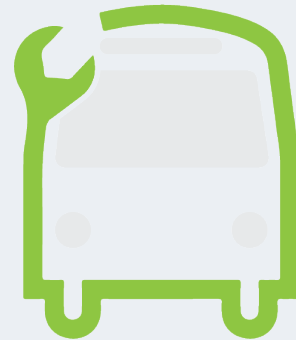


2022 Virtual Transit Asset Management Roundtable: Day 3 Methods/Tools to Integrate TAM

July 21, 2022



**TRANSIT
ASSET
MANAGEMENT**



U.S. Department of Transportation
Federal Transit Administration

Presentation Materials



www.transit.dot.gov/TAM

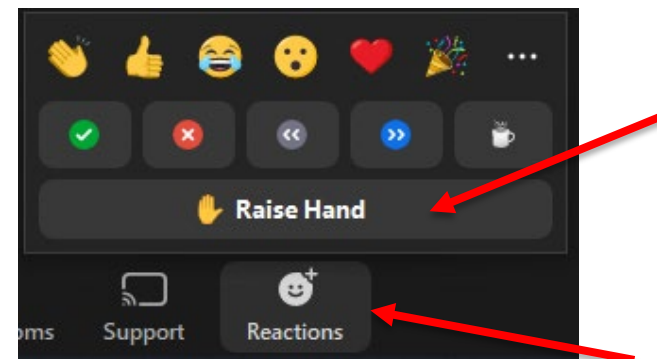
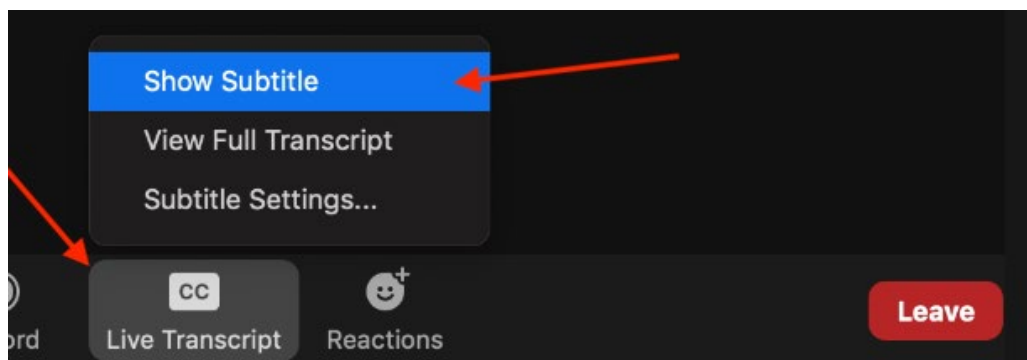
Select "TAM Events" in the sidebar and navigate to "Roundtables", then "2022 Transit Asset Management Roundtable"



Zoom Logistics



- There is no dedicated Q&A pod, only chat pod and direct messages
- Use Raise Hand tool or chat pod for Q&A in main room
- Please stay muted unless you're speaking in main room
- Go on camera and speak up in breakouts
- Closed captioning is available by clicking “Live Transcript”, then selecting “Show Subtitle”
- Raise Hand tool can be used by clicking "Reactions" icon





Today's Session

Welcome/Recap

Presentations on Methods/Tools to Integrate TAM

Break

Breakout Group Activity

Break

FTA Panel

End of Roundtable





Day 2 Takeaways



Presentation Session: Methods/Tools to Integrate TAM

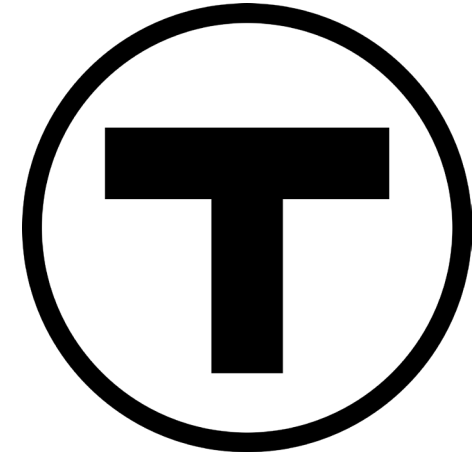


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Emily Burns,
Seattle DOT



Noel Avison,
Denver RTD



Ronnie Valdivia,
MBTA





Incorporating Risk into Asset Management Plans

July 21, 2022

Emily Burns, PMP
Asset & Performance Management Program



Seattle
Department of
Transportation

Our Vision, Mission, Values, & Goals

Seattle is a thriving equitable community powered by dependable transportation. We're on a mission to deliver a transportation system that provides safe and affordable access to places and opportunities.

Core Values & Goals:

Equity, Safety, Mobility, Sustainability, Livability, and Excellence.

Presentation Outline

- Takeaways
- Transit AMP Background
- Risk Assessment Approach
- Implementation & Progress
- Resources



Seattle Department of Transportation TRANSIT ASSET MANAGEMENT PLAN



Key Takeaways

In this presentation, you'll learn about SDOT's:

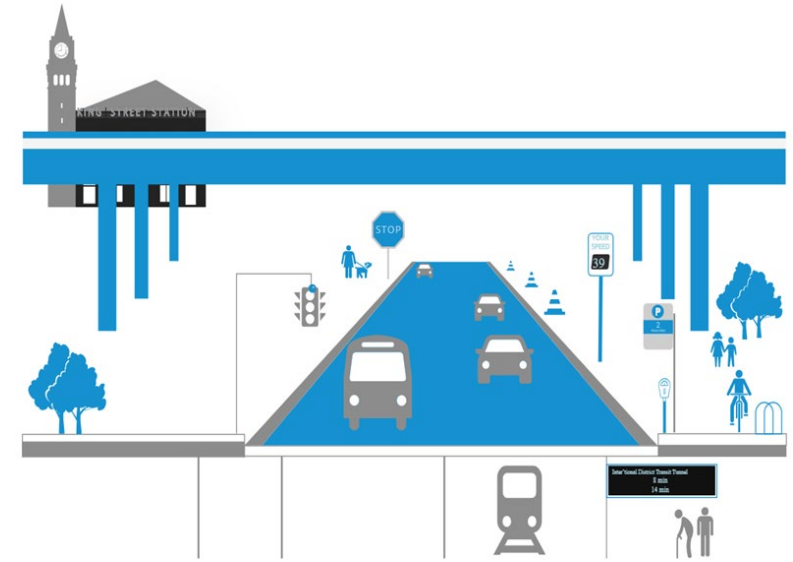
- Approach to Transit Risk Management
- Risk Integration into AMPs for Risk Informed Decision Making
- Tools to Assess, Visualize, and Manage Risk



Seattle
Department of
Transportation

Seattle DOT: A Snapshot

- Seattle covers 53,500 hilly acres with challenging topology, 27% Right-of-Way
- ~1,200 Employees, >500,000 assets in central repository database
- Asset Management Program Established in 2007
- In 2016, voters approved the Levy to Move Seattle, the largest in the City's history



SDOT 2020 Asset Valuation:

>\$28 billion

Sidewalks / Curb Ramps:

