Advancing Safety Rules Compliance
Proactive Management through Observations and Metrics

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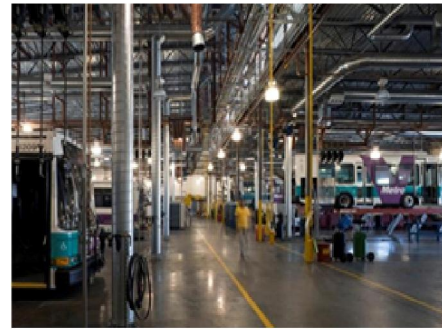Baltimore, MD

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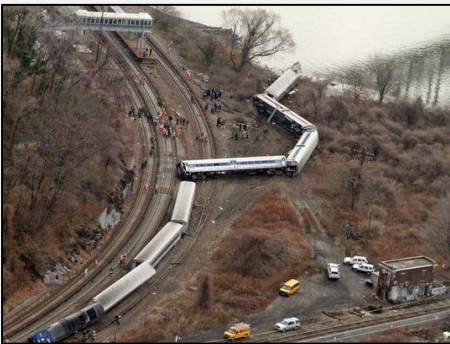

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November 16, 2015

The Problem

- Many of today's accidents are preventable

- Root causes of these preventable accidents often stem from rules violations

- Agencies cannot easily quantify rules compliance

Previous Responses to the Problem

- Efficiency checks

- APTA Rules Compliance Standard

- TCRP Report 149

- Peer properties' programs

Efficiency Checks

- ✓ Verify that safety-critical rules were being followed
- ✓ Ensure management field presence
- ✓ Management follow up

This approach focuses on *individuals* – not on overarching safety *trends*.

APTA Rules Compliance Standard

- **Evaluation process**

  to identify rules and procedures included under the program.

- **Position or function**

  the program will evaluate.

- **Organizational responsibility**

  delegated for administering the process.

- **Evaluation cycle**

  and/or the frequency of compliance checks.

- **Method of verification**

  to ensure methodical/objective data collection.

- **Record-keeping**

  from observations, data analysis, and corrective actions.

- **Correction actions**

  taken in response to address problems the program identifies.

- **Metrics**

  that measure baseline levels, track changes, and assess effectiveness.

- **Validation**

  process to assess the effectiveness of corrective actions

APTA STANDARDS DEVELOPMENT PROGRAM
STANDARD
American Public Transportation Association
1666 K Street, NW, Washington, DC, 20006-1215

APTA RT-OP-S-011-10
Approved June 6, 2010
APTA Rail Transit Standards
Operating Practices Committee

Rule Compliance

Abstract: This *Standard* outlines the basic elements of a rule compliance program needed to verify adherence to operating rules.

Keywords: compliance checks, efficiency checks, rule audits, rules compliance

Summary: This *Recommended Practice* provides minimum rule compliance requirements for rail transit systems (RTSs) to ensure that their approved operating rules are implemented and followed according to the standard stated within the rule's guidelines.

Scope and purpose: This standard applies to rail transit systems that operate light and heavy rail systems. It does not apply to commuter railroads that operate on the general railroad system regulated by the Federal Railroad Administration (FRA). Operating rules are created to promote safe, efficient, timely and customer-oriented transit operations. Adherence to these operating rules is necessary to achieve these objectives.

This Recommended Practice represents a common viewpoint of those parties concerned with its provisions, namely, transit operating/planning agencies, manufacturers, consultants, engineers and general interest groups. The application of any standards, practices or guidelines contained herein is voluntary. In some cases, federal and/or state regulations govern portions of a transit system's operations. In those cases, the government regulations take precedence over this standard. APTA recognizes that for certain applications, the standards or practices, as implemented by individual transit agencies, may be either more or less restrictive than those given in this document.

