

1.0 INTRODUCTION AND PURPOSE

1.1 PURPOSE

This Track Access Guide establishes the standardized procedures, communication protocols, and safety requirements for roadway workers accessing track areas under the Federal Transit Administration (FTA) Roadway Worker Protection (RWP) Program. It defines responsibilities, radio communication format, and required personal protective equipment (PPE) to ensure safe and coordinated operations between field personnel and the Operations Control Center (OCC).

1.2 SCOPE AND APPLICABILITY

This guide applies to all Valley Metro employees, contractors, and authorized personnel who perform inspection, maintenance, construction, or operational support activities within the light rail or streetcar alignment. It encompasses all mainline, yard, and streetcar segments designated as controlled track under OCC jurisdiction.

The procedures outlined herein are applicable to:

- Track and infrastructure maintenance (Track, Signal, Traction Power, and Facilities departments)
- Vehicle operations and training activities requiring access to the guideway
- Emergency response and recovery operations coordinated with OCC
- Third-party or contractor work authorized through the RWP permit and access control process

This guide is intended to ensure full compliance with FTA 49 CFR Part 674, FRA 49 CFR 214 Subpart C (as harmonized), and Valley Metro's System Safety Program Plan (SSPP). All personnel accessing the right-of-way must comply with the procedures contained herein to maintain the safety of workers, train operators, and the traveling public.

1.3 REGULATORY FRAMEWORK

This Track Access Guide is developed in alignment with federal, state, and local regulatory requirements governing roadway worker safety within rail transit environments. The following frameworks and standards establish the foundation for Valley Metro's Roadway Worker Protection (RWP) Program:

1. **Federal Transit Administration (FTA)** – 49 CFR Part 674, State Safety Oversight (SSO)
 - a. Requires each rail transit agency to implement a Safety Management System (SMS) and ensure worker protection under the agency's System Safety Program Plan (SSPP).
 - b. Establishes oversight responsibilities for the State Safety Oversight Agency (ADOT SSO).
2. **Federal Railroad Administration (FRA)** – 49 CFR Part 214, Subpart C – Roadway Worker Protection
 - a. Provides harmonized guidance for roadway worker safety applicable to light rail systems operating under FTA jurisdiction. (1st Ave & Ash Crossing)
 - b. Defines requirements for on-track safety, worker qualification, and communication with the control center.
3. **Occupational Safety and Health Administration (OSHA)** – 29 CFR Part 1910 and 1926
 - a. Establishes baseline safety and health requirements for construction, maintenance, and general industry activities performed within or adjacent to the rail right-of-way.
4. **Arizona Department of Transportation (ADOT) State Safety Oversight (SSO)**
 - a. Serves as the designated oversight authority for Valley Metro Rail.
 - b. Reviews and approvals all updates to the RWP Program, Track Access Guide, and associated procedures to ensure compliance with FTA Part 674 requirements.
5. **Valley Metro Internal Standards and Procedures**
 - a. Agency Safety Plan (ASP)
 - b. Standard Operating Procedures (SOP 100–2300 Series)
 - c. Safety Event Investigation and Corrective Action Program (CAP)
 - d. Real Time Risk Solutions (RTRS) Job Briefing and Access Authorization System

Together, these regulations and standards ensure that all roadway worker activities conducted within the Valley Metro system are performed safely, systematically, and in compliance with federal and state oversight expectations.

1.4 PROGRAM OBJECTIVES

The Valley Metro Roadway Worker Protection (RWP) Program and this Track Access Guide are designed to establish a comprehensive, systemwide approach to worker safety within all rail and streetcar alignments. The objectives of this program are to:

1. Protect Roadway Workers and Rail Operations
 - a. Prevent employee injury, equipment damage, and unsafe conditions by ensuring that no worker, vehicle, or equipment is exposed to uncontrolled train movements.
2. Standardize Safe Access Procedures
 - a. Provide uniform processes for requesting, receiving, and releasing track access authority through the Operations Control Center (OCC).
 - b. Ensure consistent communication and coordination between field personnel and OCC during all maintenance, inspection, and construction activities.
3. Maintain Compliance with Federal and State Regulations
 - a. Fulfill the requirements of FTA 49 CFR Part 674 and FRA 49 CFR 214 Subpart C by establishing clear on-track safety procedures, worker qualification requirements, and defined lines of authority.
4. Promote a Safety Management System (SMS) Culture
 - a. Reinforce proactive hazard identification, risk assessment, and mitigation practices throughout all phases of track and systems maintenance.
 - b. Encourage employee participation, hazard reporting, and continuous improvement in accordance with the agency's System Safety Program Plan (SSPP).
5. Enhance Interdepartmental Coordination
 - a. Facilitate safe interaction among Valley Metro departments—including Track, Signal, Traction Power, Facilities, Operations, and Security—when working within or adjacent to the guideway.
 - b. Ensure that all work activities are compatible with train operations and OCC control requirements.
6. Ensure Contractor and Third-Party Compliance
 - a. Require all contracted personnel and third-party entities perform work within Valley Metro right-of-way to meet the same safety, training, and procedural standards as Valley Metro employees.

7. Support Emergency and Recovery Operations

- a. Define safe access and communication protocols during incidents, emergencies, or system disruptions to support timely and coordinated recovery efforts.

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2.0 ROLES, RESPONSIBILITIES, AND DEFINITIONS

This section defines the personnel roles, authorities, and responsibilities essential to safe roadway worker operations under Valley Metro's Roadway Worker Protection (RWP) Program. Understanding each role ensures consistent communication, proper protection, and compliance with FTA 49 CFR Part 674, FRA 49 CFR Part 214, and Valley Metro's System Safety Program Plan (SSPP).

2.1 OPERATIONS CONTROL CENTER (OCC)

The OCC is the centralized authority for controlling all train movements, track access, and protection across Valley Metro's light-rail and streetcar systems.

Responsibilities include:

- Issuing, recording, and releasing all track-access authorities.
- Coordinating train movements and communicating protection limits to operators.
- Maintaining continuous radio contact with field personnel during protection.
- Ensuring no train movement enters an active work zone without confirmed clearance.
- Logging all work-zone activities and reporting any deviation from authorized limits.

2.2 ROADWAY WORKER-IN-CHARGE (RWIC)

The RWIC is the qualified individual designated to establish, maintain, and release on-track safety for each work group.

Responsibilities include:

- Acting as the single point of contact with OCC.
- Requesting, verifying, and releasing protection limits.
- Conducting pre-work job briefings and ensuring signatures in Real Time Risk Solutions (RTRS).
- Ensuring all workers understand limits, hazards, and communication protocols.
- Maintaining visual control of the work zone and personnel.
- Releasing protection only after verifying all workers and equipment are clear.

2.3 ROADWAY WORKERS

A Roadway Worker is any employee or contractor whose duties place them on, under, or adjacent to track areas where there is potential exposure to train or electrical hazards.

Responsibilities include:

- Completing required RWP training and annual recertification.
- Communicating work location, limits, and duration to the RWIC and OCC.
- Remaining within designated safe zones of refuge and using required PPE.
- Maintaining constant situational awareness.
- Reporting hazards, near misses, or protection concerns immediately to OCC and supervision.

2.4 MAINTENANCE OF EQUIPMENT (MOE)

MOE personnel perform inspection, servicing, testing, and repair of light-rail vehicles, support vehicles, and shop systems that interface with the mainline or yard tracks.

Responsibilities include:

- Coordinating with OCC before moving any vehicle or test train beyond yard limits.
- Maintaining radio communication during any movement on controlled track.
- Verifying that all energized systems are isolated before maintenance.
- Performing inspections, troubleshooting, or propulsion/brake tests only under verified OCC clearance.
- Using chocks, wheel restraints, and proper PPE when working under or around vehicles.

Notes:

MOE staff must hold current RWP certification when entering controlled track. Test-track and mainline work may require RWIC oversight.

2.5 MAINTENANCE MACHINE OPERATORS (MMO)

MMOs operate on-track roadway maintenance machines, hi-rail vehicles, and mechanized tools used for track, signal, or power maintenance.

Responsibilities include:

- Completing RWP and equipment-specific certification under FRA 214 Subpart D standards.
- Inspecting machines daily for breaking, lighting, and warning-device functionality.
- Obtaining OCC authorization prior to fouling any track.
- Maintaining continuous communication with OCC and RWIC.
- Operating within authorized limits and at speeds that allow stopping within half the range of vision.
- Using ground guides or flaggers when visibility is obstructed.
- Securing equipment (brakes applied, keys removed) when unattended.

2.6 WATCHPERSONS / LOOKOUTS

A Watchperson/Lookout is a trained roadway worker whose sole duty is to warn workers of approaching trains or equipment when OCC-controlled protection is not in effect or when supplemental protection is required.

Responsibilities include:

- Maintaining an unobstructed view of train approaches.
- Issuing clear, distinctive audible or visual warnings providing sufficient time to reach safety.
- Remaining free from any distracting duty.
- Keeping radio contact with the RWIC or OCC when part of coordinated work.

Notes:

- Lookout protection may be used only where sight distance and conditions ensure adequate warning time.
- It cannot replace OCC protection in interlockings or limited-visibility areas.

2.7 FLAGGERS

Flaggers control vehicles, pedestrian, or train movement through work zones, intersections, or crossings where automatic warning systems or OCC control alone cannot ensure safety.

Responsibilities include:

- Using approved hand signals, red flags, lanterns, or STOP/SLOW paddles.
- Coordinating with the RWIC and OCC to establish or release flag protection.
- Remaining in clear view of both the work area and approaching movements.
- Stopping all movements until safe passage is confirmed.

Notes:

- Flaggers are required during grade-crossing malfunctions, roadway detours, or when sightlines are obstructed.
- They may perform no other duties while flagging is active.

2.8 LONE WORKERS

A Lone Worker is a qualified roadway worker performing duties independently without immediate assistance.

