

LOTS

SAFETY MANAGEMENT SYSTEM (SMS) IMPLEMENTATION TRAINING

SAFETY PERFORMANCE TARGETS AND LOTS
MANUAL CHANGES

MAY 12, 2021

Purpose of Training

- Support SMS implementation by improving safety data reporting
- Discuss best practices for tracking and reporting System Reliability
- Describe MPO Safety Performance Target sharing requirement
- Review 2021 changes to LOTS Manual Chapter 11, “Safety, Security, and Risk Management”

ProjectWise Resources

A quick
advertisement

ProjectWise Explorer V8i (SELECTseries 4)

Datasource Folder Document View Tools Window Help

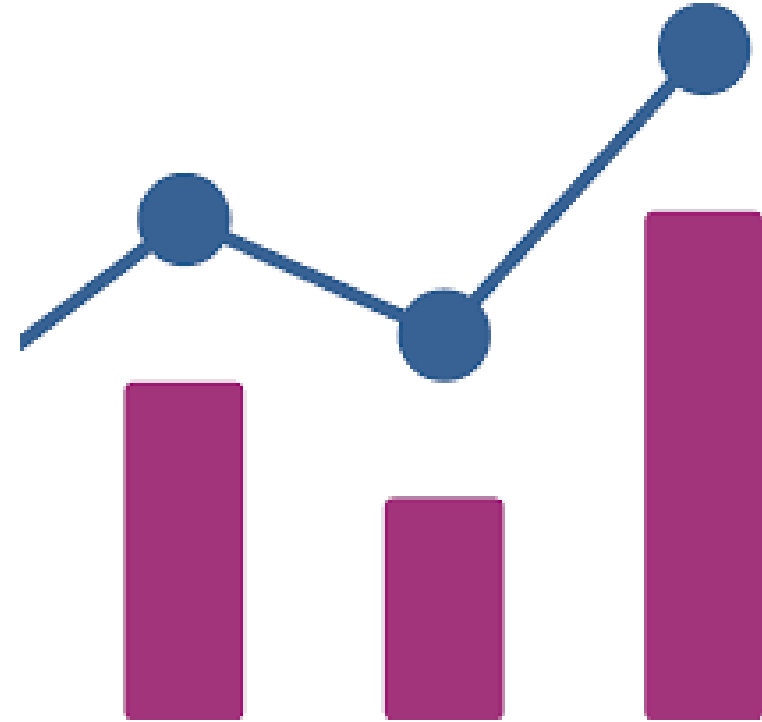
Address: pw:\MTAGBPWAPP1:MTA_PW_Data\Documents\22 - Locally Operated Transit Systems\Safety Management\01

07 - Insurance Programs
08 - Safety Data
09 - Workers Compensation
90 - MDOT
91 - Collaboration
110 - Proposed SOPs for Review
OSMRC Pass On Info
ZZ - Sandbox
20 - Agencywide
22 - Locally Operated Transit Systems
02 - Grant Exhibits & Master Agreement Do
03 - Library
Asset Management
ATP
COVID-19
DBE
FEMP Plans
Fleet Maintenance Plans
Form 2a
NTD Reporting
Rideshare
Safety Management
01-OLTS-Safety Management
LOTS PTASP Tool Box
AA (Anne Arundel)
AC (Annapolis City)
AL (Allegany)
BL (Baltimore County)

List Spatial

Name	Out to	State	Status
LOTS PTASP Tool Box			
LOTS Safety Checklist.xlsx			Checked In
SMS Training 2016.11.28.-PB #1.pdf			Checked In
SMS Training 02017.3.06. Component Framework PPTv2.pdf			Checked In
Maryland LOTS SMS Template.docx			Checked In
Maryland LOTS Roles and Responsibility Chart.docx			Checked In
SMS Training 2017.06.29. Hazard Management.pdf			Checked In
SMS Training 2017.04.06. SAFETY PRESENTATION WORKSHOP 3...			Checked In
Accountable Exec Fact Sheet.pdf			Checked In
SMS Training 2017.09.28. Safety Assurance & Promotion.pdf			Checked In
SMS Training 2018.10.25 FTA Background Info.pdf			Checked In
PTASP template-bus-transit (7).docx			Checked In
SMS Training 2019.02.06. FTA Bus Agency Template without Poll...			Checked In
PTASP-template-bus-transit-reference-guide.pdf			Checked In
SMS Reference Guide.pdf			Checked In
SMS Training 2019.04.18 Hazard Management PPT-Webinar.pdf			Checked In
SMS Training 2019.05.07. ESRP- Safety Performance Targets-PPT...			Checked In
FTA Safety Training Resources.pdf			Checked In
SMS Training 2019.09.19 LOTS Finalizing Safety Plans.pdf			Checked In
Major Mechanical Failures and System Reliability Guide.pdf			Checked In
Opt Out Letter for LOTS.docx			Checked In
ptasp-fact-sheet-02-06-2019.pdf			Checked In
sample-asp-small-public-transp-provider-20200226.pdf			Checked In
PTASP Annual Certification Form.pdf			Checked In

