

2022 FTA Joint State Safety Oversight and Rail Transit Agency Workshop

SAFETY & SECURITY CERTIFICATION

Strategies, Insights, and Effective Oversight Practices

Presented by

Brian Brinkley, State Safety Oversight Program Manager, Arizona Department of Transportation

Mignon Allen, President, Dovetail Consulting

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Our Strategy



Maintaining, upgrading and improving safety to the transportation system we have is indeed the name of the game. At ADOT, we are committed to making strategic decisions that protect Arizona's infrastructure for years to come.

**John Halikowski, Director
Arizona Department of Transportation**

Providing oversight to the safety and security certification programs at Valley Metro and Sun Link Streetcar are a critical part of fulfilling Arizona's safety strategy.



Our History



2006

ADOT

State Safety Oversight

Adopts first Program Standard, which includes safety and security certification standards, and Readiness Reviews for New Starts, and System Expansions

2008

Valley Metro Initial Segment

Light Rail
20 miles
Tempe Town Lake Bridge
Traffic Signal Priority
262 grade crossings
27 stations
50 LRVs
OMC & MOW building

2014

Sun Link Initial Segment

Streetcar
3.9 miles
23 stops
8 streetcars
Operations & Maintenance Facility

2015

Valley Metro Central Mesa Extension

Light Rail
3.1 miles
4 stations
1 park-and-ride



2016

**Valley Metro
Northwest Extension I**
Light Rail
3.2 miles
3 stations
1 park-and-ride

2019

**Valley Metro
50th Street Station**
ADA enhanced pedestrian detection
crosswalk signal, wider platforms, and gently
sloped entries

**Valley Metro
Gilbert Road Extension**
Light Rail
1.9 miles
First rail roundabout
2 stations
1 transit center/park-and-ride

2021

**Valley Metro
Vehicle Procurement**
25 LRVs

2022

**Valley Metro
Tempe Streetcar**
3 miles
14 stops
Hybrid/Off-wire operations

**Valley Metro
OMC Expansion**
Additional capacity to maintain
up to 90 vehicles



Our Insights

Effective State Safety Oversight of the RTA's Implementation of the 10-Steps of Safety and Security Certification for Rail Transit Projects

Program Management



- Establish safety and security certification requirements and oversight activities within the **Program Standard**, including formal written notification to the SSO by the RTA
- Provide annual **Classroom Training** and exam on Program Standard to RTAs, including SSO and RTA duties and responsibilities for the safety and security certification of rail transit projects
- Prepare a formal, written **Review Checklist** for each project-specific Safety and Security Management Plan (SSMP) and Safety and Security Certification Plan (SSCP)
- Promote integration through a Master Integrated **Project Schedule** and early and ongoing FTA coordination on safety and security oversight activities
- Follow the **Kaizen Philosophy**: Making Changes for the Better!

Safety and Security Design Criteria



Design Criteria Manual

Obtain and review the DCM to ensure it is fully developed to support final design



Certifiable Elements List / Certifiable Items List

Ensure CEL/CIL are comprehensive, applicable to project-specific scope, size, and complexity of rail facilities, systems, equipment, and operations



Core Management Plans

Ensure the plans required by FTA and SSO are finalized and updated:
PMP, SSMP, SSCP, Fleet Management Plan, Preventative Maintenance Plan, Rules & SOPs, Training Plan, System Integration Test Plan, Rail Activation Plan

Safety and Security Analysis



Preliminary Hazard Analysis (PHA)

Attend workshops arranged by rail transit agency, beginning with PHA and TVA followed by OHA at Readiness for Revenue Operations phase



Threat and Vulnerability Assessment (TVA)

Invite affected local police, fire, and emergency medical services in TVA process. Arrange alignment, station, vehicle, yard and shop tours



Operating Hazard Analysis (OHA)

Require tracking logs be organized, meaningful, and active management tools from the time of risk identification to closure

Design Verification

Obtain, review, and verify the Design Criteria Conformance Checklists

Develop full understanding of the change control process and maintain transparency of design deviations and impacts to safety

Clarify what constitutes means of verification (drawing, calculation, specification, report)

Attend RTA's design review, system safety, and fire/life safety committee meetings as well as FTA/PMOC meetings and site visits

Construction Verification

Obtain, review, and verify the Construction Specification Conformance Checklists

Attend construction progress meetings to monitor field changes impacting safety, restrictions and workarounds

Ensure rail transit agency performs risk assessments of accidents and hazards during construction

Schedule a Safety and Security Readiness Review (SSRR) to occur at 3 – 6 months in advance of RSD based on size, complexity of project



SSRR Purpose

To assess the capabilities of the RTA to implement the safety and security plans for the entire RTA with the addition of the system expansion. It is also the objective of ADOT to review and resolve any safety or security critical issues as early as possible in order to avoid or minimize the need for retroactive modifications and retrofits and not delay the project implementation schedule.