Responsibilities include:

- Contacting OCC before entering the alignment and providing exact location, limits, and duration.
- Maintaining continuous radio communication with OCC.
- Remaining within defined safe zones and clearing the track if communication is lost or a train is observed.
- Completing and recording a Lone-Worker Job Briefing in RTRS.

Notes:

- Lone-worker protection is allowed only where OCC can maintain direct communication and visibility is sufficient for safety.

2.9 SUPERVISORS AND MANAGERS

Supervisors and managers ensure employee qualification, safe work planning, and compliance with all RWP requirements.

Responsibilities include:

- Confirming valid RWP certifications before field assignment.
- Reviewing and approving job briefings and access requests.
- Conducting field safety observations and audits.
- Initiating corrective actions and follow-up reviews after incidents.

2.10 CONTRACTORS AND THIRD-PARTY PERSONNEL

External entities performing work on or near the alignment must comply fully with Valley Metro's RWP Program.

Responsibilities include:

- Designing a qualified RWIC for all on-track activities.
- Ensuring personnel possess RWP certification and required PPE.
- Coordinating work access through Valley Metro's authorized representative and OCC.

2.11 TRAIN OPERATORS

Train Operators maintain vigilance for workers, work-zone signage, and signal indications while following all OCC directives.

Responsibilities include:

- Operating at restricted speed through active work zones.
- Communicating with OCC regarding any observed personnel or obstructions.
- Reporting unusual or unsafe conditions immediately.

2.12 DEFINITIONS

- **Controlled Track:** Any mainline, yard, or streetcar track under OCC jurisdiction.
- **Protection Limits:** Authorized boundaries where on-track safety is established.
- **Restricted Speed:** A speed allowing a train or machine to stop within half the range of vision.
- **Safe Zone of Refuge:** A designated area clear of the dynamic envelope of train or machine movement.
- **Job Briefing:** A pre-work discussion covering scope, hazards, protection type, and emergency actions.
- **Lone Worker:** A qualified roadway worker performing duties independently under OCC oversight.
- **Maintenance of Equipment (MOE):** Personnel responsible for vehicle or equipment servicing within controlled areas.
- **Maintenance Machine Operator (MMO):** A qualified employee operating or maintaining on-track machines or hi-rail vehicles under authorized protection.

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3.0 COMMUNICATION AND COORDINATION REQUIREMENTS

Effective communication and coordination between field personnel and the Operations Control Center (OCC) are essential to ensuring roadway worker safety and maintaining uninterrupted train operations. This section defines the standard communication procedures required under Valley Metro's Roadway Worker Protection (RWP) Program.

3.1 GENERAL COMMUNICATION PRINCIPLES

- All communications concerning track access, protection, and movement authority shall be conducted using clear, concise, and standardized radio terminology.
- Every worker communicating with OCC must identify:
 - Unit call number
 - Track number
 - Type of work (inspection, maintenance)
 - Requested limits of authority (station-to-station, interlock-to-platform, etc.)
- All radio communication must be acknowledged by both parties. No instruction or protection is considered active until confirmation is received and repeated back verbatim.
- Only authorized personnel holding valid RWP training and current radio privileges may communicate with OCC for track access.

3.2 OCC CALLOUT PROCEDURE

All roadway workers, contractors, and maintenance personnel must contact the Operations Control Center (OCC) prior to entering, occupying, or clearing the alignment.

The following standardized radio procedure ensures clear communication, route protection, and safety compliance.

- Step 1 – Initiate Call “[Unit call number] to OCC.”
- Initiate contact using your assigned unit call number. Wait for acknowledgment before transmitting additional information.
- Step 2 – OCC Response “OCC to [Unit call number].”
- OCC will respond to confirm communication is established.
- Step 3 – Request Track Access “OCC, this is [Unit call number]. Requesting permission to perform [scope of work] on Track [#], [location (if single) or must include starting and ending points if necessary].”

- Clearly state your intended work activity, the track number, and precise start and end limits (using crossovers, stations, or interlockings as reference points).
- Step 4 – OCC Authorization OCC will confirm route securing, apply exit inhibits (if applicable), and issue permission to occupy the alignment. Do not enter the trackway until verbal authorization is received.
- Step 5 – Work Completion Upon completion, notify OCC:
- “OCC, this is [Unit call number]. Work complete, clear of track [#] between [start] and [end].” OCC will acknowledge clearance and release any route protection.

3.3 UNIT CALL NUMBERS

Unit #	Department	Description
300	Track Maintenance	Track Maintainers
400	Traction Power	Traction Power Technicians
500	Signal Maintenance	Signal Technicians
600	Operations	Train Operations
700	Security	Security Personnel
800	Facilities	Facilities Maintenance / Cleaners

3.4 LINE SECTIONS

3.4.1 BLUE LINE (A LINE) – TRACK 1 EAST / TRACK 2 WEST

- BL-A-1: Gilbert Tail Track – Edgemont
- BL-A-2: Edgemont – Dobson
- BL-A-3: Dobson – Tempe Bridge
- BL-A-4: Tempe Bridge – 27th Street
- BL-A-5: 27th Street – 3rd Avenue

3.4.2 ORANGE LINE (B LINE) – TRACK 1 SOUTH / TRACK 2 NORTH

- OL-B-1: Baseline Tail Track – Sherman
- OL-B-2: Sherman – McDowell
- OL-B-3: McDowell – Montebello
- OL-B-4: Montebello – Metro Tail Track

3.4.3 TEMPE STREETCAR TRACK - HAYDEN FERRY – DORSEY

3.5 RADIO CHANNEL ASSIGNMENTS

System	Radio Channel	Notes
A Line	Channel 1	Primary communication for Blue Line operations
B Line	Channel 2	Primary communication for Orange Line operations
Yard / Streetcar	Channel 3	Designated channel for Yard and Streetcar operations
Unused Operations	Channel 4	
LRV Maintenance	Channel 5	Dedicated channel for Track, Traction Power, and Signal Maintenance crews
Maintenance of Way (MOW)	Channel 6	
Security (primary)	Channel 7	Security and law enforcement coordination channel
Security (secondary/backup)	Channel 8	
Emergency ONLY	Channel 9	
Bus Operations	Channel 10	

3.6 CROSSOVER CALL CHECKPOINTS

Blue Line (A Line) – Track 2 (Westbound Sections 1–5) / (Eastbound 5–1)

- BL-A-1: Guthrie, Edgemont
- BL-A-2: Edgemont, Hibbert, Date, Longmore, Dobson
- BL-A-3: Dobson, River, Dorsey, Mill Pocket,
- BL-A-4: Yard Entrance, 27th Street
- BL-A-5: 27th Street, 11th Street, 5th Street, 3rd Avenue Platform

Orange Line (B Line) – Track 2 (Northbound 1–4) / (Southbound 4–1)

- OL-B-1: Cocopah, Hidalgo, Raymond, Sherman
- OL-B-2: Sherman, Jackson
- OL-B-3: Culver, Earll, Pierson, Montebello
- OL-B-4: Montebello, Tuckey, Morten, Dunlap, Mountain Point,

Tempe Streetcar - spring switch to spring switch

- Hayden Ferry Switch 1, 3, 5
- Marina Heights Switch 7, 9
- 9th & Mill Switch 1, 3
- Dorsey Switch 7

Call Checkpoint Step – Defining Work Limits

- Personnel may identify work limits using interlockings, streets, or stations as reference points when communicating with OCC.

This provides flexibility for defining work zones while maintaining OCC clarity and control. (see Appendix P)

3.7 CONTRACTOR PROTOCOL

Contractors must contact OCC using their assigned permit number and provide the following:

- Company name and permit ID
- Work scope and location limits
- Start and estimated end time
- Responsible person on-site

OCC will verify authorization before granting access.

3.8 DOWNTOWN HUB COORDINATION

Line	Radio Channel	Location	Switch ID
A	1	Washington	3A
A	1	Jefferson	1B
B	2	Central	3B
B	2	1 st Avenue	1A

Notes: Field crews must communicate on the assigned channel for their line and monitor the alternate line channel to ensure safe coordination across interlockings.

3.9 CROSS-LINE COORDINATION

All cross-line or interlocking movements (e.g., transitions between the A Line and B Line, or between revenue and non-revenue tracks) must be coordinated exclusively through OCC Line Controllers.

Personnel shall not assume route protection or clearance without explicit OCC confirmation.

4.0 TRACK PROTECTION AND MOVEMENT

4.1 PURPOSE

This section establishes the safeguards, communication procedures, and operational restrictions required to protect roadway workers and control train movements during maintenance or inspection activities. Track protection and movement control ensure that all on-track work is coordinated through the Operations Control Center (OCC) in accordance with Federal Transit Administration (FTA) Roadway Worker Protection (RWP) standards. All roadway workers, operators, and OCC personnel must adhere to these protocols to prevent conflicting movements and ensure safe separation between workers and trains.

4.2 TYPES OF TRACK PROTECTION

Type	Description	Established By	Typical Use
Exclusive Track Occupancy (ETO)	A defined track segment is removed from train service and occupied exclusively by roadway workers. No train movement is permitted within the established limits	OCC	Major maintenance, signal or track repairs, or multiple-crew work zones
Train Approach Warning (TAW)	A qualified lookout or watchperson provides continuous warning of approaching trains, allowing workers to clear the track prior to train arrival	Watchperson / Lookout	Short-duration or mobile work where ETO is not practical
Working Limits by Verbal Authority	OCC grants verbal authorization to occupy track between defined reference points (interlockings, crossovers, or stations)	OCC	Troubleshooting or short-term inspection requires controlled movement
Station-to-Station Protection	Work activities are confined between two passenger stations under OCC coordination and control	OCC	Rapid response, department-specific activities, or minor maintenance

4.3 RADIO COMMUNICATION FORMAT – SWITCH OPERATION REQUESTS

Signal Technician or Field Crew Request:

“OCC, this is [Unit Call Number] at [Location]. Requesting Switch [Switch ID] to [Normal/Reverse].”

OCC Response:

“Stand clear. Switch [Switch ID] at [Location] going to [Normal/Reverse].”

