Transit Asset Management Plans

Texas Transit Association

Fall Training Workshop

October 25-26, 2018

Waco, Texas

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Introductions

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Workshop Goals

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What You Can Expect

- Gain a better understanding of TAM Plan requirements
- Learn what other operators are doing
- Start thinking about your update in four years

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Why TAM?

- In 2008, transit infrastructure and rolling stock were deteriorating, resulting in a severe maintenance backlog
- MAP-21 required the FTA to establish a National Transit Asset Management System
- Final rule published effective October 1, 2016
- Two-year implementation period
- TAM Plan implementation deadline of October 1, 2018

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Some TAM Challenges

- Light rail fleets are growing; agencies are now managing fleets of different ages
- Heavy rail assets are being used longer without replacement
- Commuter rail systems and assets have grown, yet conditions have remained constant
- The quantity of bus assets is growing, and average retirement age is later than intended
- Vanpool and demand-response operators and assets have more than doubled

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FTA TAM Video

https://youtu.be/6TyP38W-2hQ

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A More Formal Process

- Most transit providers already had a plan for asset management, such as:
  - Capital Improvement Plan
  - Fleet Replacement Plan
  - Enterprise Asset Management System
- Many providers, especially smaller ones, may not have looked beyond FTA replacement criteria in planning replacement
- TAM provides a holistic view of asset management across the agency

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Benefits of TAM

- Improved customer service
  - Improved on-time performance
  - Improved vehicle and facility cleanliness
  - Fewer missed trips
  - Focuses investments on customer-centered goals and metrics

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Benefits of TAM

- Improved productivity and reduced costs
  - More effective asset maintenance
  - Condition-based approaches and predictive/preventive maintenance strategies can reduce costs

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Benefits of TAM

- Optimized resource allocation
  - Better aligns spending with agency goals and objectives
  - Greatest return from limited funds
  - Incorporates lifecycle cost, risk, and performance into capital programming and operations and maintenance budgeting

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What Is a State of Good Repair?

"The condition in which a capital asset is able to operate at a full level of performance."

- It is able to perform its designed function
- It does not pose a known unacceptable safety risk
- Its lifecycle investments have been met or recovered

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What's the difference between Asset Management and State of Good Repair?

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Not the same thing!

State of Good Repair: The target *condition* of your assets

Asset Management: The *management* of the condition of those assets

Asset management is what we do to keep our assets in a state of good repair.

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Your Individual TAM Plan

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Two Categories of Operators

Tier I

- Operates more than 100 vehicles in peak revenue service **OR**
- Operates a rail fixed-guideway public transportation systems

Tier II

- Operates 100 or fewer vehicles in peak revenue service across all modes or in any one non-fixed-route mode **AND**
- Does not operate a rail fixed-guideway public transportation system **OR**
- Receives FTA Section 5311 funding or is an American Indian Tribe

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Different TAM Plan Requirements

Tier I

1. Inventory of Capital Assets
2. Condition Assessment
3. Decision Support Tools
4. Investment Prioritization
5. TAM and SGR Policy
6. Implementation Strategy
7. List of Key Annual Activities
8. Identification of Resources
9. Evaluation Plan

Tier II

1. Inventory of Capital Assets
2. Condition Assessment
3. Decision Support Tools
4. Investment Prioritization

Tier II providers may wish to include elements of the Tier I plan if they feel they would be beneficial

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TAM Plan Components

Plan Requirement	What it is
1. Inventory of Capital Assets	What are your assets?
2. Condition Assessment	What condition are they in?
3. Decision Support Tools	What tools do you use to support decision-making?
4. Investment Prioritization	How do you decide how to spend money?

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TAM Plan Components

Plan Requirement	What it is
5. TAM and SGR Policy	How do you define State of Good Repair?
6. Implementation Strategy	How do you start, maintain, and monitor your program?
7. List of Key Annual Activities	What do you do each year to support your plan?
8. Identification of Resources	What tools do you have/use?
9. Evaluation Plan	How successful is your plan?

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How Is Compliance Verified?

- Beginning FY 2019, TAM is part of the FTA's oversight review program (Triennial Reviews)
- Part of the FTA master agreement and Certifications and Assurances
- Included in annual NTD reporting
- Additional oversight tools (Enhanced Review Modules and Technical Assistance) are in development

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TxDOT Group TAM Plan

TIER II

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What Is a Group Plan?

- Allows Tier II operators to meet TAM compliance requirements as part of a group rather than individually
- Includes one set of performance targets that are applied to all participants
- Replacement prioritization encompasses all participants
- Participants have the option to prepare their own plan in 2022

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Who Is in the TxDOT Plan?

- 1 small urban provider
- 25 rural providers
- 11 Section 5310 providers

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Why Do an Individual Plan?

- Focus on your agency's assets only
- Easier for your management team to understand and use for planning
- Easier for your governing body to understand and appreciate
- Include more details about your processes and strategies
- If you are (or become) a direct recipient of Section 5307 funds, you cannot be in a group plan

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Performance Targets

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Performance Targets

- Targets are reported annually on the NTD A-90 form
- There is no penalty for missing a target
- There is no reward for attaining a target
- So why do we need targets?

Lower Performance Measures Values =

Better State of Good Repair

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Useful Life Benchmarks (ULB)

- FTA Default ULB
  - Average age-based equivalent of a 2.5 TERM rating
  - Not the same as the useful life definition used in the FTA's grant programs
- Agency Customized ULB
  - Modify the default value in NTD
  - No prior FTA approval is required

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Useful Life Benchmarks (ULB)

- Important to note:
  - If you are going to adjust the ULB for your agency, you need to do it in your NTD reporting before it is reflected in your TAM Plan
  - FTA's acceptance of your NTD report signifies acceptance of your customized ULB

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Facility Condition

- Uses the FTA's TERM scale (1-5 rating) (**T**ransit **E**conomics **R**equirements **M**odel)
  - 5 = Excellent (no visible defects, near or nearly new condition, may still be under warranty)
  - 4 = Good (good condition, but no longer new; may be slightly defective or deteriorated, but still functional)
  - 3 = Adequate (moderately deteriorated or defective, but has not exceeded useful life)
  - 2 = Marginal (defective or deteriorated and in need of replacement; has exceeded useful life)
  - 1 = Poor (critically damaged or in need of immediate repair; well past useful life

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Inventory of Capital Assets

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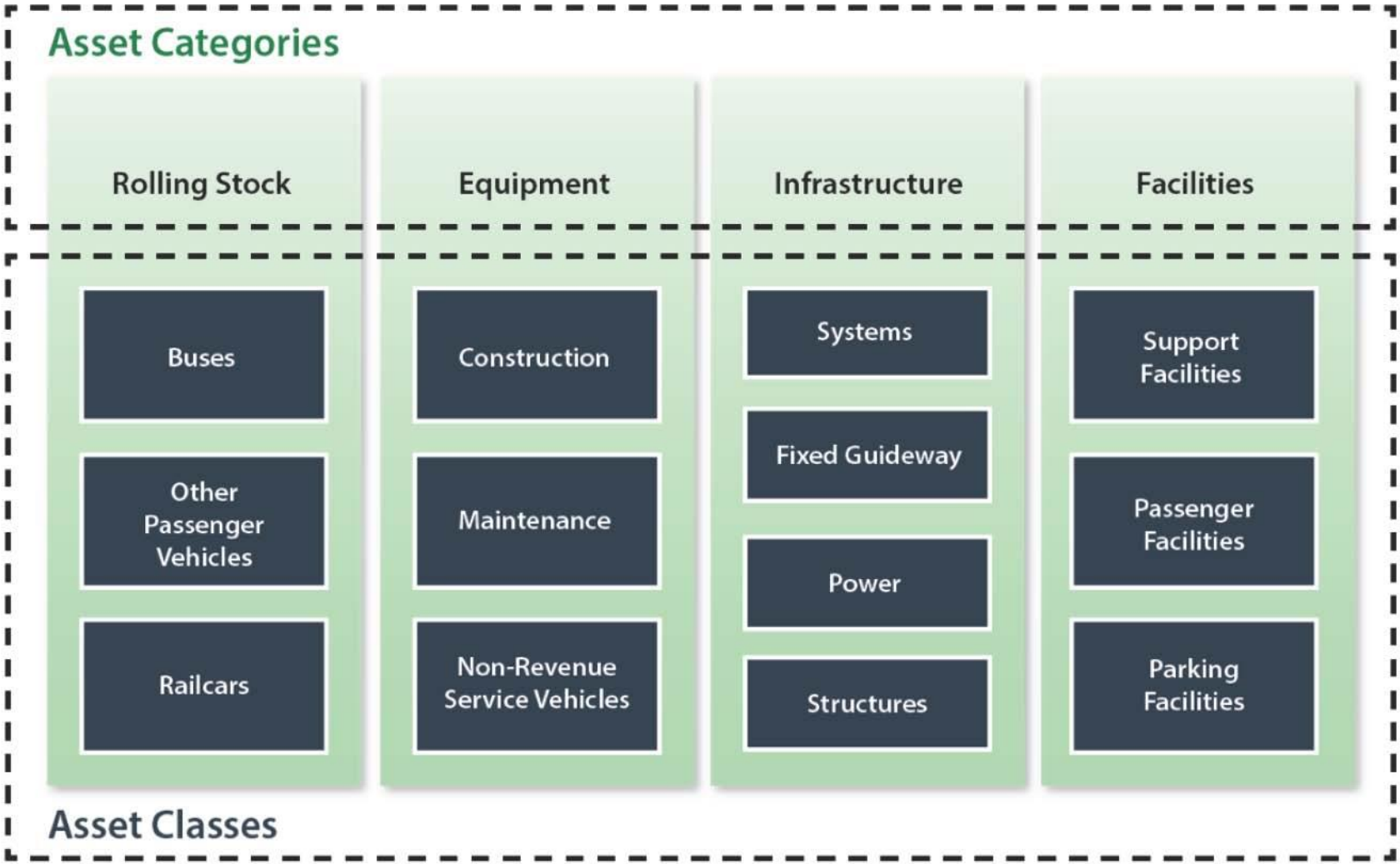

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What Is Considered an Asset?

- Includes all service vehicles and any equipment with an acquisition value over $50,000
- Includes assets that are owned by a third party or shared resources
- Only includes assets for which the agency has direct capital responsibility

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What Is Considered an Asset?

- How do I know if I have direct capital responsibility?
  - You own the asset **OR**
  - You jointly own the asset with another entity **OR**
  - You are responsible for replacing, overhauling, refurbishing, or conducting major repairs on that asset, or the costs of those activities are itemized as a capital line item in your budget

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What Is Considered an Asset?