5 SSRRs

- Sun Link Streetcar
- Valley Metro Initial Segment
- Valley Metro Central Mesa Extension
- Valley Metro Northwest Extension I
- Valley Metro Tempe Streetcar

5 Triennial Audits

of Safety & Security Certification Element of the Valley Metro and Sun Link PTASPs, including Valley Metro's 50th Street Station and Gilbert Road Extension

Tempe Streetcar SSRR

- In February 2022, ADOT assembled a SSRR team comprised of the Multimodal Planning staff and its SSO contractor, Dovetail Consulting
- ADOT held virtual interviews and conducted in-person site visits
- ADOT issued a Draft Report and Final Report
- ADOT issued 5 Findings: Revisions to Streetcar DCM, Design Deviation Risk Assessment, Design Deviation Risk Acceptance, Beneficial Use Permit Process for Vehicles, Project Plan Descriptions for Drills and Exercises. Valley Metro successfully closed actions required prior to RSD.



Scope

ADOT evaluated 10 safety and security certification requirements



RFIs

ADOT requested 85 RFIs to prove implementation of certification process and adherence to governance documents established for the project



RTA Meetings

In the year leading up to SSRR, ADOT attended SSRC, FLSSC, and Emergency Response Contingency Planning meetings and PHA and OHA work sessions



FTA PMOC

ADOT coordinated 9 monthly meetings with FTA PMOC



Site Visits

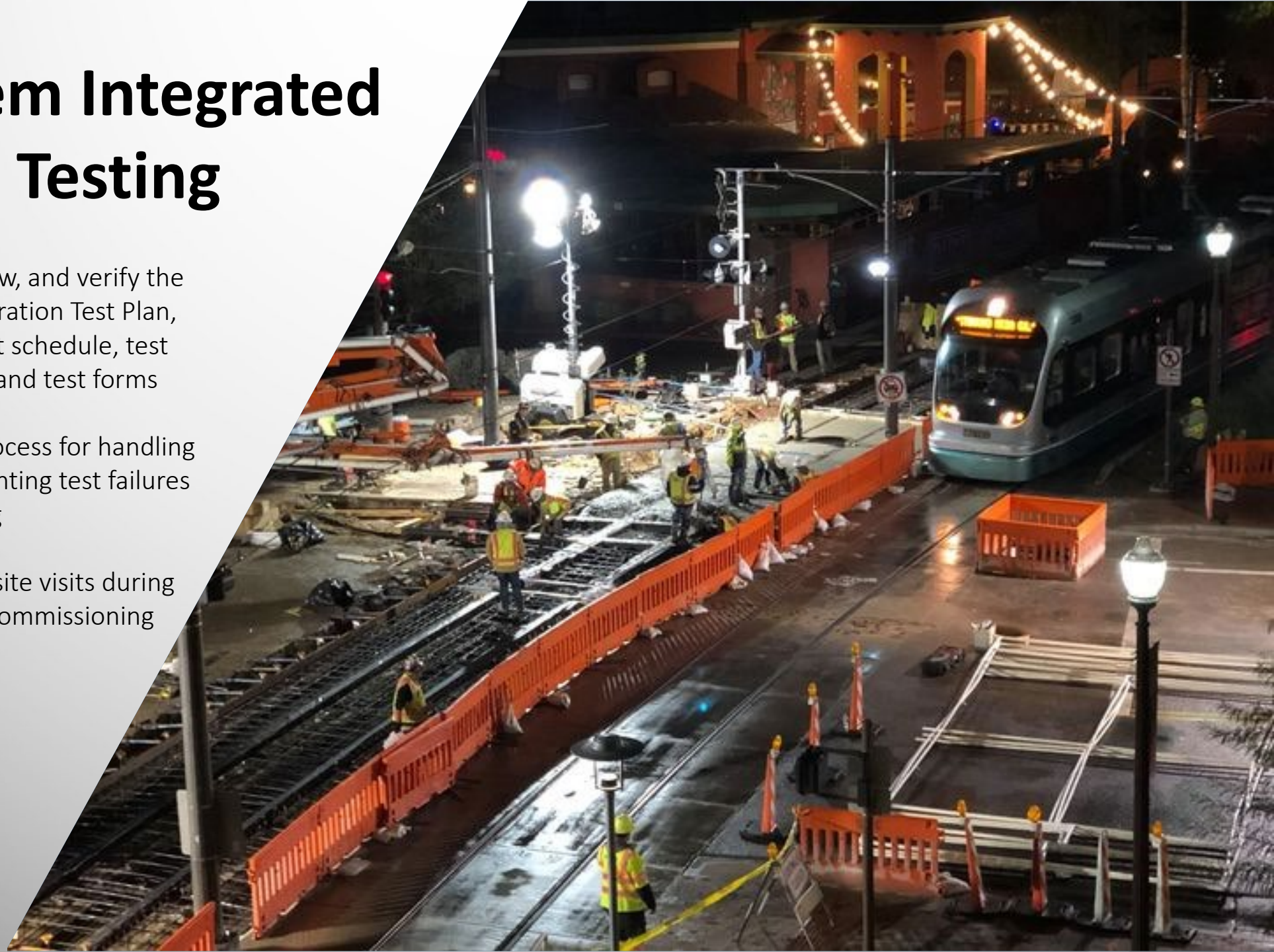
ADOT performed 4 full-day site visits related to Tempe Streetcar readiness, to observe and assess the alignment, traction electrification, vehicles, and emergency response capabilities

