

Transit Asset Management (TAM)

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2021

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Local Programs and Minibus Support



Today's Presentation

Transit Asset Management Background

2018 New Jersey Tier II Group TAM Plan

2022 TAM Requirements

Group Plan Development

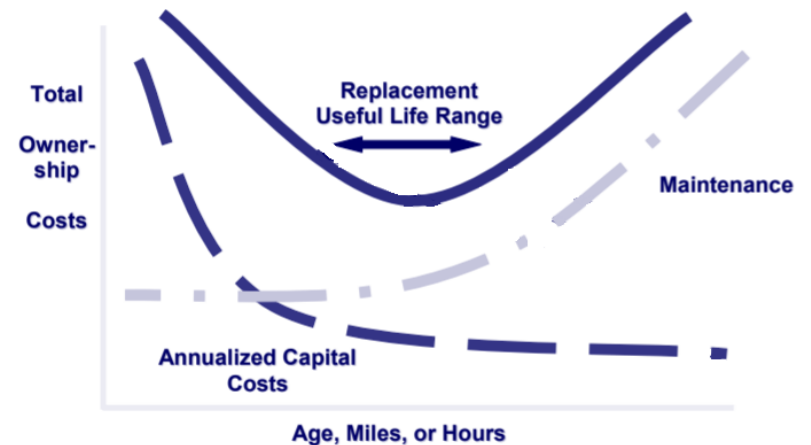
Tier II TAM Plan Development

Next Steps

Please Note: The information communicated during today's session is for the use of the NJ TRANSIT sub-recipients. All questions should be directed to NJ TRANSIT. Please note today's presentation is *not* on the behalf of the Department of Transportation or the Federal Transit Administration.

What is Transit Asset Management?

Transit asset management is a strategic and systematic process through which an organization procures, operates, maintains, rehabilitates, and replaces transit assets to manage their performance, risks, and costs over their lifecycle to provide safe, cost-effective, and reliable service.



Definition: FTA Asset Management Guide (2012); Graph: FTA Useful Life of Transit Buses and Vans (2007)

TAM and State of Good Repair

State of Good Repair is the condition in which a capital asset is able to operate at a full level of performance. This means the asset is able to perform its designed function and does not pose a known safety risk.

- Consequences of not being in a state of good repair include:
 - Safety risks
 - Decreased system reliability
 - Higher maintenance costs
 - Lower system performance

Definition: 49 CFR § 625.5

What is a Transit Asset Management Plan?

- A Transit Asset Management Plan sets forth a strategy for maintaining and replacing assets to achieve a state of good repair
- TAM Plans must, at a minimum, be updated on a 4-year cycle
- Tier II TAM Plans must include:

