

FTA

FEDERAL TRANSIT ADMINISTRATION

Using National Transit Database Data to Support TAM May 20, 2020

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Data Analyst
FTA Office of Budget and Policy

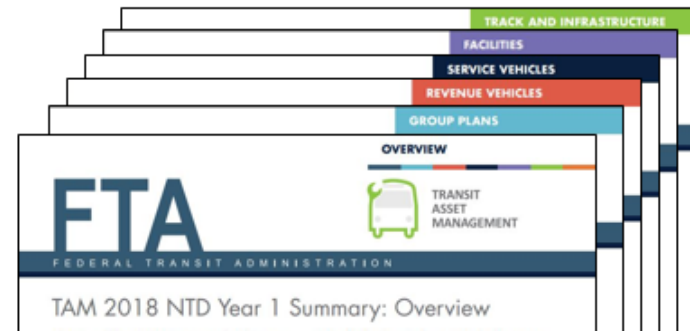


U.S. Department of Transportation
Federal Transit Administration

Nationwide Asset Data

- NTD Year 1 Fact Sheets: Summary of data reported by transit agencies for 2018

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



- *Baseline TAM Data in the NTD* straight-to-recording webinar: Covers how to access and use the public 2018 TAM data reported

https://www.youtube.com/watch?v=PtwGS0xSN_g&feature=youtu.be

NTD Data (Incl. Performance Targets)

The screenshot shows the Federal Transit Administration's NTD Data portal. At the top, there is a navigation bar with the FTA logo and the text 'Federal Transit Administration'. Below this, there are links for 'About', 'Funding', and 'Regulations & Programs'. The main content area is titled 'NTD Data' and includes a link to the 'NTD Data Products Guide'. A search filter section allows users to select 'Data Categories' (Agency Information, Assets, Data Dictionary/Questionable Items, Expenses, Fares/Funding, Monthly Ridership, Resources, Safety and Security, Service Data), 'Product Type' (a dropdown menu), and 'Data Product Year' (a dropdown menu). A search box and an 'Apply' button are also present. Below the search section, a table lists available data products.

Title	Product Type	Data Product Year
Monthly Module Adjusted Data Release	Monthly Ridership Time Series (Excel)	2020
Monthly Module Raw Data Release	Monthly Ridership Time Series	2020

TAM Plan Template (TAMPLATE)

- Technical assistance tool to assist Tier I and Tier II transit providers, as well as Group TAM Plan Sponsors, in developing their TAM plans.

The screenshot shows the TAM Plan Template web application interface. At the top left, there is a link "Back to Dashboard". At the top right, it displays "Published NTD Data: October 2019" and a green button labeled "Click to reload the NTD data". Below this is a navigation bar with five steps: "Introduction", "Getting Started", "Chapters" (highlighted in orange), "Fleet Replacement Module", and "TAM Plan". Underneath the navigation bar are five chapter tabs: "Chp 1 - Intro", "Chp 2 - Cap Asset Inv", "Chp 3 - Con Assess", "Chp 4 - Des Sup", and "Chp 5 - Inv Prior". The main content area is titled "Chapter 1 - Introduction" and contains four sub-sections: "Basic (Required)", "Comprehensive (Required)", "TAM Goals (Optional)", and "TAM Roles and Responsibilities (Recommended)". Below these sub-sections is a "Brief Overview" section with a text input field containing the placeholder text "What is your agency's TAM approach; Brief Description of your TAM plan".

TAM Roundtable 2020

- Due to the COVID-19 public health emergency, the TAM Roundtable scheduled for July 2020 in Boston will be a virtual event.

July 28, 2020

1:00 - 3:00 P.M. EDT

Details and Registration:

<https://www.transit.dot.gov/TAM/SGRroundtables/2020Roundtable>



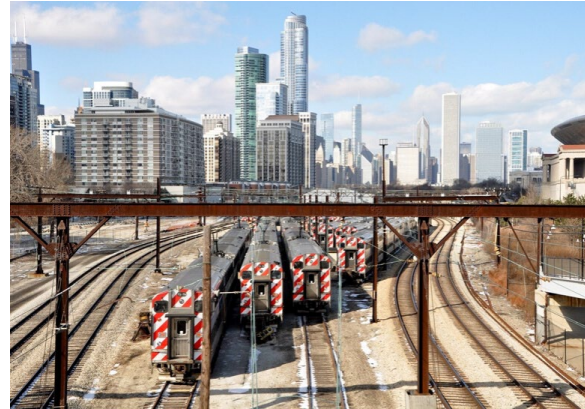
Administrat

FTA WEBINAR SERIES



USING NTD DATA TO SUPPORT TAM

Presented by Tina Ignat
Asset Management Analyst @Metra
May 2020



FEDERAL TRANSIT ADMINISTRATION

What to Expect

PRESENTATION
FLOW



- Objective
- Context of Metra
- TAM Timeline
- NTD Reporting Tips
- Data, Performance Measures, and how Metra uses data for TAM Program
- Lessons Learned





OBJECTIVE

I will share **key challenges** and **lessons learned** from submitting national asset data to the NTD, and using that process to support the broader **TAM program**.

The webinar will also cover setting performance targets and how agencies can use target-setting to measure success and communicate with stakeholders.