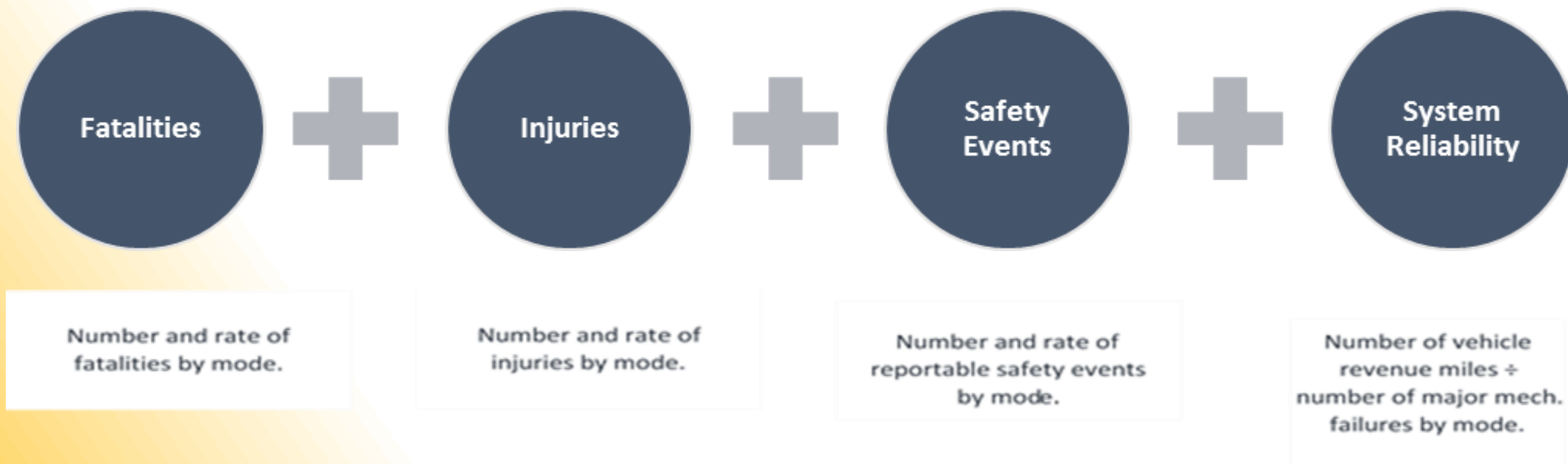
Safety Data Reporting



National Public Transportation Safety Plan

Safety Performance Criteria

Agency Safety Plans must include these four required safety performance measures:



What Kind of NTD Reporter Are You?

§5307 Recipients – FULL Reporters	§5307 Recipients – REDUCED Reporters	§5311 Recipients – RURAL Reporters
Anne Arundel County	Allegany County Transit	Baltimore County Department of Aging
Baltimore City DOT	Annapolis Department of Transportation	Delmarva Community Transit
Charles County	Calvert County	Garrett County Community Action Committee
Howard Transit	Carroll County Department of Citizen Services	Town of Ocean City
Prince George's County Transit	Cecil County Government - SSCT	
Ride-On Montgomery County Transit	Harford Transit	
Transit Services of Frederick County	Queen Anne's County Department of Aging	
Tri-County Council for the Lower Eastern Shore	St. Mary's Transit System	
	Washington County Transit	

Let's Break it Down!