- Revenue vehicles
- Equipment (non-revenue vehicles)
  - Automobiles
  - Trucks/rubber-tire vehicles
  - Steel wheel vehicles
  - All non-revenue vehicles are included as equipment assets, regardless of cost

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What Is Considered an Asset?

- Equipment (other)
  - Non-vehicle equipment assets with an acquisition value of less than $50,000 can be excluded from your inventory
  - If your capital plan lists multiple units as a single line item (i.e., solar panels for 10 locations purchased as a single system), and the line item is valued at $50,000 or greater, it must be included in the inventory
  - Equipment valued at under $50,000 may be considered as part of a facility

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What Is Considered an Asset?

- Infrastructure
  - Rail fixed-guideway
  - Signal systems
  - Structures
  - Catenary
  - Mechanical, electrical, and IT systems
- Facilities
  - Administrative and maintenance facilities
  - Passenger facilities

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What Is Considered an Asset?

- Facilities
  - Sales offices
  - Revenue collection facilities
  - All passenger stations (excluding bus shelters)
  - Surface parking lots and parking structures
  - Exclusive-use maintenance facilities
  - Vehicle washing and fueling facilities

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What Is Considered an Asset?

- Facilities
  - Each separate building is considered a separate facility (even if located within a single compound)
  - A bus stop would only be considered a facility if it consisted of a separate, enclosed building

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What Is Not Considered an Asset?

- Supplies (such as trash dumpsters, office furniture, copiers, etc.)
- Equipment owned by a third party or a third-party owned shared-use maintenance facility (such as national oil change company)

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Condition Assessment

TIERS I & II

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Condition Assessment

- Regular inspections that evaluate an asset's visual and physical conditions
- Performance characteristics
- Risks/impacts of failures

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Facility Condition

- To determine the overall condition of a facility, you must inspect and assess its component elements:
  - Substructure – foundations, basement
  - Shell – structural frame, walls, roof surface, gutters, skylights, windows, doors, exterior finishes, balconies, fire escapes, etc.
  - Interior – walls, interior doors, signage, interior stairs and landings, interior finishes

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Facility Condition

- To determine the overall condition of a facility, you must inspect and assess its component elements:
  - Conveyance – Escalators, elevators, other lifts
  - Plumbing – fixtures, water distribution, sanitary waste, rainwater drainage
  - HVAC – energy supply, heating and cooling generation and distribution systems, controls and instrumentation, chimneys, vents
  - Fire protection – sprinklers, standpipes, hydrants

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Facility Condition

- To determine the overall condition of a facility, you must inspect and assess its component elements:
  - Electrical – electrical service and distribution, lighting and branch wiring, communications and security
  - Equipment – equipment related to the function of the facility, including maintenance or vehicle service equipment (does not include supplies)
  - Site – roadways, driveways, signage, parking lots, pedestrian areas, fences, landscaping and irrigation, site utilities

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Facility Condition

- May also include:
  - Fare collection equipment – turnstiles, ticket machines, etc.

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Aggregated Condition Rating

- Weighted average cost
  - Weights facility components based on value
  - Utilizes known replacement costs
- Median value
  - Can be calculated with limited replacement cost data
  - Not an average (or mean), but the midpoint of all TERM values
- Alternative weighting
  - Any approach that is consistent, repeatable, and yields a single value for each facility

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Weighted Average Cost

Example: Maintenance facility equipment

	Replacement Cost
Bus wash	$1,000,000.00
Paint booth	$1,500,000.00
Lift #1	$500,000.00
Lift #2	$500,000.00
Lift #3	$500,000.00

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Weighted Average Cost

Example: Maintenance facility equipment

	Replacement Cost	TERM Rating
Bus wash	$1,000,000.00	4
Paint booth	$1,500,000.00	4
Lift #1	$500,000.00	4
Lift #2	$500,000.00	4
Lift #3	$500,000.00	1

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Weighted Average Cost

Example: Maintenance facility equipment

	Replacement Cost	TERM Rating	RC * TERM
Bus wash	$1,000,000.00	4	$4,000,000.00
Paint booth	$1,500,000.00	4	$6,000,000.00
Lift #1	$500,000.00	4	$2,000,000.00
Lift #2	$500,000.00	4	$2,000,000.00
Lift #3	$500,000.00	1	$500,000.00
Sum	**$4,000,000.00**		**$14,500,000.00**

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Weighted Average Cost

Example: Maintenance facility equipment

Sum of (RC * TERM) / Sum of RC = Overall rating

$14,500,000 / $4,000,000 = **3.625**

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Median Value

Example: Conveyance component

	TERM Rating
Elevator #1	2
Elevator #2	2
Elevator #3	2
Elevator #4	4
Elevator #5	4

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Median Value

Example: Conveyance component

- The overall rating should be the lowest rating achieved by at least half of the component quantity
- In other words, the middle value in a series of sorted (ascending) numbers

2 2 2 4 4

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Median Value

Example: Conveyance component

	TERM Rating
Elevator #1	1
Elevator #2	1
Elevator #3	2
Elevator #4	2
Elevator #5	3
Elevator #6	3
Elevator #7	4
Elevator #8	4
Elevator #9	5
Elevator #10	5

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Median Value

Example: Conveyance component

- The overall rating should be the lowest rating achieved by at least half of the component quantity
- In an even-numbered list, it's the value right below the halfway point

1 1 2 2 3 3 4 4 5 5

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Condition Assessment Resource

- TAM Facility Performance Measure Reporting Guidebook: Condition Assessment Calculation (Version 1.2, March 2018) https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/regulations-and-guidance/asset-management/60361/tam-facility-performance-measure-reporting-guidebook-v1-2.pdf
- FTA Webinar Presentation: Condition Assessment Calculation & Performance Restriction (Slow Zone) Calculation Guidebooks (June 2017) https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/regulations-and-guidance/asset-management/63641/condition-assessment-performance-restriction-guidebook-6-13-17.pdf

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Decision Support Tools & Investment Prioritization

TIERS I & II

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Decision Support & Investment Prioritization

- Analytical process or tool
- Processes:
  - Categorical scale (high/medium/low; critical/important/desirable; red/amber/green)
  - Prioritization matrix (weighted criteria)
  - Worst-first
  - Benefit-cost analysis
  - Risk index

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Decision Support & Investment Prioritization

- Analytical process or tool
- Tools:
  - TERM-Lite
  - Transit Asset Prioritization Tool (TAPT)

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TERM-Lite

- TERM-Lite is an analysis tool designed to help transit agencies assess their:
  - State of Good Repair backlog
  - Level of annual investment to attain a State of Good Repair or other investment objective
  - Impact of variations in funding on future asset conditions and reinvestment needs
  - Investment priorities

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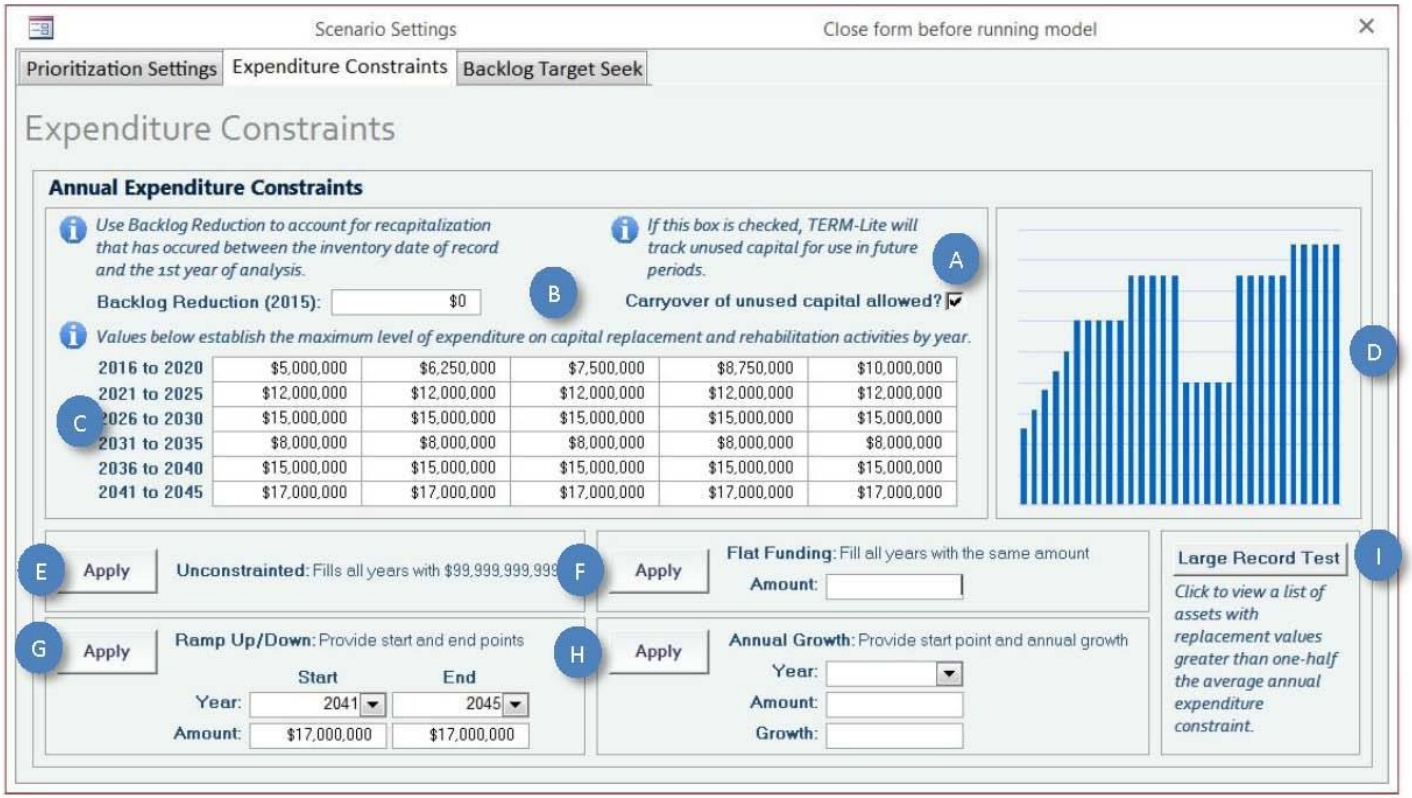
TERM-Lite



https://www.transit.dot.gov/TAM/TERMLite

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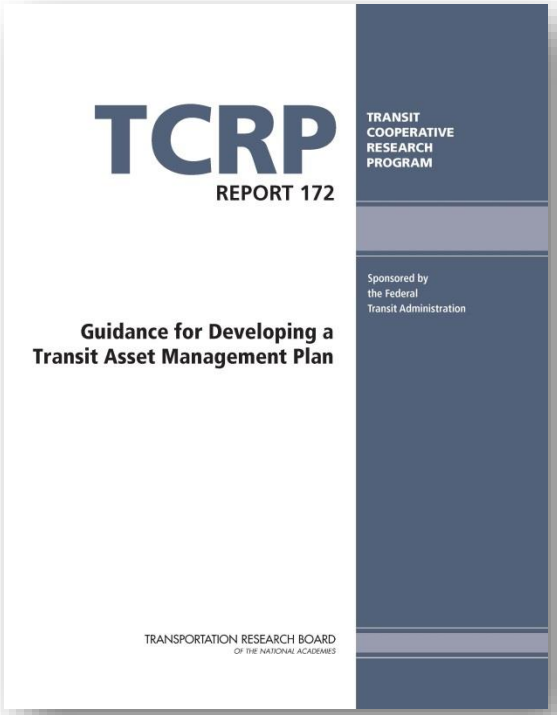
Transit Asset Prioritization Tool (TAPT)