\$9.4 billion

Pavement

\$9.2 billion

Bridges / Structures

\$8.7 billion

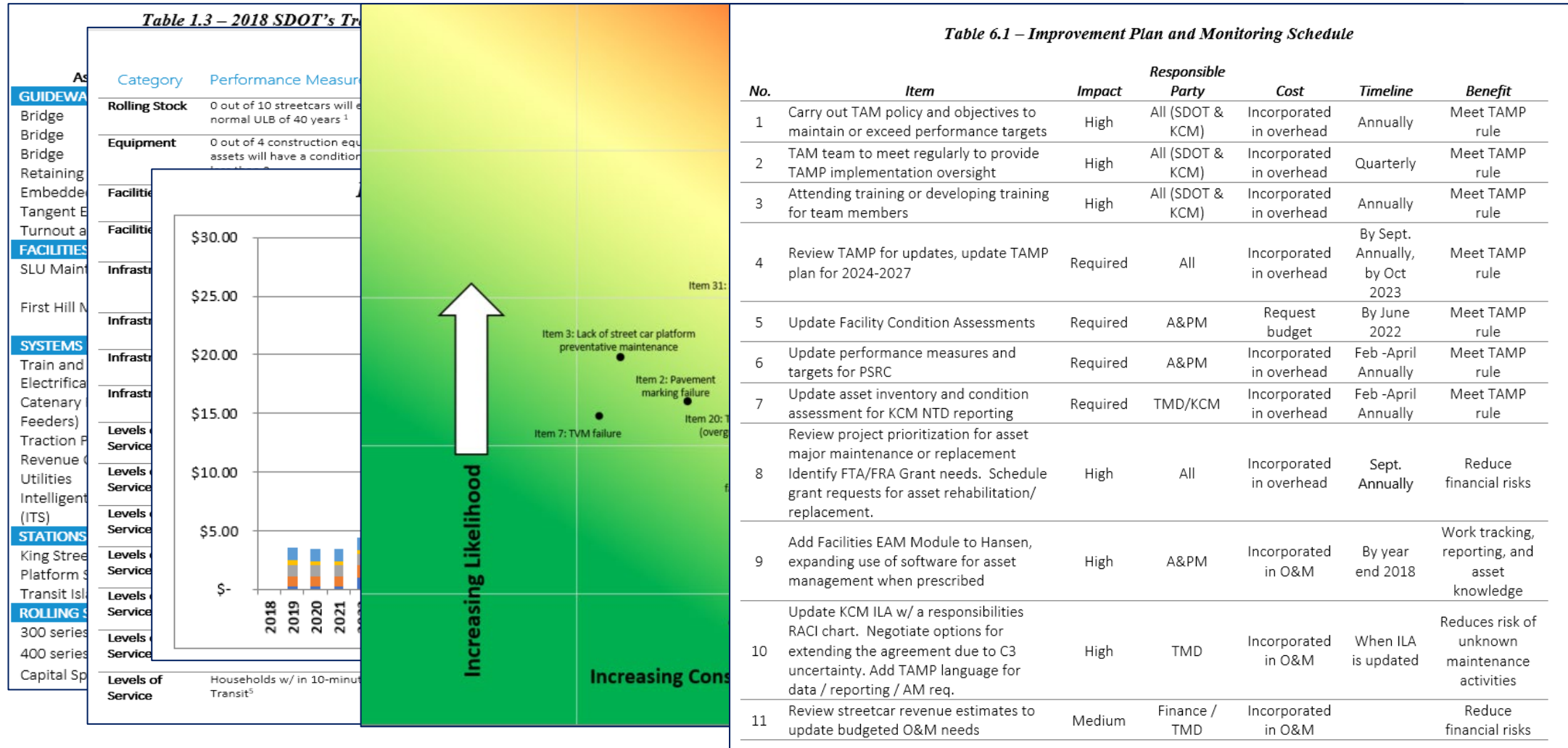
Transit system

\$179 million

Transit Asset Management Plan Components

- Provides technical, financial, performance, and risk information on the 2 Streetcar Lines, King Street Passenger Rail Station, and related structures
- Useful reference for decision-making and long-term planning to inform future year budgets
- Reference guide for decisionmakers
- Gap analysis and improvement plan to increase asset management, safety, and knowledge management
- Improvement & Monitoring Plan updated quarterly, risk assessment reviewed annually during Q3

Transit Asset Management Plan Components



Benefits of Risk Management

- Improve the transparency of decisions and benchmarking by explaining investment priorities in terms of risk
- Minimize costs and risks over the asset lifecycle
- Improve services and customer satisfaction while managing expectations
- Provide a consistent approach and criteria for assessing risks
- Improve financial efficiency, given scarce resources
- Establish more sustainable decisions that link asset planning to long term financial planning

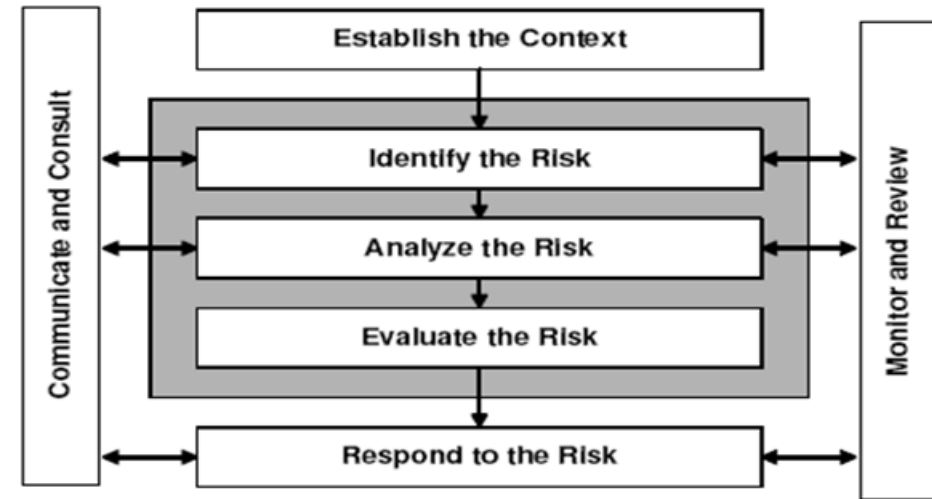


Figure 5.1 Risk Management Principles & Guidelines: ISO 31000:2009⁵

“What are the critical risks & how do we minimize them?”

Risk Assessment Stages

- Define likelihood & consequence
- Identify, group, & establish business risk exposure
- Analyze exposure & determine risk treatment
- Assign risk to responsible parties
- Incorporate risk register into the TAMP
- Monitor, respond, and document changes over time



Define Likelihood

Table 1 - Risk Likelihood Ranking				
Ranking	Likelihood	Frequency	Description	Ranking
Almost Certain/Very High	Near Certainty (90%)	9 out of 10 years	The threat can be expected to occur, or a very poor state of knowledge has been established on the threat	5
Likely/High	Highly Likely (70%)	7 out of 10 years	The threat will quite commonly occur, or a poor state of knowledge has been established on the threat.	4
Moderate	Likely (50%)	Every 5 out of 10 years	The threat may occur occasionally, or a moderate state of knowledge has been established on the threat.	3
Unlikely/Low	Unlikely (20-30%)	Once per 2 or 3 year out of 10 years	The threat could infrequently occur, or a good state of knowledge has been established on the threat.	2
Rare/Very Low	Remote (10%)	Once per 10+ years	The threat may occur in exceptional circumstances, or a very good state of knowledge has been established on the threat.	1