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TCRP Report 149

- Published in 2011

- Presents best practices and ideas for transit agencies to develop/ improve existing rules compliance programs

- Identifies necessary training requirements
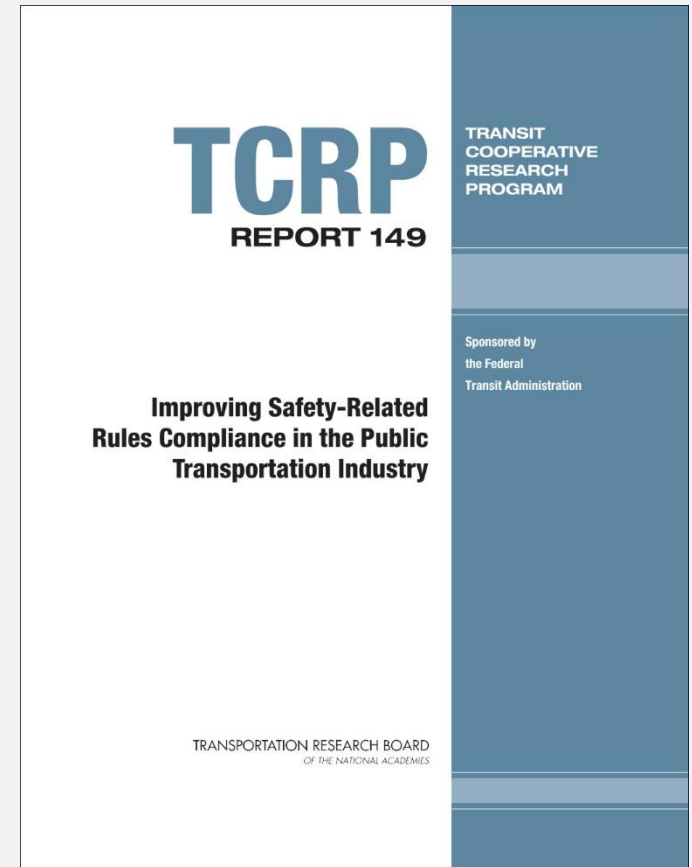
Peer Properties' Programs

- 2012 peer survey included:
  - *MTA (Maryland)*
  - *NJT*
  - *MBTA*
  - *SEPTA*
  - *VTA*

- Most agencies used the APTA Standard and TCRP Report 149 to guide their program

Our Response to the Problem

Three guiding elements:

- ✓ Foundation of industry best practices

- ✓ Comprehensive project management approach

- ✓ Unique program features

Foundation of Industry Best Practices

- Align with APTA and TCRP guidelines

- Review peer properties' policies and programs

- Explore MTA's agency concerns:

  – *Manpower*

  – *Continuity with existing policies/programs*

  – *Areas of known operational risk*

Comprehensive Project Management Approach

- Cross-functional team:
  - *Senior leaders for governing structure*
  - *Field management for observation procedures*
  - *SSO participation*
  - *Consultant support (agency and SSO)*
- Rapid Development of the Safety Rules Compliance Program (SRCP)