**Inventory of
Capital Assets**

**Condition
Assessment**

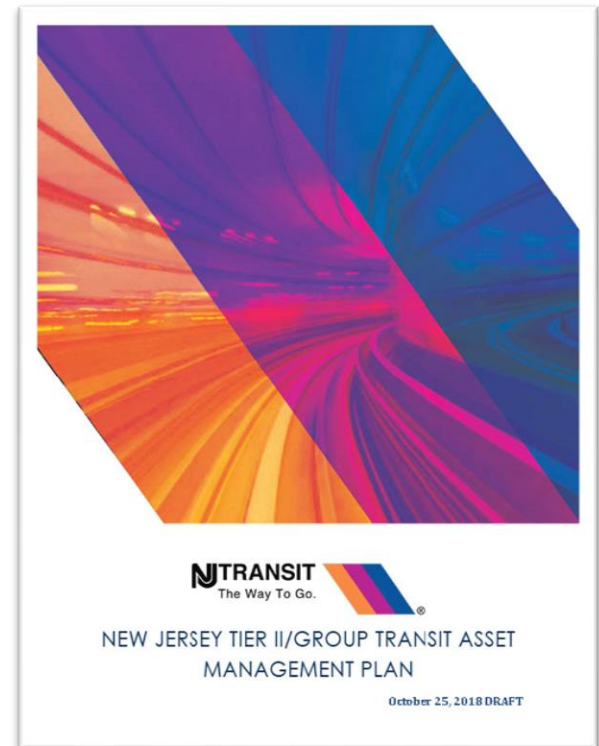
**Performance
Targets**

**Decision
Support Tools**

**Investment
Prioritization**

2018 New Jersey Tier II Group TAM Plan

- 69 public transit providers participated
- Plan addressed all required elements
 - Inventory of capital assets
 - Condition assessment
 - Performance targets
 - Decision support tools
 - Prioritized list of investments
 - Evidence of outreach to and approval from participating agencies
- As the first state Group TAM Plan, the focus was on the approach and methodology
- The 2018 plan is available to download on S-Rides
<https://s-rides.njtransit.com/home/loginHome.aspx>



2018 TAM Plan Asset Inventory and Condition

Asset Class		Total Number	Average Mileage	Average Age	Useful Life Benchmark	% at or Past ULB	Average Value
Revenue Vehicles	Automobile	79	75,509	8.8	8	51%	\$18,768
	Bus	46	90,144	10.9	14	33%	\$103,985
	Cutaway Bus	747	98,491	5.9	10	11%	\$67,486
	Minibus	222	88,826	5.8	10	14%	\$63,036
	Minivan	81	68,365	5.8	8	26%	\$33,610
	Sport Utility Vehicle	28	70,379	7.3	8	43%	\$21,756
	Van	86	90,520	8.0	8	37%	\$33,953
	Total	1,289	92,222	6.3		17%	\$60,540
Equipment	Non-Revenue / Service Automobile	2	110,251	20	14	50%	\$21,645
	Trucks / Other Rubber Tire Vehicles	15	75,864	10.0	14	27%	\$44,764
	Total	17	78,156	10.0		29%	\$43,319
Facilities	Maintenance	N/A	N/A	N/A			N/A
	Passenger Facilities	N/A	N/A	N/A			N/A
	Total	2	N/A	10.5			N/A

2018 TAM Plan Performance Targets

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)	Automobile	55% ●	55% ●	55%	55%	55%
	Bus	35% ●	34% ●	34%	35%	34%
	Cutaway Bus	15% ●	16% ●	15%	14%	15%
	Minibus	20% ●	19% ●	19%	20%	19%
	Minivan	30% ●	29% ●	29%	30%	29%
	Sport Utility Vehicle	45% ●	45% ●	45%	45%	45%
	Van	40% ●	39% ●	39%	40%	39%
Equipment Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Non-Revenue / Service Automobile	55% ●	55% ●	55%	55%	55%
	Trucks and Other Rubber Tire Vehicles	30% ●	30% ●	30%	30%	30%
Facilities Condition - % of facilities with a condition rating below 3.0 on the FTA TERM Scale	Maintenance	N/A	N/A	N/A	N/A	N/A
	Passenger Facilities	N/A	N/A	N/A	N/A	N/A

2018 TAM Plan Decision Support Methodology

Criteria	Weight
Age (years)	5 per year
Mileage	3 for 20,000 miles

$$\left(\frac{age}{(years)} \times 5 \right) + \left(\frac{mileage}{20,000} \times 3 \right) = score$$

Score Range	Action
≥30	No action
30-35	Replace in 4 years
35-40	Replace in 3 years
40-45	Replace in 2 years
45-50	Replace in 1 year
>50	Replace immediately

- Assets were scored based on their age (years) and mileage
- The score was used to:
 - Determine if and when the asset has to be replaced over the 4-year TAM Plan horizon
 - Further prioritize and rank replacement projects