- Microsoft Excel format (with macros)
- Developed by TCRP and presented along with TCRP Report #172, *Guidance for Developing a Transit Asset Management Plan*
- Download TAPT from tcrp_rpt_172.xlsm



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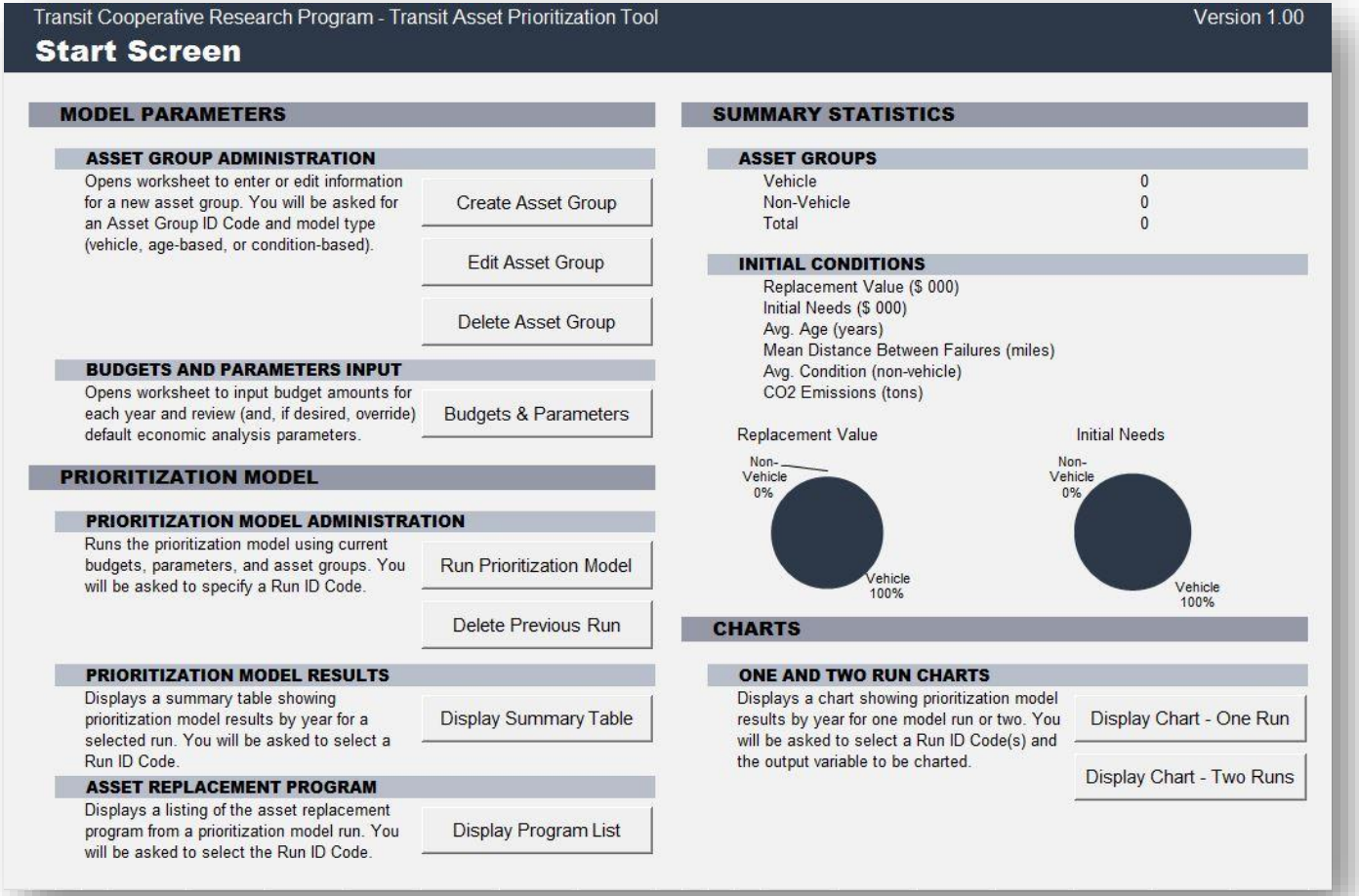
Transit Asset Prioritization Tool (TAPT)



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Investment Prioritization Examples

- **Green Bay Metro (WI) (Tier II)**
  - Decision Support: uses inspection reports, rolling stock reports, and fixed asset inventory reports in making investment decisions
  - Investment Prioritization:
    - Maintenance Manager uses best judgment and experience to prioritize needs
    - Transit Director ranks projects based on need: High Priority, Medium Priority, Low Priority
    - All programs/projects have an associated date

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Investment Prioritization Examples

- **Miami-Dade County DTPW (FL) (Tier I)**
  - Decision Support:
    - Infrastructure Replacement Program (IRP)
    - 40-Year Pro Forma
    - Ten Year Implementation Plan (MDT10Ahead)
  - Investment Prioritization:
    - Project Prioritization and Budget Approval Process (PPBA)

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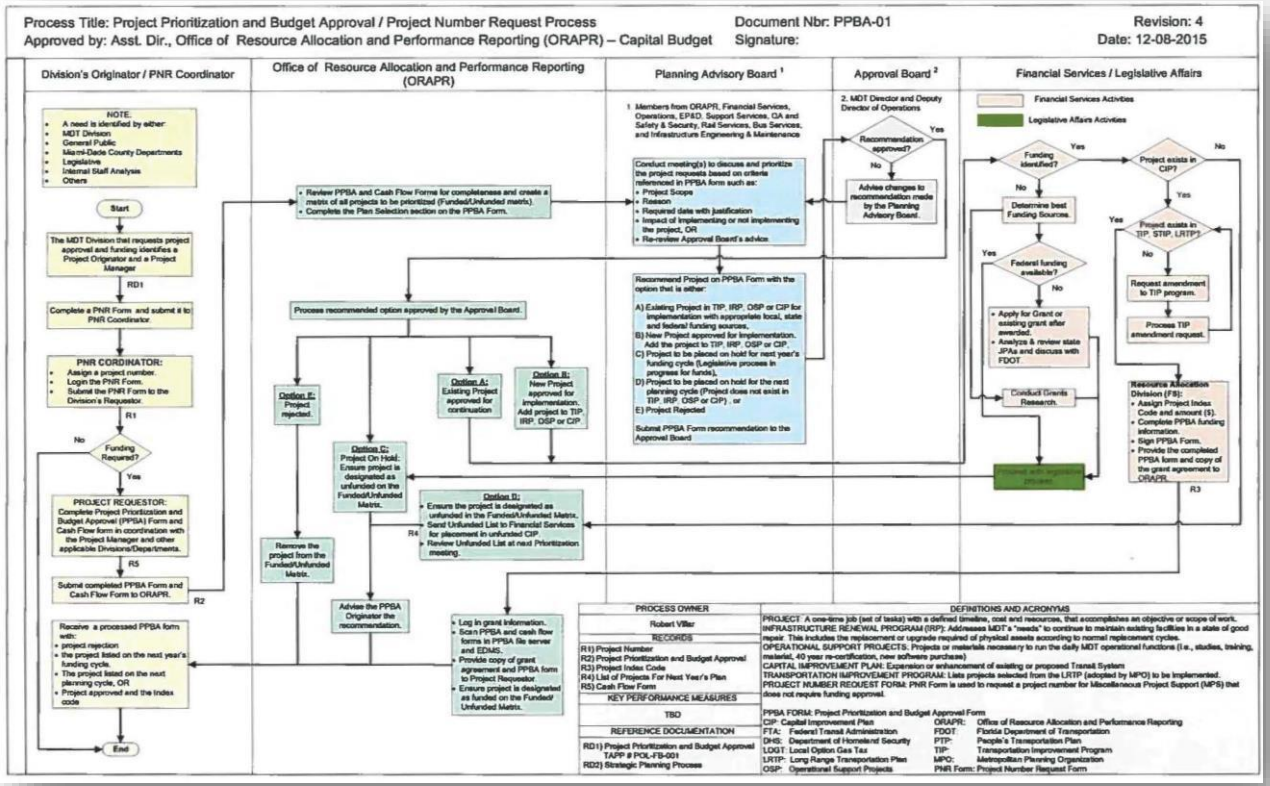
Investment Prioritization Examples

- **Miami-Dade County DTPW (FL) (Tier I)**



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Investment Prioritization Examples

- **Laredo El Metro (TX) (Tier II)**
  - Investment Prioritization:
    - TAPT Prioritization Model
    - Three scenarios for prioritization model
      - Unconstrained budget
      - Do-nothing budget
      - Annual budget

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Investment Prioritization Examples

- **AC Transit (CA) (Tier I)**
  - Decision Support:
    - Ellipse™ Enterprise Asset Management System for Fleet and Facilities asset management
    - PeopleSoft Enterprise Resource Planning System
    - S&A Systems FleetWatch
    - Hastus
    - CAD/AVL

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Investment Prioritization Examples

- **AC Transit (CA) (Tier I)**
  - Investment Prioritization:
    - Uses existing capital project prioritization process
    - Informs the three-year Capital Improvement Plan
    - Five priority groupings: Safety, Compliance, Maintenance, Business Case, Enhancement
    - Ranked as High, Medium, and Low within each grouping

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Investment Prioritization Examples

- **Washington Metropolitan Area Transit Authority (DC) (Tier I)**
  - Investment Prioritization:
    - Four key criteria, TERM scale 1-5, weighted average score
      - Asset Condition: physical condition of asset
      - Ridership Impacts: relative number of riders impacted
      - Service Delivery: level of impact on customer satisfaction and mode-specific measures
      - Safety and Security: Risk-based approach taking into account severity and probability by asset type

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FTA Tier II Template

Introduction

****BASIC****

Provide a brief overview of/introduction to your agency. You may include general information including state geography, demographics, interdependencies between asset classes, etc.:

Performance Targets & Measures: **What are the annual targets set for the FTA performance measures? Refer to Part I of the Guide for definitions of the performance measures and information on how to set targets. Provide your targets in the table below. If you have other asset classes to include, specify the asset class in the yellow cells labeled 'Custom'.**

For Group TAM Plan Sponsors: You may set targets for your subrecipients. If you choose to do so, click the "Hide Targets" button below before you send the template out. You may leave this question to obtain input from subrecipients on appropriate targets.