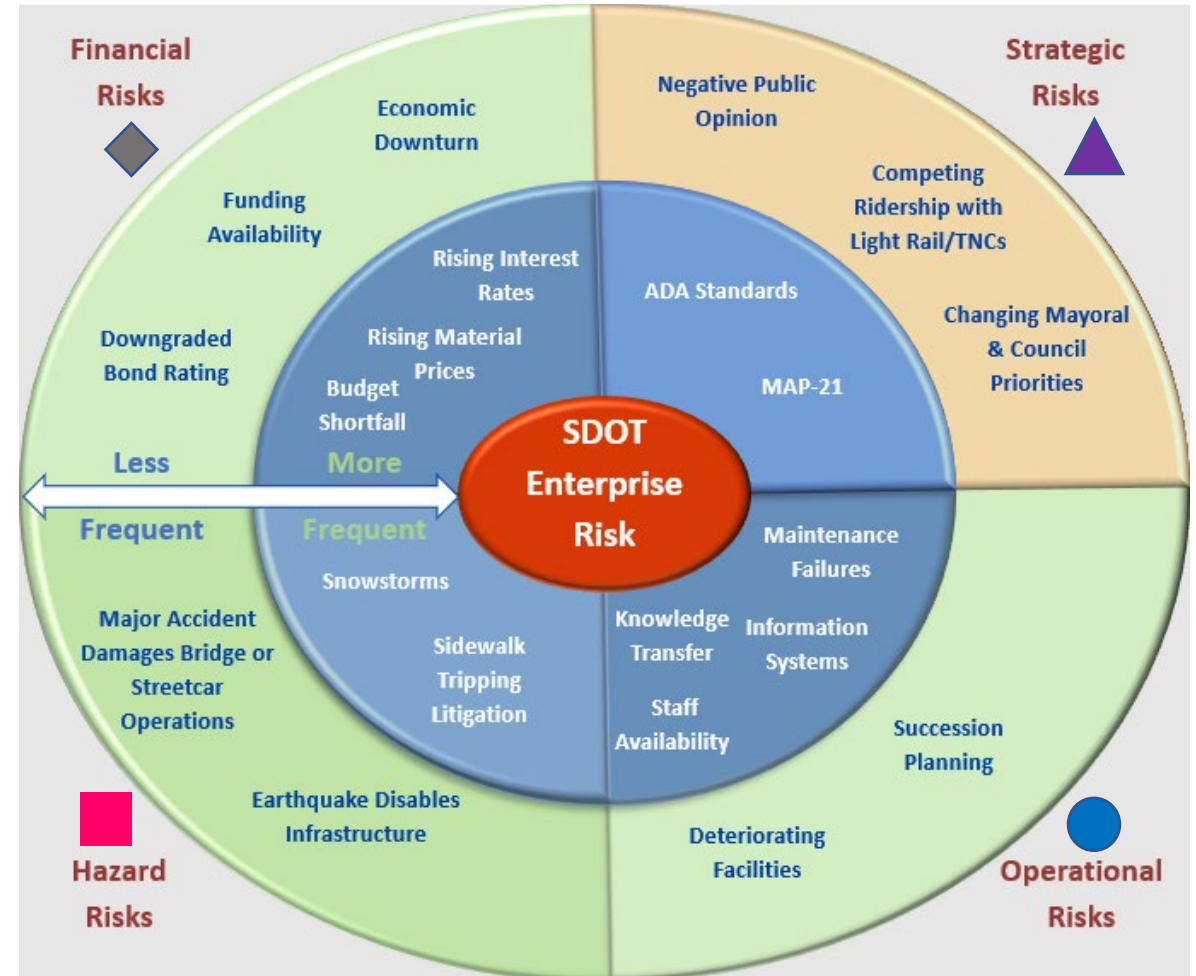
Define Consequence

Table 2 - Consequences Ranking

Factor	Insignificant/Very Low	Minor/Low	Moderate	Major/High	Catastrophic/Very High
	1	2	3	4	5
Economic (replacement cost, damages to community, additional expenditures)	Less than \$50,000	\$50,000-\$250,000	\$250,000 -\$2.5 million	\$2.5 million to \$50 million	Greater than \$50 million
Legal compliance	City fully complies and is on course with regulators to anticipate mandates	City agrees to compliance schedule and avoids lawsuits and fines.	City warned of compliance issues and adopts corrective action	City sued or fined for missing mandates. Expects to comply in 6 months to 1 year.	City liable for missing mandates. No viable plan to comply.
Community impact	Community complaints	Unplanned disruption to multiple households, firms or community services / structures (<1 day)	Simultaneous unplanned disruption to multiple households, firms, or community services/structures (1 day to 4 days)	Unplanned disruption to large number of households (5 days to 29 days)	Unplanned disruption to essential service, e.g., lifeline route (long term, over 30 days)
Human health and safety	No injuries or primary/secondary routes affected	Minor injuries and/or a secondary route affected	Serious injuries and/or multiple secondary routes affected	Single fatality or multiple serious injuries and/or a primary route affected	Multiple fatalities and/or primary routes affected
Reputation	No adverse media (all week)	Local media criticize City for 1 week	Regional media criticizes City for 2 days	National media criticizes City for 2 days	National media criticizes City for 1 week
Environment	Short-term damage	Limited but medium-term negative effect	Major but recoverable ecological damage	Heavy ecological damage, costly restoration	Permanent, widespread ecological damage
Human Resources	Permanent staff turnover 0% to 10% per year	Permanent staff turnover 10% to 15% per year	Permanent staff turnover 15% to 20% per year	Permanent staff turnover 20% to 30% per year	Permanent staff turnover exceeds 30% per year

Identify & Establish Business Risk Exposure

#	Asset Class	Asset	Failure Cause	Effect	Threat or Opportunity
2	Bike/Ped System	Transit Island Platforms /Shelters	Lack of streetcar platform preventative maintenance	Condition degradation to fair or poor; more rapid deterioration where lacking maintenance; graffiti / vandalism - mostly shelters; city reputation	Threat



Analyze Business Risk Exposure (BRE)

	Consequence				
	1 Insignificant	2 Minor	3 Moderate	4 Major	5 Catastrophic
Likelihood					
5 Almost Certain	M	H	H	E	E
4 Likely	M	M	H	H	E
3 Moderate	L	M	M	H	H
2 Unlikely	L	L	M	M	H
1 Rare	L	L	M	M	H

BRE =
Likelihood x Impact

Risk Treatment

Business Rule: Treatment actions must manage BRE level

Table 3. Risk Action		
Risk Rating		Action
E	Extreme	Immediate action required to reduce risk
H	High	Management attention required to manage risk
M	Medium	Management responsibilities specified and risk controls reviewed
L	Low	Manage by routine procedures

BRE Treatment Plan and Analysis

Table 6. Risk Management Strategies

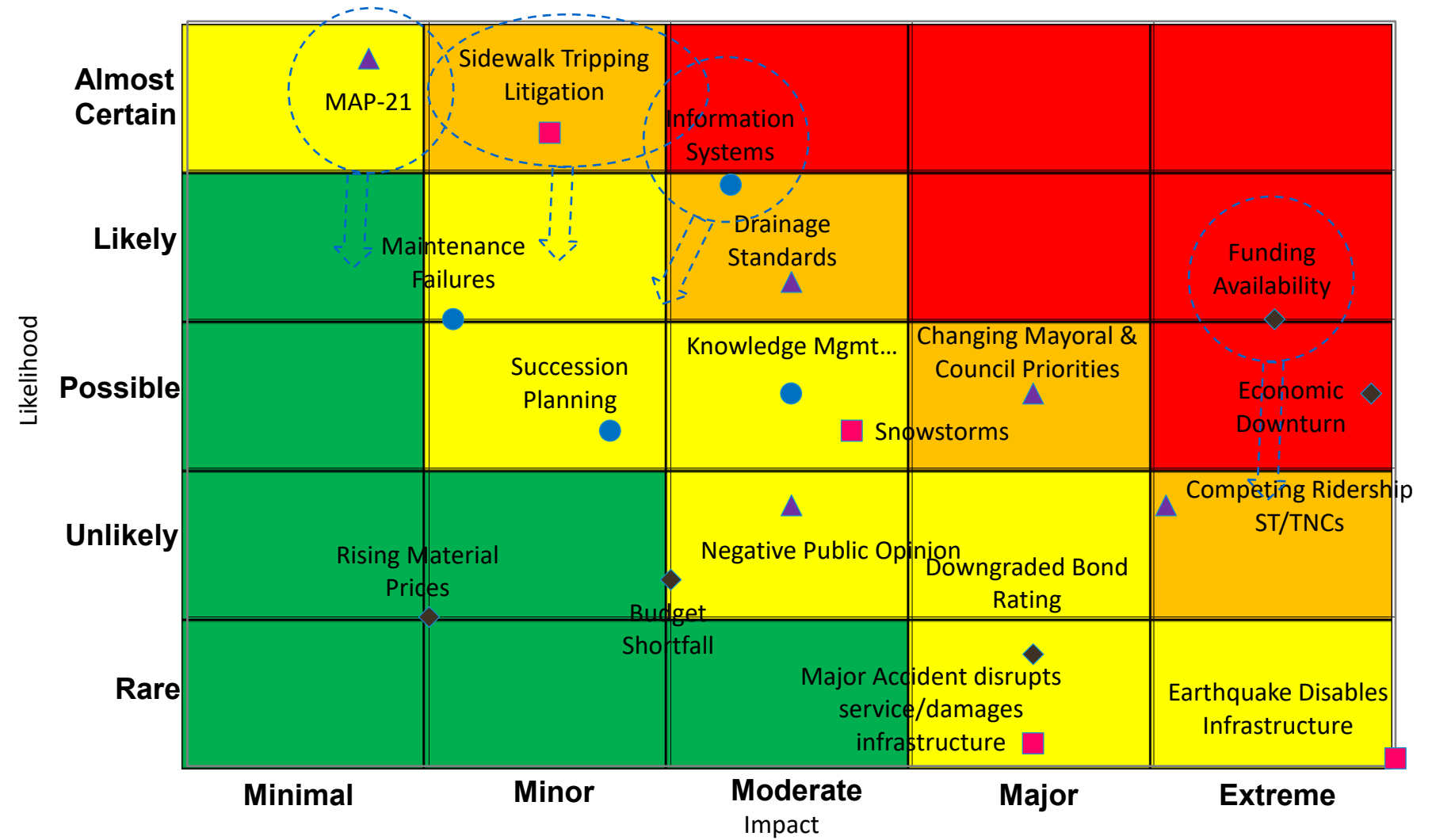
Avoid	Changing activity or asset management plan to eliminate the threat posed by an adverse risk; to avoid risk by clarifying requirements, obtaining information, improving communications, or acquiring expertise.
Transfer	Risk transference requires shifting the negative impact of a threat, along with the ownership of the response to a third party (e.g., insurance, or transfer responsibility to private or other public entity). This doesn't eliminate the risk.
Mitigate	Implies a reduction in the probability and/or impact of an adverse risk event to an acceptable threshold.
Accept	Retain the risk; Indicates decision to deal with a risk, or recognition of inability to identify any other suitable response strategy.