Summary of Unique Program Features

- Shared departmental responsibility

- Three tiers of management staff

- Targeted monthly observation schedule

- Growing library of tests

- Codified linkages to existing rules, policies, and programs

- User-friendly software for comprehensive analysis

Unique Program Features

Shared Departmental Responsibility:
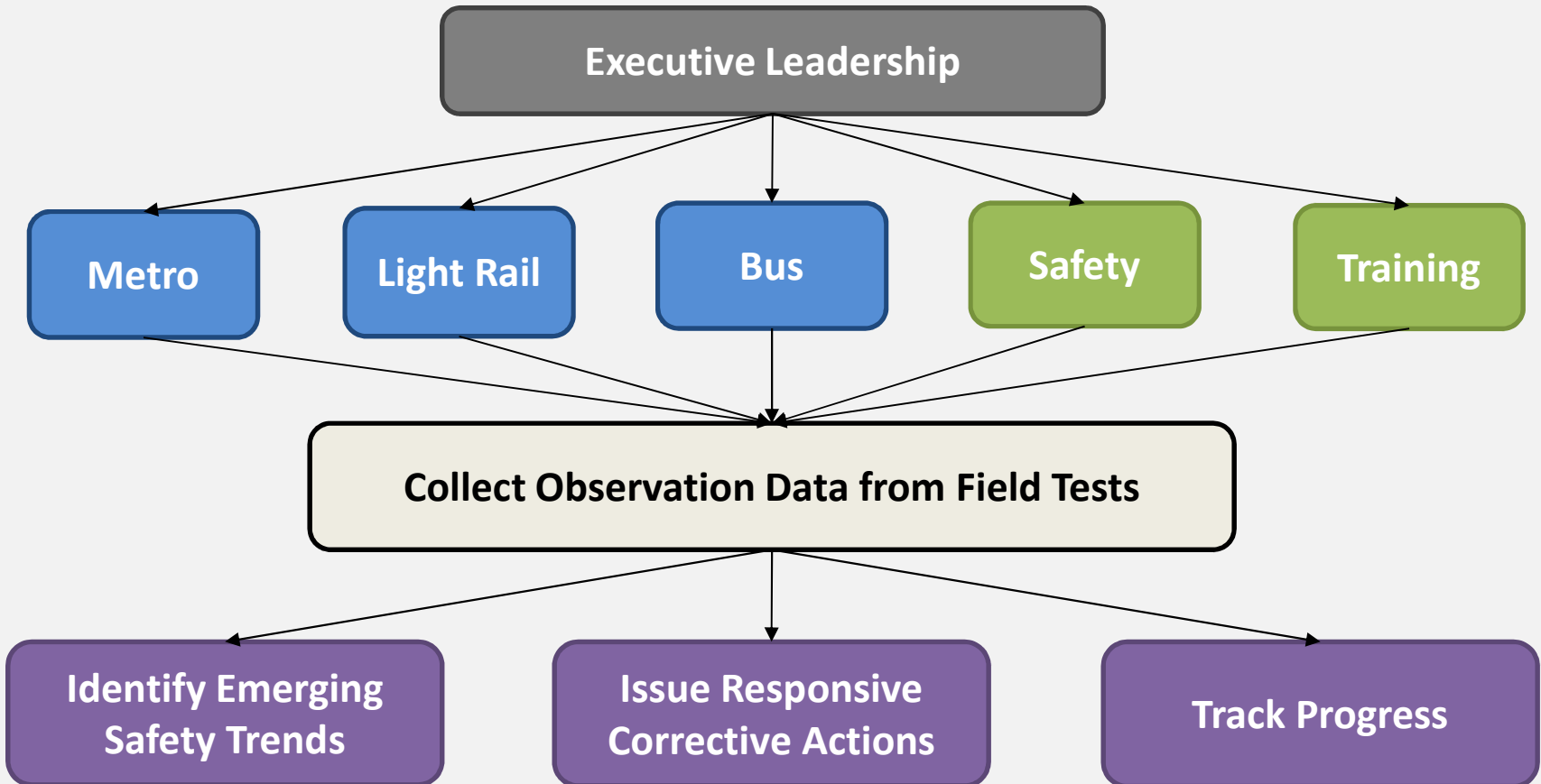
Unique Program Features

Three Tiers of Management Staff:

Safety Management Committee
Senior departmental leadership governing the Program

Testing Coordinators
Senior departmental designees liaising between the Committee and Rules Compliance Staff.

Rules Compliance Staff
Management employees conducting field tests and inputting the results into the software.

Unique Program Features

Targeted Monthly Observation Schedule:

Operations Training

Week Beginning	Mode	Department	Test	Testing Period	Location Code	Location Details
8/30/2015	Metro	Training	SRCP-MR-001 Door Test	Off-Peak	Track 1 (EB)	Shot Tower/Market Place, Track 1
8/30/2015	Bus	Training	SRCP-B-001 Radar Test	Peak	All Routes	E Lombard St at S Caroline St; Speed Limit is 25 mph (school zone)
9/6/2015	Metro	Training	SRCP-MR-002 Radar Test	Peak	Track 1 (EB)	Upton/Avenue Market, Track 1; Speed Restriction Starting @ Chain Marker NW 112
9/6/2015	Light Rail	Training	SRCP-LR-001 Bar Signal Test	Off-Peak	Track 1 (SB)	Lexington Market, Southbound
9/13/2015	Light Rail	Training	SRCP-LR-002 Radar Test	Weekend	Track 1 (SB)	Falls Road, Track 1; Speed Restriction Starting @ Chain Marker 370
9/20/2015	Light Rail	Training	SRCP-LR-004 Station Stop Test	Peak	Track 1 (SB)	Baltimore Highlands, Southbound

Unique Program Features

Growing Library of Tests:

	Metro	**Light Rail**	**Bus**
Starter Tests	• Door • Radar • Hand Signal	• Bar Signal • Radar • Hand Signal	• Intersection • Radar • Rail Crossing
Additional Tests	• Right-of-Way • Dark Signal	• Station Stop • Yard Move • Right-of Way	• Service Stop • Seatbelt • Pre-Trip Insp.