About Metra

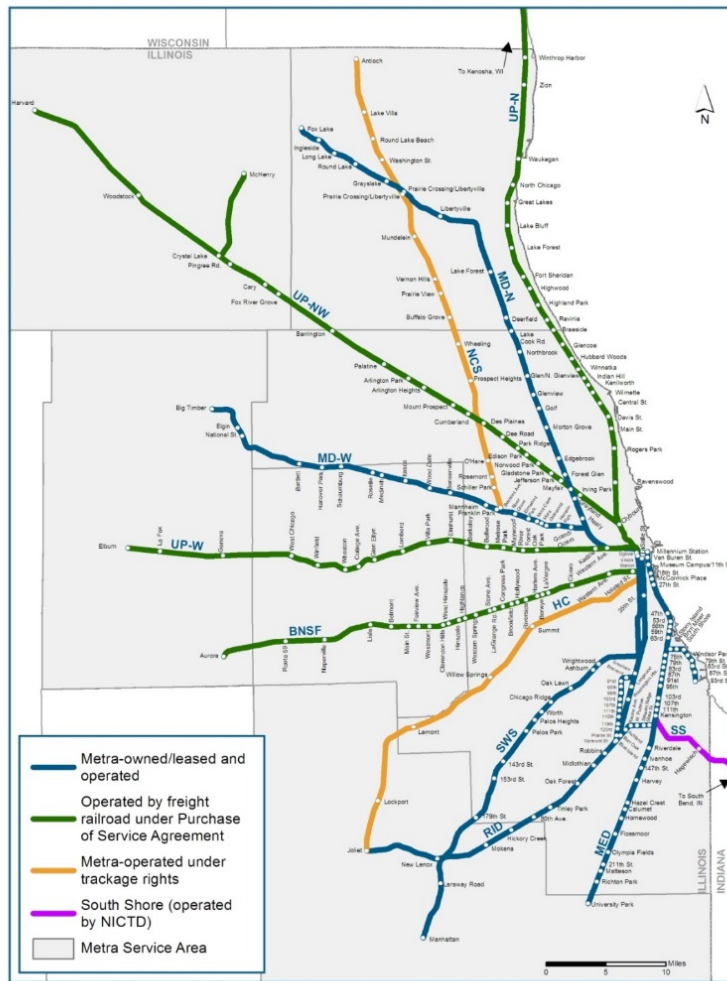


WHO WE ARE
Metra

FTA

FEDERAL TRANSIT ADMINISTRATION

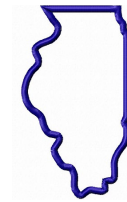
METRA BY THE NUMBERS



- 76.1** million passenger trips in 2018
- 280,000** daily riders
- 690** weekday trains
- 260** Saturday trains
- 175** Sunday trains
- 242** train stations
- 1,200** miles of track
- 483** route miles
- 164** locomotives
- 854** diesel railcars
- 186** electric railcars
- 24** rail yards
- 90,626** parking spaces
- 500+** grade crossings
- 12** fuel facilities
- 847** bridges