Reportable Safety Data

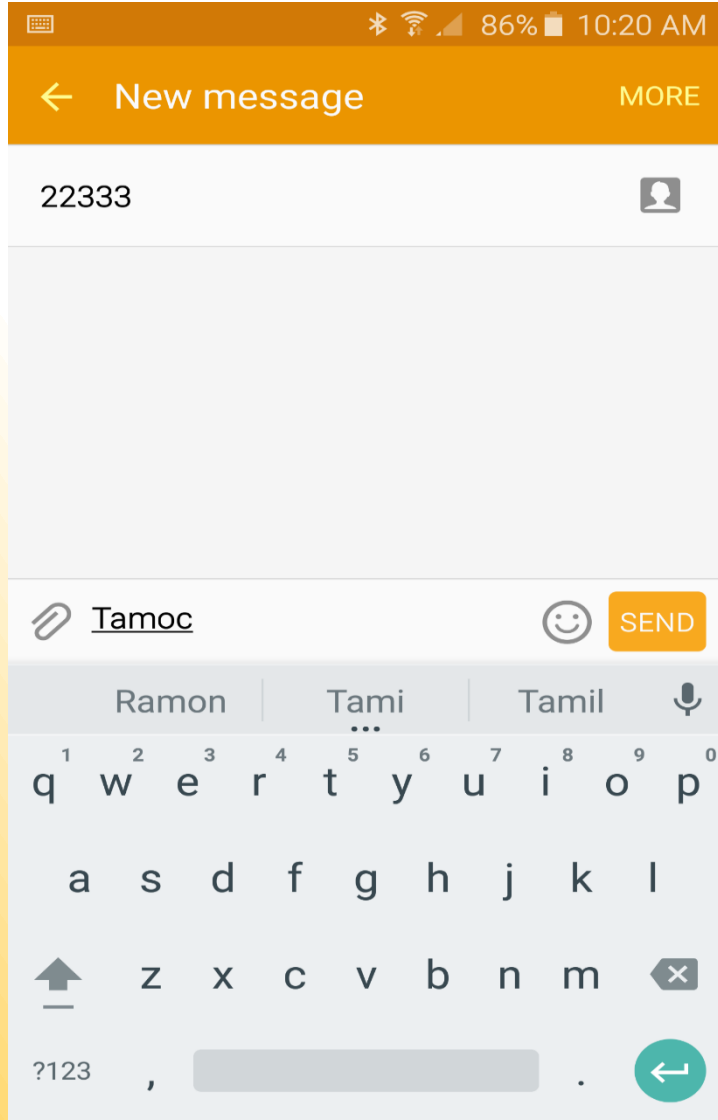


A reportable safety event occurs:

- In a transit revenue facility,
- In a transit maintenance facility, or
- Involving a transit revenue vehicle.

Spongebob Squarepants image used by permission, © Viacom International Inc.

Is it Reportable? Let's see what you know



pollev.com/WSPDC

Or

Text WSPDC085 to 22333

You've joined WSP DC's Session (WSPDC). When you're done, reply LEAVE.

Powered by
PollEverywhere.com

Fatalities

- A death or suicide as a result of an event that is confirmed within 30 days of a reported incident.
- Does NOT include deaths in/on transit property that result from illness or natural causes.

Scenarios:

- (1) A passenger suffers a fatal stroke while riding a transit vehicle.
- (2) A transit passenger exits a transit bus, crosses the street in front of the bus, and is struck and killed by a passing motor vehicle.

Injuries

- Damage or harm to a person as a result of an event that requires immediate medical attention away from the scene.
- Does NOT include occupational safety injuries occurring in admin. building.
- Does NOT include less severe injuries where there is no medical transportation.

Scenarios:

(3) A transit vehicle overturns after skidding on ice in a snowstorm. Two people are transported from the scene in an ambulance.

(4) A bus maintenance employee is working in the maintenance shop and slips on a patch of oil on the floor, falling to the ground. He goes home to rest and recover. The following day, he visits the doctor and is told that he has a herniated disc, and will require long-term treatment.

Safety Events

Use same thresholds as used for a Reportable Incident or Event.

(Full Reporters, include events that qualify as a Major Event on S&S-40.)