Unique Program Features

Codified Linkages to Existing Rules, Policies, and Programs:
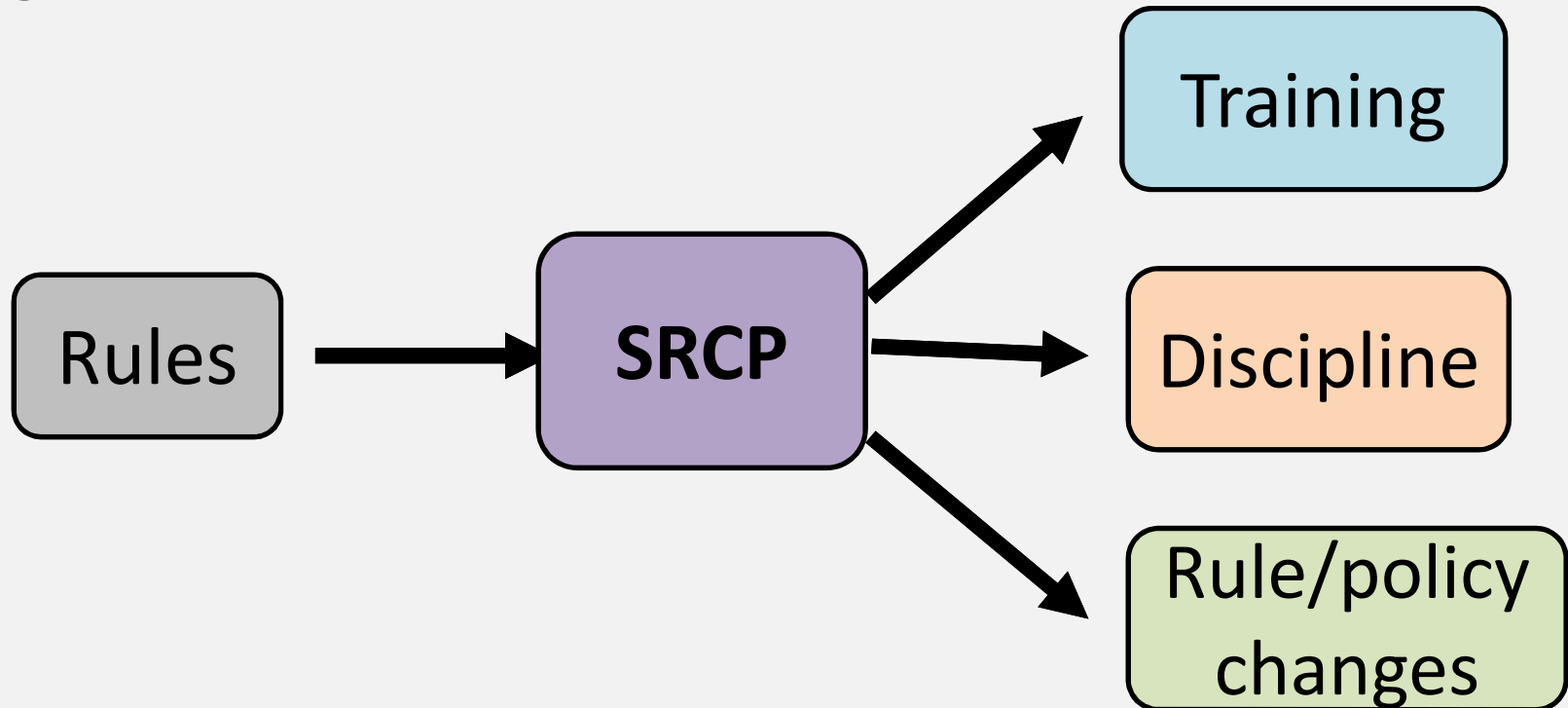
Unique Program Features

User-Friendly Software for Comprehensive Analysis:

- Observation schedule generation/distribution via software

- Integrated staff scheduling

- Controlled/guided data entry, minimizing errors and omissions

- Built-in quality assurance checks and communication

- Tracking management performance

- Tracking overarching employee performance trends

- Tracking individual employee performance

- Tracking corrective actions

- Monthly generation of printable performance dashboard

Benefits, Results, and Return-on-Investment

Primary program benefits:

- ✓ Increased rules compliance rates

- ✓ Employees identified as repeat offenders

- ✓ Employees with violations targeted for immediate and longer term corrective actions

- ✓ Top to bottom departmental focus on safety

- ✓ Advancement of system safety

Rules Compliance Rates

PROBLEM

Hand Signal compliance rates in the first 3 months of MR and LR were 42% and 44% respectively

SOLUTION

Through targeted corrective actions, vastly improved hand signal compliance rates in MR and LR to over 90%

Location-Specific Issues

PROBLEM

Overall compliance rates can mask location-specific issues.