Asset Category - Performance Measure	Asset Class	2018 Target	2019 Target	2020 Target	2021 Target	2022 Target
REVENUE VEHICLES						
Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	*AB - Articulated Bus*					
	AO - Automobile					
	BR - Over-the-road Bus					
	BU - Bus					
	CU - Cutaway Bus					
	DB - Double Decked Bus					
	FB - Ferryboat					
	MB - Mini-bus					
	MV - Mini-van					
	RT - Rubber-tire Vintage Trolley					
	SB - School Bus					
	SV - Sport Utility Vehicle					
	TB - Trolleybus					
	VN - Van					
	Custom 1					
	Custom 2					
	Custom 3					
EQUIPMENT						
Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	*Non Revenue/Service Automobile*					
	Steel Wheel Vehicles					
	Trucks and other Rubber Tire Vehicles					
	Custom 1					
	Custom 2					
	Custom 3					
FACILITIES						
Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	*Administration*					
	Maintenance					
	Parking Structures					
	Passenger Facilities					
	Custom 1					
	Custom 2					
	Custom 3					

You may provide text explaining the methods used in setting the targets here:

****These buttons are for Group TAM Plan Sponsor use only****

****COMPREHENSIVE****

For Group TAM Plan Sponsors: You may establish the following foundational pieces (vision, state of good repair policy, goals, and objectives) for all subrecipients but this should be done in collaboration with them. Consider their needs as well as their ability to achieve and/or comply. If you choose to establish them for your subrecipients, use the "Hide" and "Show" buttons as necessary.

TAM Vision: **What do you ultimately hope to achieve with your TAM system? What is the broader goal?**

****These buttons are for Group TAM Plan Sponsor use only****

TAM and SGR Policy: **What is your agency's TAM and/or State of Good Repair (SGR) policy? Here, you can document expectations for your employees and demonstrate executive-level direction to support the goals of the TAM system. This can be a short statement or a detailed policy. You may also attach a policy document in the appendix of the TAM plan.**

****These buttons are for Group TAM Plan Sponsor use only****

TAM Goals and/or Objectives: **Based on your vision, what are your specific, measurable, achievable, realistic, and time-bound (S.M.A.R.T.) goals? What measurable steps (objectives) will you take to achieve the goals? This should be written in tabular format as shown below. The table includes an example goal and associated objectives. Use the buttons shown on the right.**

Goals	Objectives
Increase customer satisfaction score by 20 percent in fiscal year.	Respond to customer feedback from past survey by mid-fiscal year.
	Respond to customer complaints (through 511) within one week of complaint.

About the TAM Plan: **Provide an overview of the TAM Plan describing the contents and structure. What time horizon does the document cover and what are the expected update and improvement timelines?**

For Group TAM Plan Sponsors: You may specify TAM Plan contents, structure, and time horizon for subrecipients. If you choose to do so, hide this question.

Inventory Table

Asset Category	Asset Class	Asset Name	Make	Model	Count	ID/Serial No.	Asset Owner	Acquisition Year	Vehicle Mileage	Replacement Cost/Value
Facilities*	Maintenance	York Street Maintenance Building	N/A	N/A	1	MAINT0010	Example Agency	2000		$50,000.00
RevenueVehicles	CU - Cutaway Bus	Vehicle #973	Starcraft	Allstar	1	973	City of Solvang	2012	206,722	$75,000.00
RevenueVehicles	CU - Cutaway Bus	Vehicle #974	Starcraft	Allstar	1	974	City of	2014	161,454	$75,000.00
RevenueVehicles	CU - Cutaway Bus	Vehicle #975	Starcraft	Allstar	1	975	City of	2014	158,307	$75,000.00
RevenueVehicles	CU - Cutaway Bus	Vehicle #976	Starcraft	Allstar	1	976	City of Solvang	2016	96,913	$75,000.00
RevenueVehicles	CU - Cutaway Bus	Vehicle #977	Starcraft	Allstar	1	977	City of	2016	94,883	$75,000.00

Capital Asset Inventory

BASIC

Asset Inventory Listing: To complete the inventory list, use the following steps:

1. On the table to the right, list all the capital assets that you own, operate, or manage that support the delivery of public transportation services. This should include leased assets, assets operated under contract, and all assets that would be included in a program of projects. You may include assets used in the provision of public transportation even if acquired without FTA funds. Complete the table and use the drop down menus where provided. An example is shown for guidance.

2. Click the "Add More" button only after some yellow cells are filled.

3. Be sure to click "Finish" when complete.

4. Click the "Summarize" button to populate the summary table.

5. Click "Continue" to proceed to the next sheet.

Asset Category/Class	Total Number	Avg Age	Avg Mileage	Avg Value
RevenueVehicles	**5**	**3.6**	**143,656**	**$75,000.00**
AB - Articulated Bus	0	-	-	-
AO - Automobile	0	-	-	-
BR - Over-the-road Bus	0	-	-	-
BU - Bus	0	-	-	-
CU - Cutaway Bus	5	3.6	143,656	$75,000.00
DB - Double Decked Bus	0	-	-	-
FB - Ferryboat	0	-	-	-
MB - Mini-bus	0	-	-	-
MV - Mini-van	0	-	-	-
RT - Rubber-tire Vintage Trolley	0	-	-	-
SB - School Bus	0	-	-	-
SV - Sport Utility Vehicle	0	-	-	-
TB - Trolleybus	0	-	-	-
VN - Van	0	-	-	-
Custom 1	0	-	-	-
Custom 2	0	-	-	-
Custom 3	0	-	-	-
Equipment	**0**	-	-	-
Non Revenue/Service Automobile	0	-	-	-
Steel Wheel Vehicles	0	-	-	-
Trucks and other Rubber Tire Vehicles	0	-	-	-
Custom 1	0	-	-	-
Custom 2	0	-	-	-

Revenue Vehicles Condition Table

***Age is the surrogate performance measure for condition as determined by the FTA.*

Asset Category	Asset Class	Asset Name	Count	ID/Serial No.	Age (Yrs)	Vehicle Mileage	Replacement Cost/Value	Useful Life Benchmark (Yrs)	Past Useful Life Benchmark
RevenueVehicles	CU - Cutaway Bus	Vehicle #973	1	973	6	206,722	$75,000.00	5	Yes
RevenueVehicles	CU - Cutaway Bus	Vehicle #974	1	974	4	161,454	$75,000.00	5	No
RevenueVehicles	CU - Cutaway Bus	Vehicle #975	1	975	4	158,307	$75,000.00	5	No
RevenueVehicles	CU - Cutaway Bus	Vehicle #976	1	976	2	96,913	$75,000.00	5	No
RevenueVehicles	CU - Cutaway Bus	Vehicle #977	1	977	2	94,883	$75,000.00	5	No

Condition Assessment

****BASIC****

Asset Condition: What condition are your assets in to run the services required? How does the actual condition compare to the target set for the assets? The tables to the right are automatically populated based on your inventory on the previous sheet. There is one table for each asset category (three total). Scroll to the right to view all tables.

Complete the tables by filling in the input cells with the Useful Life Benchmark for each asset. Refer to Section 3.1.1 of Part I for an explanation of the Useful Life Benchmark.

Asset Condition Summary: Click the "Summarize" button to update the summary table to calculate the percent of assets past their Useful Life Benchmark.

Asset Category/Class	Count	Avg Age	Avg Mileage	Avg TERM Condition	Avg Value	% At or Past ULB
RevenueVehicles	**5**	**3.6**	**143,656**	**N/A**	**$75,000.00**	**20.00%**
AB - Articulated Bus	0	-	-	N/A	-	-
AO - Automobile	0	-	-	N/A	-	-
BR - Over-the-road Bus	0	-	-	N/A	-	-
BU - Bus	0	-	-	N/A	-	-
CU - Cutaway Bus	5	3.6	143,656	N/A	$75,000.00	20.00%
DB - Double Decked Bus	0	-	-	N/A	-	-
FB - Ferryboat	0	-	-	N/A	-	-
MB - Mini-bus	0	-	-	N/A	-	-
MV - Mini-van	0	-	-	N/A	-	-
RT - Rubber-tire Vintage Trolley	0	-	-	N/A	-	-
SB - School Bus	0	-	-	N/A	-	-
SV - Sport Utility Vehicle	0	-	-	N/A	-	-
TB - Trolleybus	0	-	-	N/A	-	-
VN - Van	0	-	-	N/A	-	-

Decision Support

NOTE: Complete some yellow cells before clicking "Add More" under each question.

BASIC

Decision Support: List and briefly describe the processes and/or tools in place to support investment decision-making, including project selection and prioritization. Enter this information in the table below. Click the button to add more rows.

Process/Tool	Brief Description
Example Asset Condition Information System	A software system that uses asset inventory and condition information to generate 5 to 10-year condition forecasts.
Useful Life Standards	The City of Solvang has typically relied on useful life standards provided by the FTA and mileage on the fleet buses, along with recommendations received during maintenance from the service specialists.

Investment Prioritization: How do you determine what priority investments are needed in order to maintain a state of good repair? Describe your agency's investment prioritization process.

Future investment needs are determined by established priority lists based on asset condition and useful life. Proper investment planning is essential so as not to affect the core operating services of transit.

COMPREHENSIVE

Risk Management: **Identify any risks faced to your assets or organization as a whole (particularly safety-related risks) and describe the mitigation strategies for each one. This can also include how scheduled maintenance can affect service delivery. As applicable, describe any planned changes or improvements to these processes. Enter this information in the table below. Click the button to add more rows.**

Risk	Mitigation Strategy
Loss of significant amounts of federal funds	Decrease dependence on federal funds for capital

Maintenance Strategy: **List your regularly-planned maintenance activities (e.g., inspections, routine preventive maintenance activities, etc). As applicable, describe any planned changes or improvements to these processes. Enter this information in the table below. Click the button to add more rows.**

Asset Category	Asset Class	Maintenance Activity	Frequency	Avg Duration (Hrs)	Cost
RevenueVehicles	BU - Bus	Engine tune-up	Annual	3	$1,000

How does your agency address unplanned maintenance needs?

Overhaul Strategy: **How and when do assets get overhauled or replaced? What activities take place during overhaul (e.g., mini, mid-life, or major overhaul)? As applicable, describe any planned changes or improvements to these processes. Enter this information in the table below. Click the button to add more rows.**

Asset Category	Asset Class	Overhaul Strategy
RevenueVehicles	BU - Bus	Mid-life overhaul - rebuilds bus engine, transmission and electronics, replaces chassis parts and seats, and repaints the body, restoring the bus to an "as new" condition. Cost is about $120,000 per bus.