“Switch [Switch ID] is passing [Normal/Reverse]” or “Switch [Switch ID] is failing [Normal/Reverse].”

Critical Note:

The terms “in correspondence” or “out of correspondence” shall not be used over the radio due to potential misinterpretation. Always use “switch is in Normal” or “switch is in Reverse”.

4.4 ROUTE SECURING AND CONFIRMATION REQUIREMENTS

Before granting or releasing track access, OCC must ensure all switches, routes, and signals within the defined work limits are secured and remain locked against conflicting train movement.

Procedures:

1. OCC verifies no active train movements exist within the requested limits.
2. OCC secures all switches within and adjacent to the work limits.
3. OCC confirms route locking status verbally with the field supervisor or qualified employee-in-charge (EIC).
4. The EIC must repeat back the protected limits verbatim (e.g., “from Edgemont to Hibbert on Track 1”) before work may begin.
5. OCC records the protection in the Track Access Log, including time, limits, protection type, and responsible personnel.

4.5 TRAIN NOTIFICATION AND MOVEMENT CONTROL

To ensure train operators are aware of active roadway worker protection:

- Prior to establishing protection, OCC shall notify all trains operating in the affected limits of the upcoming work zone.
- Upon confirmation of ETO or verbal authority, OCC shall issue an “all-call” to train operators:
 - “Attention all trains, track protection in effect between [Point A] and [Point B] on [Track #]. Maintain vigilance and await further instruction before entering the limits.”
- If train movement is required through or adjacent to the protected limits, OCC must coordinate directly with the EIC to confirm safe passage or clearance of workers.
- Upon clearance, OCC shall issue a closing “all-call” indicating protection has been released and normal operations may resume.

4.6 MAINTENANCE AND OPERATIONS RESPONSE PROCEDURES (UNDER RWP CONDITIONS)

During track protection periods, maintenance and operations personnel must adhere to the following requirements:

1. Access Authorization:
 - a. No employee may enter the alignment without direct OCC authorization under active protection.
 - b. The EIC is responsible for ensuring all workers understand the established limits and method of protection.
2. Switch Operation:
 - a. No manual switch operation shall occur without prior OCC approval.
 - b. The employee requested must receive verbal confirmation that the switch is clear of train movement and safe to operate.
3. Equipment Movement:
 - a. Maintenance machines, hi-rail vehicles, or other equipment may only move within defined working limits.
 - b. The operator must confirm direction of travel and end-of-limits clearance with OCC.
4. Coordination Between Departments:
 - a. When multiple departments (e.g. Track, Signal, MOE) are working within the same limits, a single EIC shall coordinate all movements under OCC oversight.

- b. Department leaders shall communicate intended activities and clearance times to OCC.
5. Emergency Withdrawal:
 - a. If train movement is inadvertently routed into protected limits, the EIC must immediately withdraw personnel to a designated Safe Zone and notify OCC.
 - b. OCC shall issue an immediate “stop all trains” order until protection is verified.

4.7 OPERATIONS CONTROL CENTER (OCC) RESPONSIBILITIES

OCC plays a critical role in maintaining safe separation between roadway workers and train movements.

OCC Duties Include:

- Establishing, recording, and releasing all forms of track protection.
- Verifying the physical security of routes and switch positions.
- Maintaining real-time communication with the EIC and operators.
- Issuing all-call notifications and train movement advisories.
- Logging protection starts and end times, type of protection, and personnel involved.
- Coordinating with supervision and safety staff for incident or near-miss reporting under RWP coverage.



5.0 SPECIFIC RWP PROCEDURES AND PROTOCOLS

This section establishes the standardized procedures and operational protocols required to ensure roadway worker protection (RWP) during all maintenance, inspection, or troubleshooting activities conducted within the alignment. These procedures are based on the Federal Transit Administration (FTA) Roadway Worker Protection Rule and incorporate Valley Metro's specific operating conditions, OCC coordination practices, and departmental responsibilities.

Each subsection defines the step-by-step expectations for establishing track protection, obtaining OCC authorization, maintaining situational awareness, and clearing work limits prior to train movement.

5.1 PRE-WORK PREPARATION

- Conduct a job briefing using approved Job Safety Briefing form.
- Identify work location, limits, and type of protection required (e.g., ETO, TAW, verbal authority).
- Verify radio functionality and ensure all personnel are equipped with required PPE and safety devices.
- Confirm understanding of safe zones and nearest access/egress points.

5.2 OCC COMMUNICATION PROTOCOL

- Contact OCC before occupying track; identify unit call number, location, and work limits.
- Repeat and confirm limits as stated by OCC.
- Maintain open communication throughout the duration of the work.
- Notify OCC immediately upon clearing the track and releasing protection.

5.3 ESTABLISHING TRACK PROTECTION

OCC may authorize one of the following:

- Exclusive Track Occupancy (ETO) – Full removal of track from service for exclusive worker use.
- Train Approach Warning (TAW) – Designated watchperson provides continuous warning.

- Working Limits by Verbal Authority – Controlled access between defined reference points.

Confirm limits using physical landmarks (stations, interlockings, or cross streets).

5.4 LONE WORKER PROCEDURES

- Lone workers must operate under enhanced communication protocols.
- Must establish a defined protection method (TAW not permitted unless second qualified lookout available).
- OCC check-ins at predetermined intervals are mandatory.

5.5 WORK ZONE SAFETY PRACTICES

- Maintain a minimum 10-foot clearance from any energized OCS component unless qualified MOW employee.
- Utilize safe zones of refuge when trains approach.
- Keep tools and equipment clear of the dynamic envelope.
- Report any unsafe condition or near miss immediately to OCC and supervisor.

5.6 POST-WORK REPORTING

- Close out job briefing form with signatures of all participants.
- Release track protection limits to OCC.
- Submit any hazard observations or safety concerns through the Safety Reporting System or RTRS.

5.7 SWITCH OUT OF CORRESPONDENCE PROTOCOL

This section establishes the standardized procedure to be followed when a track switch is out of correspondence, ensuring the safety of all roadway workers, Operations Control Center (OCC) personnel, and operators while maintaining route integrity and compliance with the Federal Transit Administration (FTA) Roadway Worker Protection (RWP) Program).

Procedure:

- Identification: When a switch fails to display proper correspondence, the OCC shall immediately notify field personnel and affected operators.

- Verification: Operators must not attempt to verify switch position from the cab when correspondence is lost.
- Manual Operation: The switch must be manually thrown by qualified personnel under the direction of OCC.
- Switch Cycling: The switch shall be hand-thrown and cycled twice to confirm full mechanical and electrical function before being considered safe for movement.
- OCC Authorization: No train or equipment may pass over the affected switch without direct OCC authorization following verification and confirmation of route integrity.
- Documentation: OCC must record the event in the Switch Out of Correspondence Log, including time, location, personnel involved, and corrective actions taken.

5.8 BROKEN GRADE CROSSING PROTECTION PROCEDURE

This section defines the standardized procedure to be followed when an active grade crossing warning system (bells, lights, or gates) is malfunctioning, ensuring the protection of roadway workers, train operators, and the public while maintaining compliance with the Federal Transit Administration (FTA) Roadway Worker Protection (RWP) Program) and internal OCC operating procedures.

Procedure:

1. Identification
 - a. When a grade crossing gate, bell, or light fails to operate as intended, the OCC shall immediately notify affected operators and field personnel, identifying the crossing location, nature of the malfunction, and any active protection failures.
2. Field Assessment
 - a. Qualified signal or maintenance personnel shall be dispatched to the affected crossing to assess functionality, verify power and signal status, and determine if the failure is mechanical, electrical, or communication-related.
3. Crossing Protection Activation

If automatic protection is unavailable or unreliable:

 - a. A flagger or watchperson shall be positioned at the crossing prior to any train movement.
 - b. The flagger may be equipped with an illuminated red flag (daytime) or red lantern (nighttime), may use hand signals when no flag or lantern available and maintain clear line of sight in both directions.
 - c. Train operators must receive confirmation from OCC that flagging protection is in place before proceeding.
4. Train Operation Over Crossing

- a. Trains shall approach the affected crossing at restricted speed (not exceeding 10 mph) and be prepared to stop short of the crossing if protection is not confirmed.
 - b. Operators must sound the horn continuously until the entire train has cleared the crossing.
 - c. Movement may only proceed upon OCC authorization and confirmation that roadway traffic has been stopped by the flagger or field personnel.
5. Repairs and Verification
 - a. Signal technicians shall perform repairs under OCC coordination.
 - b. Once the crossing warning devices are restored to full operation, OCC shall verify functionality via field confirmation (visual or relay check) before normal train movement resumes.
6. Documentation

OCC must document all events in the Grade Crossing Failure Log, noting:

 - a. Date, time, and crossing location
 - b. Nature of failure (gate stuck, light inoperative, bell failure, etc.)
 - c. Personnel assigned and response times
 - d. Time protection was established and restored
 - e. Final verification and clearance for normal operations
7. Incident Reporting

If the malfunction results in any safety event, near miss, or public exposure, OCC must initiate a Safety Event Notification and forward details to Signal Maintenance, Safety Department, and FTA SSO per reporting timelines.

5.9 OVERHEAD CONTACT SYSTEM (OCS) – DEBRIS ON CONTACT WIRE PROCEDURE

This section establishes the standardized procedure to be followed when debris, foreign material, or obstruction is observed on or near the Overhead Contact System (OCS) contact wire, messenger, or hardware. The purpose is to prevent arcing, damage to traction power components, or hazard to personnel and equipment while maintaining compliance with FTA Roadway Worker Protection (RWP) requirements and Valley Metro Traction Power Safety Protocols.

1. Identification and Initial Notification
 - a. Upon observation of debris (e.g., tree branches, plastic, metallic objects, or foreign materials) on or near the contact wire, the train operator or field personnel shall immediately notify the Operations Control Center (OCC).
 - b. Provide clear details: exact location (by pole number or nearest intersection), direction of travel, and description of debris type and size.
 - c. OCC will log on to the report and notify Traction Power and Signal Maintenance.