System Integrated Testing

Obtain, review, and verify the System Integration Test Plan, including test schedule, test procedures, and test forms

Require a process for handling and documenting test failures and retesting

Conduct on-site visits during testing and commissioning activities



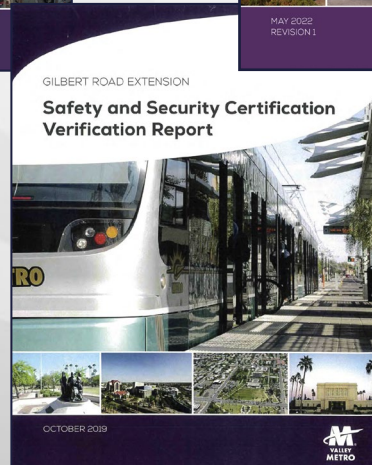
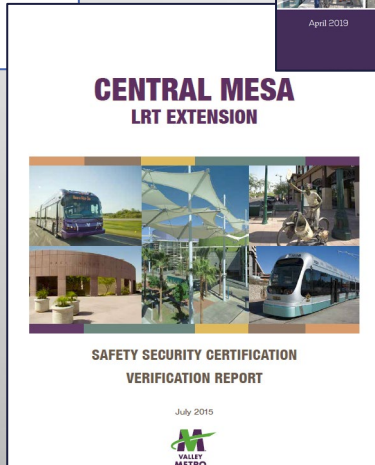
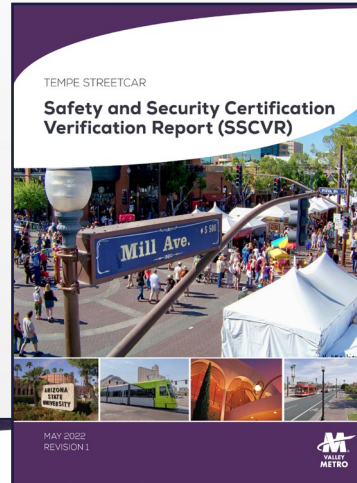
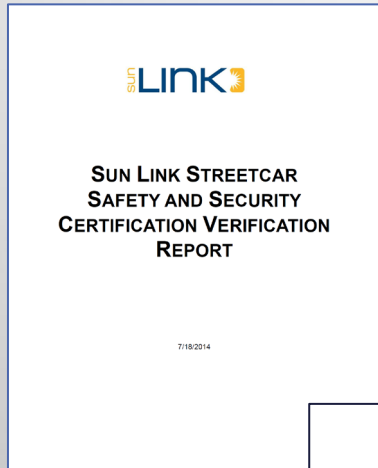
System Readiness Drills, Familiarization Training

Support innovative design and delivery of emergency drills, exercises, and familiarization training for staff, contractors, and emergency response personnel across multiple agencies with varying shifts

Find an appropriate method for tracking findings and recommendations from After Action Reports to ensure their implementation and continuous improvement for the rail transit agency

Safety & Security Certification Verification Report

Prepare a formal, written Review Checklist for each SSCVR prepared by the rail transit agency



ADOT uses a 16 point checklist



5Rs for Safety and Security Certification Oversight



Contact Information

Brian Brinkley

Arizona Department of Transportation
State Safety & Security Oversight
1611 W. Jackson, MD310B
Phoenix, AZ 85007
(602) 712-8798
BBrinkley3@azdot.gov

Mignon Allen

Dovetail Consulting
ADOT SSO Consultant PM
1777 Phoenix Parkway, Suite 306
College Park, GA 30349
(770) 603-3113
mallen@dovetailconsulting.net