Governance in Illinois



USING NTD DATA FOR
TAM PROGRAM



MPO



Oversight Agency to Service Boards



Bus & Heavy Rail



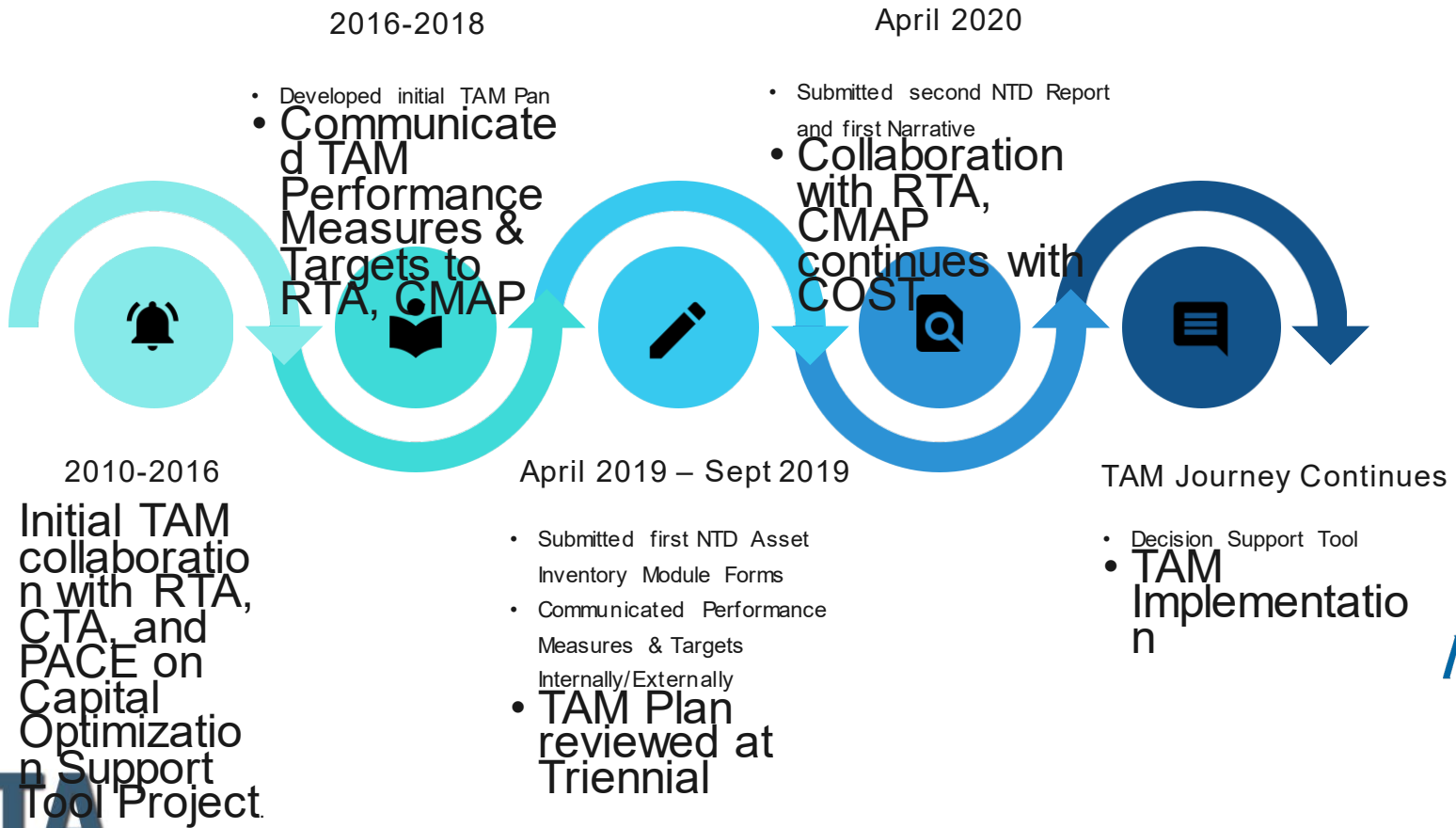
Commuter Rail



Suburban Bus & Paratransit



TAM timeline @Metra



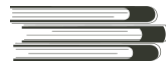


Call, email NTD with questions,
they are there to help you

<https://www.transit.dot.gov/ntd>



Connect with your NTD Analyst



Take the NTI course on NTD
Reporting

<https://www.ntionline.com/national-transit-database-urban-reporting/>



NTD Tips
Metra

FTA

FEDERAL TRANSIT ADMINISTRATION



Comprehensive

Contents of form are helpful providing make, model, date built, rehab date, useful life. Just need to add replacement costs.

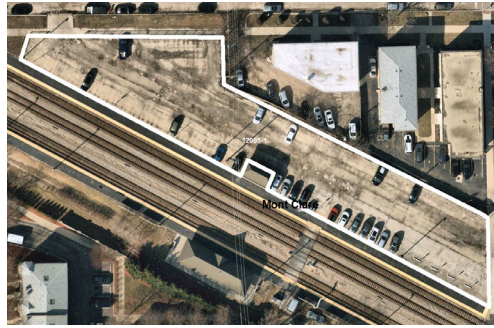
Rolling Stock | A-30



Comprehensive

Contents of this form are most helpful providing, make, model, quantity, date of manufacture, useful life and replacement costs.

Equipment | A-35



Comprehensive

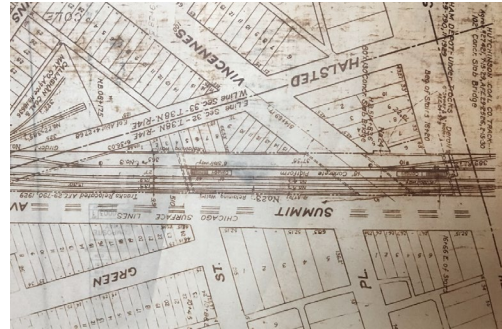
Contents of form are helpful providing facility list, type, date built, condition, square footage. Square footage used for cost.

Facilities | A-15



Definitions

Turnouts vs switches, elevated retained fill vs retaining walls, etc..



Data

Too high level in form, but back up data gets fed into decision support tool

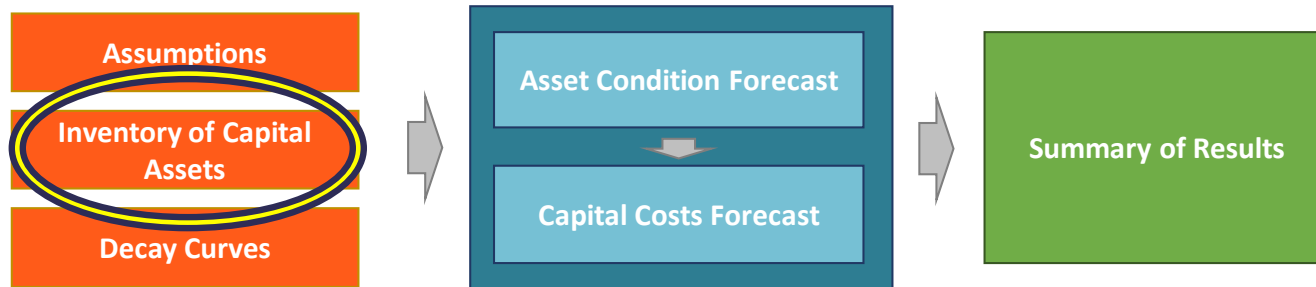


Reconciliation

This is an arduous process but we are putting NTD fields into MMS

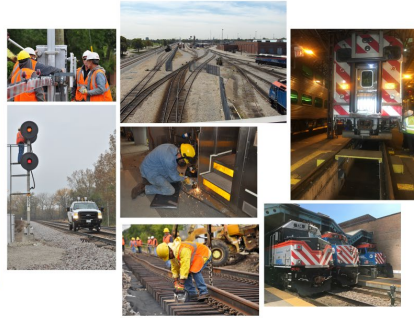
Guideway Elements | A-20

Decision Support Tool



What percentage of our assets are not in a State of Good Repair?

Prepared by Strategic Capital Planning



TAM targets
What percentage of our Rolling Stock and Equipment are not in a State of Good Repair?