Fatality



Injury requiring transport from scene for medical attention



Estimated property damage equal or exceeding \$25,000



Evacuation for life safety reasons



Collision involving revenue vehicles that requires towing (of the transit vehicle or non-transit vehicle)

How to Track Your Safety Data

MODE: MB	VRM	FATALITIES		INJURIES		SAFETY EVENTS		SYSTEM RELIABILITY	
Year	Annual Vehicle Revenue Miles	Number of Fatalities	Rate of Fatalities Per 100K VRM	Number of Injuries	Rate of Injuries Per 100K VRM	Number of Safety Events	Rate of Safety Events Per 100K VRM	Number of Major Mechanical Failures	Miles Between Major Failures
2013	2,695,471	0	0.00	0	0.00	0	0.00	35	77,013
2014	2,908,668	1	0.03	9	0.31	4	0.14	36	80,796
2015	2,885,517	0	0.00	8	0.28	10	0.35	42	68,703
2016	3,061,503	0	0.00	0	0.00	5	0.16	40	76,538
2017	3,057,360	1	0.03	13	0.43	28	0.92	41	74,570
2018	3,028,626	1	0.03	30	0.99	37	1.22	32	94,645
2019	3,039,364	0	0.00	17	0.56	16	0.53	38	79,983

Safety Data must be tracked and Performance Targets established BY MODE

MB = Motorbus (Fixed Route Bus)

DR = Demand Response (door-to-door or origination to destination paratransit)

DT = Demand Response Taxi

How to Set a Performance Target

MODE: MB	VRM	FATALITIES		INJURIES		SAFETY EVENTS		SYSTEM RELIABILITY	
Year	Annual Vehicle Revenue Miles	Number of Fatalities	Rate of Fatalities Per 100K VRM	Number of Injuries	Rate of Injuries Per 100K VRM	Number of Safety Events	Rate of Safety Events Per 100K VRM	Number of Major Mechanical Failures	Miles Between Major Failures
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2018	3,028,626	1	0.03	30	0.99	37	1.22	32	94,645
2019	3,039,364	0	0.00	17	0.56	16	0.53	38	79,983
7 year total	20,676,509	3	0.100	77	3	100	3	264	552,248
7 year avg	2,953,787	0.43	0.0143	11.00	0.3660	14.29	0.4730	37.71	78,893
Target 5% reduction	2,806,098	0	0.0136	10	0.3477	14	0.4494	36	82,442