Risk Assessment Detail

<i>Asset</i>	<i>Title</i>	<i>Description / Actions</i>	<i>Perceived Risk</i>	<i>Treatment Plan</i>
Streetcar	Item 24: Center City Connector Construction, Operational, Structural impact	Project currently paused affecting schedule and budget. Construction may damage assets, cause adverse community/business impacts, traffic control issues. Heavier/longer vehicles add load to strained roadway structures and require facility and rail changes.	E	Mitigate
Streetcar	Item 6: Streetcar 3rd Party Agreement renewal	Negotiations underway to renew the interlocal agreement. Recommend mitigating some of this risk by adding a roles and responsibility matrix and asset management language to the agreement. Risk includes possible audit findings from unclear oversight responsibilities.	H	Transfer
Vehicles	Item 18: Streetcar vendor defunct, limited funding for overhauls	Streetcar vehicle vendor Inekon has not been responsive to contract deliverables. Limited downstream funding available for streetcar component replacement and maintenance. No vehicle as-built provided for FH.	H	Mitigate
Transit Island Platforms/Shelters	Item 3: Lack of streetcar platform preventative maintenance	Lacking a preventative maintenance checklist for platforms/shelters; vehicle damage, deterioration more rapidly in situation where they lack maintenance. Graffiti / vandalism - mostly on structures.	M	Transfer
TVM	Item 7: TVM failure	TVM: critical components may fail: batteries, CPU, printer	L	Accept



Is



- ◆ Strategic Risks
- ▲ Financial Risks
- Operational Risks
- Hazard Risks

Risk Response & Implementation Plan

- 
- Operators
 - Asset Maintainers
 - Asset Owners
 - Consultants
 - Steering Committees
 - Transportation Stakeholders & Partners
 - Executive Team
 - City Council / Mayor



TAMP 2018–2022 Horizon - Summary

- Established baseline of known risks and actions
- Risk improves our ability to effectively invest in our assets at the right time to avoid foreseeable failures and maintain services
- Obtained executive buy-in and developed risk champions
- Incorporated Risk Assessment into regular TAM Improvement Plan meetings

TAMP 2018–2022 Horizon - Summary

- Decreased three high level risks during the horizon and likely reduce more during next review
- Use as a critical component to our continual improvement process
- Includes resiliency and climate change risks in the register
- Documents choices and elevates to the necessary organizational level based on management strategy

Resources

- SDOT Transportation Status & Condition Report
- TAM Guide includes SDOT examples
- Integrating Effective Transportation Performance, Risk, and Asset Management NCHRP 08-113, #985
- TAM Portal
- International Organization for Standardization ISO 31000 Risk Management
- SDOT Assets Map, Seattle Accessibility Route Planner

Questions?

Stay in touch:



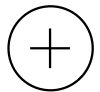
Emily.burns@seattle.gov



206.580.9354



www.seattle.gov/transportation/about-us/asset-management





Thank you!



**We Make Lives Better
Through Connections.**

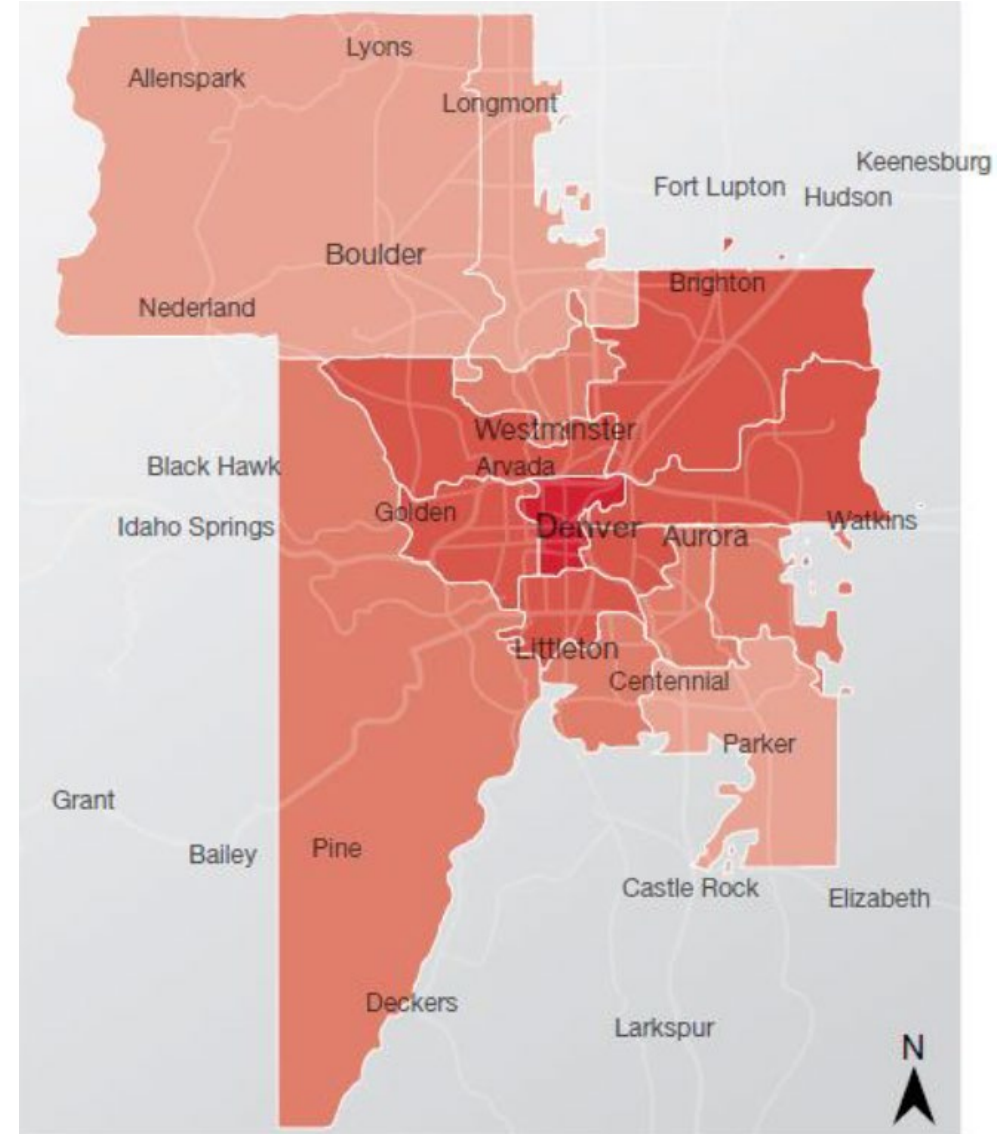
Light Rail Vehicle Preventative Maintenance Scheduling Optimization

Noel Avison, Senior Business Intelligence Engineer

Regional Transportation District (RTD)

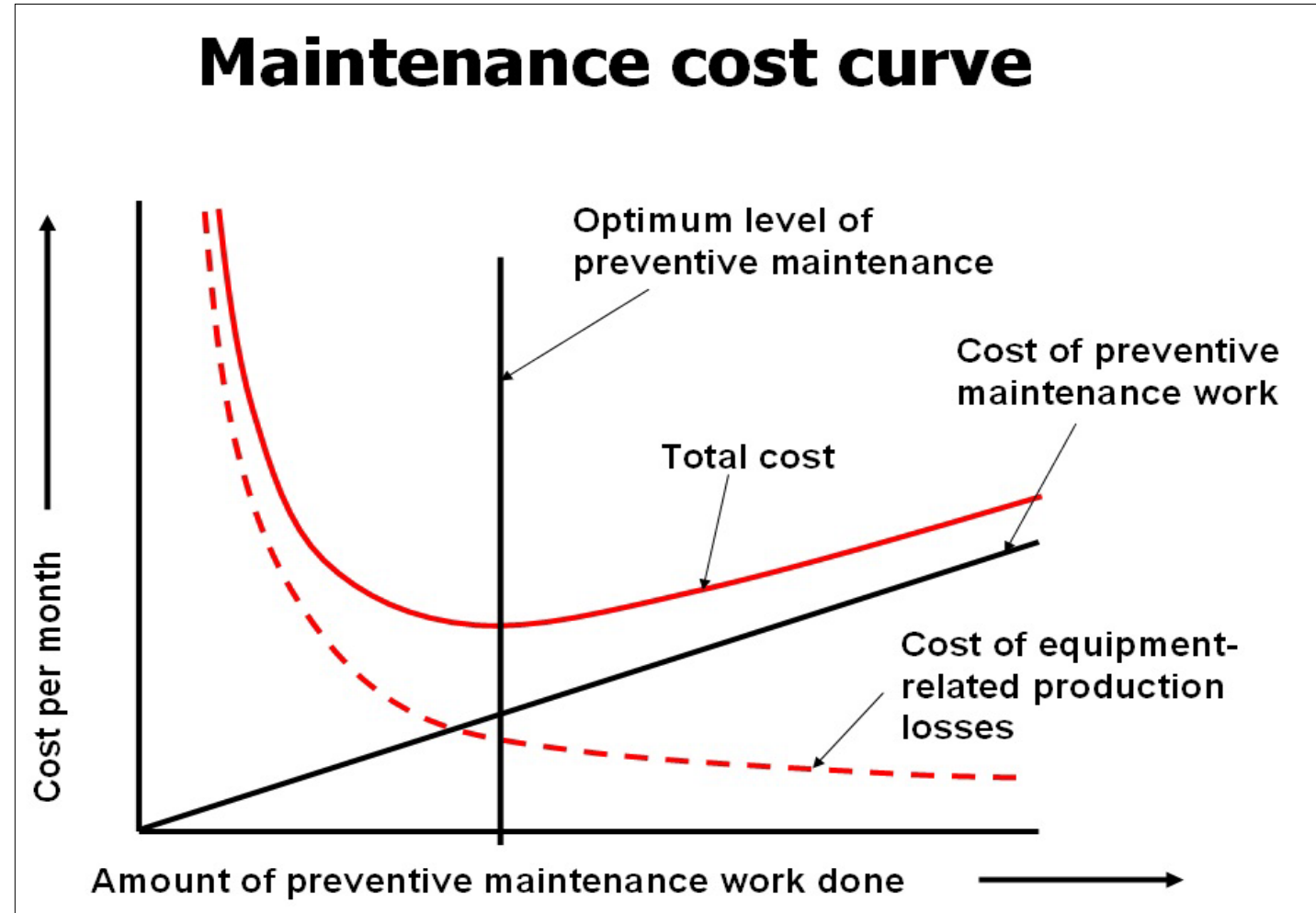
- RTD was created in 1969 in Colorado.
- Provides public transit services to over 3 million people located within its 2,342 square mile service area.
- Operates in eight out of the twelve counties in the Denver-Aurora-Boulder Combined Statistical Area in Colorado.
- Revenue Fleet:
 - 1,427 buses
 - 201 light rail vehicles (LRVs)
 - 66 commuter rail vehicles