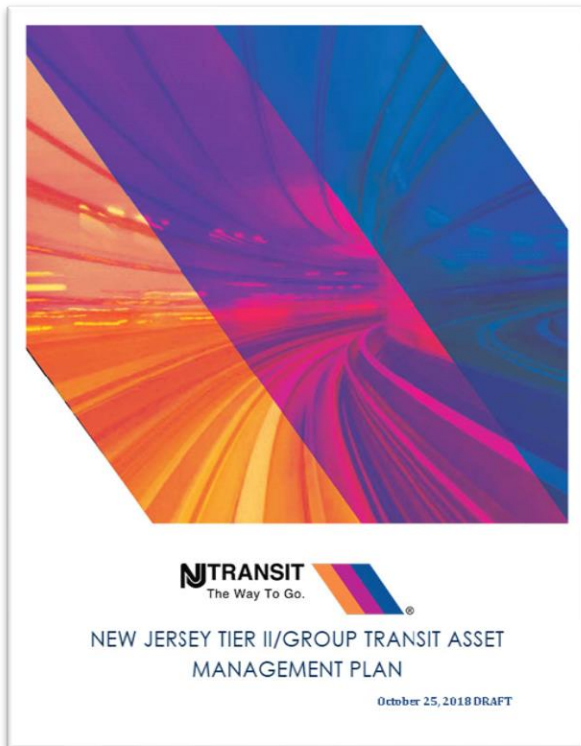
2018 TAM Plan Decision Support Example

Criteria	New Minibus	Minibus A	Minibus B	Minibus C	Minibus D	Minibus E	Minibus F
Age (years)	0	10	1	5	2	5	7
Mileage	0	12,000	300,000	150,000	24,000	60,000	200,000
Replacement Score	0	52	50	48	14	34	65
Action	No action	Replace now	Replace 1 year	Replace 1 year	No action	Replace 4 years	Replace now
Priority		2	3	4	NA	5	1

2022 TAM Requirements

- Transit agencies are required by FTA Regulation 49 CFR Part 625 to participate in a TAM Plan
 - This requirement applies to all recipients or subrecipients of Federal financial assistance under 49 U.S.C. Chapter 53 that own, operate, or manage capital assets used in the provision of public transportation
- Agencies must confirm their Accountable Executive by **September 3**
- Agencies have two options for satisfying the TAM Plan requirements:
 - **Option A:** Participate in a Group Tier II TAM Plan
 - **Option B:** Develop a Tier II TAM Plan

Option A: Group Plan



- NJ TRANSIT is the Designated/Direct Recipient in New Jersey and will Sponsor the NJ Tier II Group TAM Plan
- Agencies that participate in the Group TAM Plan are responsible for:
 - Defining an Accountable Executive
 - Providing data, including a complete asset inventory
 - Approving the final plan
- Agencies will be automatically included in the Group Plan unless they opt out before **September 3**

Group Plan Development

Inventory of Capital Assets

Condition Assessment

Performance Targets

Decision Support Tools

Investment Prioritization

Plan Development

The asset inventory defines the assets used by all agencies that are participating in the Group TAM Plan.

- Includes all assets (equipment, vehicles and facilities) regardless of funding source
- Includes all assets that agencies own, as well as third-party assets used to in the provision of public transportation

Group Plan Development

Inventory of
Capital Assets

The Group Plan will use **age** to define the condition of vehicle assets.

**Condition
Assessment**

Condition for facilities will be assessed using the FTA Transit Economic Requirements Model (**TERM**) 1-5 scale.

Performance
Targets

Decision
Support Tools

Investment
Prioritization

Plan
Development

Group Plan Development

Inventory of
Capital Assets

Condition
Assessment

**Performance
Targets**

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Prioritization

Plan
Development

NJ TRANSIT will set calculate current performance and set performance targets annually for each asset class.

- Vehicle and equipment performance and targets are reported annually to the National Transit Database (NTD) using the following measure:

% of vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)

- Targets for the Group Plan apply to the group as a whole

Group Plan Development

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**Decision
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Plan
Development

The Group TAM Plan will use a modified version of the 2018 Decision Support methodology.

