NCDOT TAM Plan Summary

The North Carolina Department of Transportation/Public Transportation Division (NCDOT/PTD) has prepared a Group TAM (Transit Asset Management) plan for all community transportation systems and small urban systems opting to be included in the plan. This activity is mandated by Federal Transit Administration (FTA) (Federal Register/Vol. 81, No. 143 § 625.3). The purpose of this document is to summarize the components of the TAM Plan and the process.

1. Expectations and Relationship to Funding

The Federal Register/Vol. 81, No. 143/Tuesday, July 26, 2016/Rules and Regulations/PART 625 establishes the Transit Asset Management requirements. The requirements for group plan sponsors and participants include:

Group Plan Expectations

> *§625.27 Group plans for transit asset management.*
> *(a) Responsibilities of a group TAM plan sponsor.*
> > *(1) A sponsor must develop a group TAM plan for its tier II provider subrecipients, except those subrecipients that are also direct recipients under the 49 U.S.C. 5307 Urbanized Area Formula Grant Program. The group TAM plan must include a list of those subrecipients that are participating in the plan.*
> > *(2) A sponsor must comply with the requirements of this part for a TAM plan when developing a group TAM plan.*
> > *(3) A sponsor must coordinate the development of a group TAM plan with each participant's Accountable Executive.*
> > *(4) A sponsor must make the completed group TAM plan available to all participants in a format that is easily accessible.*
> *(b) Responsibilities of a group TAM plan participant.*
> > *(1) A tier II provider may participate in only one group TAM plan.*
> > *(2) A tier II provider must provide written notification to a sponsor if it chooses to opt-out of a group TAM plan. A provider that opts-out of a group TAM plan must either develop its own TAM plan or participate in another sponsor's group TAM plan.*
> > *(3) A participant must provide a sponsor with any information that is necessary and relevant to the development of a group TAM plan.*

Relationship to Funding

The NCDOT Group TAM Plan is a planning tool for predicting when assets should be replaced to maintain safety and reliability through a State of Good Repair (SGR). Identifying an asset in the group plan as warranting replacement does not guarantee the asset will be funded. If NCDOT is to be a partner in funding, multiple department procedures must be followed. This plan will help all transit systems identify future funding needs and enable them to begin the process of exploring funding options.

2. Participation in the State-Sponsored Group TAM Plan

All current §5311 sub-recipient agencies of NCDOT and §5307 recipientswith"one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode",within North Carolina are Tier II Providers [49 CFR § 625.45] and are invited to participate in the NCDOT Group TAM Plan. Participation in this Group TAM Plan is optional. Per federal requirements, transit systems receiving §5311 and/or §5307 funds must either participate in a group plan or develop their own plan.

Transit systems are invited to offer input into the State Group TAM Plan. However, individualized performance targets for transit systems in the group plan will not be considered. If specific performance targets are required by a transit system, the transit system must either develop its own plan or participate in another group plan. If an agency chooses to "opt out", the accountable executive must indicate in writing that the transit system will not be participating in the State Group TAM Plan.

The National Transit Database (NTD) is the official mechanism for reporting transit data. Transit systems participating in this group TAM Plan reporting their own data to NTD should select the NCDOT Group TAM Plan in their annual NTD report.

Accountable Executives representing each system participating in this group plan must provide certified asset inventory data and approve the NCDOT Group TAM Plan. The plan participants are listed on page 4 of the TAM Plan under the heading "Group Plan Contributors". The sponsor, NCDOT, reserves the right to decide, develop and communicate:
- Eligibility for participation in the group plan
- Plans, timelines, and deadlines for TAM plan development
- Data needs and formats from agencies
- Procedures for policy discussions
- Targets and prioritizing investments
- Thresholds and procedures for amending the TAM plan
- Coordination with planning organizations
- Expectations for the process of opting out of the plan

3. Relationship with Metropolitan Planning Organization Performance Targets

Metropolitan Planning Organization's (MPOs) are required to develop and report transit performance targets. These targets may be based on Group Plans or transit system plans within the MPO area or the targets may be developed independently. Transit systems and group plan sponsors should share their targets with MPOs to facilitate consistency within the plans and to establish a dialogue about appropriate transit asset conditions. MPOs should also share their targets with Group Plan sponsors and transit systems in their areas for the same reasons. Although consistency is preferred between the performance targets, the MPO plans are not required to be consistent with the Group Plans and/or transit system plans.