2. OCC Action

- a. OCC shall assess operational risk and, if necessary, de-energize the affected OCS section using the nearest Traction Power Substation (TPSS) disconnects.
- b. OCC must halt train movements through the affected zone until the hazard is cleared or isolated.
- c. The affected track and span limits are to be defined and protected through route inhibiting or “no-movement” restriction in the control system.

3. Field Response and Assessment

- a. Traction Power Technicians (qualified employees) shall respond to the site with proper PPE, hot-stick tools, and grounding equipment.
- b. Upon arrival, technicians must conduct a visual assessment from a safe distance to determine if the debris is in contact with energized components.
- c. If arcing, burning, or smoke is observed, maintain a minimum 15-foot approach distance and confirm with OCC that the circuit is de-energized and grounded before approaching.

4. Debris Removal

- a. Only qualified traction power or OCS maintenance personnel may remove debris from the wire.
- b. Use insulated tools or hot-stick equipment; never contact the wire directly, even if de-energized, until grounding is visually verified.
- c. After removal, visually inspect the contact wire and messenger for damage (flattened wire, burn marks, broken droppers, or damaged insulators).

5. System Restoration

- a. Once the area is confirmed clear and inspected, the technician shall notify OCC that the span is ready for re-energization.
- b. OCC will re-energize the OCS section, perform voltage verification, and confirm restoration.
- c. No train or maintenance vehicle shall operate through the area until OCC provides verbal clearance.

6. Documentation

OCC must record the incident in the OCS Incident Log, noting:

- a. Date, time, and exact location (by TPSS and pole number)
- b. Reporting employee / operator ID
- c. Description of debris type and cause (e.g., weather, vandalism, vehicle contact)
- d. Actions taken, time de-energized, and restoration time

- e. Personnel involved and final clearance authorization
- 7. Incident Reporting
 - a. If damage to the OCS or loss of service occurs, OCC shall initiate a Safety Event Notification and notify Traction Power, Safety, and Maintenance Management.
 - b. FTA SSO reporting timelines apply for any event involving energized contact wire damage or public exposure.

5.10 LIGHT RAIL VEHICLE (LRV) – DISABLED VEHICLE ON ALIGNMENT PROCEDURE

This section defines the standardized procedure to be followed when a Light Rail Vehicle (LRV) becomes disabled or experiences equipment failure while occupying the mainline alignment. The purpose is to ensure personnel safety, maintain train control integrity, and comply with Federal Transit Administration (FTA) Roadway Worker Protection (RWP) requirements and Operations Control Center (OCC) coordination protocols.

Procedure

- 1) Initial Reporting
 - a) The train operator shall immediately notify the Operations Control Center (OCC) when a failure prevents movement, propulsion, or safe operation.
 - b) The operator must provide: train number, direction of travel, track number, exact location (nearest station or interlocking), and a brief description of the issue (e.g., propulsion fault, brake fault, pantograph down, loss of control).
 - c) OCC will immediately notify Maintenance of Equipment (MOE), Traction Power (if electrical isolation is required), and Line Controllers.
- 2) Securing the Vehicle and Alignment
 - a) The operator must apply handbrakes, place the master controller in neutral, and engage the parking brake if available.
 - b) The operator shall ensure the doors remain closed unless evacuation is required.
 - c) OCC shall apply exit inhibits, cancel all active routes through the affected section, and notify approaching trains to proceed at restricted speed or hold clear of the disabled train.
- 3) MOE Field Response
 - a) MOE personnel shall respond with the appropriate service vehicle and diagnostic tools.
 - b) Upon arrival, MOE shall contact OCC and request RWP access protection for the alignment prior to approaching or working near the disabled LRV.
 - c) If the failure involves a pantograph, arcing, or OCS contact, MOE must confirm with OCC that the section is de-energized and grounded before accessing the roofline area.

- 4) Vehicle Stabilization and Assessment
 - a) Confirm that the train is properly secured and not under tension or power.
 - b) Conduct a diagnostic assessment to determine cause (e.g., propulsion loss, circuit breaker trip, brake fault, communication failure).
 - c) Coordinate with OCC to isolate auxiliary circuits or reset breakers as needed under control supervision.
- 5) Towing or Coupling Operations
 - a) If the LRV cannot be repaired on site, OCC shall dispatch a recovery LRV or service vehicle.
 - b) Only qualified MOE personnel may perform coupling, towing, or mechanical uncoupling.
 - c) Verify brake continuity, communication cable connection, and ensure both vehicles are in the proper mode (one in “lead,” one in “trail”).
 - d) Movement shall occur at restricted speed not exceeding 5 mph to the nearest crossover, pocket track, or yard, under OCC authority.
- 6) System Restoration and Clearance
 - a) Once the disabled LRV is cleared from the mainline, OCC will perform system verification ensuring route integrity and power restoration.
 - b) MOE must confirm safe condition of all components before releasing the vehicle for further service or towing to the maintenance facility.
 - c) OCC shall lift route inhibits and restore automatic control once the alignment is confirmed clear.
- 7) Documentation and Reporting
- 8) OCC must document:
 - a) Date, time, train number, and location of incident
 - b) Nature of equipment failure and actions taken
 - c) MOE personnel dispatched and response times
 - d) Time protection established and released
 - e) Any coordination with Traction Power or other departments
 - f) Maintain continuous two-way communication with OCC during all alignment activities.
 - g) Never access the roof or OCS area until confirmation of de-energization and grounding is received from OCC.
 - h) All recovery movements must be authorized and directed by OCC.
 - i) Operators and MOE personnel must remain clear of coupler and brake line areas during alignment operations.

Key Safety Reminders

- Treat all OCS components as energized until verified de-energized, grounded, and tested.
- Only qualified traction power technicians may remove debris or contact OCS hardware.

- Always Maintain radio contact with OCC; confirm “de-energized, grounded, and safe to proceed” before work begins.
- Operators must never attempt to dislodge debris from the cab or use on-board equipment.

5.11 DERAILMENT PROCEDURE

This procedure establishes standardized actions to be followed when a Light Rail Vehicle (LRV) becomes derailed on the mainline alignment, yard, or within an interlocking. The purpose is to ensure the protection of personnel, preservation of equipment, and rapid coordination of recovery activities under Federal Transit Administration (FTA) Roadway Worker Protection (RWP) requirements.

- 1) Initial Reporting
 - a) The Train Operator shall immediately notify the Operations Control Center (OCC) upon detecting or suspecting a derailment.
 - b) The operator must state train number, direction of travel, track number, location (nearest station or interlock), and whether passengers are onboard.
 - c) OCC shall initiate an emergency response, suspend train movements within the affected limits, and notify Maintenance of Equipment (MOE), Track, Signal, and Traction Power departments as required.
- 2) Securing the Area
 - a) OCC must establish track protection and issue a system-wide or area-specific All-Call to hold trains clear of the affected zone.
 - b) Operators must not attempt to re-rail or move the train until authorization is given by OCC and recovery personnel are present.
 - c) The area shall be treated as a restricted RWP zone, requiring authorization prior to any entry.
- 3) Field Response and Assessment
 - a) The MOE Supervisor will serve as the Recovery Lead, coordinating all re-railing and mechanical assessments.
 - b) The Roadway Worker in Charge (RWIC) shall establish RWP limits, verify communication with OCC, and ensure all responders are briefed prior to entry.
 - c) Track and Signal personnel shall inspect for infrastructure damage, including rail integrity, switches, or signal components.
- 4) Recovery and Rerailing
 - a) All rerailing efforts must be directed by the MOE Recovery Lead under OCC coordination.
 - b) Power must be de-energized and grounded when work occurs near the Overhead Contact System (OCS).

- c) OCC shall maintain a record of route protection, personnel on-site, and time of clearance.
- 5) Post-Incident Requirements
OCC must document:
 - a) Incident time and location
 - b) Departments involved and response times
 - c) Protection established and released
 - d) Cause determination and corrective actions
 - e) A Safety Event Report shall be submitted in accordance with ADOT SSO Program Standard §7.3 and Valley Metro SOP 500.3.

Key Safety Reminders

- Treat all derailments as RWP-protected zones.
- Maintain continuous two-way radio communication with OCC.
- Do not energize, rerail, or tow until the Incident Commander and OCC authorize movement.
- Verify Safe Zones and maintain watchperson coverage during all recovery operations.

5.12 BROKEN RAIL PROCEDURE

This procedure establishes the standardized response when a broken, cracked, or separated rail is detected on the alignment. It ensures protection of roadway workers, train operators, and the public under Federal Transit Administration (FTA) Roadway Worker Protection (RWP) requirements and Valley Metro Track Maintenance protocols.

- 1) Initial Identification and Reporting
 - a) Any operator, inspector, or field personnel observing a suspected or confirmed rail break must immediately notify the Operations Control Center (OCC) and provide:
 - i) Exact location (nearest station, crossover, or street)
 - ii) Direction of travel and track number
 - iii) Visible extent of damage (fracture, split head, joint separation, etc.)
- 2) OCC shall immediately suspend train movements within the affected limits and issue an All-Call for operators to hold at the nearest station.
- 3) OCC Actions
 - a) Apply route inhibits and protects both tracks through the affected area.
 - b) Notify Track Maintenance, Signal, and Traction Power departments.
 - c) If the break is within an interlocking or grade crossing, Signal Maintenance shall verify correspondence integrity and crossing protection status.
 - d) Document event time, location, and personnel dispatched in the OCC Incident Log.

4) Field Response and Assessment

- a) The MOW Supervisor shall serve as the Roadway Worker in Charge (RWIC) and establish formal RWP protection limits before entering the alignment.
- b) Upon arrival, field crews shall:
 - i) Verify the break and inspect adjacent rail ends for gaps, alignment shift, or loose fasteners.
 - ii) Determine whether the break is clean (brittle fracture) or progressive (fatigue crack).
 - iii) Confirm that no train is fouling the track and that all personnel remain in Safe Zones during inspection.

When necessary, request de-energization of nearby OCS if cutting, welding, or grinding is required near live equipment.