Prepared by Strategic Capital Planning

Asset Category	Asset Type	Useful Life benchmark	Total Fleet	2018 Performance Beyond SGR	2019 Target
Rolling Stock	Locomotives	30 years	164	49%	49%
	Coaches	30 years	854	44%	44%
	Highliners	30 years	186	0%	0%
Equipment	Non-Revenue Automobiles	7 years	92	59%	59%
	Non-Revenue Trucks/Other	7 years or 14 years	534	40%	40%
	Steel-Wheeled Work Equipment	25 years	76	39%	39%

TAM targets
What percentage of our Facilities are not in a State of Good Repair?

Prepared by Strategic Capital Planning

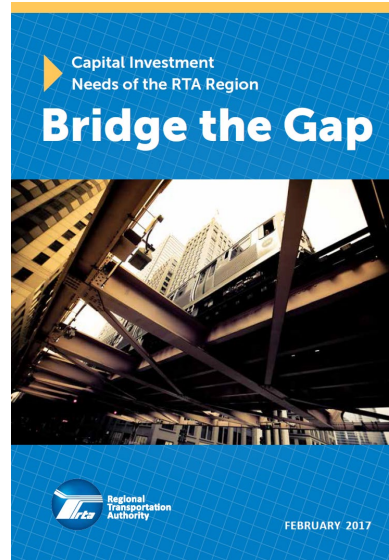
Asset Category	Asset Type	Total Facility Count	Number of facilities assessed in 2018	2018 Performance Scored below 3 on TERM Scale	2019 Target
Facilities	Passenger Stations	243	92	17%	17%
	Passenger Parking	818	206	13%	11%
	Maintenance & Administrative	68	0	N/A	N/A

Communicating TAM



Communicating TAM

OUR MPO CMAP & RTA used our NTD and TAM Data in these documents to communicate regional performance measures and needs for public transit



■ CMAP

EXTERNAL STAKEHOLDERS



ADDRESSING METRA'S CAPITAL NEEDS



The Illinois Legislature this year approved the first new statewide infrastructure program since 2009, and Metra expects its share of funding from the program to total about \$1.5 billion over the next six years. Metra is particularly pleased that the funding includes an annual, stable and sustainable allotment of capital funding as well as a significant additional amount from a bond program. We will use this new funding to begin to tackle our biggest capital priorities, including locomotives, railcars, stations and bridges. We also will be looking to invest in projects that could help us grow our ridership. While Metra still could use additional capital funding, we are grateful for Springfield's assistance and its recognition of the important role that transit plays in the Illinois economy and environment.

REBUILD Illinois

\$4.7B for mass transit throughout the state, including to RTA for Metra, CTA, and Pace

Link to info:

<https://idot.illinois.gov/about-idot/stay-connected/blog/rebuild-illinois>





Connecticut Tier I Transit Asset Management Plan Bus Rolling Stock



Description

- CTDOT owns the local bus systems in Hartford, New Haven, Stamford, Waterbury, New Britain, Bristol, Meriden, and Wallingford, and operates them under the CCTransit brand name. CTDOT owns all the rolling stock that provides CCTransit services.
- CCTransit services carry roughly 80% of annual bus ridership in Connecticut.
- CTDOT also owns the bus rapid transit system, CCTraX, which includes fixed guideway between Hartford and New Britain.
- CTDOT's bus rolling stock inventory includes four vehicle types: transit bus, articulated bus, over-the-road bus, and cutaway.

Performance Measures

- The percentage of revenue vehicles within a particular asset class that have either met or exceeded their useful life benchmark.
- Useful life benchmark (ULB) defines an asset's economic useful life, specified in terms of age, mileage and/or other factors. An agency can use FTA's default ULB values or set its own values. CTDOT has worked with its transit service provider partners to define custom values.
- A revenue vehicle that has not reached or exceeded its ULB is considered to have met the performance metric.

Inventory and Condition

Vehicle Type	Description	Vehicles	ULB Status
	Transit Bus A bus with front and center doors, normally with a re-entrained engine, low-back seating, and without baggage compartments or restroom facilities for use in frequent-stop service. This is what is used most typically on fixed route systems. A 40-foot coach is the common type bus used in larger systems. This vehicle can usually hold about 40 ambulatory passengers when two wheelchair binders are provided.	496 Vehicles 12 Years ULB	81% Below ULB
	Articulated Bus A long (34 ft. to 60 ft.) bus with two connected passenger compartments. The rear body section is connected to the main body by a joint mechanism that allows the vehicle to bend when in operation for sharp turns and curves, and yet have a continuous interior.	51 Vehicles 12 Years ULB	100% Below ULB
	Over-the-road Bus A bus characterized by an elevated passenger deck located over a baggage compartment.	60 Vehicles 12 Years ULB	97% Below ULB
	Cutaway Bus A vehicle that consists of a bus body that is mounted on the chassis of a van or light-duty truck. The original van or light-duty truck chassis may be reinforced or extended. Cutaways typically seat 12 or more passengers and may accommodate some standing passengers.	42 Vehicles 5 Years ULB	100% Below ULB

Based on CTDOT data as of March, 2018

*The Performance measures herein are for FTA reporting purposes only. Due to the variability of mechanical reliability and operating environment, the Age-based metric prescribed by FTA does not accurately reflect SGR needs.

Current Performance and Targets

Transit providers must set one-year performance targets using the performance measures established by FTA for the four capital asset categories required for a TAM plan, as applicable. These targets must be updated and submitted to the NTD annually.