4. Timeline

The competed NCDOT Sponsored Group TAM Plan and corresponding Performance Targets and Measures will be provided to transit providers and MPOs by October 1st, 2018. Targets will also be submitted annually to the National Transit Database (NTD). This Group TAM Plan is required to be updated at least every four years in alignment with the State Transportation Improvement Program

updates. NCDOT will provide TAM Inventories to the transit systems by June 25 of each year. Transit systems will submit TAM Inventories certified by the Accountable Executive by July 15 of each year.

5. Asset Inventory Data
Asset data used to inform the TAM Plan are compiled from three primary sources: the NCDOT Vehicle Inventory, the Electronic Asset Management (EAM) system, and the TAM Inventory.

The NCDOT Vehicle inventory tracks all vehicles NCDOT participated in funding. The vehicle ending odometer mileage as of July 1st will be updated annually from the EAM system.

The TAM Inventory will be completed annually by the transit systems to supply inventories and mileage for all vehicles purchased without NCDOT assistance, all equipment, and all facilities. Instructions for completing the TAM Inventory are attached in Appendix A. If NCDOT participated in funding the equipment, the equipment must include a Claim ID matching the claim submitted to NCDOT/PTD via Partner Connect. Useful life benchmarks for equipment and TERM Scale Condition Ratings for all facilities will be established by the transit systems in the TAM Inventory.

Agencies participating in the Group TAM Plan must submit a completed TAM Inventory to NCDOT via Partner Connect. This inventory must be certified annually by the Accountable Executive [49 CFR § 625.5] for a participating agency. Failure to submit this inventory in the specified annual time frame may result in funding penalties according to NCDOT guidelines. This TAM Inventory shall be sent out annually on the 25th of June to gather updates and must be returned by the 15th of July each year.

6. NCDOT Group TAM Plan Elements
The NCDOT Group TAM Plan is based on an excel workbook template specifically designed by FTA for state-sponsored TAM Plans which includes the following sections: Capital Asset Inventory, Decision Support, Investment Prioritization and Project Ranking, Performance Measures, and Performance Targets.

Capital Asset Inventory
The Capital Asset Inventory contains an Asset Inventory Summary which calculates statistics regarding the asset categories and replacement costs found in the Asset Register in Appendix A of the TAM Plan. This section also contains an Asset Condition Summary of data shown in the Revenue Vehicle, Equipment and Facility Condition tables found in Appendix B1, Appendix B2 and Appendix B3 of the TAM Plan. This summary expands on the Capital Asset Inventory detailing the condition of all assets utilizing useful life benchmarks and TERM Scale Condition ratings.

Decision Support
The Decision Support page gives a synopsis of the investment prioritization process and the decision support tools used to make these prioritizations. This section also includes descriptions of each tool used in the process of creating the TAM Plan. The tools include: projecting asset replacement timeframes and costs, tools for gathering data on all assets utilized by NCDOT Group TAM Plan participants in the provision of transportation services, and tools for prioritizing assets according to state guidelines. The following tools are included:
- Strategic Transportation Investment (STI)
- Vehicle Replacement Schedule

- NCDOT Vehicle Inventory
- TERM Scale Condition Worksheet
- TAM Inventory
- EAM Asset Management Software

Investment Prioritization and Project Ranking

The FTA requires an asset prioritization and ranking for all assets. Each year, NCDOT completes a vehicle investment prioritization using vehicle mileage. Non-vehicular assets are assessed using useful life and condition. Qualifying assets are also ranked in accordance with FTA's guidelines in the process described below.

EQUIPMENT

-Non-revenue vehicles are considered to be equipment. The Useful Life Benchmark (ULB) for these vehicles is initially set to 8 years.

-All non-vehicular equipment valued at greater than (>) $50,000 (ie. Generators, hydraulic lifts, etc.) must have a useful life benchmark provided by the transit system. This useful life benchmark will determine the priority and ranking of such investments. Systems are expected to maintain equipment until this useful life benchmark is met.