Disposal Strategy: **What is your agency's strategy for disposing of assets that are being renewed or replaced? Describe any approval processes and detail, including the procedures for physically removing the asset from the property. As applicable, describe any planned changes or improvements to these processes. Provide brief paragraphs describing the strategies in the table below. Click the button to add more rows.**

Asset Category	Asset Class	Disposal Strategy
RevenueVehicles	BU - Bus	Buses at the end of their useful lives (15 years) are retired according to three options: (i) salvage sale; (ii) ready reserve fleet placement; and (iii) disposal. Buses designated for ready reserve fleet placement will be delivered to the storage lot and salvage sale buses will be prepared according to the "Scrap Bus Instructions". Buses for disposal will be scheduled for pick up by the Bus Disposal Group.

Fleet Retirement & Replacement Computation Module

Asset Category
RevenueVehicles

This worksheet is built to inform your fleet replacement schedule. Follow the instructions in italics above each table going from left to right. After calculating the last table, enter your selected projects into the Investment Prioritization sheet by clicking on the tab names at the bottom. Clicking 'RESET' will clear all your data. Return to the previous sheet to finish your TAM Plan.

Existing Fleet

This is a listing of your revenue vehicle assets. Do not make any changes in this table.

Asset Category	Asset Class	Asset Name	Make	Model	Count	ID/Serial No.	Asset Owner	Acquisition Year	Replacement Cost/Value	Useful Life Benchmark (Yrs)	Fleet Type (Year/Make/Model)
RevenueVehicles	CU - Cutaway Bus	Vehicle #973	Starcraft	Allstar	1	973	SYVT	2012	$75,000.00	5	2012 Starcraft Allstar
RevenueVehicles	CU - Cutaway Bus	Vehicle #974	Starcraft	Allstar	1	974	SYVT	2014	$75,000.00	5	2014 Starcraft Allstar
RevenueVehicles	CU - Cutaway Bus	Vehicle #975	Starcraft	Allstar	1	975	SYVT	2014	$75,000.00	5	2014 Starcraft Allstar
RevenueVehicles	CU - Cutaway Bus	Vehicle #976	Starcraft	Allstar	1	976	SYVT	2016	$75,000.00	5	2016 Starcraft Allstar
RevenueVehicles	CU - Cutaway Bus	Vehicle #977	Starcraft	Allstar	1	977	SYVT	2016	$75,000.00	5	2016 Starcraft Allstar

Existing Fleet Remaining Per Year

This tables ages your existing fleet, showing the number remaining in each of the next five years. Do not make any changes to this table.

Fleet Type (Year/Make/Model)	Number	Replacement Cost	Acquisition Year	ULB	2019	2020	2021	2022	2023
2012 Starcraft Allstar	1	$75,000.00	2012	5	0	0	0	0	0
2014 Starcraft Allstar	2	$75,000.00	2014	5	2	0	0	0	0
2016 Starcraft Allstar	2	$75,000.00	2016	5	2	2	2	0	0
Grand Total									

Fleet Required

In the cells shaded yellow, enter the peak number of vehicles scheduled and the spare factor (%) for each fleet for each year. Note that the FTA has spare ratio requirements for revenue vehicles. Click Calculate to calculate the number of vehicles required each year.

Fleet Type (Year/Make/Model)	2019			2020			2021			2022			2023		
	Peak Vehicles Scheduled	Spare Factor (%)	Vehicles Required	Peak Vehicles Scheduled	Spare Factor (%)	Vehicles Required	Peak Vehicles Scheduled	Spare Factor (%)	Vehicles Required	Peak Vehicles Scheduled	Spare Factor (%)	Vehicles Required	Peak Vehicles Scheduled	Spare Factor (%)	Vehicles Required
2012 Starcraft Allstar	1	0%	1	0	0%	0	0	0%	0	0	0%	0	0	0%	0
2014 Starcraft Allstar	2	0%	2	2	0%	2	0	0%	0	0	0%	0	0	0%	0
2016 Starcraft Allstar	2	0%	2	2	0%	2	2	0%	2	2	0%	2	0	0%	0

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Key Things to Remember

- Don’t leave any spaces between inventory entries
- Don’t try to insert lines; additions should be at the end
- Always use the Save, Continue, Summarize, and Finish buttons – that’s what populates subsequent tables
- You may have to do it more than once!

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What Next?

- The template pages can be saved into a compliant TAM plan
- You may wish to do more
  - Add explanations
  - Ease of review
  - Representative of your organization

Transit Asset Management Plan

With FTA Template

TAM Plan Type: Individual TAM Plan/Tier 2 Provider
Accountable Executive: Scott Lewis
Date: May 1, 2018

Prepared by: Moore & Associates, Inc.
Valencia, CA

Longview Transit – Transit Asset Management Plan 2018

Table of Contents

City of Longview

Section 1 | Introduction

The City of Longview provides public transportation for residents of and visitors to Longview, located in Gregg and Harrison counties in East Texas. Longview Transit operates both fixed-route and ADA Complementary Paratransit services. Service is provided from 6:15 am to 7:15 pm Monday-Friday, and 7:15 am to 7:15 pm on Saturday. There is no Sunday or holiday service.

As a recipient of federal funding, Longview Transit is required by the Federal Transit Administration (FTA) to prepare a Transit Asset Management (TAM) Plan to maximize the utilization of its capital assets. Capital assets as defined by the FTA include rolling stock (revenue vehicles), equipment (non-revenue vehicles), and facilities.

The purpose of this TAM Plan is to document the condition of the various assets and prepare for replacement based on each asset type's useful life. The TAM Plan also provides a framework for effective decision-making with respect to capital assets. It is part of an overall mindset of continuous improvement and striving toward a high state of good repair for all capital assets.

Longview Transit's TAM Plan is comprised of tables derived from the FTA's TAM Guide for Small Providers Worksheet. TAM Plan documents directly generated by that worksheet are provided in an appendix at the end of this documents.

As part of the planning process, Longview Transit is required to set annual targets for key performance measures for each capital asset class. They are presented as percentages that refer to the percent of vehicles within that asset class that have met or exceeded their Useful Life Benchmark (ULB). For facilities, percentages refer to the percent of facilities that are rated less than 3.0 on the FTA's Transit Economic Requirements Model (TERM) scale[1]. Longview Transit's annual targets[2] are presented in Exhibit 1.1.

[1] See Section 3 for further description of FTA Useful Life Benchmarks and the Transit Economic Requirements Model.
[2] Longview Transit identified a target of 0% for Bus and Cutaway Bus asset classes; however, the FTA Small Providers Worksheet would not allow a value of zero to be entered. Therefore the target listed is 1%.

Longview Transit – Transit Asset Management Plan 2018

Exhibit 1.1 Asset Performance Targets

Asset Category – Performance Measure	Asset Class	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target
Revenue Vehicles						
Age - % of vehicles that have met or exceeded their ULB	BU – Bus	1%	1%	1%	1%	1%
	CU – Cutaway Bus	1%	1%	1%	1%	1%
	MV – Minivan	25%	25%	25%	25%	25%
	VN - Van	50%	50%	50%	50%	50%
Equipment						
Age - % of vehicles that have met or exceeded their ULB	Non-revenue/ service automobile	75%	75%	75%	75%	75%
	Trucks and other rubber tire vehicles	75%	75%	75%	75%	75%
Facilities						
Condition - % of facilities with a condition rating below 3.0 on the TERM Scale	Administration	1%	1%	1%	1%	1%
	Maintenance	1%	1%	1%	1%	1%

Section 3 | Condition Assessment

In order to ensure capital assets remain in a state of good repair, their condition must be assessed on a regular basis. The default measure of condition is based on age (for rolling stock) and overall condition (facilities).

Vehicle Condition

The FTA has set a default Useful Life Benchmark (ULB) for each vehicle type. The ULB is the average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. While transit agencies can adjust their ULBs based on actual operating conditions (with approval by FTA), Longview Transit uses the default ULBs provided in the *2017 Asset Inventory Module Report Manual* published by the FTA.

Facility Condition

Facility condition is assessed using the TERM scale. The TERM scale rates the condition of an asset on a scale of one to five:

- 1 = Poor (asset is in need of immediate repair or replacement or may have critically damaged components)
- 2 = Marginal (asset is reaching or is just past the end of its useful life; there are an increasing number of defective or deteriorated components and increasing maintenance needs)
- 3 = Adequate (asset has reached its mid-life; some moderately defective or deteriorated components)
- 4 = Good (asset shows minimal signs of wear; some slightly defective or deteriorated components)
- 5 = Excellent (asset is new with no visible defects)

Both of Longview Transit's facilities are assessed as a three on the TERM scale. This is considered to be in good repair according to the FTA.

Section 4 | Decision Support

Longview Transit's Asset Management Policy and Asset Management Goals and Objectives inform the agency's capital asset decision making.

Asset Management Policy

Longview Transit is committed to establishing an asset management system that supports its mission of providing a safe, efficient, and reliable transportation service while providing quality customer service.

> *Our policy is to establish a culture that supports asset management at all levels of the organization, promotes cost-effective lifecycle management of assets using industry best practices, and ensures benefit cost analysis and financial responsibility in decision-making.*

Asset Management Goals and Objectives

In support of this asset management policy, specific goals and objectives have been identified.

1. **Policy** – Present transit-wide awareness and demonstrate leadership support of the priority of Longview Transit's Asset Management Plan.
   - Leadership must openly and positively embrace the asset management plan.
   - Promote the asset plan through dialogue, discussing both visions and expected outcomes.
2. **People** – Establish an asset management culture where both employees and customers understand and support the established strategy.
   - Improve asset management awareness and sharing both internally and externally.
   - Educate employees regarding the important role they play in making the asset management plan a success.
3. **Practices** – Follow best practices, from the front-line employees to the leadership, which include managing risk, achieving cost savings, taking personal ownership in caring for transit assets, and contributing to customer safety.
   - Increase asset operational efficiency and reduce asset-related disruption of service.
   - Instilling the mindset that everyone, regardless of position, has the responsibility and obligation to take action and deliver results.

Decision Support

The primary tool for decision support is Microsoft Excel. Longview Transit is small enough that it is able to manage assets using a simple spreadsheet.

Future investment needs are determined by established priority lists based on asset condition and useful life. Proper investment planning is essential so as not to affect the core operating services of transit.

Section 5 | Investment Priorities/Fleet Replacement Plan

Longview Transit maintains a fleet replacement plan, which is consistent with the Useful Life Benchmarks used in the TAM Plan. Capital investment priorities are twofold: 1) those assets documented within this plan and 2) other assets that do not fall under this plan but are still considered capital purchases.