5) Temporary Repair and Protection

- a) Install joint bars and clamps or temporary shunts if immediate restoration of circuit continuity is required.
- b) Track Maintainers shall tag and mark the defect area, and OCC must issue a speed restriction or “stop and proceed” order for train movement if temporary repairs are in place.
- c) No movement shall occur until:
 - i) The RWIC confirms track alignment and secure joint condition.
 - ii) OCC authorizes controlled passage under restricted speed.

6) Permanent Repair

- a) A qualified rail welding crew shall replace or thermite-weld the broken section as soon as practicable.
- b) All replacement activities must remain under full RWP protection, with OCC tracking start and completion times.
- c) After completion, perform:
 - i) Ultrasonic inspection (UT) or visual verification per maintenance standards.
 - ii) Documentation of rail size, type, and length replaced.

7) Post-Incident Documentation

OCC shall record:

- a) Incident time, location, and affected track
- b) Cause (thermal stress, defect propagation, wheel impact, etc.)
- c) Protection established and released
- d) Personnel involved and response duration

Track Maintenance must submit a Corrective Action Report summarizing:

- e) Root cause and inspection findings
- f) Corrective and preventive measures
- g) Follow-up inspection schedule

8) Key Safety Reminders

- Treat all broken rail reports as critical safety events until verified safe.
- Do not allow train movement over a broken or cracked rail without OCC authorization and confirmed field assessment.
- Maintain continuous OCC communication throughout all phases.
- Use watchperson coverage when working within active track zones.
- Document all findings in the Track Defect Log and RWP activity record.

5.13 SPECIAL HAZARD AREAS

Certain locations along the Valley Metro Light Rail and Streetcar alignments present unique operational hazards requiring heightened situational awareness, additional protective measures, and strict adherence to Roadway Worker Protection (RWP) procedures. These areas are characterized by limited visibility, complex track geometry, and increased potential for train–worker conflicts.

5.13.1 TRACK SPLITS AND SLIP RAMPS

Track splits and slip-ramp sections introduce merging and diverging train movements that can occur with limited warning.

Required controls:

- Maintain continuous radio communication with the OCC.
- Remain within designated safe zones at all times.
- Confirm switch position and signal aspect before entering the area.
- Assign a qualified lookout when visibility is restricted or when trains operate bi-directionally.

5.13.2 DECK PARK TUNNEL BRIDGE AND CULVER CROSSOVER

This corridor includes vertical and horizontal curvature that limits line-of-sight between approaching trains and roadway workers, as well as a grade transition that obscures visibility near the Culver Crossover.

Mitigation measures:

- Mandatory lookout protection whenever work is performed on or near the bridge span.
- Position personnel on the high-visibility side of the alignment and maintain a clear escape path.
- Use audible warning devices and maintain continuous OCC monitoring.
- Verify track-circuit occupancy prior to entering the Culver Crossover area.

Lone Worker Foul Time Provision

In the event a lone worker must foul the track to perform work, OCC shall not allow any rail transit vehicle to enter the protected area without explicit authorization from the lone worker. The lone worker must request foul time from OCC prior to fouling the track, verify that the limits are secured, and maintain continuous communication. Foul time remains in effect until the lone worker releases it back to OCC. No train movement, including yard movements or single-car repositioning, may occur within the established limits unless the lone worker confirms that the track is clear and authorizes movement.

1. Requesting Foul Time

1. The lone worker shall contact OCC and request foul time, stating:
 - a. Call Number and RWP level
 - b. Exact track, limits, and nature of work
 - c. Estimated duration
2. OCC shall repeat the limits back to the lone worker to confirm accuracy.
3. OCC shall communicate to all affected trains and personnel that the track or limits are protected and unavailable for movement.

2. Establishing Protection

1. Foul time is considered active only after OCC confirms the track is secured and no movements are authorized within the limits.
2. The lone worker shall not foul the track until OCC provides a clear confirmation such as: "Foul time granted for Track ___ between ___ and ___. No train movements authorized."
3. Continuous radio communication between the lone worker and OCC must be always maintained while foul time is active.

3. Protection Requirements

- OCC shall not allow any rail transit vehicle to enter, move through, or approach the protected limits without authorization from the lone worker.
- No switching, yard moves, single-car testing, or reverse moves are permitted within the foul time limits unless cleared by the lone worker.
- Foul time must remain in place until the lone worker reports clear.

4. Releasing Foul Time

1. Before clearing foul time, the lone worker shall:
 - a. Physically exit the track and ensure all tools/equipment are removed
 - b. Verify track is clear and safe for movement
2. The lone worker notifies OCC: “[Name], clear of the track. Release foul time for Track ___ between ___ and ___.”
3. OCC shall repeat the release back to the worker and confirm foul time has been removed.

5. Loss of Communication

- If communication is lost, the lone worker must immediately clear the track until communication with OCC is restored.
- OCC must treat loss of communication as a safety-critical condition, maintaining blocked movement until positive contact is re-established.

5.13.3 QUIET ZONES (3RD STREET / MILL AVENUE)

Within designated quiet zones, train operators are restricted from routine horn use, reducing audible warning for workers and the public.

Protective measures:

- Mandatory lookout or Train Approach Warning (TAW) coverage for all track work.
- Use of high-visibility apparel and supplemental audible devices (e.g., hand-held horns).
- Continuous radio coordination with OCC to confirm train movements.

5.13.4 DIAMOND CROSSINGS

Diamond crossings—where two tracks intersect—create complex rail interfaces and increase risk of tripping, equipment entanglement, and wheel-flange pinch points.

Diamond-crossing locations include:

- Central Avenue / Jefferson Street
- Central Avenue / Washington Street
- 1st Avenue / Jefferson Street
- 1st Avenue / Washington Street
- 3rd Avenue / Ash Avenue (Tempe Streetcar interface)
- Mill Avenue / 3rd Street (Tempe Streetcar Diamond)

Mitigation requirements:

- Enter only under established Exclusive Track Occupancy (ETO) or OCC-authorized Working Limits.
- Do not stand or place equipment within the diamond area during any train movement.
- Conduct frequent inspections for loose fasteners, flangeway debris, or surface irregularities.
- Exercise extreme caution during wet or low-light conditions where rail surfaces may be slippery.



6.0 SAFE WORK PRACTICES AND PERSONAL PROTECTIVE EQUIPMENT (PPE)

6.1 PURPOSE

This section establishes the minimum safe work practices and required personal protective equipment (PPE) for all roadway workers performing inspection, maintenance, or construction activities within the light rail alignment. These requirements ensure the protection of workers from electrical, mechanical, and environmental hazards while maintaining compliance with FTA and OSHA standards.

6.2 GENERAL SAFE WORK PRACTICES

- All personnel shall receive Roadway Worker Protection (RWP) training and be qualified prior to entering the alignment.
- Workers must always maintain situational awareness and be alerted to approaching trains, service vehicles, or maintenance equipment.
- A clear and continuous line of communication with the Operations Control Center (OCC) must be maintained while on or near the track.
- Work limits shall be established and confirmed with OCC before entering the right-of-way (ROW).
- Personnel shall utilize designated **Safe Zones** for refuge whenever trains are present or when directed by the lookout or OCC.
- No work shall be performed during adverse weather, limited visibility, or lightning conditions unless authorized by OCC and deemed safe.
- Loose tools, materials, or equipment must be secured to prevent fouling of the track or overhead contact system (OCS).
- All workers must follow the “**3-Point Contact Rule**” when climbing ladders, accessing vehicles, or working on elevated surfaces.
- Smoking and vaping are prohibited within the ROW or near traction power equipment.

6.3 PERSONAL PROTECTIVE EQUIPMENT (PPE) REQUIREMENTS

All roadway workers must wear the following PPE while on or near the track alignment:

PPE Item	Requirement / Description	Standard / Reference
High Visibility Apparel	Class 3 high-visibility vest or outerwear (ANSI/ISEA 107)	OSHA 29 CFR 1910.132
<i>Hard Hat*</i>	Type I, Class E electrical-rated helmet	ANSI Z89.1
Safety Footwear	Steel/composite toe with electrical hazard protection	ASTM F2413
<i>Safety Glasses*</i>	Clear lenses with side shields	ANSI Z87.1
<i>Work Gloves*</i>	Cut-resistant and suitable for task (mechanical, electrical, etc.)	OSHA 1910.138
Hearing Protection	Required when noise exceeds 85 dBA	OSHA 1910.95
Fall Protection	Required when working above 6 ft or on aerial lifts	OSHA 1926 Subpart M
Arc Flash / Electrical PPE	For traction power per NFPA 70E	NFPA 70E

**if work requires the use of these items, identified in the Job Safety Briefing*

6.4 SPECIALIZED EQUIPMENT

- Respiratory Protection: Required when working in confined spaces, dusty areas, or around chemical hazards; must be approved and fit-tested per OSHA 1910.134.
- Headlamps or Flashlights: Must be intrinsically safe when used near energized OCS or signal cabinets.
- Cold or Heat Stress Gear: Provided as needed during extreme temperature conditions per Valley Metro Safety Policy.

6.5 PPE INSPECTION AND MAINTENANCE

- PPE must be inspected before each use for wear, damage, or contamination.
- Damaged or expired PPE shall be replaced immediately and reported to the supervisor.
- Shared PPE (such as arc flash suits or harnesses) shall be cleaned and stored according to manufacturer recommendations.

6.6 PROHIBITED PRACTICES

- Entering the trackway without authorization or proper PPE.
- Working under the influence of alcohol, drugs, or impairing medication.
- Crossing tracks without ensuring both directions are clear and OCC has granted clearance.
- Standing or placing materials between running rails, within 4 feet of the nearest rail, or inside gauge during active service.

6.7 LONE WORKER RESTRICTIONS

To ensure personnel safety and regulatory compliance, lone worker activities within the light rail alignment are strictly controlled and permitted only under specific conditions as defined by Valley Metro's Roadway Worker Protection (RWP) Program and OSHA 29 CFR 1910.147 / 1926 Subpart C.