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Operation & Maintenance Optimization

- Cost of preventative maintenance (PM) vs cost of equipment related production losses
 - Corrective repairs
 - Loss of performance
 - Vehicle downtime
- Tradeoff between cost, performance, and risk
- Selecting the right interval
 - Manufacturers recommendation
 - Reliability Centered Maintenance analysis



RTD's LRV PM Schedule (Mileage Based)

- Siemens SD-100 and SD-160 Light Rail Vehicles
- PM types consist of inspections and part replacement/rebuilds
- Manufacturer recommended schedule
- 14.4 million miles in 2019

Annual Milage
14,000,000

PM Type	Scheduled Interval (Miles)	Avg Times Performed
PMA	7,000 - 8,050	2,000
PMC	21,000 - 24,150	667
PMD	40,000 - 46,000	350
PME	40,000 - 46,000	350
PMF	80,000 - 92,000	175
PMG	360,000 - 414,000	39
PMH	480,000 - 552,000	29
PMI	720,000 - 828,000	19
PMJ	850,000 - 977,500	16

RTD's LRV PM Schedule vs Actual(2018)

Annual Milage

14,000,000

PM Type	Scheduled Interval (Miles)	Avg Times Performed	Actual Interval	Avg Times Performed	Excess PMs
PMA	7,000 - 8,050	2,000	5,770	2,426	426
PMC	21,000 - 24,150	667	14,091	994	327
PMD	40,000 - 46,000	350	34,661	404	54
PME	40,000 - 46,000	350	34,621	404	54
PMF	80,000 - 92,000	175	74,766	187	12
PMG	360,000 - 414,000	39	356,564	39	0
PMH	480,000 - 552,000	29	453,878	31	2
PMI	720,000 - 828,000	19	670,689	21	1
PMJ	850,000 - 977,500	16	829,397	17	0

Excess PM Parts and Labor Cost Estimate

		All-in Labor Rate		\$	55			
PM Type	Excess PMs	Labor			Parts			
		Average Duration (Hours)	Excess Labor	Labor Cost	Parts Per PM	Total Excess Parts		
		PMA	426	5.4	2,303	\$ 126,652	\$ 25	\$ 10,661
		PMC	327	4.5	1,471	\$ 80,893	\$ 50	\$ 16,342
		PMD	54	4.6	248	\$ 13,639	\$ 351	\$ 18,923
		PME	54	10.8	587	\$ 32,304	\$ 76	\$ 4,133
		PMF	12	23.5	288	\$ 15,834	\$ 2,041	\$ 25,004
		PMG	0	34.5	13	\$ 711	\$ 5,154	\$ 1,932
		PMH	2	25.8	43	\$ 2,382	\$ 12,730	\$ 21,369
		PMI	1	16.5	24	\$ 1,297	\$ 6,720	\$ 9,607
		PMJ	0	46.6	19	\$ 1,049	\$ 12,142	\$ 4,968
Total Labor:		4,996	\$ 274,762	Total Parts:	\$ 112,937			
Total Excess Cost:				\$ 387,699				

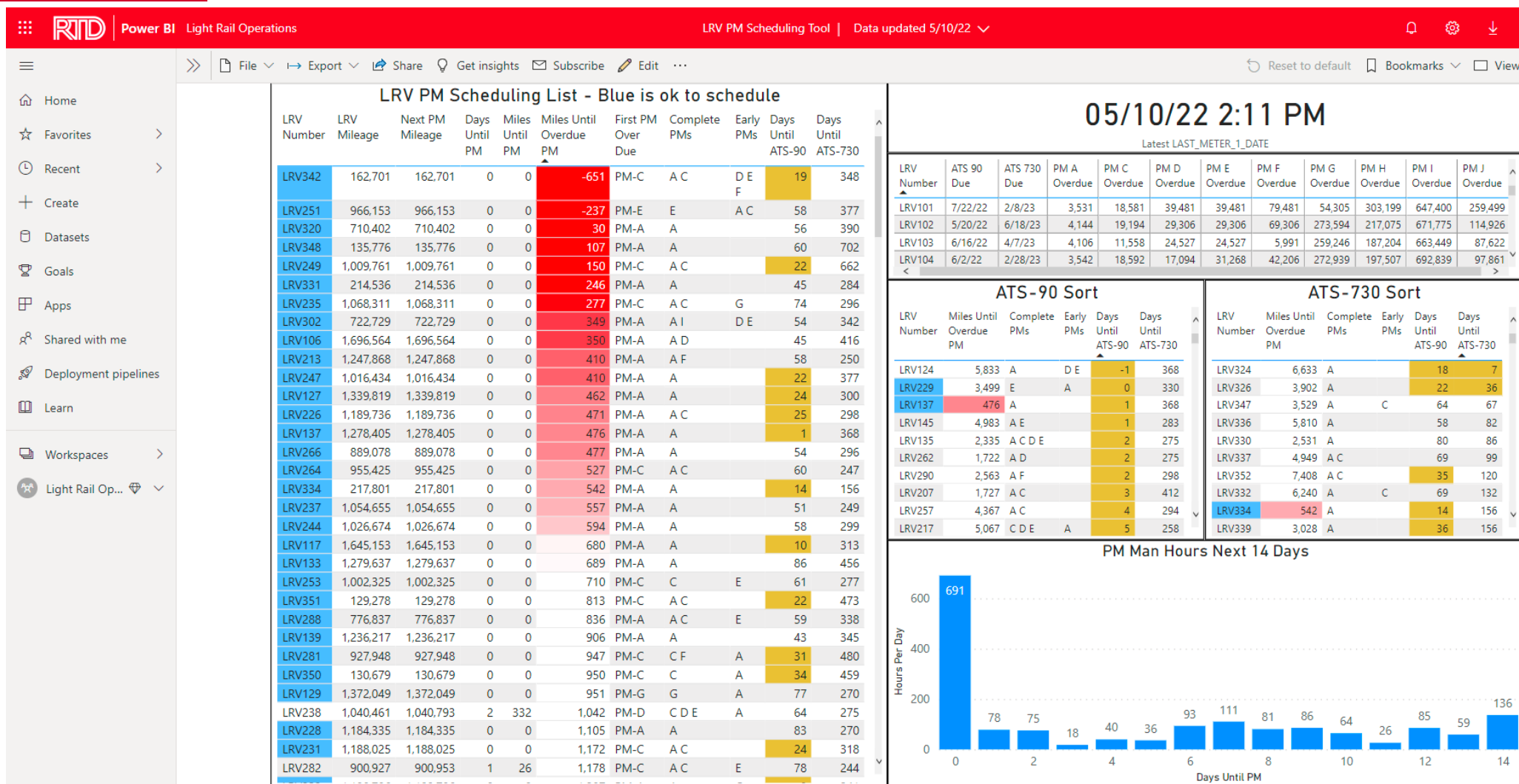
Why were PM's being done early?

- The PM scheduling process is a time consuming, manual process that relied on personal judgement.
- The schedulers are attempting to reduce train movements.
- LRV maintenance is required to report on late PMs, but not early PMs.
- The costs of doing early PMs was not well understood.

Automated PM Scheduling Tool

- Automatically generated each day
- Defined scheduling logic based on formulas
- Balances need for on-time maintenance and minimizing train movements
- Quicker and easier – Saves >1 hour a day on scheduling time for supervisors
- Built using a business intelligence tool – Microsoft Power BI

Automated PM Scheduling Tool cont.