Asset Class	Performance and Targets for Tier I Bus Rolling Stock	
	% Vehicles Below ULB	% Vehicles Met or Exceeded ULB
	Current Performance	Performance Target
Transit Bus	81%	14%
Articulated Bus	100%	14%
Over-the-Road Bus	97%	14%
Cutaway	100%	17%

APTA SGR/TAM Working Committee

- Communication and Coordination with External Stakeholders for Transit Asset Management

APTA LINK TO TAM DOCS:

<https://www.apta.com/research-technical-resources/standards/explore-standards/>



Lessons Learned



Collaborate

Talk with people. TAM is collaborative.



Make Mistakes

It's inevitable. The sooner you accept it, the sooner you can move on. It's the only way you will learn and grow.



It's a Journey

TAM is a journey, not a destination



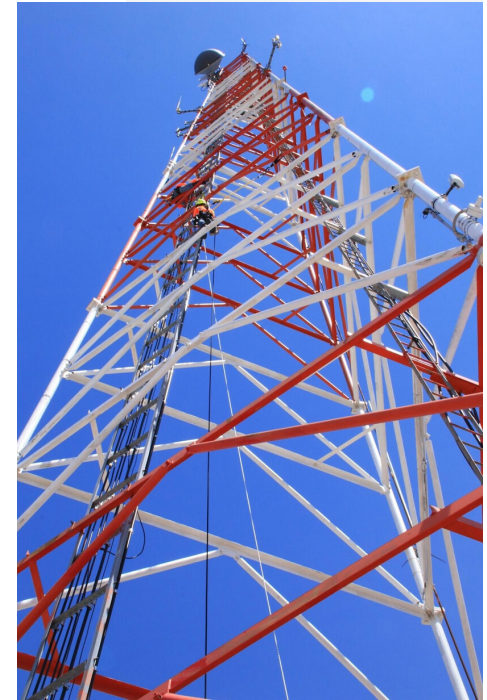
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TINA IGNAT, AIAM

Let's Talk



TAM Performance Measures and Targets

FTA Webinar

Jordan Holt
Director of Performance
Washington Metropolitan Area Transit Authority
jhholt@wmata.com



Agenda

- Why Performance Measures and Targets?
- Metro's Process and Lessons Learned
- Going Beyond the Basic Requirements

Metro at a Glance

THIRD BUSIEST RAIL TRANSIT SYSTEM; SIXTH BUSIEST BUS NETWORK IN THE U.S.



\$235 BILLION OF PROPERTY VALUE IS WITHIN A HALF-MILE OF METRORAIL STATIONS



91 RAIL STATIONS

40 DC



26 MD



25 VA



1 MILLION AVERAGE WEEKDAY PASSENGER TRIPS



159 BUS LINES



118 MILES OF RAILS

9 AERIAL



58 SURFACE



51 SUBWAY





Metro's Process and Lessons Learned

Metro's Process: April - June

What is our current inventory and condition?

- Define Useful Life Benchmarks for rolling stock and equipment [Fleet Plan]
- Collect current inventory [Maximo]
- Determine current condition [Facility Condition Database, Maximo]

What will change in the next 18 months?

- FY20 and FY21 Capital Program
 - Rehab/Replace
 - Expand

What risks could prevent us from delivering?

- Funding shortfalls
- Procurement delays
- Construction delays
- Delivery delays

What should our targets be?

- Calculate targets
- Identify gaps/ areas of need
- Sign-off by accountable executive
- Notify MPO [June 30th]
- Submit to FTA [October]

Metro's Internal Stakeholders



Transit Performance Management: facilitate process, crunch numbers, liaise with MPO, draft narrative

Asset Owners: verify inventory, condition, capital plans; identify risks; approve target recs

Transit Asset Management: provide inventory & condition data

Capital Planning: provide 10 year capital program, track outages

Executives: approve targets

Counsel: interpret rule

Real Estate: identify sales/ acquisitions of facilities

Accounting: submit inventory, condition and targets to NTD

Metro's Internal Stakeholders

Asset Owners

Verify inventory, condition, capital

Capital Planning

Provide 10 year

Real Estate

Identify sales/acquisitions of facilities

Transit Asset Management

Provide inventory

Accounting

Submit targets, condition, inventory to MTD

Transit Performance Management

Counsel

Interpret rule, negotiate

Executives

Approve targets

Add sample target-setting slide

Rail: Revenue Fleet % of railcars meeting or exceeding useful life benchmark

Current FY19 Target	0%
Recommended FY20 Target	0%
Projected FY24 Target	5%
Projected FY26 Target	5%

Methodology

- Inventory includes all railcars on property
- ULB = 40 years for 2K, 3K, 6K and 7K

Key Actions

- Accept remaining 7K cars, for a total 7K fleet size of 748 by end of FY20
- Decommission and remove remaining 5K cars from property by end of FY20
- Start 8K program to replace 2/3K

Risks

- 8K procurement slower than anticipated, impacting out years

Series	ULB	FY19	FY20 Target
		Projected	Projected as of
		6/30/19	6/30/20
1000	40	0	0
2000	40	76	76
3000	40	282	282
4000	25	0	0
5000	16	6	0
6000	40	184	184
7000	40	696	748
8000	40	0	0
Total		1,244	1,290
# beyond useful life		6	0
Target ULB		0.4%	0%

Target in out-years depends on timing of 8K procurement, which is currently expected to start the beginning of FY2025.