Note that # of miles between major failures INCREASE when # of failures decrease

System Reliability



System Reliability



This is the New Performance Measure

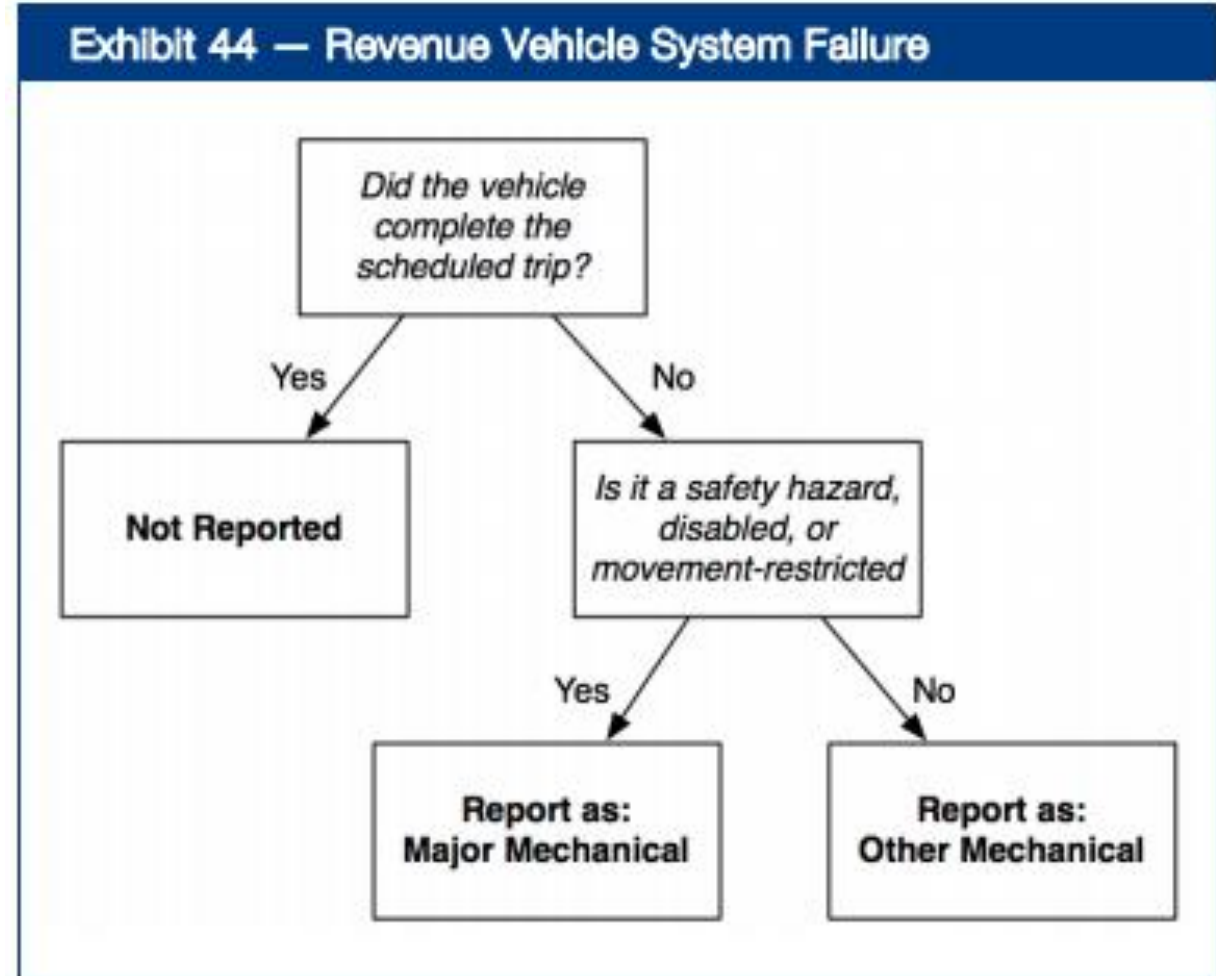
- System Reliability safety performance measure is the mean distance between major mechanical failures.
- Full Reporters currently report revenue vehicle mechanical system failures on NTD Form R-20, “Maintenance Performance.”

DEFINITION: Major Mechanical Failures are failures of some mechanical element of the revenue vehicle not caused by collision, natural disaster, or vandalism that prevent a vehicle from starting or completing a scheduled revenue trip because actual movement is limited or because of a safety concern.

Major Mechanical Failures

Examples of major bus failures include:

- Brakes
- Doors
- Engine Cooling Systems
- Steering
- Axles
- Suspension



Is it a Major Mechanical Failure?

Scenarios:

7. The air conditioning on a bus fails while carrying passengers in revenue service. The driver determines he is unable to repair the problem and calls for a backup bus because it is a very hot day.
8. During layover, a bus experiences an engine cooling system failure. The agency tows the bus to the garage and dispatches a backup bus immediately. The next trip departs on time.
9. While deadheading back to the bus garage at the end of the day, an electrical system problem activates the wheelchair lift on a cutaway bus. The lift is stuck in the extended position and the bus has to be towed to the garage.

Reporting Major Mechanical Failures

- LOTS agencies who are **full reporters** annually report to FTA on their maintenance performance using NTD Form R-20
- Major Mechanical Failures and Other Failures must be reported by mode

Maintenance Performance (R-20)

25651 - Full Operating USOA 2018 - 2019 (Full Reporter: Operating) - RY18 Original Submission (Working Data)

There are currently no open issues on this form.

Revenue Vehicle Mechanical System Failures

Mode/Service	Major Failures	Other Failures	Total Failures
HR DO			
CB DO			

Best Practices

- Frederick County – Roman Steichen
- Prince George's County – Marsha Wilson
- Shore Transit – Bruce Richardson



QUESTIONS:

1. What software do you use to track major mechanical failures?
2. Who is responsible for pulling together the failures data to be included in NTD R-20 Maintenance Performance annual report?

