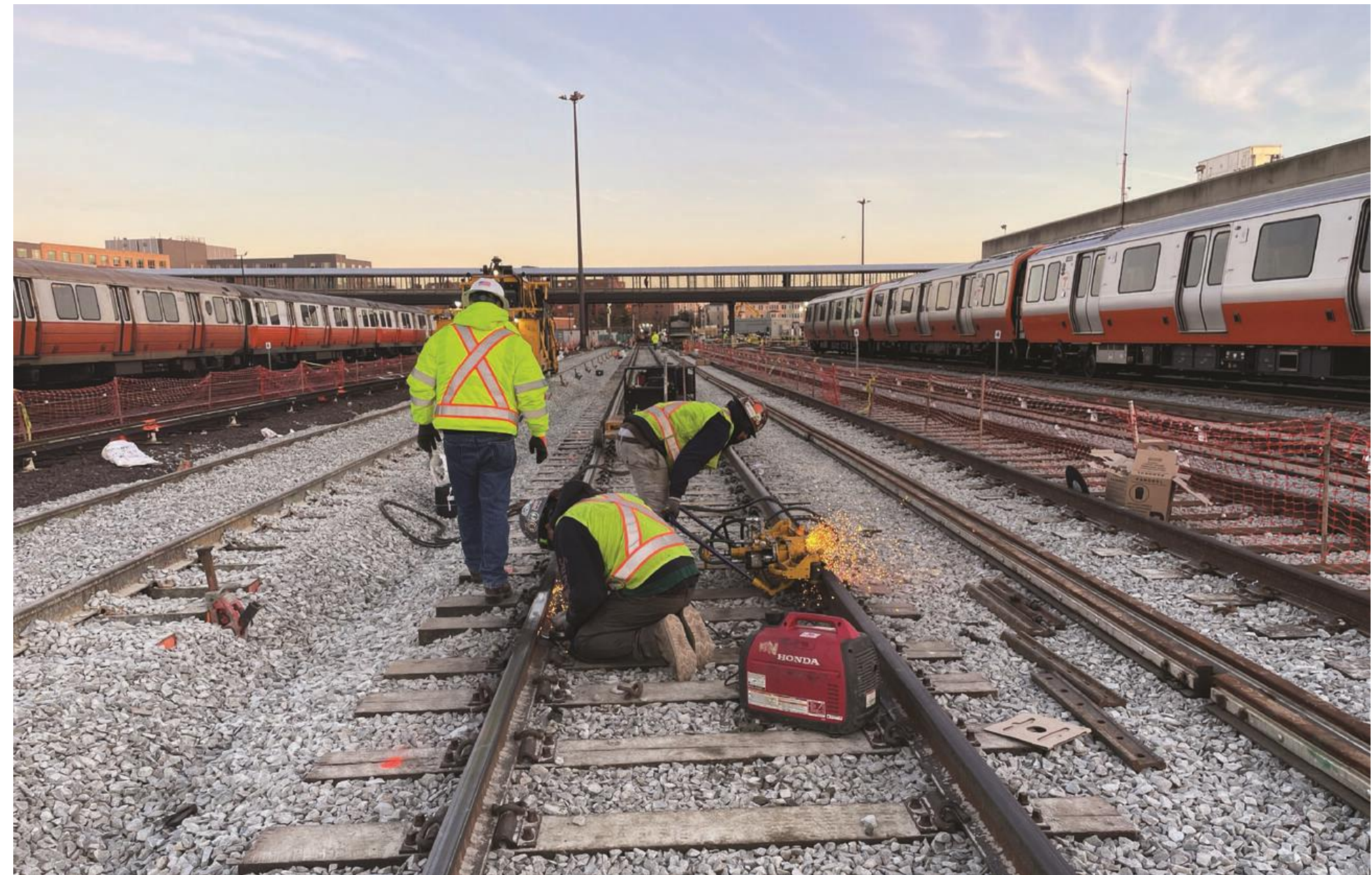
On the evening of March 9, 2023, MBTA announced a “systemwide slowdown” due to track geometry defects, with global speed restrictions between 10 and 25 mph on all heavy and light rail lines. For reference, normal speed varies by line but tops out at 40 mph.

Global restrictions were lifted the following day, March 10, on the heavy rail lines (Red, Orange, and Blue).

On March 17, global speed restrictions were lifted on the Mattapan Trolley light rail.

On March 19, global speed restrictions were lifted on the Green Line light rail.

On all lines, block restrictions remain in place.



*Trackwork at MBTA's Wellington Yard*

*Photo courtesy of MBTA*





*Photo courtesy of MBTA*

DPU can be found online at [www.mass.gov/DPU](http://www.mass.gov/DPU)  
To reach the RTSD by email, send a message to [DPU.Rail@mass.gov](mailto:DPU.Rail@mass.gov)

**Thank you!**





# Questions?