6.7.1 DEFINITION

A lone worker is defined as any qualified employee performing duties on or near the track without the continuous physical presence of another qualified worker. This includes inspections, testing, or troubleshooting tasks conducted outside of team-based work zones.

6.7.2 GENERAL RESTRICTIONS

- Lone Worker Limitation: Roadway workers shall not perform duties as lone workers within active mainline track segments unless expressly authorized by the Operations Control Center (OCC) under defined safety conditions.
- Track Protection Requirement: Exclusive Track Occupancy (ETO) or Work Limits established by Verbal Authority must be in place before any personnel enter or occupy the track alignment.
- Prohibited Activities: Lone workers are not authorized to conduct tasks involving lifting, track component replacement, or hazardous energy control procedures unless additional qualified personnel are present on site.
- Power Tool Restriction: The operation or use of any power tool, including battery-powered equipment, is strictly prohibited while working alone. Power tool use requires the presence of another qualified employee and must occur only under approved Roadway Worker Protection (RWP) safety protocols.

6.7.3 COMMUNICATION REQUIREMENTS

- Continuous two-way radio communication with OCC must be maintained throughout the entire duration of work.
- The lone worker must check in with OCC every 15 minutes or at intervals designated by OCC, depending on the location and activity risk.
- If communication is lost, the lone worker must immediately clear the alignment and re-establish contact before resuming work.

6.7.4 SAFETY EQUIPMENT REQUIREMENTS

- Lone workers must carry an operable handheld radio on the assigned channel for the line (A Line – Channel 1, B Line – Channel 2, Yard/Streetcar – Channel 3).
- A personal alert safety device (PASD) or Real Time Risk Solutions (RTRS) mobile check-in system must be active during all lone work.
- High-visibility PPE and headlamps must always remain in use, including during low-light conditions.

6.7.5 AUTHORIZATION

- Authorization for lone worker activity must be obtained from the OCC Supervisor or Maintenance-of-Way Supervisor prior to access.
- A job briefing must be completed before the worker enters the alignment.
- Lone worker authorization will not exceed one continuous work period and must be revalidated for each new entry or task



7.0 WORKING IN EXCESSIVE HEAT CONDITIONS

7.1 PURPOSE

To establish protective measures for roadway workers exposed to high-temperature environments during maintenance, inspection, or construction activities along the Valley Metro system.

7.2. HAZARD OVERVIEW

Excessive heat exposure can cause dehydration, heat cramps, heat exhaustion, or heat stroke. These risks increase when employees perform strenuous physical labor, wear protective clothing, or work near reflective surfaces such as rail or concrete during extreme temperatures.

7.3 PREVENTIVE MEASURES

- **Work Scheduling:** When possible, schedule outdoor tasks during cooler hours (early morning or evening). Avoid peak heat periods between 12:00 PM and 4:00 PM.
- **Hydration:** Employees must drink water frequently (one cup every 15–20 minutes). Avoid caffeinated or sugary beverages.
- **Rest Breaks:** Establish shaded or air-conditioned rest areas and encourage regular breaks during extreme heat.
- **Acclimatization:** New or returning workers should gradually increase heat exposure over a 7–14 day period to build tolerance.
- **Buddy System:** Lone work is discouraged during excessive heat warnings. Workers must monitor each other for signs of heat-related illness.
- **Protective Clothing:** Lightweight, breathable, high-visibility garments with moisture-wicking properties are required. Hard hats should include neck shades when available.

7.4 HEAT ILLNESS RECOGNITION

Condition	Symptoms	Immediate Action
Heat Cramps	Muscle spasms, sweating, fatigue	Move to a cool area, hydrate with water or electrolyte fluids.
Heat Exhaustion	Heavy sweating, dizziness, nausea, rapid pulse	Stop work, cool the body with water or shade, notify OCC or supervisor.
Heat Stroke	Confusion, hot dry skin, loss of consciousness	Medical emergency. Call 911, provide cooling, notify OCC immediately.

7.5. COMMUNICATION AND REPORTING

- The Operations Control Center (OCC) shall issue Heat Safety Alerts when the National Weather Service (NWS) reports excessive heat warnings for the Phoenix–Tempe–Mesa region.
- Supervisors must document any heat-related illness or near-miss event in the Real Time Risk Solutions (RTRS) system and initiate corrective actions.

7.6 REFERENCES

- OSHA 29 CFR 1926.21(b)(2) – Safety Training and Education
- NIOSH Publication No. 2016-106 – Criteria for a Recommended Standard: Occupational Exposure to Heat and Hot Environments
- Valley Metro SOP 400.7 – Adverse Weather Response

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8.0 SAFE ZONE DEFINITIONS AND REQUIREMENTS

8.1 PURPOSE

Safe Zones provide designated refuge areas that protect roadway workers from approaching trains, on-track equipment, and other moving hazards. Establishing Safe Zones is essential to meet Federal Transit Administration (FTA) Roadway Worker Protection (RWP) standards and to ensure the physical safety of all employees performing inspection, maintenance, or troubleshooting tasks within the alignment.

8.2 DEFINITION

A Safe Zone is a defined area, either adjacent to or within the guideway, where roadway workers can safely stand clear of train and maintenance equipment movement. These zones are physically separated from active track or located within approved clearance limits as verified by the Operations Control Center (OCC) and the Safety Department.

8.3 GENERAL REQUIREMENTS

1. Safe Zones must be established on a case by case basis by the RWIC or lone worker prior to entering the alignment.
2. Roadway workers shall confirm Safe Zone locations during pre-work job briefings and verify accessibility before entering the alignment.
3. No Safe Zone may be within the foul of track, near switch points, or within the clearance of moving equipment.
4. Personnel must remain alert and ready to move into the Safe Zone when a Train Approach Warning (TAW) or OCC instruction is issued.
5. All tools, materials, and equipment must remain within Safe Zones when not actively in use.
6. Safe Zones must maintain an unobstructed path of egress in the event of an emergency or approaching train.

8.4 PHYSICAL CHARACTERISTICS

Safe Zones should conform to the following minimum standards where practicable:

1. Lateral clearance: 6 feet minimum from the nearest rail.
2. Vertical clearance: 7 feet minimum overhead free space.

3. Surface conditions: firm, level, and free of trip hazards.
4. No overhanging OCS, signal, or structural components within the refuge space.
5. Zones located in tunnels, bridges, or elevated structures must be clearly marked and verified for clearance prior to use.

8.5 IDENTIFICATION AND MARKING

1. Safe Zones shall be marked using green reflective paint, tape, or signage labeled “SAFE ZONE / REFUGE AREA.”
2. Track Access Guide diagrams must depict Safe Zones using green rectangular symbols consistent with the legend key.
3. Temporary Safe Zones may be established only under OCC approval and must be recorded in the Job Briefing Log.

8.6 RESTRICTIONS

1. Do not assume a Safe Zone exists without field verification and OCC confirmation.
2. Personnel must not remain between parallel tracks unless sufficient clearance for simultaneous train movement is available.
3. Temporary Safe Zones must not interfere with signal detection circuits, OCS structures, or train operator visibility.

8.7 TRAINING AND COMPLIANCE

All roadway workers shall receive training on Safe Zone identification, verification, and refuge procedures as part of their initial and annual RWP certification. Supervisors and watchpersons are responsible for ensuring Safe Zone use and enforcing compliance during all on-track work activities



9.0 STREET-SIDE WORK VEHICLE PROTECTION

When roadway work or inspections occur along active streets adjacent to the light-rail guideway, additional safety controls must be established to protect personnel, work vehicles, and the public. All traffic-control devices must conform to the Manual on Uniform Traffic Control Devices (MUTCD) and applicable City of Phoenix / Tempe / Mesa right-of-way permits.

9.1 TRAFFIC CONTROL AND CONE SETUP

Taper Length:

Establish a gradual cone taper to transition traffic safely around the work zone. The standard taper length is **10 feet per 1 mph of posted speed** (e.g., 350 ft for a 35 mph roadway).

For short-duration or low-speed streets (< 30 mph), a **minimum taper of 100 ft** may be used.

Cone Spacing:

- o 25 – 30 mph → cone spacing ≈ 20 ft
- o 35 – 40 mph → cone spacing ≈ 30 ft
- o 45 mph → cone spacing ≈ 40 ft

Cones must be evenly spaced to guide motorists smoothly around the zone.

Buffer Zone:

Maintain a clear buffer area of at least **20 ft between traffic and the first worker or work vehicle**. No personnel, tools, or materials should be placed in the buffer area.

Taper and Work Area Configuration:

1. Advance Warning Area – Post advance signage (“Road Work Ahead,” “Rail Work Ahead”) 200–500 ft before the taper.
2. Transition Area – Use cones to gradually shift traffic away from the work lane.
3. Buffer Space – Provides recovery distance for errant vehicles.
4. Work Area – Includes all workers, vehicles, and materials.
5. Termination Area – Use cones to guide traffic back to normal alignment.

Minimum Device Standards:

- Cones must be **28 inches high** with two 6-inch reflective white bands for day and night visibility.
- Use weighted bases to prevent displacement by wind or passing traffic.
- For extended or nighttime work, supplement cones with **Type I or II barricades or flashing amber lights**.

9.2 VEHICLE POSITIONING

- Park vehicles parallel to traffic flow and as close to the curb as safely possible.
- Activate amber strobe lights and hazard flashers when workers are on the ground.
- Use the vehicle itself as a barrier when feasible, positioning it between workers and oncoming traffic without fouling the trackway.

9.3 FLAGGING AND COORDINATION

- A trained flagger must be deployed when any traffic lane is obstructed or narrowed.
- Flagger stations should be positioned to maintain direct sightlines with both approaching traffic and the EIC.
- The EIC must coordinate with OCC and the local traffic control agency to confirm proper permits and signal coordination during setup and teardown.

9.4 REMOVAL AND RESTORATION

- Cones and signs shall be removed in reverse order (termination → buffer → taper → advance warning).
- All materials must be cleared up promptly once work is complete, and OCC notified of work zone demobilization.