- Assets will be scored based on their age (years) and mileage
- The score is used to:
 - Determine if and when the asset has to be replaced over the 4-year TAM Plan horizon
 - Further prioritize and rank replacement projects

Group Plan Development

Inventory of
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**Investment
Prioritization**

Plan
Development

NJ TRANSIT will develop a ranked listing of proposed projects and programs, ordered by year of planned implementation.

- Prioritization will be based on the results of the decision support methodology
 - The prioritized project list is based on asset condition and does not account for other considerations such as eligibility for grant funding
 - Estimated funding levels will be used to estimate the number of projects that can be funded each year

Group Plan Development

Inventory of
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**Plan
Development**

NJ TRANSIT will be responsible for writing the Tier II Group Plan. The Accountable Executive at each participating agency must approve the final plan.

- **August 5 & 10:** Attend webinars
- **September 3:** Deadline to submit data to Group TAM Plan Sponsor
- **September 24:** Receive draft plan
- **October 29:** Deadline for Accountable Executive to approve plan

Checklist for Group Plan Participants

Due Date	Responsible	Step	
8/10/21	Primary Contact & Accountable Executive	Attend webinar / review webinar materials	<input type="checkbox"/>
9/3/21	Primary Contact	Provide asset inventory data <ul style="list-style-type: none">• Vehicle make/model• Vehicle mileage• Purchase/build date• Estimated replacement cost	<input type="checkbox"/>
9/3/21	Primary Contact	Provide funding estimates for 2022-2026	<input type="checkbox"/>
9/3/21	Primary Contact	Submit Capital Investment Plans	<input type="checkbox"/>
10/29/21	Primary Contact & Accountable Executive	Review 2022 New Jersey Tier II Group Transit Asset Management Plan	<input type="checkbox"/>
10/29/21	Accountable Executive	Approve plan	<input type="checkbox"/>

Option B: Individual Tier II TAM Plan

- Agencies may elect to develop their own Tier II TAM Plan
- Plans must be submitted to NJ TRANSIT by **September 24**
- Tier II TAM Plans must include:

**Inventory of
Capital Assets**

**Condition
Assessment**

**Performance
Targets**

**Decision
Support Tools**

**Investment
Prioritization**

- Resources, including templates, are available to assist agencies with developing their own TAM Plan
- Agencies that choose to develop their own TAM Plan must opt out of the Group TAM Plan no later than **September 3**

Tier II TAM Plan Development

Inventory of Capital Assets

Condition Assessment

Condition Assessment

Decision Support Tools

Investment Prioritization

Plan Development

The asset inventory defines the assets used by the agency, including assets the agency owns and third-party assets used to provide public transportation.

- Rolling Stock
 - Buses
 - Other passenger vehicles
- Equipment
 - Service vehicles
 - Maintenance equipment
- Facilities
 - Support facilities
 - Passenger facilities

Tier II TAM Plan Development

Inventory of Capital Assets

Condition Assessment

Condition Assessment

Decision Support Tools

Investment Prioritization

Plan Development

The asset inventory should include details about the asset, for example:

- Asset ID
- Make/model
- Manufacturer
- Purchase date
- Description

Tier II TAM Plan Development

Inventory of
Capital Assets

**Condition
Assessment**

Performance
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Plan
Development

Agencies must record the condition of their inventoried assets.

- Examples of condition measures include age, Transit Economic Requirements Model (TERM) 1-5 condition scale, percent of useful life remaining, etc.
- Agencies should inventory all assets used in the provision of public transportation but are only required to assess condition on assets for which they have direct capital responsibility

Tier II TAM Plan Development

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Agencies must calculate current performance and set performance targets for each asset class.