In addition to programmed fleet replacement, Longview Transit has identified the following as capital investment priorities:

- Passenger amenities:
  - Bus stop amenities (shelters, signs, and benches),
  - Onboard wi-fi,
  - Real-time bus tracking, and
  - Electronic fare payment system.
- Vehicle and facility projects:
  - Construction of new transfer center,
  - Upgraded camera and GPS systems on vehicles, and
  - Upgraded facility cameras.

Longview Transit uses the Useful Life Benchmarks to prepare its fleet replacement plan. Exhibit 5.1 ages the existing fleet, showing the number of each vehicle type/years remaining in each of the next five years. Exhibit 5.2 identifies the year of replacement for revenue vehicles in the current fleet, based on the Useful Life Benchmark (ULB). Exhibit 5.3 calculates the required purchase of revenue vehicles per year. An inflation rate of two percent is used to estimate year-of-expenditure costs based on current value.

Appendix | FTA Templates

Longview Transit – Transit Asset Management Plan 2018

Longview Transit Transit Asset Management Plan

Scott Lewis, Accountable Executive

Last modified by Kathy Chambers on 01 May 18 at 11:13

Introduction

The City of Longview provides public transportation for residents of and visitors to Longview, located in Gregg and Harrison counties in East Texas. Longview Transit operates both fixed-route and ADA Complementary Paratransit services. Service is provided from 6:15 am to 7:15 pm Monday-Friday, and 7:15 am to 7:15 pm on Saturday. There is no Sunday or holiday service.

Performance Targets & Measures

Asset Category - Performance Measure	Asset Class	2019 Target	2020 Target	2021 Target	2022 Target	2023 Target
REVENUE VEHICLES						
Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	AB - Articulated Bus	N/A				
	AO - Automobile	N/A				
	BR - Over-the-road Bus	N/A				
	BU - Bus	1%	1%	1%	1%	1%
	CU - Cutaway Bus	1%	1%	1%	1%	1%
	DB - Double Decked Bus	N/A				
	FB - Ferryboat	N/A				
	MB - Mini-bus	N/A				
	MV - Mini-van	25%	25%	25%	25%	25%
	RT - Rubber-tire Vintage Trolley	N/A				
	SB - School Bus	N/A				
	SV - Sport Utility Vehicle	N/A				
	TB - Trolleybus	N/A				
	VN - Van	50%	50%	50%	50%	50%
	Custom 1	N/A				
	Custom 2	N/A				
	Custom 3	N/A				
EQUIPMENT						
Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Non Revenue/Service Automobile	75%	75%	75%	75%	75%
	Steel Wheel Vehicles	N/A				
	Trucks and other Rubber Tire Vehicles	N/A				
	Custom 1	N/A				
	Custom 2	N/A				
	Custom 3	N/A				
FACILITIES						
Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration	1%	1%	1%	1%	1%
	Maintenance	1%	1%	1%	1%	1%
	Parking Structures	N/A				
	Passenger Facilities	N/A				
	Custom 1	N/A				
	Custom 2	N/A				
	Custom 3	N/A				

Page 1 of 1

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Additional Tier I Information

TIER I

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Individual Approach to Tier I Plan

- There is no one defined way to approach the additional sections required for the Tier I plan
- Consequently, there is no “standard” for information included in these sections
- It is up to the operator to determine what specific information to include

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TAM and SGR Policy

TIER I

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What Is a State of Good Repair?

"The condition in which a capital asset is able to operate at a full level of performance."

- It is able to perform its designed function
- It does not pose a known unacceptable safety risk
- Its lifecycle investments have been met or recovered

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Agency SGR Definitions

- How will the FTA definition be realized by your agency specifically?
  - "Working definition"
  - Based on the modes you operate
  - Based on what assets you have
  - Does not have to be unique to your system

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Agency SGR Policy

- Jefferson Transit Authority (WA):
  - The asset is in a condition sufficient for the asset to operate at a full level of performance. An individual capital asset may operate at a full level performance regardless of whether or not other capital assets within a public transportation system are in an SGR
  - The asset can perform its manufactured design function
  - The use of the asset in its current condition does not pose an identified unacceptable safety risk and/or deny accessibility
  - The asset's life-cycle investment needs have been met or recovered, including all scheduled maintenance, rehabilitation, and replacements (ULB)

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Agency SGR Policy

- City of Amarillo
  - Amarillo City Transit is in a state of good repair if it exhibits the following characteristics:
    - Safety: Transit vehicles are well-maintained and replaced before their condition deteriorates to the point of presenting a safety risk
    - Quality Transit: Transit vehicles must meet customer expectations for comfort and reliability

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Agency SGR Policy

- Southeastern Pennsylvania Transportation Authority:
  - An asset or system is in a state of good repair when no backlog of needs exists and no component is beyond its useful life. State of good repair projects correct past deferred maintenance, or replace capital assets that have exceeded their useful life.

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Agency SGR Policy

- Sound Transit (WA)
  - Sound Transit will maintain its physical assets to ensure safe, quality, cost-effective services
  - Require CEO to include in the budget a 40-year “state of good repair” forecast (SGRF)
  - Require Board to fund SGRF in budget and set aside funds within agency long-term finance plan
  - Require Board to fund SGRF as a first priority, ahead of new capital projects or services
  - Independent assessment of SGRF every five years

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Implementation Strategy & List of Key Annual Activities

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Making a Business Case

- A concise description of the “deliverable” resulting from implementation, with other supporting description of what is to be implemented
- Implementation steps
- Major business changes required
- Required resources (including staff and funding)
- Estimated benefits expressed in terms of the resultant outcomes
- Risks to the accomplishment of the outcomes

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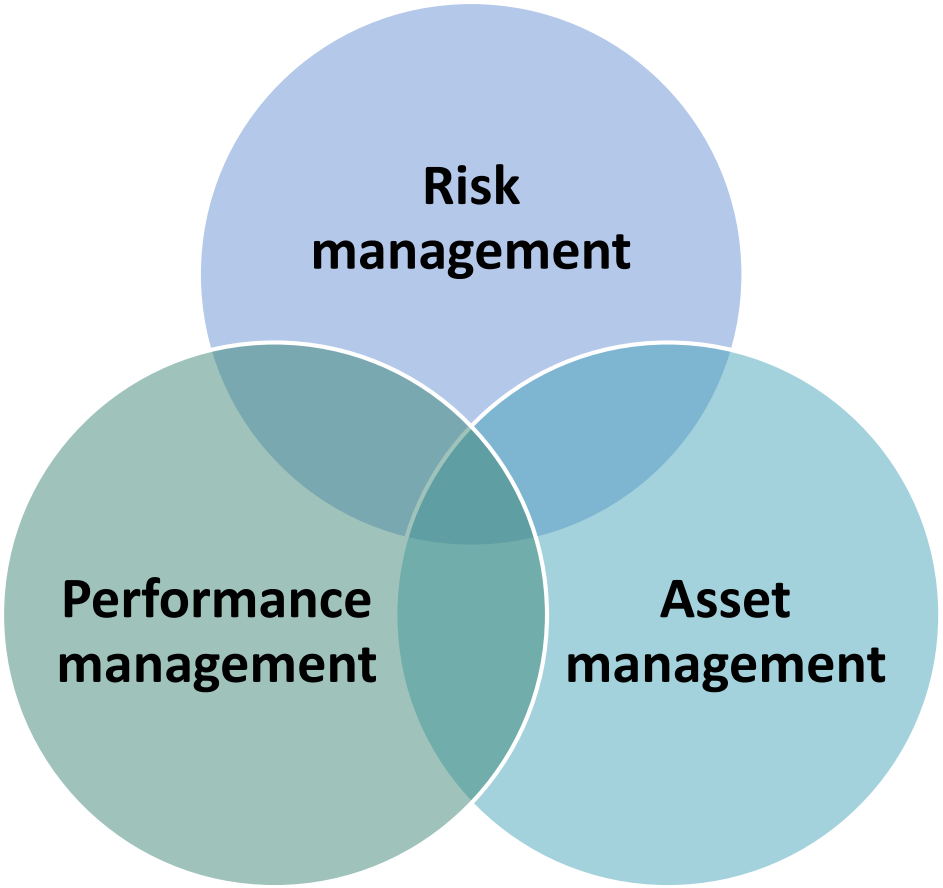
Elements of Plan Implementation



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Path to Implementation

- Vision
- Outcomes to be accomplished
- Flexibility to be adaptive as the agency learns and the operating environment changes

Over time, an agency will establish its own path but may use these as a start

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Enterprise-Driven Path

- Path characteristics:
  - Starts by establishing asset management policies, strategy and a plan that ensures a well-integrated and aligned organization
  - Uses consistent, up-to-date, and increasingly complete asset inventory data
  - Requires strong executive sponsorship commitment to asset management
  - Staff at all levels increasingly understand how their job supports asset management

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Enterprise-Driven Path

- Agency attributes:
  - Any size agency with any mix of modes or ages of assets
  - Asset management champion is the executive level sponsor
  - Staff dedicated to asset management improvement program
  - Agency management and staff understand how their job supports asset management

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Enterprise-Driven Path

- Benefits:
  - Improve agency's performance and cost-effectiveness
  - Optimize funding allocations in addition to improving stakeholder communications
  - Transform the entire agency's culture towards an asset management focus
  - Drive cultural change by causing a ripple effect of staff empowerment and accountability
  - Provide transparency in decision-making at all levels
  - Improve communications both within the agency and with stakeholders

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Enterprise-Driven Path

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Enterprise Asset Management

- EAM involves the management of the maintenance of physical assets of an organization throughout each asset's lifecycle
- "Enterprise" includes the scope of the assets across departments, locations, facilities, and functions