10.0 SPEED RESTRICTION REQUIREMENTS

10.1 PURPOSE

This section defines the speed restriction requirements for light rail and streetcar operations when roadway workers, maintenance equipment, or work zones are present on or adjacent to the alignment. Speed restrictions are established to ensure safe train operations, maintain clear communication between the Operations Control Center (OCC) and field personnel, and protect all roadway workers within defined work limits.

10.2 ESTABLISHING SPEED RESTRICTIONS

Speed restrictions are implemented by the OCC based on the type of work activity, location, and level of protection in place. The OCC will issue and log all temporary speed restrictions through the Daily Operating Log and notify all train operators via radio broadcast or Train Orders.

Speed restrictions shall be established when:

- Roadway workers or equipment are within 25 feet of the track centerline without physical barriers or fencing.
- Any portion of the track, OCS, or signal infrastructure is being inspected, repaired, or tested.
- Conditions such as track obstructions, weather impacts, or low visibility exist that may affect train braking or operator sight distance.
- Equipment or personnel occupy adjacent lanes or guideway shoulders where train movement could pose a hazard.

10.3 SPEED RESTRICTION CATEGORIES

Restriction Type	Max Authorized Speed	Typical Application
Work Zone – Adjacent Track Occupied	10 mph	Workers or vehicles present adjacent to active track under OCC coordination.
Work Zone – Shared Track Occupied	5 mph	Workers or equipment on the same track; train movement under flagger or lookout direction.
Temporary Condition Restriction	15–25 mph	Track defects, weather, or surface conditions.
Special Instruction / Train Order	As directed	Specific location-based restriction issued by OCC.

10.4 OPERATOR RESPONSIBILITIES

- Train operators must acknowledge all speed restrictions and comply immediately upon receipt of OCC instructions or posted bulletins.
- Operators shall sound horns or bell when approaching work zones, as required by OCC.
- Operators must remain prepared to stop short of any obstruction, personnel, or equipment on or near the alignment.
- If unsure of the exact work zone limits or restriction location, the operator must contact OCC for clarification before proceeding.

10.5 ROADWAY WORKER RESPONSIBILITIES

- Roadway workers shall verify that OCC-issued speed restrictions are active prior to occupying the alignment.
- If work area conditions change (e.g., extended limits, additional equipment), workers must request OCC to adjust restriction limits accordingly.
- Work crews must maintain clear visual contact with approaching trains whenever possible and remain within designated safe zones until all trains have passed.

10.6 LIFTING SPEED RESTRICTIONS

Speed restrictions may only be lifted after the roadway workers have cleared the track and safe zones are verified, and OCC has confirmed via radio communication that the track is clear and normal operations may resume.



11.0 HAZARD IDENTIFICATION, ASSESSMENT, AND MITIGATION

11.1 PURPOSE

This section defines the systematic process for identifying, evaluating, and controlling hazards associated with roadway worker activities along the Valley Metro Light Rail and Streetcar alignments. The goal is to prevent injury, equipment damage, and service disruption by proactively addressing environmental, operational, and procedural risks.

11.2 HAZARD IDENTIFICATION

All employees performing work within the right-of-way must actively identify hazards before, during, and after work activities. Typical hazard sources include:

- Train Operations: Moving LRVs, restricted sightlines, and multiple track movements.
- Track and OCS Infrastructure: Open switch points, energized overhead contact system, and confined clearance zones.
- Environmental Conditions: Excessive heat, rain, low visibility, or high winds.
- Worksite Factors: Equipment placement, vehicular traffic near grade crossings, and limited refuge areas.
- Human Factors: Fatigue, distraction, inadequate communication, or deviation from procedure.

Identified hazards must be immediately communicated to the Operations Control Center (OCC) and documented within the Real Time Risk Solutions (RTRS) digital job briefing system.

11.3 HAZARD ASSESSMENT

Before work begins, the Roadway Worker in Charge (RWIC) or designated supervisor shall:

1. Evaluate identified hazards based on severity, likelihood, and exposure.
2. Use Valley Metro's Risk Matrix (Low–Moderate–High–Critical) to determine the appropriate level of control.
3. Verify that all employees understand the hazards, protection measures, and required PPE.
4. Re-evaluate the site when conditions change (weather, train activity, work scope, etc.).

11.4 HAZARD MITIGATION AND CONTROL

11.4.1 IDENTIFIED HAZARDS

#	Hazard Description	Potential Consequence	Risk Level (Pre-Mitigation)
1	Unauthorized train movement into active switch zone	Collision or worker strike	High
2	Switch movement during inspection	Pinch/crush injury to personnel	High
3	Inadvertent restoration of route by OCC before work completion	Worker exposure to live train movement	High
4	Electrical or mechanical failure while cycling switch	Shock, entrapment, or loss of correspondence	Medium
5	Poor communication between OCC and Signal crew	Confusion about protection status	Medium
6	Limited visibility or noise interference in interlocking area	Missed train approach warning	Medium

11.4.2 CONTROL AND MITIGATION MEASURES

Hazard Reference	Control / Mitigation Measure	Responsible Party
1, 2, 3	OCC must drop routes and confirm no active movement authorities through the interlocking before granting access.	OCC Controller
1, 3	OCC must issue an All-Call to all operators to stop at the nearest station before the affected interlocking.	OCC Controller
1–3	Signal crew must confirm track protection established and route secured via radio acknowledgment before entering the switch area.	RWIC
2, 4	Switch must be mechanically isolated or locked out (if applicable) during hands-on inspection or cycling.	Signal Technician
4	Maintain safe clearance from energized components.	Signal Technician

Hazard Reference	Control / Mitigation Measure	Responsible Party
5	OCC and field crews must maintain continuous two-way radio communication using the assigned channel (Channel 2 for B Line, Channel 1 for A Line, etc.).	OCC & Field Crew
6	Establish a lookout position when visibility or ambient noise conditions are poor.	Field Crew

11.4.3 RESIDUAL RISK EVALUATION (POST-MITIGATION)

Hazard	Residual Risk Level	Acceptability
Unauthorized train movement	Low	Acceptable with controls
Switch movement during inspection	Low	Acceptable with controls
Route restoration error	Low	Acceptable with controls
Equipment failure	Low	Acceptable with controls
Communication failure	Low	Acceptable with controls
Visibility issues	Low	Acceptable with controls

Additional Safety Requirements

- OCC must log all route drops and restoration times in the system event record.
- Signal personnel shall verify switch position visually before and after inspection.
- If any switch correspondence or locking anomaly is detected, the switch shall remain out of service until verified safe by Signal Technician.
- All work within the interlocking must follow RWP Track Protection and OCC communication protocols defined in the Track Access Guide.

Key Safety Reminders

- Never rely solely on visual gate position when protection is in doubt.
- OCC maintains ultimate authority for all train movements through affected crossings.
- All flaggers, operators, and maintenance staff must maintain radio contact with OCC during protection operations.



12.0 DEPARTMENTAL RESPONSIBILITIES

12.1 TRACK MAINTAINERS



Perform routine and corrective maintenance including rail, tie, and fastener inspections; switch cleaning and adjustment; and geometry verification. Activities may require hand tools or mechanized track equipment within the alignment.

12.2 OVERHEAD CATENARY SYSTEM (OCS) / TRACTION POWER TECHNICIANS

Conduct visual and hands-on inspections of overhead contact systems (OCS), including wire wear checks, pole grounding, and insulator integrity. Utilize non-revenue vehicles or CAT carts to inspect and test contact wire alignment, tension, and electrical continuity. Coordinate with OCC for de-energization when necessary.

12.3 SIGNAL TECHNICIANS

Inspect and test switch machines, signals, and grade crossing warning systems. Activities include verification of interlocking operation, cable continuity tests, and troubleshooting false activations or communication faults.

12.4 FACILITY MAINTENANCE / CONTRACTORS

Perform vegetation and landscape maintenance, litter removal, and minor facility upkeep adjacent to the right-of-way. Work involves operating hand tools, trimmers, and power equipment in proximity to the alignment, requiring situational awareness of train operations and RWP protections.

12.5 OPERATIONS CONTROL CENTER (OCC) COORDINATION

All work activities require prior notification to and ongoing coordination with the OCC to establish track access, verify track occupancy limits, and ensure communication throughout the duration of the work. Lone workers are required to maintain regular check-ins and adhere to watchperson or lookout procedures as specified by RWP policy



13.0 RWP Role

Role	Description
Roadway Workers	Employees or contractors performing inspection, maintenance, or repair within the rail right-of-way. Must comply with all RWP

Role	Description
	procedures and obtain proper track protection before entering.
OCC Personnel	Coordinate all track access requests, issue track protection, authorize vehicle movement, and maintain communication to ensure safety within the right-of-way.
Rail Transit Vehicle Operators	Operate rail vehicles per OCC instructions and RWP procedures; maintain alertness for roadway workers and comply with speed and signal restrictions.
Maintenance Machine Operators	Operate on-track or maintenance machines under the direction of the Roadway Worker in Charge (RWIC). Must maintain continuous communication and operate only within authorized limits.
Watchpersons / Lookouts	Monitor train movements and provide timely warning to workers. Must maintain clear sightlines and be equipped to issue visual or audible warnings.
Flaggers	Control train and equipment movement through work zones using visual signals or radio communication. Coordinate directly with OCC and the RWIC.
Lone Workers	Conduct work independently without nearby coworkers. Must maintain two-way OCC communication and comply with RWP lone-worker protocols.
Roadway Worker in Charge (RWIC)	Establishes and maintains on-track safety, obtains OCC authority, defines protection limits, and ensures worker briefings and compliance.
Supervisors	Oversee roadway worker activities and ensure compliance with RWP and training requirements.
Maintenance Managers	Develop and enforce maintenance programs ensuring RWP compliance, training, and equipment readiness.
MOE (Maintenance of Equipment)	Responsible for inspection, repair, and servicing of Light Rail Vehicles (LRVs). Must coordinate with OCC and RWIC before any movement or testing of vehicles within the alignment. Required to maintain RWP awareness when operating in or adjacent to the right-of-way.
Contractors (General)	Non-agency personnel performing general construction or maintenance work under



Role	Description
	RWIC supervision. Must comply with all RWP access procedures.
Contractors (Specialized)	Specialists such as signal or traction power engineers requiring track access. Must coordinate with OCC and RWIC and adhere to all RWP safety rules.
Escorted Guests / Visitors	May enter the right-of-way only under continuous escort by a qualified RWIC or roadway worker. No work or unprotected access is permitted.