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Mileage Based PM Reduction

Annual Milage
14,000,000

PM Type	2022 Average Interval	Avg Times Performed	2018 Avg Interval	Avg Times Performed	Reduced PMs
PMA	7,459	1,877	5,770	2,426	550
PMC	21,724	644	14,091	994	349
PMD	42,919	326	34,661	404	78
PME	42,333	331	34,621	404	74
PMF	82,481	170	74,766	187	18
PMG	362,352	39	356,564	39	1
PMH	483,035	29	453,878	31	2
PMI	720,514	19	670,689	21	1
PMJ	859,032	16	829,397	17	1

Estimated Annual Savings

		All-in Labor Rate		\$	55	
		Labor			Parts	
PM Type	Reduced PMs	Average Duration	Saved Labor	Labor Cost	Parts Per PM	Total Saved Parts
PMA	550	5.4	2,967	\$ 163,205	\$ 25	\$ 13,738
PMC	349	4.5	1,571	\$ 86,392	\$ 50	\$ 17,453
PMD	78	4.6	357	\$ 19,662	\$ 351	\$ 27,278
PME	74	10.8	796	\$ 43,762	\$ 76	\$ 5,599
PMF	18	23.5	412	\$ 22,638	\$ 2,041	\$ 35,747
PMG	1	34.5	22	\$ 1,190	\$ 5,154	\$ 3,233
PMH	2	25.8	48	\$ 2,642	\$ 12,730	\$ 23,701
PMI	1	16.5	24	\$ 1,310	\$ 6,720	\$ 9,700
PMJ	1	46.6	27	\$ 1,492	\$ 12,142	\$ 7,071
		Total Labor:	6,224	\$ 342,293	Total Parts:	\$ 143,520
		Total Savings:		\$	485,813	

Keys to success

- Clearly communicate opportunity to the business group.
- Understand all the business challenges in the way of achieving the objective.
- Simplify and standardize the process.
- If possible, provide a solution that makes things easier.



We Make Lives Better Through Connections.



Questions?



FTA TAM Roundtable

Tools & Methods To Integrate TAM

Solutions for Asset Data Handover from Capital Projects

Ronnie E. Valdivia Director, Asset Management, MBTA

July 21, 2022





Agenda

- Intro to MBTA
- Problem Statement – The Gap
- In-Flight Capital Projects
- Future Capital Projects
 - Contractual Solutions
 - MBTA Pilot and Lessons Learned
- Post-handover – Keeping data up to date



History of the T

Birthplace of public transit in the U.S:

- 1631 - Ferry Service
 - First chartered transit service in U.S.
- 1793 - Stagecoach between Boston and Cambridge
- 1856 - Horsecar on rails
- 1889 - Electric Streetcar
 - Today's Green Line C Branch
- 1900's First articulated car
 - Two, 20-foot streetcars to maneuver thru Boston's twisting & narrow streets.
- 1897- North America's first subway tunnel
 - Tremont Street; Today's Gov't Center <-> Park Street <-> Boylston



The T's many names:

- West End Street Railway
- Boston Elevated Railway Company (BERy)
- Metropolitan Transit Authority (MTA)
- Massachusetts Bay Transportation Authority (MBTA)



MBTA: A Snapshot

- 175 Cities and Towns across the Greater Boston area
 - HR: Red, Orange & Blue; LR: Green Line & Mattapan High Speed Trolley Line
- **Transit Rail:** 293 miles of Track across 5 lines
- **Bus:** 173 Bus Routes with 5 bus rapid transit lines (Silver Line)
- **Ferry:** Boston Harbor -> Charlestown, Logan Airport, Hull & Hingham
- **The RIDE:** On-demand pick-up and drop-off transit service
- **Commuter Rail:** Over 699 miles of track across 15 lines
- 1.3 Million Daily Passengers (pre-Covid)
- 100% Renewable Electricity as of January 2021





The Problem

The Email:

Subject: [REDACTED] Certificate of Inspection and Acceptance & Certificate of Occupancy

Good Afternoon,

I hope this message reaches everyone well. On behalf of the [REDACTED] project team, I want to thank each person and department for all the support toward the progress and completion of this project. We understand many construction projects are going on throughout the MBTA's system, and each department must support each of these projects in some form or fashion. We appreciate all the assistance provided to this project.

Attached is the Certificate of Occupancy and the Form 9, the Certificate of Inspection and Acceptance, of [REDACTED]. The project is officially turning over the [REDACTED] to Operations & Vehicle Engineering. [REDACTED]

Thank you again for your support.

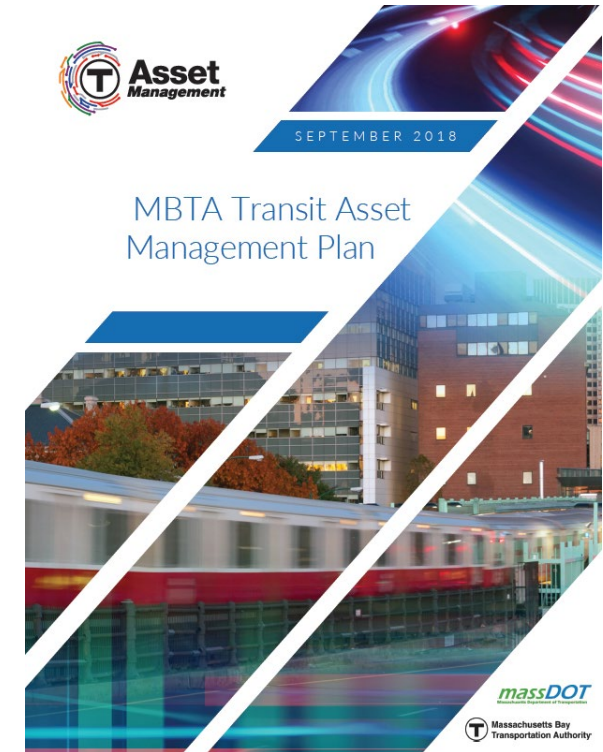
The Reply:

Are the assets loaded into EAM?



The Gap

- TAM Rule = Immediate compliance
 - Minimal requirements
 - Initial round of inventory and condition assessments completed
 - Only captured in-service assets



How to ensure new/updated asset data is handed over prior to
Operational needs?



In-Flight Capital Projects

- Limited Options
 - Change Orders
 - Costly
 - Need to secure additional funding
 - 3rd Party
 - Contractors
 - Created “Asset Information Coordinators”
 - Also requires additional funding



Future Capital Projects

- Solution: Contractual Language for TAM requirements in initial scope
- MBTA Pilot for TAM Contractual Language
 - First attempt to an organized handover asset data
 - Goal: Identify gaps for standards, procedures, and develop hands on experience with a relatively new department



GLX Project - Asset Data Collection

- Green Line Extension – 2 branches
- First major Capital project with Asset Management deliverables
 - Critical support for E&M:
 - Loading asset data into EAM for Service Requests, Work Orders, and PMIs.
 - Gathering OEM manuals and training material
- AM Deliverables were tied to revenue milestones
- Weekly meetings with the contractor





GLX Project - Asset Data Collection Progress

- Branch 1

- Vehicle Maintenance Facility and Transportation Building
- Union Branch
 - All asset data received, and assets loaded into EAM
 - Assets available in EAM prior to commissioning
- Assisted Reliability Resolution Task Force which tracks all pre-commissioning failures

Data Fact

GLX Branch 1 had:

- 1 mile of track
- 60,000 assets
- 67,788 data points
- Branch 2 is double

- Branch 2

- Medford Branch ADIS submitted on 5/13/22
- Initial round of Safety and System critical assets are loaded





Lessons Learned

- Parallel development of:
 - Naming conventions
 - EAM limitations
 - Reconciliation with already existing naming systems
 - Tagging requirement
 - Asset Data Information Sheet (ADIS)/Mechanism for data collection
 - Modifying as new assets were identified (smaller assets, name changes, etc.)



Lessons Learned

- Updating of:
 - Hierarchies
 - Symptom Codes
 - Creation of Business Process
- Timing of deliverables was most important lesson learned:
 - Operations and Maintenance Support
 - 90-days prior to Operational Need
 - Validation
 - Data loader creation
 - Test/Prod/etc.