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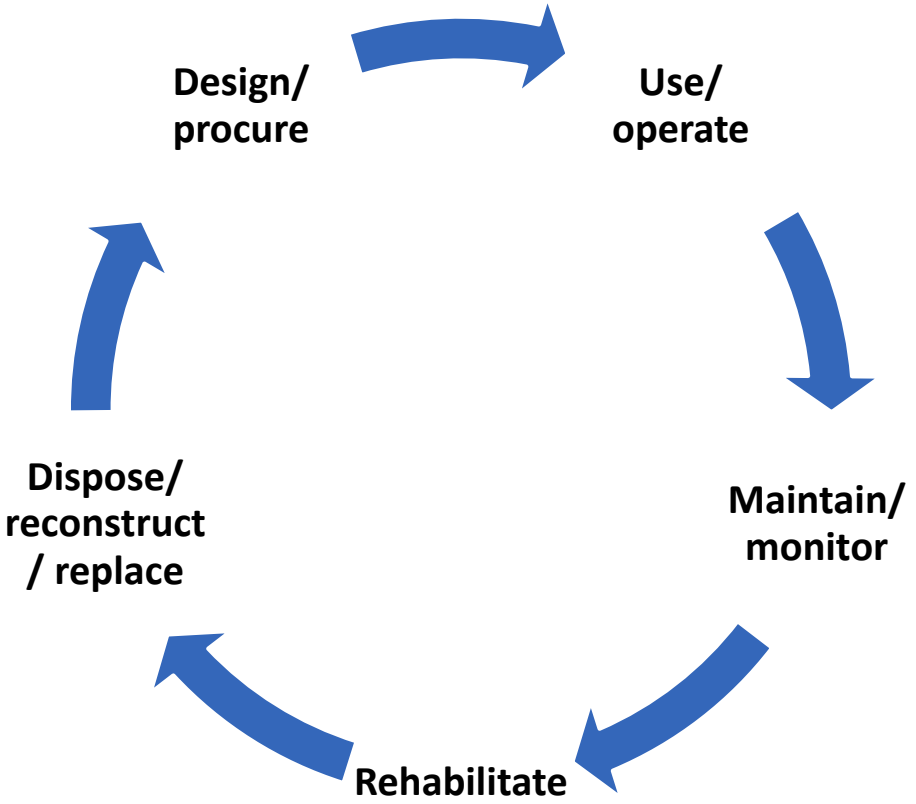
Asset Lifecycle Steps



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Enterprise Asset Management

- Examples of EAM systems:
  - Trapeze EAM
  - Accenture
  - Infor
  - IBM Maximo
  - AssetWorks
  - Spear 3i

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Asset Class-Driven Path

- Path characteristics:
  - Driven by managers of individual asset classes who champion asset management; does not require enterprise-level direction
  - Improvements focus on lifecycle management of individual asset classes
  - Requires development of lifecycle management plans for included assets (starting with the most critical assets)

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Asset Class-Driven Path

- Agency attributes:
  - Single- or multiple-mode agency with assets of any ages
  - Asset management champion does not necessarily exist at executive level
  - Staff not likely dedicated to asset management improvement program

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Asset Class-Driven Path

- Benefits:
  - Improve safety, reliability, and/or total cost of ownership of selected assets throughout their lifecycle while ensuring most cost-effective investment strategies
  - Minimize risk of failures associated with selected asset class
  - Make data-driven, informed investment decisions within that asset class
  - Improve internal communications by requiring cross-department coordination throughout asset's lifecycle
  - Provides opportunity for establishing internal agency asset management best practice examples
  - Empowers middle managers to improve asset management practices

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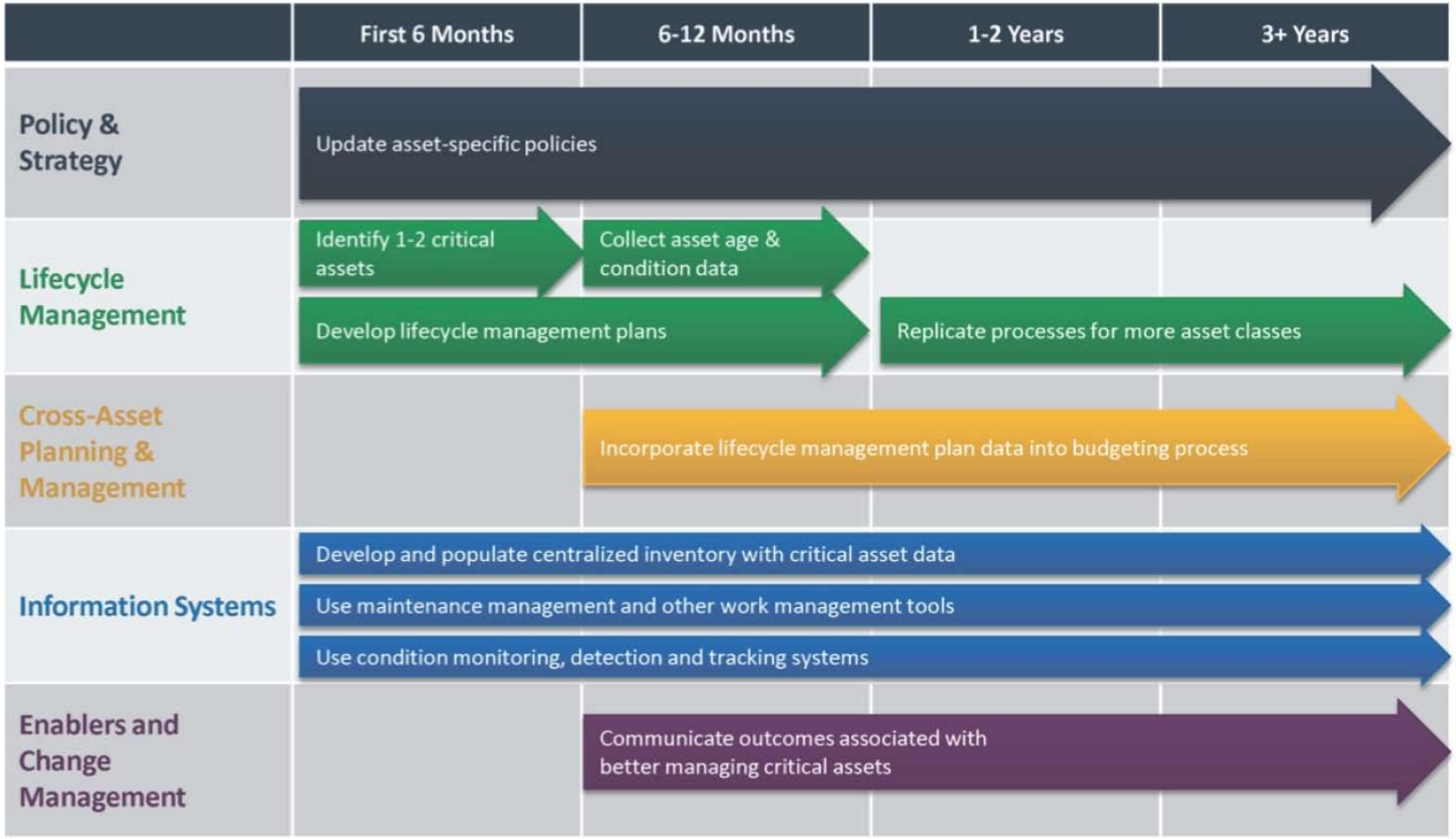
Asset Class-Driven Path



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Capital Planning-Driven Path

- Path characteristics:
  - Focus on providing information on asset condition from a centralized asset inventory in a consistent way across all asset classes
  - Capital improvements required to meet the level of service commitments are systematically identified and communicated
  - Focus is more at the planning level, but can provide a springboard for increasing awareness and driving initiative and methods to reduce lifecycle costs

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Capital Planning-Driven Path

- Agency attributes:
  - Single- or multiple-mode agency with assets of any ages
  - Asset management champion does not necessarily exist at executive level
  - Staff not likely dedicated to asset management improvement program
  - Agency management and/or staff recognize a need to prioritize the capital program in a more transparent, systematic way
  - Some consultant support and software investment may be required

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Capital Planning-Driven Path

- Benefits:
  - Provides simplified access to comprehensive, reliable data to support agency decision-making and capital programming
  - Provides transparency in decision-making at all levels
  - Improves communications regarding the agency's capital needs, funding decisions, and scenarios reflecting the impact of different levels of capital funding within the agency and with stakeholders
  - Justifies the level of investment needed to improve an agency's asset condition and performance and the performance impacts of not receiving that level of funding

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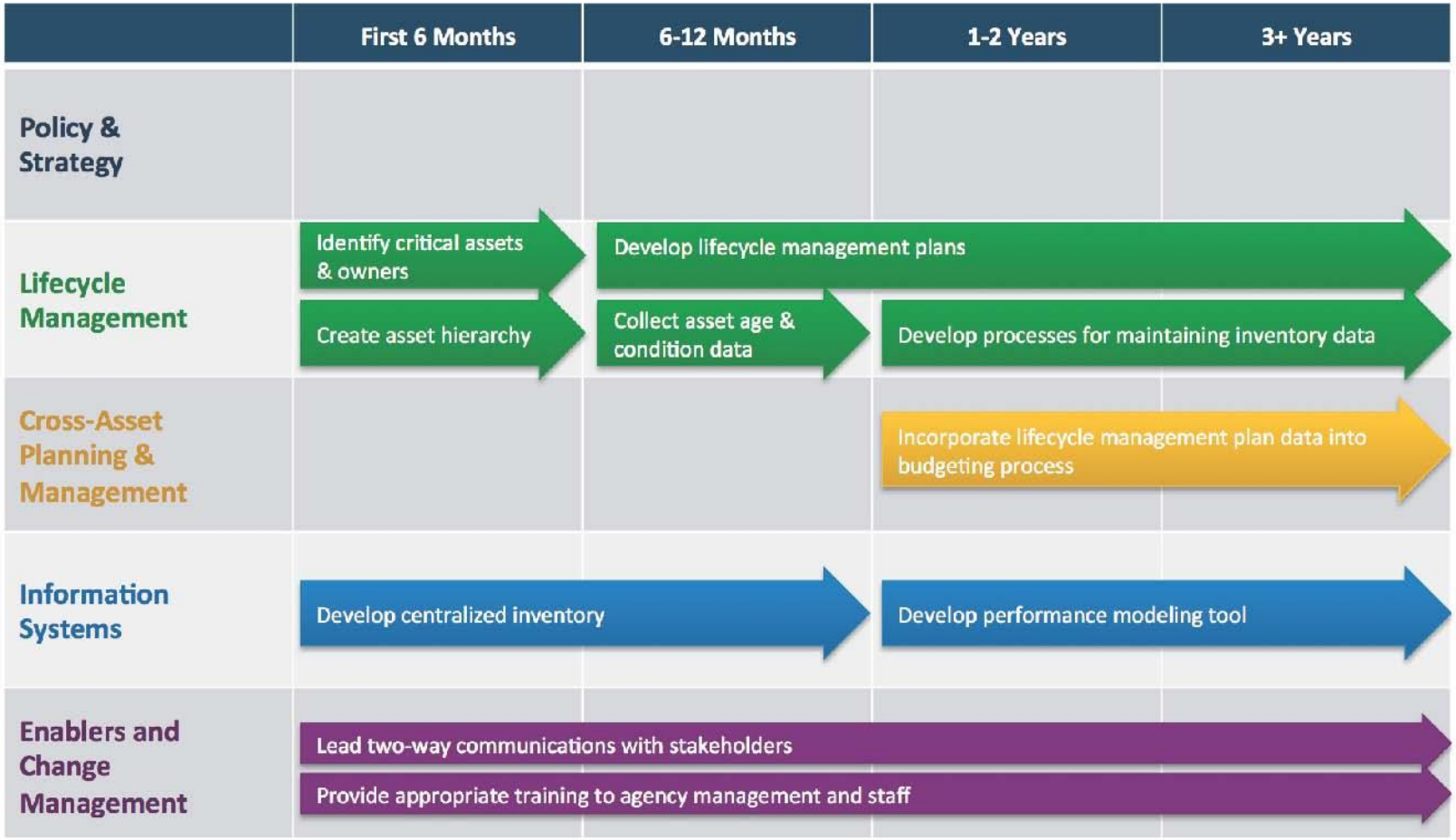
Capital Planning-Driven Path



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AC Transit

"Key annual activities supporting the TAM Plan and asset lifecycle management are detailed within Board Policies, Fleet and Facilities Maintenance Plans and Standard Operating Procedures. These activities align with the District's business goals and objectives providing "Line-of-Sight" organizational alignment to ensure a consistent collection and analysis of data as a fundamental element of AC Transit's TAM Plan implementation approach."