ROLLING STOCK

-Vehicle replacement prioritization is determined by mileage using the Vehicle Replacement Schedule which is updated annually to reflect actual mileages. Vehicle odometers are determined using the transit system managed software EAM (AssetWorks). The annual mileage information is used by NCDOT to project the mileage for the next 5 (five) years. Using the replacement mileages defined by NCDOT (TAM Plan Appendix D) each vehicle is assigned a projected year of replacement (Project Year) based on projected mileage.

-Vehicle ranking corresponds to the vehicle Project Year and the mileage in relation to other vehicles in that project year. Vehicles are organized by Project Year and sorted by the ratio of projected year end odometer to replacement mileage. Vehicles in each project year are assigned a priority of "Low", "Medium" or "High" based on this ratio. Any vehicle projected to become due for replacement more than 5 years from FY18 is assigned a project year of "5555" because the inventory requires data entry in this field.

FACILITIES

-Facility replacements and upgrades are based on TERM-scales.

Performance Measures
EQUIPMENT
- Percentage of equipment meeting or exceeding respective Useful Life Benchmarks (ULB), measured in accordance with the FTA 2017 Asset Inventory Module Reporting Manual. Includes all tangible assets used in the provision of transportation (Replacement Cost >$50,000) and all non-revenue vehicles.
- Service/Support Vehicles ULB: (8) years
- All Other Equipment ($50,000 or >) ULB: Set by system

ROLLING STOCK
-Percentage of revenue vehicles within a particular asset class meeting or exceeding respective ULBs. Tracking all revenue vehicles including NCDOT funded vehicles and locally-owned vehicle assets.
- 6 Asset Classes w/ ULBs:
  - Bus: (14) years
  - LTV: (10) years
  - Minivan: (8) years
  - Other: (8) years
  - Sports Utility Vehicle: (8) years
  - Van: (8) years
- Assessed according to Age based on Model Year -1.

FACILITIES
-Calculated according to percentage of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) scale (1=Poor to 5=Excellent).

- TERM SCALE: Required to determine mean value across components. Calculate the TERM SCALE by averaging all component ratings. Example: If 5 components are inspected and the results are evenly distributed between the 5 rating categories, the overall rating is 3.

Performance Targets

A performance target of 20% is set for all asset categories, meaning that 80% of the assets in each category meet or exceed the state of good repair performance measure. Twenty-percent was selected to account for delays in acquiring the local match, the grant cycle, procurement process, and asset delivery.

Asset Category - Performance Measure	Asset Class	Useful Life Benchmark	2019 Target
REVENUE VEHICLES			
Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	AO - Automobile	8	20%
	BU - Bus	14	20%
	CU - Cutaway Bus	10	20%
	MB - Mini-bus	10	20%
	MV - Mini-van	8	20%
	SV - Sport Utility Vehicle	8	20%
	VN - Van	8	20%
	Other	8	20%
EQUIPMENT			
Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Non Revenue/Service Automobile	8	20%
	Steel Wheel Vehicles	8	20%
	Trucks and other Rubber Tire Vehicles	8	20%
	Maintenance Equipment	Agency Determined	20%
	Computer Software	Agency Determined	20%
	Custom 1	Agency Determined	20%
FACILITIES			
Condition - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	Administration	N/A	20%
	Maintenance	N/A	20%
	Parking Structures	N/A	20%
	Passenger Facilities	N/A	20%
	Shelter	N/A	20%
	Storage	N/A	20%
	Custom 1	N/A	20%

Data Cleaning and Default Values

The data analysis and entry process requires accurate and complete data from every participating agency in the Group TAM Plan. While every effort has been made to validate and clean this agency provided data, there are often instances in which the data requests cannot be fulfilled due to incomplete knowledge, lost records or known inaccuracies. In these instances, the following default values may have been utilized:

FOR EMPTY RECORDS	
EQUIPMENT	DEFAULT VALUE
Vehicle Mileage	0
Acquisition Year	2010
Replacement Cost/Value	0
Useful Life Benchmark	Maintenance - 15, Service Vehicle - 8, Software - 5
FACILITIES	DEFAULT VALUE
Acquisition Year	1950
Replacement Cost/Value	$350,000
ROLLING STOCK	DEFAULT VALUE
Vehicle Mileage	0
Replacement Cost/Value	0

Appendix A

General Instructions

Transportation Asset Management Inventory (TAM): Getting Started
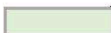
General Overview
This Excel workbook collects asset information for each agency, for each fiscal year beginning July 1st and ending June 30th. The workbook is separated into 3 worksheets organized according to FTA asset categories.