FY	# 2/3K >40 years old by FY end		Expected 8K procurement	Projected target
	Count	Cumulative		
2023	0	0		0%
2024	70	70		5.4%
2025	88	158	Starts	<10%
2026	90	248		<5%
2027	45	293		0%
2028	59	352	Ends	0%
2029	6	358		0%
Total	358	358		

As of 5/24/19, 36 5K railcars remain on property. Assume dispose 6/wk for next 5 weeks
 As of 5/29/19, 660 7k accepted. Assume 16 more accepted before 6/30/19

FTA Guideway Condition

Current FY19 Target	2.1% [PROJ: 1.7%]
Recommended FY20 Target	3.8%
FY24 and FY26 Target Projections	Unplanned <1%

Methodology

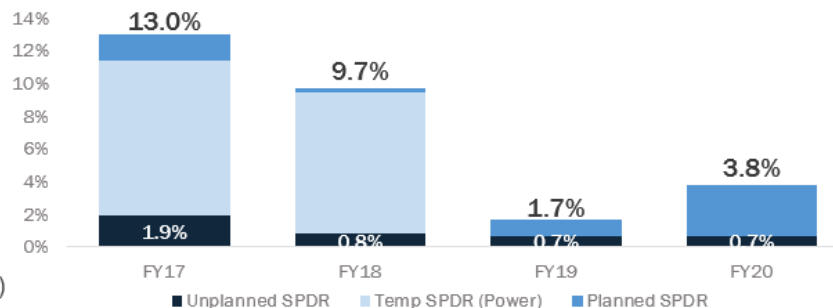
- Percentage of track under performance restriction at 9am the first Wednesday of the month
- Calculate impact of FY20 planned Revenue Service Adjustments (RSAs)
- Assume unplanned speed restrictions (SPDR) continue at same rate as FY19

Key Actions

- Extended shutdowns/continuous single-tracking
 - July 1 – Sept 8: South of National (shutdown)
 - Sept 8 – Oct 6: J02-J03 (single-tracking)
 - 3 weeks: B08-B10 (shutdown)
 - May 23 – June 30: E07-E10 (shutdown), K06-K08 (single-tracking)
- PM program to continue to reduce delays related to infrastructure defects, improve overall condition

Risks

- Planned work extends to another first Wednesday of the month



FY20 target: 3.8%

- Unplanned SPDR = 0.7% (Same as FY19)
- Planned work = 3.1%
 - Jul 3: South of C10 (~123,000 ft with J line)
 - Aug 7: South of C10 (~123,000 ft with J line)
 - Sep 4: South of C10 (~123,000 ft with J line)
 - Oct 2: J02-J03 Track 1 (~20,000)
 - Nov 6
 - Dec 4
 - Jan 1: B08-B10 Tracks 1&2 (~22,000)
 - Feb 5
 - Mar 5
 - Apr 2
 - May 6
 - Jun 3: E07-E10 Tracks 1&2 (~76,500), K06-K08 (~25,500)



How our process has evolved

FY2015-2016

Preparation

- Compile inventory
- Launch facility condition assessment

FY2017-2018

Launch

- Consultant support
- Official launch
- Multiple meetings with asset owners; get common understanding of definitions
- Heavily relied on counsel

FY2019

Submit to FTA

- Streamline process; incorporate with corporate KPI target setting
- Add 4-6 year outlook
- Expand documentation
- Sign MPO MOU

FY2020

Submit to FTA

- Start with FY18 NTD submission
- Closer coordination with capital planning
- Simplify facility inventory

FY2021

Submit to FTA

- Start with FY19 NTD submission
- Include benchmarking results
- Don't worry about de-commissioned fleet
- Round up

FY2022

Submit to FTA

- New facility condition assessment scores/process
- Automated data extraction

Lessons Learned

- Involve a broad group of internal stakeholders
- Data completeness and accuracy is a journey
- Don't round down
- Be honest about risks
- Document assumptions
- Avoid making things too complicated
- Develop crosswalks between agency and FTA asset hierarchies



How is WMATA Using Performance Measures and Targets?

1. Compliance

- MAP-21 and FAST Act require transit properties to:
 - Set annual performance targets
 - Report targets to FTA and their MPO
 - Submit annual narrative report to the NTD describing progress towards meeting targets

Measure	WMATA Assets	FY 2020 Target
Percentage of Equipment Beyond its Useful Life Benchmark	Steel-w heeled (206)	8%
	Autos (173)	31%
	Trucks and Other Rubber-Tired (1,338)	16%
Percentage of Rolling Stock Beyond its Useful Life Benchmark	Railcars (1290)	0%
	Buses (1597)	3%
	Vans (775)	11%
Average Percentage of Guideway Track Miles with Performance Restrictions	234 miles	3.8%
Percentage of Facilities with a Condition Rating <3	Passenger and Parking (91 stations and 78 parking lots/garages)	7%
	Administrative and Maintenance (127 buildings)	11%

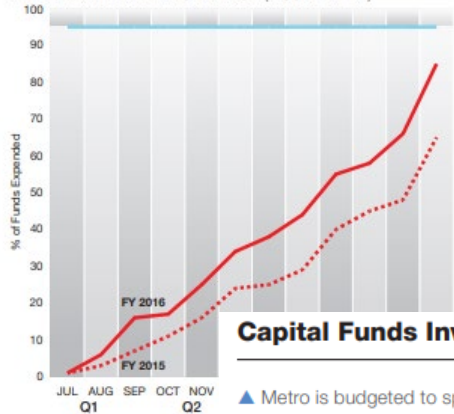
How is WMATA Using Performance Measures and Targets?

2. Measure and communicate success.

Go beyond “we spent this much \$” ...