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Miami-Dade County

- Implementation Action Plan identifies key implementation areas:
  - Develop a Transit Asset Management Program
  - Capital Asset Management
  - Performance Reporting
  - Data-Driven Decision Support Strategies
  - Resource Management
  - Asset Management Program Evaluation
- Implementation Actions in each area identify SOW, recommended implementation team, estimated duration, level of impact, specific tasks, and risk

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Identification of Resources

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Resources

- Describe the resources (including personnel and technologies) your agency needs to develop and carry out your TAM Plan
- This can include funding resources (and plans for funding) as well as personnel and technology resources

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Resources

- Resources may include:
  - Planned capital replacement account
  - State and federal capital grant opportunities
  - Investment prioritization strategy
  - Asset management software
  - Asset engineering staff
  - Risk management staff
  - Asset performance management staff

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Example – AC Transit

TECHNOLOGY	DESCRIPTION / CONFIGURATION	OWNER
Ellipse ™	Enterprise Asset Management System for Fleet and Facilities asset management. Software solution that improves planning, scheduling, routing and completing work orders based on priority, resources and assets.	Innovation and Technology
PeopleSoft	Enterprise Resource Planning System – Master inventory (other than assets) for the organization Finance-Human Resource (FHR) and Human Capital Management (HCM) information.	Innovation and Technology
S&A Systems FleetWatch	Fluid Management – provides real-time control and data acquisition for fluids and tank monitor systems to monitor fluid usage, schedule preventive maintenance, and reconcile fluids.	Innovation and Technology
Hastus	Scheduling & Dispatch – provides improved planning, scheduling, operations, passenger information and analysis.	Innovation and Technology / Operations
CAD/AVL	The CAD/AVL system connects our vehicles seamlessly with our back office scheduling and dispatching software. It automatically collects vital data used by dispatchers such as bus GPS locations, schedule adherence status, breakdowns and emergencies	Innovation and Technology / Operations

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Evaluation Plan

TIER I

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Evaluation Plan

- Determining performance measures for rolling stock equipment, and facilities, such as:
  - Rolling stock: fuel economy, incidents per 1,000 miles, operating cost per hour, maintenance costs
  - Equipment: age, mileage, cost per operation hour
  - Facility: energy use per square foot, operating cost per square foot, maintenance cost
- Setting targets for performance measures
- Annual review and revisions, with input from TAM working group and advisory committee

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Coordination with Other Required Plans/Reports

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TAM & NTD

- Transit asset reporting is still in the process of being phased into NTD reporting
- RY 2018:
  - Performance targets for FY 2019
  - Asset reporting forms for FY 2018
- RY 2019:
  - Performance targets for FY 2020
  - Asset reporting forms for FY 2019
  - Narrative report outlining performance targets, progress toward those targets, and changes in transit system conditions

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TAM & NTD

- Asset reporting forms:
  - A-90: Performance Targets
  - A-10: Stations and Maintenance Facilities
  - A-15: Transit Asset Management Facilities Inventory
  - A-20: Transit Way Mileage
  - A-30: Revenue Vehicle Inventory Data
  - A-35: Service Vehicle Inventory

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TAM & NTD

- Two new TAM-only reporter types
  - Reduced Asset – do not receive or benefit from 5307 or 5311 funding but do own, manage, or operate an FTA-funded capital asset (e.g., 5310 operators)
  - Group Plan Sponsor – sponsors a group TAM plan, receives or benefits from funding other than 5311, does not operate transit service, and does not spend 5307 funds on building a mode or transit planning activities

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TAM & NTD

- Participants in a Group TAM Plan
  - Existing NTD reporters must designate their group plan sponsor
  - New reporters must be added by their group plan sponsor

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TAM & NTD

- New assets get reported in the reporting year they were placed into service
- Assets should not be reported if they are being assembled, under construction, or in testing

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TAM & PTASP

- Consider the results of your condition assessments when performing safety risk management and safety assurance activities
- Use the results of the SMS analysis to inform TAM investment priorities
- The Accountable Executive has responsibility for approving both the TAM and Public Transportation Agency Safety Plans

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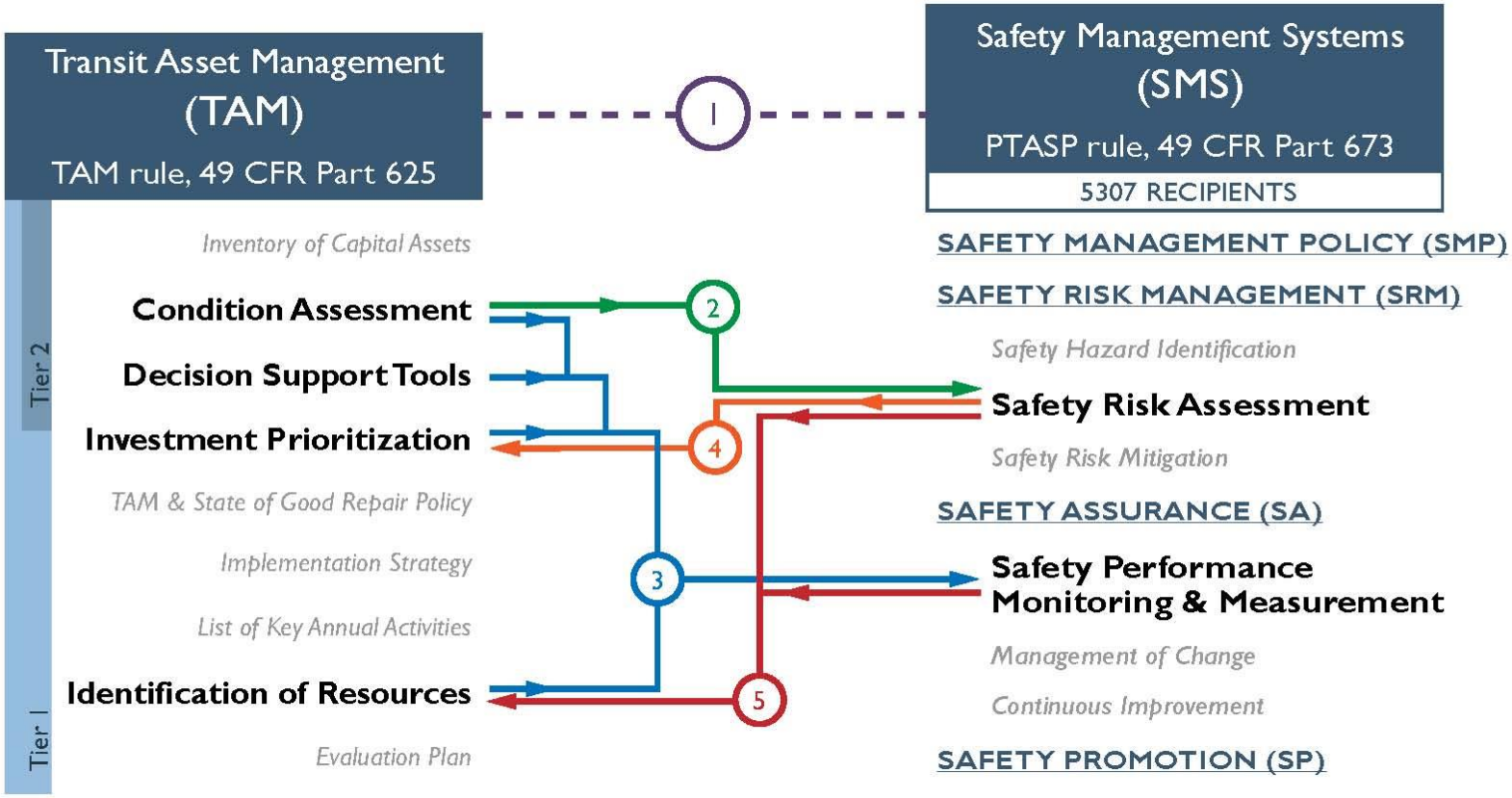
Nexus of Transit Asset Management & Safety Management Systems

U.S. Department of Transportation
Federal Transit Administration



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Nexus of Transit Asset Management & Safety Management Systems

U.S. Department of Transportation
Federal Transit Administration

NEXUS 1

The Accountable Executive
Reviews and Approves the TAM plan | Reviews and Approves the Agency Safety Plan

NEXUS 2

Condition Assessments can identify potential safety issues, which could undergo safety risk assessment in SRM.

NEXUS 3

TAM data and analysis can be used for performance monitoring and measurement in SA.

NEXUS 4

The outcome of a safety risk assessment in SRM, or safety performance monitoring and measurement in SA, could inform the prioritization of an asset for repair or replacement.

NEXUS 5

The outcome of a safety risk assessment in SRM, or safety performance monitoring and measurement in SA, could inform resources for TAM.

While there are no formal requirements linking TAM and SMS, there are many opportunities to share information and analysis between the two processes, thus improving actions and decision making agency wide.

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TAM & Title VI

- No direct relationship between the two plans
- Vehicle assignment policies must ensure new vehicles are deployed equitably
- Site selection for new facilities must include a Title VI facility site equity analysis, which must be included in the next update of your Title VI program

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Our TAM Plan Is Done – Now What?

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Regular Review

- Determine how frequently your agency will review its TAM plan for continued applicability – Quarterly? Annually? Only every 4 years?
- Are you meeting your performance targets?
- Are your useful life benchmark definitions appropriate?

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Integral Part of Agency Planning

- Plan document does not include future expansion as part of planning, only vehicle replacement
- Must be used as part of annual budgeting, service planning, etc., especially for smaller operators

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Update Every 4 Years

- Updated plans are due October 1, 2022
- Over the next four years, expect to see the requirements evolve as TAM plans are “real-world tested”

Thank You

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