Saving the TAM Inventory File
Your first step should be to save this file to a location where it can be retrieved and updated. It is helpful to save the document with the transit system name and fiscal year in the format "*[System Name].TAM_Inventory.FY[YY].[Date Completed "YYYYMMDD"].xlsm*" Once saved, open the file and complete the form following the step-by-step instructions. It is recommended that the file be saved frequently while updating information so as not to lose data if technical difficulties with hardware or software are experienced.

Worksheet Tabs and Line Numbers
Tabs for each worksheet are located at the bottom of the Excel program screen and are labeled. Begin with the first tab "1. Rolling Stock" to select your system's name. All lines formatted in
 require a number or other information to be entered. Instructions are provided in this document for each cell in each row. A popup with directions will appear in any cell requiring a user entry.
In some lines and columns, the data is automatically calculated or information is copied from another section in the report. These autofill lines and columns are protected and the answers cannot be changed.

Effective Date
The Effective Date of this TAM Inventory requirement is July 1st, 2016, the start of the fiscal year. Any Equipment acquired after this date should be included in this asset inventory. All agency -owned Rolling Stock and all Facilities currently used in the provision of transportation must be reported in this inventory.

How to Report

1. Rolling Stock
Report only revenue vehicles for which NCDOT does not hold the title that are used in the provision of public transportation.
    *THIS INCLUDES (but is not limited to):
        -Agency owned vehicles
        -FTA Direct-Recipient Vehicles
        -Transportation Authority owned vehicles
        -3rd Party Leased vehicles
        -County owned vehicles
    *DOES NOT INCLUDE:
        -NCDOT leased vehicles (these are tracked separately)
        -Service and Support Vehicles (tracked in the Equipment tab)
        -Brokered transportation vehicles
        -Purchased-transportation vehicles

2. Equipment
-Report all *capital assets* used in the provision of transportation:
        -With a PTD Claim ID AND
        -With a purchase price greater than $100 AND

-With a useful life greater than 1 year AND
-Purchased after July 1st, 2016 (start of FY17)
-Report **ALL LOCALLY-OWNED SERVICE/SUPPORT VEHICLES,** and all assets with a replacement value:
-Greater than $50,000, regardless of purchase date/funding(No Claim ID required).
-This includes hydraulic lifts and high-value maintenance equipment

3. Facilities
Report all facilities used in the provision of transportation, whether they are owned, leased or rented.
*THIS INCLUDES (but is not limited to):
-Rented/leased office spaces
-Parking facilities (ex. Park and Ride Lots, Garages)
-Administrative and maintenance facilities (county or agency owned)
*DOES NOT INCLUDE:
-Private service stations (ex. Joe's Garage, Jiffy Lube, Meineke)

4. TERM Scale
Please use the attached TERM Scale Worksheet to assign a condition rating to facilities. Please save a copy of the TERM Scale Worksheet for each facility in your personal records.

NCDOT does not require copies of these worksheets to be submitted but they may be requested during a site visit.

5. Completion
The Accountable Executive must fill out and sign the Completion tab.

Where to Send the TAM Inventory
Systems should submit the completed TAM Inventory (as an Excel workbook) and signed Completion tab (as a .pdf document) to PTD via Partner Connect Drop Box under the category "TAM Inventory" with the proper naming convention given above.

Report Deadlines
All updates to this inventory should be submitted by July 15th of each fiscal year.

Where to Get Assistance
Contact Jonah Freedman with ITRE at jfreedm@ncsu.edu if there are any questions about completing this TAM Inventory and contact your Regional Mobility Development Specialist about uploading to Partner Connect.