- Vehicle and equipment performance and targets are reported annually to the National Transit Database (NTD) using the following measure:

% of vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)

Tier II TAM Plan Development

Inventory of
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- Agencies should use the default FTA Useful Life Benchmark (ULB) to develop performance targets

Vehicle Type	Default ULB (in years)
Automobile	8
Cutaway Bus	10
Minibus	10
Minivan	8
Sport Utility Vehicle	8
Van	8
Other Rubber Tire Vehicles	14

Tier II TAM Plan Development

Inventory of
Capital Assets

Condition
Assessment

Performance
Targets

**Decision
Support Tools**

Investment
Prioritization

Plan
Development

Agencies must develop and describe the analytical process(es) used to make an investment prioritization.

- The decision support tool should be capable of estimating capital investment needs over time and prioritizing investment needs
- The tool does not have to be specialized software

Tier II TAM Plan Development

Inventory of
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**Investment
Prioritization**

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Development

Agencies must include a ranked listing of proposed projects and programs, ordered by year of planned implementation.

- Prioritization should be based on the results of the decision support tool and must adequately consider:
 - Identified unacceptable safety risks
 - Accessibility requirements
- Estimated funding levels can be taken into consideration

Tier II TAM Plan Development

Inventory of
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Prioritization

**Plan
Development**

Agencies must ensure that their plan includes all the required elements. Final plans are due **September 24** will be submitted to **NJ TRANSIT**.

- Consider using a template to develop the plan
- The final plan must be approved by the Accountable Executive

Resources for Developing a TAM Plan

- TAMPLATE (TAM Plan Template)
<https://www.transit.dot.gov/regulations-and-programs/asset-management/template>
 - Allows users to upload their most recent NTD data and edit the inventory to ensure its accuracy
 - Uses inputs to develop a downloadable TAM Plan
 - Organized into 5 chapters that cover the required elements of a TAM Plan
 - Includes an optional Fleet Replacement Module that can help estimate replacement needs and cost
- FTA information on Transit Asset Management
<https://www.transit.dot.gov/TAM>
- Asset Management Guide for Small Providers
<https://www.transit.dot.gov/regulations-and-guidance/asset-management/asset-management-guide-small-providers-report-0092>

Checklist for developing a TAMP (1 of 2)

Tier II TAM Plan Requirements

Plan Development	The plan covers a four-year period (2022-2026)		<input type="checkbox"/>
Inventory of Capital Assets	The plan includes an inventory of all capital assets used in the provision of public transit, including those owned by third parties		<input type="checkbox"/>
Condition Assessment	The plan includes the condition of all assets for which the agency has direct capital responsibility		<input type="checkbox"/>
	The level of detail is such that the condition can be used to monitor and predict performance		<input type="checkbox"/>
Performance Targets, Vehicles and Equipment	% of vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	The plan includes the current performance of vehicles and equipment	<input type="checkbox"/>
		The plan includes vehicle and equipment performance targets	<input type="checkbox"/>

Checklist for developing a TAMP (2 of 2)

Tier II TAM Plan Requirements

Performance Targets, Facilities (as applicable)	% of facilities with a condition rating of 3.0 or below on the TERM scale	The plan includes the current performance of facilities	<input type="checkbox"/>
		The plan includes facilities performance targets	<input type="checkbox"/>
Decision Support Tools	The plan describes an analytical process or tool capable of prioritizing investment needs or estimating capital investment needs over time		<input type="checkbox"/>
Investment Prioritization	The plan contains a ranked list of projects or programs		<input type="checkbox"/>
	The list demonstrates an effort to manage or improve the state of good repair of capital assets over the four-year period		<input type="checkbox"/>
	All assets for which the agency has direct capital responsibility were considered in the prioritization process		<input type="checkbox"/>
Plan Submittal	The draft plan was submitted to NJ TRANSIT by 9/24/2021		<input type="checkbox"/>
	The final plan was approved by the Accountable Executive and submitted to NJ TRANSIT by 10/29/2021		<input type="checkbox"/>

Agency's Next Steps

1. Should I participate in the Group TAM Plan or develop a Tier II TAM Plan for our agency?
2. Who will be our agency's Accountable Executive?
3. Prepare fleet inventories and 2022-2026 funding estimates.

For more questions, contact Lea Sheridan at:
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