System Reliability Tools and Processes



SOFTWARE: Asset Works Fleet Focus; Maximo; Excel
(Other software that may have functionality:
Transman Fleet Management; Trapeze)

WHO IS RESPONSIBLE: Vehicle
Maintenance usually has
primary responsibility for
tracking mechanical failures;
responsibility for compiling
and submitting NTD data
entry varies



A Sample Process

Determine

- Determine whether a failure is a major mechanical failure or other failure (failure of a mechanical element that prevents starting/completing a scheduled revenue trip)
- *Was vehicle towed? Was it a breakdown or accident? Was tech sent out in response?*

Track

- Work Order, breakdown report, accident/incident report entered in daily log in a way that allows categorizing and sorting
- Include info about vehicle, fleet, type of service (MB, DR)

Review and Compile

- Review monthly for accuracy and trend analysis
- Compile major failures

Analyze and Report

- At least annually, analyze numbers of major failures and examine circumstances for possible hazard identification
- Full Reporters complete NTD R-20 Maintenance Performance report
- All agencies report major failures by mode on updated ATP Form 2a
- Determine whether System Reliability performance measure should be updated in ASP update

MPO Safety Performance Target Coordination



MPO Safety Performance Target Setting

- FTA's PTASP Rule enforcement deadline was pushed back by COVID, first to Dec. 31, 2020 and again to July 20, 2021
- By July 20, 2021, transit agencies need to inform their MPO of the safety performance targets in their Agency Safety Plans
- Each LOTS agency is responsible for informing its MPO
- FTA requires that MPOs prepare initial public transportation safety performance targets within 180 days of the PTASP final rule deadline
- MPOs have until January 17, 2022 to set their transit safety performance targets