...to “we delivered what we planned”

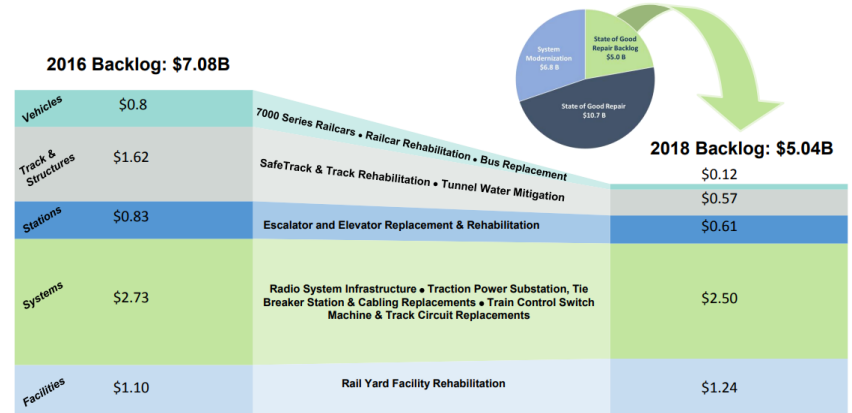
2-YEAR TREND IN PERFORMANCE (FISCAL YEAR)



Capital Funds Invested

- ▲ Metro is budgeted to spend more than \$1.2 Billion capital funds in fiscal 2016.
- ▲ This measure tracks the rate at which these funds are invested.
- ▲ Capital expenditures were at 85% of budget for the fiscal year, which is significantly better than the performance of FY15, but still below the target of 95%.

\$2 Billion Reduction in State of Good Repair Backlog



(2019 \$B)

3. Set expectations with stakeholders.

- Articulates what will be accomplished with available resources and current priorities
 - Programmed funding
 - 1-year time frame
- Sets up conversation about what it would take to get different outcomes
- Provides context: this is how we compare to peer/regional properties



June 27, 2019

Chairman Martin Nohe
Transportation Planning Board
Metropolitan Washington Council of Governments
777 North Capitol Street NE, Suite 300
Washington, DC 20002

Dear Chairman Nohe:

This letter provides the Washington Metropolitan Area Transit Authority's (WMATA) fiscal year (FY) 2020 performance targets for state of good repair (SGR) in compliance with the Federal Transit Administration (FTA) Transit Asset Management (TAM) Final Rule that took effect on October 1, 2016. WMATA developed these targets through a data-driven approach, engaging staff who work directly and following the same

WMATA's other key p

As per the Metropolitan Washington information required to these targets to the F annual "Asset Inventor

Major Capital Program Investments

Vehicles

Railcars

Railcar Acquisition
Complete 7000-Series Railcar Acquisition •
Begin 8000-Series Railcar Acquisition

Railcar Safety & Reliability
Railcar Scheduled Rehabilitation and Preventive Maintenance

Bus & Paratransit Vehicles

Bus Acquisition & Rehabilitation
Bus Acquisition Program • Bus Rehabilitation Program •
Metrobus Onboard Location Equipment • Electric Bus Demonstration



Proposed Program
Vehicles

\$2.5B
FY2021-FY2026
Proposed
Capital Program

\$399M
FY2021
Proposed
Capital Budget

82 of 106

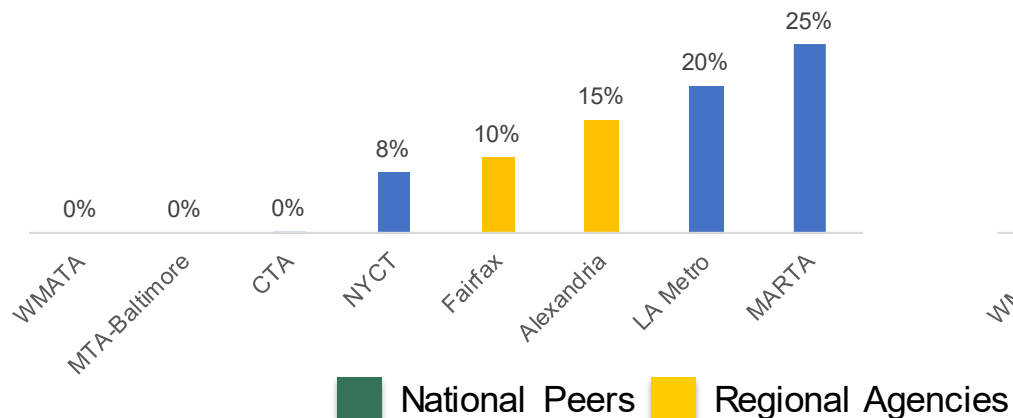


How Does Metro Compare?

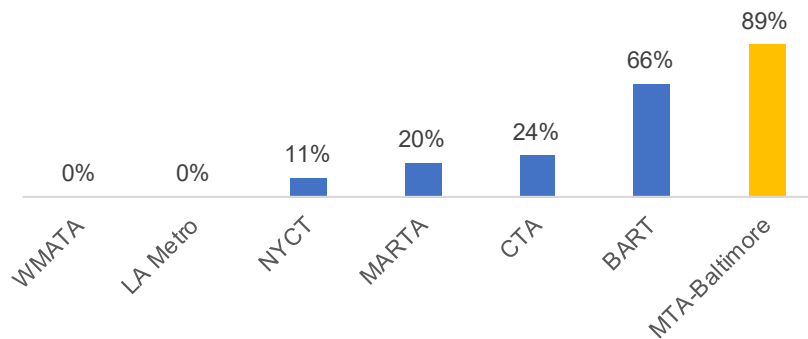
Our targets reflect the recent investments we have made in our rolling stock