Future Iterations

- New contract language under development
 - GLX Pilot as foundation
 - Universal template for various projects (Rolling Stock vs Infrastructure)
 - “Buy-in” from Capital Programs/Delivery Teams
 - Language needs to be included in scope by default
 - Properly communicate expectations to Project Teams
 - Effort to reconcile afterwards is always more difficult
 - Centralized group to create initial scope (MBTA Office of Chief Engineer)
- Also developing language for Operator contract
 - Commuter Rail
 - Ownership of data
 - Expectations to align with Transit side

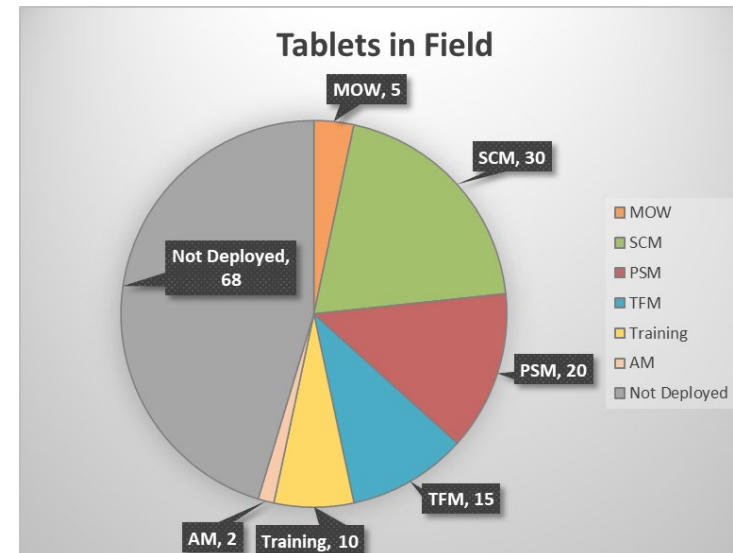


Post-Handover

- Now that assets are handed over/loaded....what now?
- Keeping it up to date & useful – Boots on the ground is key!
 - Mobile Focus/Tablets
 - Training
 - Workshops with end-users
 - Development partnership with EAM
 - SGR Module
 - IT infrastructure
 - On-prem vs AWS

Fast Facts

- 82 tablets deployed
- 68 with IT for configuration
- 300 by end of FY24
- Migrated to AWS on 9/17/2021
- Next software update under test





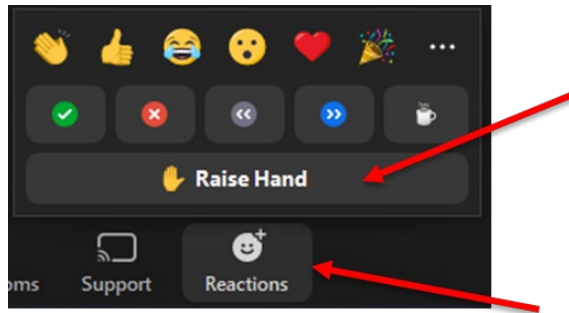
MBTA TRANSIT ASSET MANAGEMENT

END

Protocols for Q&A



- Use "Raise Hand" tool or the chat pod to ask questions
 - If you would like to come off mute to ask your question, please use the "Raise Hand" tool and wait to be called on



- No Q&A pod: Everyone can see what's submitted to the chat pod
- Be clear who your question is directed to
- We will do our best to get to all questions but may not have time to do so



Q&A





Break

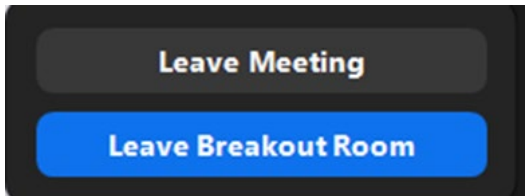
Next activity: Breakout group discussions



Instructions for Breakout Group Activity



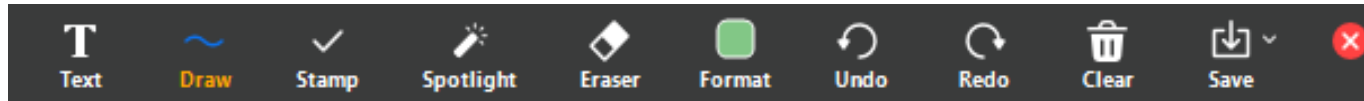
- Groups are organized by peer group
- Group will have ~40 minutes for discussion and ~15 minutes for report back and open discussion
- Breakout groups will each have a team of facilitators that will guide the discussion
- Discussion questions were shared with registrants via email
- Zoom whiteboard, an interactive tool, will be utilized during the activity
- You will be automatically sent to and brought back from your breakout group, be careful not to leave meeting instead of breakout room



Zoom whiteboard



- Participants can come off mute/on camera and speak during the activity but also have the option of sharing thoughts via Zoom whiteboard
- Roundtable support team will explain how to use Zoom whiteboard once everyone is in their breakout room





Report Back & Open Discussion





Break

Next activity: FTA Panel





FTA Panel



National Transit Database

July 2022

Transit Asset Management Virtual Roundtable

Murtaza Naqvi

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Federal Transit Administration
Office of Budget and Policy
Office of Strategic Planning and Analysis
Analysis Division



National Transit Database

Purpose, function, and other activities supported by the NTD

- Data tables for the apportionment of formula funds
- Safety event reporting
- Transit asset management condition assessments and performance targets
- Peer comparisons and benchmarking
- Conditions & Performance Report to Congress
- Research, planning, and management of transportation programs

National Totals from 2020 NTD Annual Reporting (by Asset Class)		
	Active Vehicles	Active Vehicles Past ULB
Revenue Vehicles	147879	29748
Service Vehicles	30929	11192
Facilities	Facilities with Condition Assessment	Facilities with Condition Rated Below 3
	10311	1091
Trackwork	Miles of Revenue Track with Capital Responsibility	Miles of Track under Performance Restriction
	10222	382



NTD and Transit Asset Management

- You should be refreshing your facility condition assessments for this upcoming NTD report year.
- [TAM Performance Measures Fact Sheet: summary of what asset data is reported into the NTD](#)
- [National Transit Database Manuals Webpage: comprehensive Reporting Policy](#)
- 2022 Asset Inventory Module Reporting Tuesday, November 8, 2022
 - Please Join the NTI Mailing List to know when registration opens for upcoming webinars @ <https://www.ntionline.com/>
 - Previous Webinars are recorded and made available for viewing on [NTI's YouTube site](#)
- [NTD Data Reports and other data products](#)



Upcoming Topics from the NTD Program

- Interest in transit fleet sustainability
 - Need for better quality fleet level fuel economy and performance
 - [Federal Register Notice for NTD Reporting Changes and Clarifications](#)
 - Need for uniform classification systems for asset data across FTA systems
- FTA's geographic and geospatially enabled data
 - National Transit Map and GTFS
 - Improving services for *facilities, service, safety and security* data collection
- Consolidated asset inventory and tool redesigned with improved functionality for *peer comparison* and *summary tables*



Public Transportation Agency Safety Plans FTA Transit Asset Management Roundtable

Stewart Mader

Program Analyst (Policy)
Office of Transit Safety and Oversight
Federal Transit Administration

Thursday, July 21, 2022



Public Transportation Agency Safety Plan

Background

- FTA published the Public Transportation Agency Safety Plan (PTASP) Final Rule in July 2018, which applies to certain operators of public transportation systems that receive Federal funds under FTA's Urbanized Area Formula Grants and rail transit agencies in the State Safety Oversight Program
- PTASP requires applicable transit agencies to develop Agency Safety plans (ASPs) that include the processes and procedures to implement Safety Management Systems (SMS)
- FTA established the PTASP Technical Assistance Center (TAC) to help transit agencies meet PTASP regulation requirements
 - As of July 20, 2021, 100 percent of applicable transit agencies and States certified that they met the PTASP requirements



Public Transportation Agency Safety Plan

Ongoing Initiatives

- Revise PTASP regulation to incorporate new Bipartisan Infrastructure Law requirements
- Support agencies with ongoing implementation of ASPs and SMS activities via technical assistance webinars and resources, including:
 - [ASP Directory](#)
 - [Frequently Asked Questions](#)
 - Responses to inquiries through the TAC Help Desk open Monday – Friday 9 a.m. - 8 p.m. ET

		transit.dot.gov/PTASP-TAC
		1 - 877 - 827 - 7243
		PTASP-TAC@dot.gov
		PTASP Technical Assistance Center 943 Glenwood Station Lane, Suite 102 Charlottesville, VA 22901

Agency Safety Plans and TAM Plans

Agency Safety Plan

- Approach to improving transit safety based on Safety Management Systems (SMS) principles and methods
- Risk- and performance-based
- Focused on overall system

SMS elements Safety Risk Management and Safety Assurance provide mechanisms for assessing, managing, and monitoring risk and performance



[TAM and PTASP Fact Sheet](#)

TAM-related inspection and maintenance records provide data used in Safety Risk Management and Safety Assurance activities

Transit Asset Management (TAM) Plan

- Strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing capital assets
- Supports managing performance, risk, and costs over asset life cycles
- Focused on capital assets



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Transit Asset Management (TAM) and FTA Oversight

Hope Jensen, Esq.

Office of Program Oversight Director
Office of Transit Safety and Oversight
Federal Transit Administration

Thursday, July 21, 2022



Transit Asset Management (TAM) – Program Oversight

- The Comprehensive Oversight Review Program (CORTAP) conducts approximately 240 Triennial and State Management Reviews Annually
 - Reviews are conducted on a three-year cycle
 - Reviews are not in-depth audits but rather provide FTA with a basic assessment of a recipient's compliance status
 - Recipients found to have compliance deficiencies are issued findings and corrective actions and may be offered additional technical assistance to address compliance issues
 - Oversight data and records are stored in OTrak
- Transit Asset Management was added to the [CORTAP Contractor's Manual](#) in FY2019 as the 21st review area

TAM Areas of Review

- Has a TAM plan or group TAM plan been developed?
- Did the recipient develop the correct tier TAM plan containing all required elements?
- Has an accountable executive been designated and assigned responsibility?
- If the recipient is a group plan sponsor, have they fulfilled their obligations in the development of the group TAM plan, including coordination with participants and made it available to all participants?
- Does the recipient monitor subrecipients for compliance with TAM requirements?
- Has the recipient set performance targets annually, were they calculated correctly and approved by the accountable executive?
- Does the recipient share its TAM plan, any supporting records or documents, performance targets, investment strategies, and annual condition assessment report with the state and/or MPO that provides funding?