LOTS MPOs

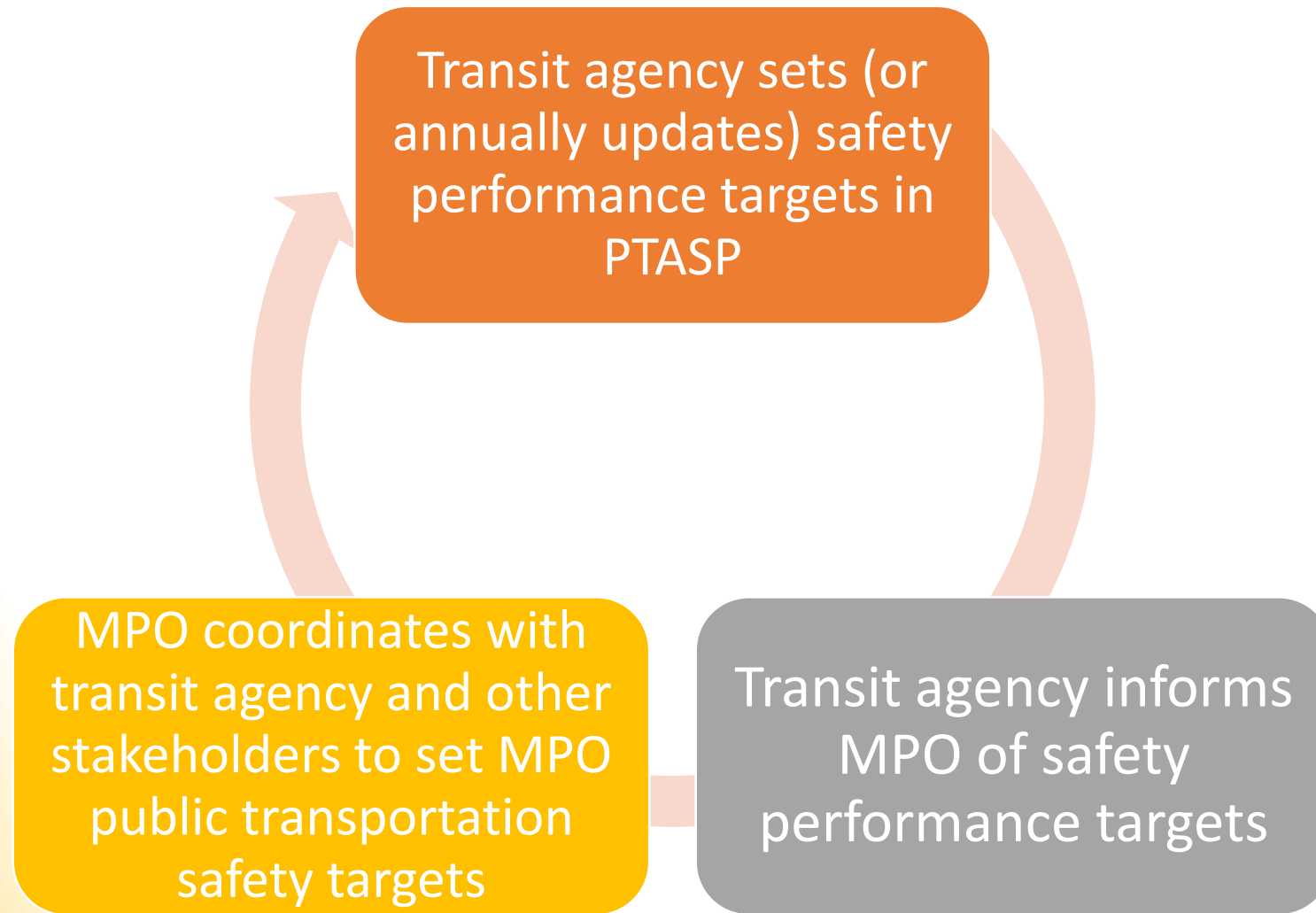
LOTS AGENCY

Allegany County Transit
 Annapolis Department of Transportation
 Anne Arundel County
 Baltimore City Department of Transportation
 Baltimore County Department of Aging
 Board of County Commissioners of Calvert County, MD
 Carroll County Department of Citizen Services
 Cecil County Government - SSCT
 County Commissioners of Charles County, MD
 Dorchester County Council
 Garrett County Community Action Committee, Inc.
 Harford Transit
 Howard Transit
 Prince George's County Transit
 Queen Anne's County Department of Aging
 Ride-On Montgomery County Transit
 St. Mary's Transit System - Dept. of Public Works & Transit
 The County Commissioners of Caroline County
 Town of Ocean City
 Transit Services of Frederick County
 Tri-County Council for the Lower Eastern Shore of MD
 Washington County Transit

Metropolitan Planning Organization (MPO)

Cumberland Area Metropolitan Planning Organization (CAMPO)
 Baltimore Regional Transportation Board (BRTB)
 Baltimore Regional Transportation Board (BRTB)
 Baltimore Regional Transportation Board (BRTB)
 Baltimore Regional Transportation Board (BRTB)
 Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO)
 Baltimore Regional Transportation Board (BRTB)
 Wilmington Area Planning Council (WILMAPCO)
 National Capital Region Transportation Planning Board (TPB)
 Rural Area -- No MPO.
 Rural Area -- No MPO.
 Baltimore Regional Transportation Board (BRTB)
 Baltimore Regional Transportation Board (BRTB)
 National Capital Region Transportation Planning Board (TPB)
 Baltimore Regional Transportation Board (BRTB)
 National Capital Region Transportation Planning Board (TPB)
 Calvert-St. Mary's Metropolitan Planning Organization (C-SMMPO)
 Rural Area -- No MPO.
 Rural Area -- No MPO.
 National Capital Region Transportation Planning Board (TPB)
 Salisbury/Wicomico Metropolitan Planning Organization (S/WMPO)
 Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO)

Informing and Coordinating



What happens next?

- LOTS must inform their MPOs of the safety performance targets in their PTASP by July 20, 2021
- LOTS must annually update their PTASPs and inform MPOs of updated safety performance targets
- MPOs establish their public transportation safety performance targets based on input from the transit agency – or agencies – providing service in their area
- MPOs are not required to set new transit safety targets each year, but need to define the coordination process and update schedule in metropolitan planning agreement

MPOs with Multiple Transit Providers

MPOs with multiple transit providers should work with all transit agencies to identify appropriate safety targets for the metropolitan area.

Baltimore Metropolitan Council	C-SMMPO	CAMPO	HEPMPO	NCR TPB	S/WMPO	WILMAPCO
City of Annapolis	St. Mary's Co.	Allegany Co.	Washington Co. Transit	Prince George's Co.	Shore Transit	Cecil Co.
Anne Arundel	Calvert Co.			Charles Co.		
Baltimore City DOT				Montgomery Co.		
Baltimore Co.				Frederick Co.		
Carroll Co.						
Harford Co.						
Howard Co.						
Queen Anne's						

What's the Status on Informing MPOs?

PollEverywhere Question:

- Has your transit agency informed your MPO of the safety performance targets in your PTASP?



Help is on the way!