SOLUTION

The software tracks compliance rates by location, enabling management to take steps to identify location-specific issues at play and proactively intervene as necessary.

| Mode	Location	Bar Signal	Radar	Hand Signal	Station Stop	Yard Movement
Light Rail	Timonium Business Park		100%	100%	100%	
Light Rail	Lutherville		84%	71%	100%	
Light Rail	Falls Road		100%	100%	100%	
Light Rail	Mt. Washington		88%	75%	100%	
Light Rail	Cold Spring Lane		100%	86%	100%	
Light Rail	Woodberry		91%	100%	100%	
Light Rail	North Avenue		100%		100%	

Individual Employees Identified as Repeat Offenders

PROBLEM

Certain employees were identified as "high risk" due to their frequent violations

SOLUTION

Modal management worked with operations training to proactively intervene with targeted retraining, field reinstruction, and follow-up ride checks.
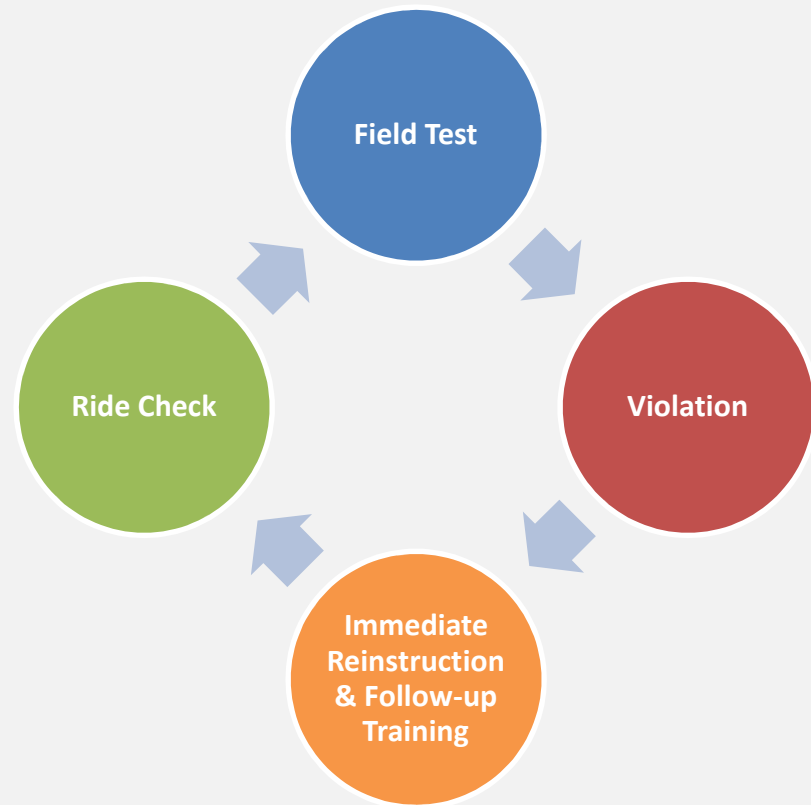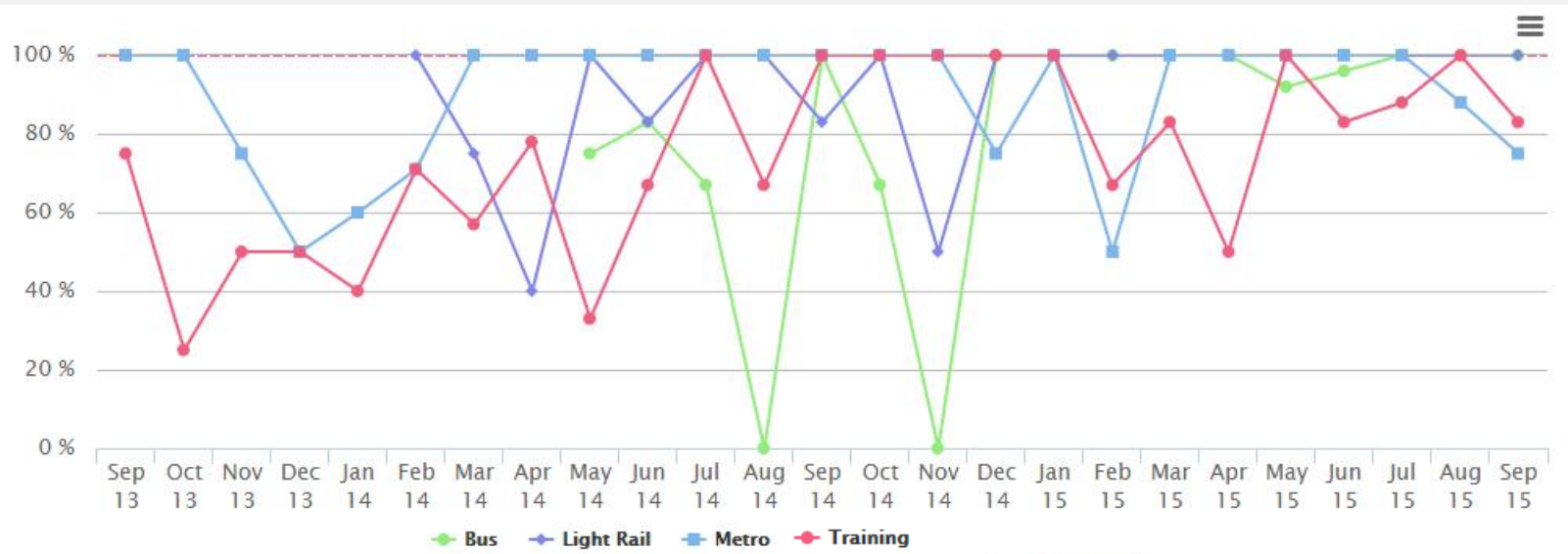
Departmental Focus on Safety