Top 5 TAM Findings for Triennial and State Management Reviews (FY19 and FY21)



Deficiency Description	Total Deficiencies
1. No designation of accountable executive	9
2. TAM plan elements missing	7
3. Insufficient oversight of subrecipients for TAM requirements	5
4. Performance targets not set annually	4
5. No designation of accountable executive by group plan participant	3



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Volpe Center TAM Roundtable

State of Good Repair Grant Funding

(Section 5337)



July 21, 2022

State of Good Repair Grants (§ 5337)

Formula Funding



- \$21.6B over five years
- Eligible Recipients: States and local governmental authorities
- Eligible Activities: maintenance of fixed guideway and high intensity motorbus systems in state of good repair
 - Development and implementation of TAM plan
- Eligibility requirement: projects must be in TAM plan

Rail Vehicle Replacement Grant Program

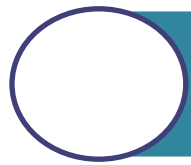


- New in Bipartisan Infrastructure Law
- \$300M per year over five years (\$1.5B)
- Eligible Recipients: States and local governmental authorities
- Eligible Activities: Replacement of rail rolling stock
- Funding can be allocated in multiyear grants
- Same TAM plan requirements as formula funding

Grant Funding and TAM Plans

- Capital projects **must** be in the TAM plan to receive Section 5337 funds
 - Development and implementation of a TAM plan can be funded by 5337 funds
- The TAM plan is a useful tool for other FTA funding
 - Many FTA formula and discretionary competitive grants can fund capital
 - A TAM plan supports application requirements or evaluation criteria by demonstrating capital needs





State of Good Repair (5337) Funding

	FY21 enacted**	FY22	FY23	FY24	FY25	FY26
	(in millions)	(in millions)	(in millions)	(in millions)	(in millions)	(in millions)
High Intensity Fixed Guideway*	\$2,619.71	\$3,994.20	\$4,063.69	\$4,153.28	\$4,225.17	\$4,316.37
High Intensity Motorbus	\$76.85	\$117.17	\$119.23	\$121.84	\$123.95	\$126.63
Competitive Grants For Rail Vehicle Replacement	----	\$300	\$300	\$300	\$300	\$300
5337 State of Good Repair Total	\$2,723.8	\$4,465.53	\$4,537.78	\$4,630.93	\$4,705.68	\$4,800.50

* Totals include amounts for oversight and administrative takedowns and transfers to the Office of Inspector General.

**FY21 enacted may include additional appropriations above the FAST Act authorized amounts



Resources and Contacts

- Bipartisan Infrastructure Law Website: <https://www.transit.dot.gov/BIL>
FAQs * Fact Sheets * External webinar recording * Sign up for email updates
- Grant Programs: <https://www.transit.dot.gov/grants>
* Sign up for email updates
- State of Good Repair Website:
<https://www.transit.dot.gov/funding/grants/state-good-repair-grants-5337>
- Transit Asset Management and State of Good Repair Website:
<https://www.transit.dot.gov/regulations-and-guidance/asset-management/state-good-repair>
- Contact
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Transit Asset Management and Performance Based Planning and Programming

July 21, 2022

Colby McFarland

Office of Planning and Environment TPE-10

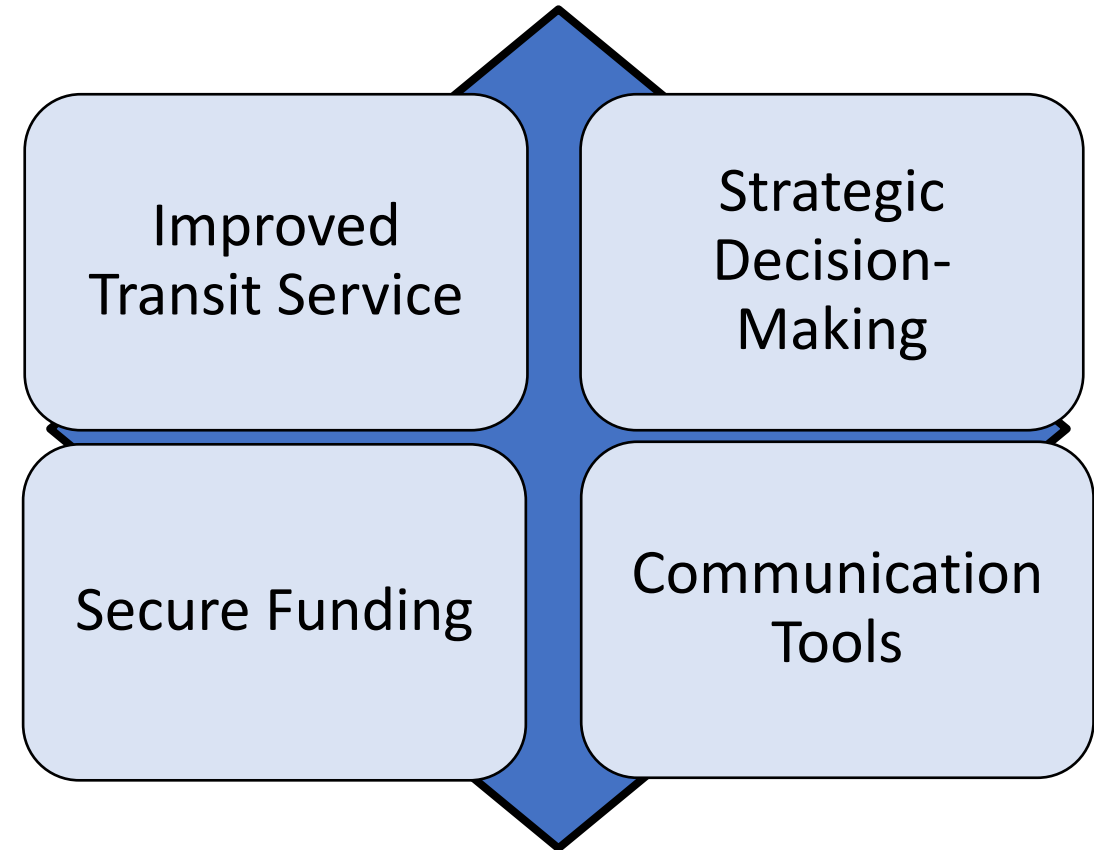
Federal Transit Administration



What is Performance Based Planning and Programming?

Performance Based Planning

is a performance-driven, outcome-based program that provides for a greater level of transparency and accountability, improved project decision making, and more efficient investment of Federal transportation funds.



Integrating Transit Asset Management and Performance Based Planning and Programming

- Develop a Transit Asset Management Plan and Strategic Goals
- Use the PBPP Process to communicate the need and goals of the agency
- Use performance data and trends to secure funding and guide investments through strategic decisions
- Prioritize investments in assets based upon how they meet performance goals



Transit Service Levels and the “New Normal”

The Future of TAM and PBPP

- Right-sizing transit service levels and assets to meet the needs of the “new normal”
- Meeting Climate Change Initiatives and Zero Emission Goals

Let’s Work Together

- Utilize peer review tools like FTA’s National Transit Database Group Summary
- Industry Organizations, Conferences and Roundtables on Notable Practices





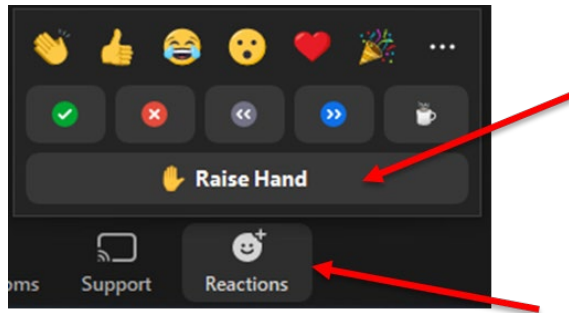
Moderated Q&A



Protocols for Q&A



- Use "Raise Hand" tool or the chat pod to ask questions
 - If you would like to come off mute to ask your question, please use the "Raise Hand" tool and wait to be called on



- No Q&A pod: Everyone can see what's submitted to the chat pod
- Be clear who your question is directed to
- We will do our best to get to all questions but may not have time to do so



Q&A



Wrap Up



- Key takeaways
- Thank you for attending the 2022 Virtual TAM Roundtable!
- Please fill out the evaluation when you exit the session





[TRANSIT.DOT.GOV](https://www.transit.dot.gov)