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14.0 OVERSIGHT, REPORTING, AND DOCUMENTATION

14.1 OVERSIGHT RESPONSIBILITIES

The Valley Metro Safety Department maintains overall responsibility for administration, implementation, and oversight of the Roadway Worker Protection (RWP) Program. This includes ensuring that all applicable Federal Transit Administration (FTA) and Arizona Department of Transportation (ADOT) State Safety Oversight (SSO) requirements are met.

- The Chief Safety Officer (CSO) or designee provides executive oversight and ensures program compliance with 49 CFR Part 674 and FRA 49 CFR Part 214 Subpart C harmonized practices.
- The RWP Program Manager oversees program implementation, training compliance, field auditing, and periodic review of all RWP procedures and documentation.
- Supervisors and crew leaders are responsible for ensuring daily field compliance, conducting job briefings, and verifying that all personnel entering the alignment meet qualification and PPE requirements.

14.2 DOCUMENTATION AND RECORDKEEPING

Accurate and complete documentation is required to demonstrate RWP program compliance and due diligence. The following records must be maintained:

- Daily Job Briefing Forms (digital or hard copy), signed by all participating roadway workers.
- Track Access Requests (TARs) and OCC authorization logs for each work event.
- Training Records confirming completion of RWP certification and any required refresher courses.
- Incident and Near-Miss Reports related to roadway worker activity, submitted through Real Time Risk Solutions (RTRS) or other approved reporting platforms.
- Inspection Reports for work zone setups, lookout assignments, and compliance audits.

All RWP documentation shall be retained for a minimum of three (3) years and made available to regulatory agencies upon request.

14.3 REPORTING REQUIREMENTS

- All RWP incidents, rule violations, or close calls must be immediately reported to the Operations Control Center (OCC) and subsequently documented through the Valley Metro Safety Event Reporting process.
- The Safety Department shall review all incidents for trends, root cause, and corrective actions, reporting findings to the Safety Event Review Board (SERB).
- Quarterly RWP Compliance Reports shall be submitted to executive management and the ADOT SSO office, summarizing audit results, deficiencies, and program improvements.

14.4 PROGRAM REVIEW AND CONTINUOUS IMPROVEMENT

The RWP Program will undergo a comprehensive annual review to ensure continued compliance with FTA, ADOT SSO, and internal safety standards. The review process includes:

- Evaluation of OCC coordination logs and field observation data.
- Analysis of RWP-related incidents and recurring hazards.
- Updates to training materials, procedures, and job briefing templates based on lessons learned.
- Verification that corrective actions have been implemented and validated for effectiveness.

14.5 INTERNAL VALIDATION AND REVIEW

Prior to submittal to the Arizona Department of Transportation (ADOT) State Safety Oversight (SSO) office, the Track Access Guide and associated Roadway Worker Protection (RWP) Program documentation shall be circulated internally for review by key departments, including the Operations Control Center (OCC), Maintenance of Way, and Safety. Each department shall verify procedural accuracy, operational applicability, and compliance with established communication and protection standards before final approval and transmittal



15.0 AUDITING AND COMPLIANCE VERIFICATION

15.1 PURPOSE

This section establishes the procedures and frequency of internal audits, field observations, and compliance verification activities required to ensure the integrity of Valley Metro’s Roadway Worker Protection (RWP) Program. The audit process validates that all roadway worker activities are conducted in accordance with FTA 49 CFR Part 674 and Valley Metro safety standards.

15.2 AUDIT OVERSIGHT AND AUTHORITY

The Safety Department is responsible for conducting RWP audits under the direction of the RWP Program Manager. Audit findings are reviewed by the Chief Safety Officer (CSO) and reported to executive leadership and the ADOT State Safety Oversight (SSO) agency as required.

Authorized personnel may include:

- Safety Officers and RWP Program Managers
- Designated RWP Field Auditors or Compliance Specialists
- Supervisors with delegated audit authority

15.3 TYPES OF AUDITS

RWP audits are conducted using multiple methods to ensure comprehensive program oversight:

Audit Type	Description	Frequency
Field Compliance Audit	On-site observation of roadway worker activity to verify adherence to RWP procedures, safe zones, and OCC communication protocols.	Monthly
Documentation Review	Verification of job briefings, track access requests, and RWP training records.	Quarterly
Program Evaluation Audit	System-level review of RWP program effectiveness,	Annually

Audit Type	Description	Frequency
	including policy updates, training compliance, and corrective actions.	
Incident-Driven Audit	Conducted following any significant RWP violation, near-miss, or FTA-reportable event.	As needed

15.4 AUDIT PROCEDURES

1. Pre-Audit Notification – When practical, field crews and department leads are informed of scheduled audits. Surprise audits may occur to ensure authentic field evaluation.
2. Field Observation – Auditors observe communication protocols, work zone setup, lookout assignments, and compliance with PPE and safe-zone requirements.
3. Record Review – Auditors verify that all job briefing forms, OCC coordination logs, and authorizations are properly documented.
4. Interview and Debrief – Auditors may conduct brief discussions with field personnel to confirm understanding of RWP rules and situational awareness.
5. Findings and Corrective Actions – Non-compliance issues are documented, and responsible departments are assigned corrective actions with specific due dates.

15.5 CORRECTIVE ACTION TRACKING

All corrective actions resulting from audits are entered into the Real Time Risk Solutions (RTRS) or other Valley Metro-approved tracking systems. Each action must include:

- Description of the deficiency
- Assigned responsible party
- Target completion date
- Verification of closure by Safety Department

The Safety Department shall review open corrective actions weekly and report outstanding items during monthly safety management meetings.

15.6 CONTINUOUS IMPROVEMENT AND REPORTING

Audit outcomes are analyzed to identify trends, recurring hazards, or training gaps. The RWP Program Manager compiles results into a Quarterly Compliance Summary Report which includes:

- Audit participation metrics
- Deficiency categories and closure rates
- Recommendations for procedural or training improvements
- Validation of prior corrective actions

This report supports Valley Metro's Safety Management System (SMS) performance monitoring and is distributed to department heads, executive management, and the ADOT SSO office.

Valley Metro B Line (Orange Line + South Central Extension) – South to North

#	Station Name	Cross Street / Notes
1	Baseline / Central Ave	Southern terminal – Park & Ride facility
2	Southern / Central Ave	Residential and arterial corridor
3	Roeser / Central Ave	Local access – narrow median
4	Broadway / Central Ave	Major arterial intersection
5	Pioneer / Central Ave	Neighborhood connection zone
6	Buckeye / Central Ave	Transition to industrial corridor
7	Lincoln / Central Ave	East-side platform (split pair)
8	Lincoln / 1st Ave	West-side platform (split pair)
9	Jefferson / Central Ave	Downtown Phoenix Hub – A Line connection (eastbound)
10	Washington / 1st Ave	Downtown Phoenix Hub – A Line connection (westbound)
11	Van Buren / Central Ave	Government / business district
12	Roosevelt / Central Ave	Roosevelt Arts District
13	McDowell / Central Ave	Cultural corridor – Phoenix Art Museum
14	Encanto / Central Ave	Heard Museum and park access
15	Thomas / Central Ave	Dignity Health / Medical hub
16	Osborn / Central Ave	Midtown
17	Indian School / Central Ave	Park & Ride / Uptown
18	Campbell / Central Ave	Midtown transition
19	Central Ave / Camelback Rd	Connection between Central and 19th corridors
20	7th Ave / Camelback Rd	Transition to 19th Ave corridor
21	19th Ave / Camelback Rd	Interlock point to 19th Ave alignment
22	Glendale / 19th Ave	High-traffic arterial intersection
23	Northern / 19th Ave	Curve transition toward Dunlap
24	19th Ave / Dunlap Ave	Historic northern terminal
25	Mountain View / 25th Ave	End of storage track zone
26	Metro Parkway / 19th Ave	North terminal – Park & Ride facility



Valley Metro A Line (Blue Line) – East to West

#	Station Name	Cross Street / Notes
1	Gilbert Rd / Main St	Eastern terminus – Mesa
2	Stapley Dr / Main St	Mesa section
3	Mesa Dr / Main St	Major bus transfer point
4	Alma School Rd / Main St	West Mesa
5	Country Club Dr / Main St	Connects to downtown Mesa
6	Center St / Main St	Mesa Arts Center area
7	Smith-Martin Dr / Apache Blvd	Transition Mesa → Tempe
8	Veterans Way / College Ave	Tempe Transportation Center
9	University Dr / Rural Rd	ASU Campus
10	Price-101 Fwy / Apache Blvd	Park-and-Ride, 101 Freeway
11	McClintock Dr / Apache Blvd	Tempe residential corridor
12	Dorsey Ln / Apache Blvd	Transition to Mill Ave corridor
13	Mill Ave / 3rd St	Downtown Tempe, bridge over Rio Salado
14	Center Pkwy / Washington St	SkyTrain connection zone
15	50th St / Washington St	ADA-accessible in-fill station
16	44th St / Washington St	SkyTrain Station / Airport Access
17	38th St / Washington St	Washington corridor
18	24th St / Washington St	Westbound platform
19	24th St / Jefferson St	Eastbound platform
20	12th St / Washington St	Westbound platform
21	12th St / Jefferson St	Eastbound platform
22	3rd St / Washington St	Westbound platform (Downtown Phoenix)
23	3rd St / Jefferson St	Eastbound platform (Downtown Phoenix)
24	Downtown Phoenix Hub / Central Station	Western terminus – Connection to B Line and Streetcar

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