PROBLEM

*Not all departmental managers consistently fulfilled their quota of field observations*

SOLUTION

Departmental performance has dramatically improved as buy-in and support for the program has increased. All departments have voluntarily increased their quota of required observations.

Next Steps and Expansion Opportunities

- Continue expanding the portfolio of test types

- Linkage to other related safety databases

- Increased automation in the SMS software

- Public dashboards
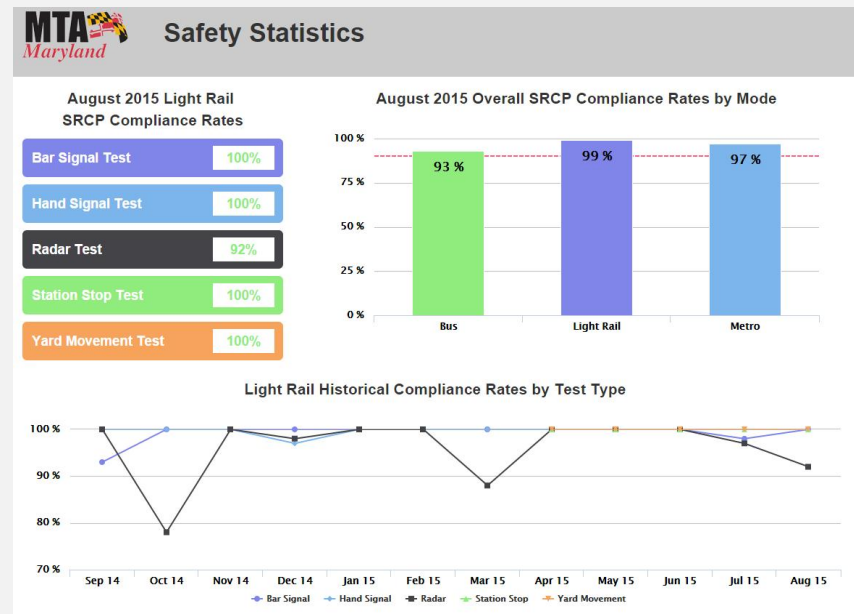
Key Presentation Take Aways

The MTA SRCP:

- ✓ Supports efficient safety management despite limited resources

- ✓ Improves safety culture through program involvement at all levels and codified corrective actions

- ✓ Provides a measurable improvement to system safety

THANK YOU

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