- OLTS is providing technical assistance to LOTS for safety target communication to MPOs
- A form letter that can be sent via email to your MPO will be developed and distributed



LOTS Manual Update - Ch. 11

LOCALLY OPERATED TRANSIT SYSTEM (LOTS) Program Manual

Chapter 11: Safety, Security & Risk Management

First update to Ch. 11 of LOTS Manual since 2017

PTASP Rule (49 CFR 673) was finalized in July 2018

Changes Related to MAP-21 SMS Regulations

- Restructures chapter to reflect SMS
- Outlines PTASP requirements, FTA's bus agency template used by LOTS
- Specifies data requirements to support safety performance targets
- Removes outdated section on FTA's 2001 Model Bus Safety & Security Program

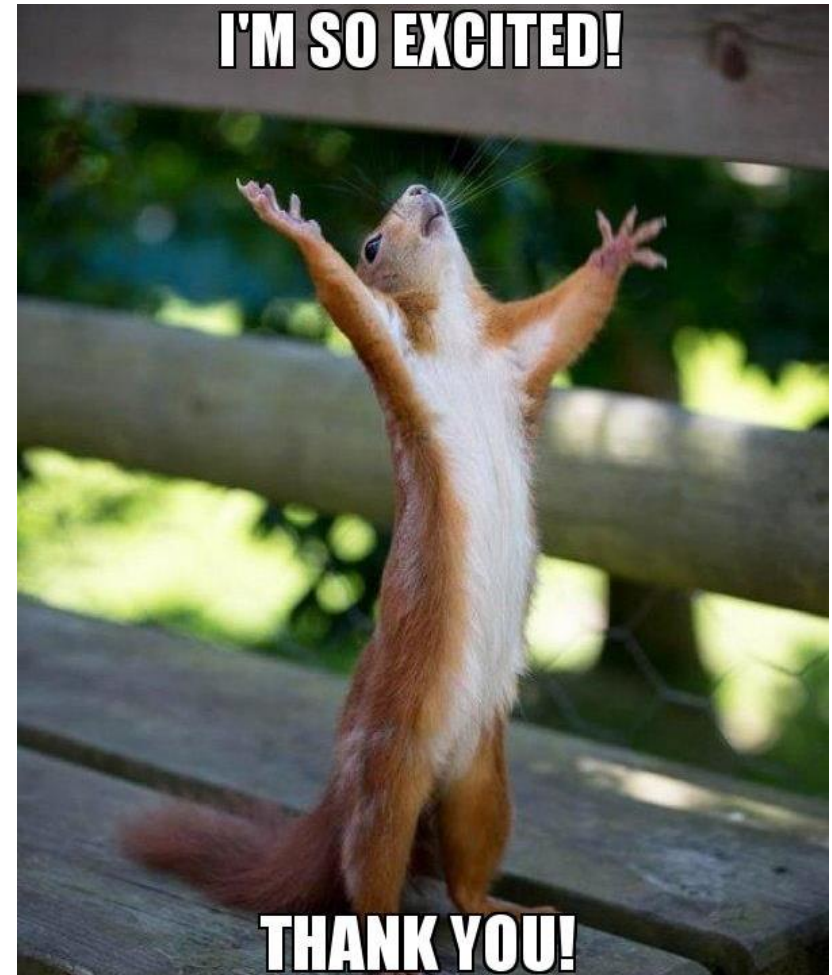
OLTS Safety & Security Requirements

All LOTS are required to:

- Develop and implement a safety program organized under SMS framework and governed by an Agency Safety Plan meeting FTA regulation 49 CFR 673.
- Develop and implement a security program that is appropriate to the size, number and types of assets, and operating environment of the system.
- Annually certify and itemize that one percent of Federal funds that are spent for transit security projects.
- Develop and implement an emergency management program that appropriate to the size and operating environment of the system and have working relationships with local emergency management staff.
- Have an active FTA-compliant drug and alcohol program.
- Follow environmental hazard management and occupational safety and health administration standards.
- Meet Maryland insurance and risk control requirements.

**This sounds
exciting! How can I
read the new LOTS
Manual chapter on
Safety and
Security?**

The updated LOTS Manual
Chapter 11 is in ProjectWise!



Questions?

- Go ahead, try to stump me.
- And feel free to contact me at:

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