Source: FY19 AFD Performance Report

Bus Target: % Fleet Beyond its Useful Life Benchmark in FY19



Railcar Target: % Fleet Beyond its Useful Life Benchmarking in FY19

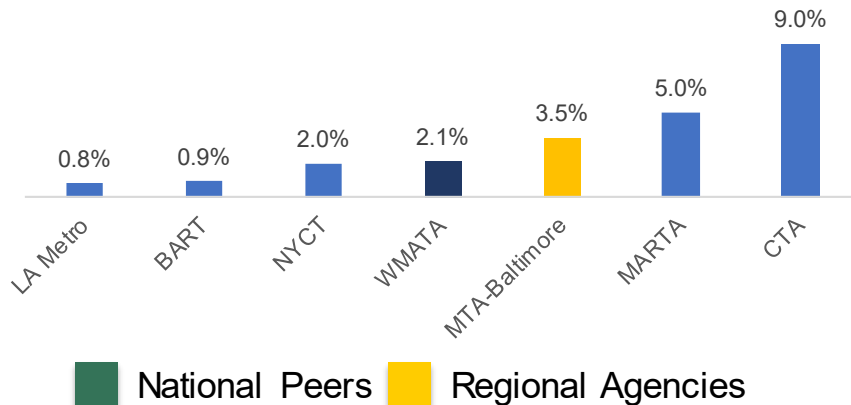


How Does Metro Compare?

As a result of recent investments, our guideway condition compares favorably

Source: FY19 MTD Performance Report

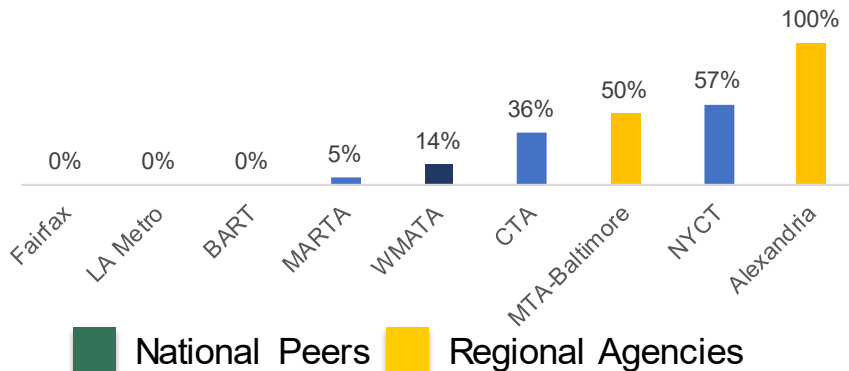
Guideway Condition Target: %
Track Under Performance
Restriction in FY19



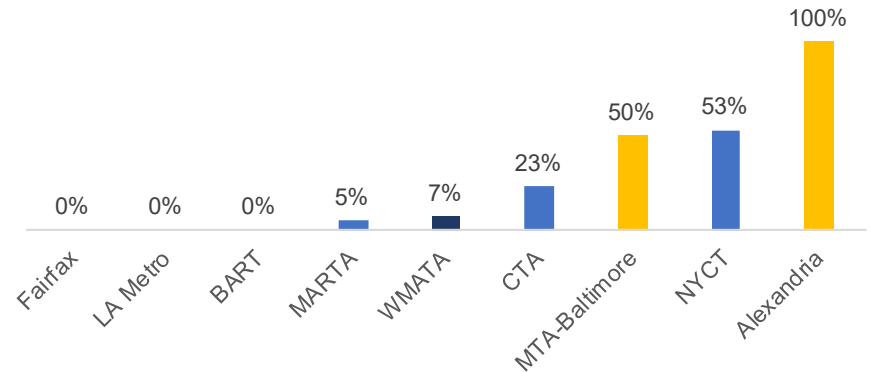
How Does Metro Compare?

We are middle-of-the-road with our facilities. This is currently a focus of our capital program.

Admin/Maintenance Facilities
Target: % Inventory in Poor
Condition



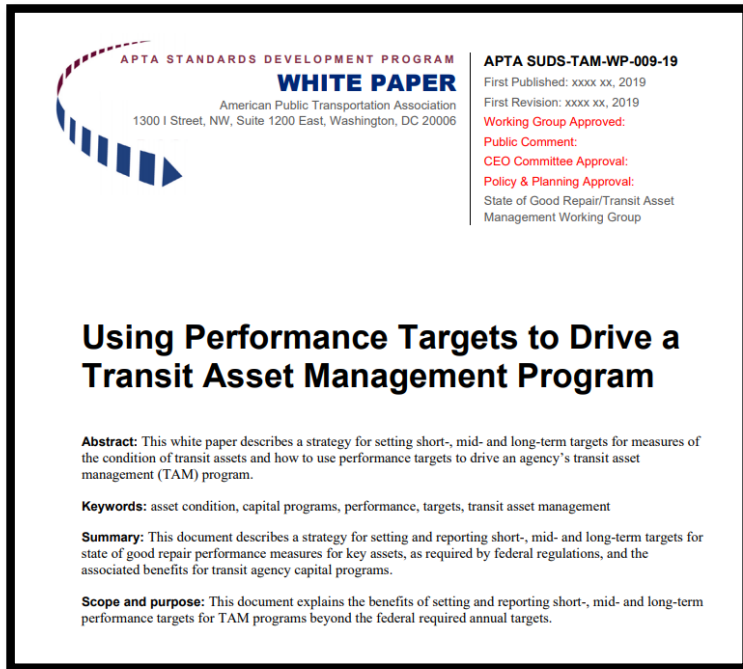
Passenger Facilities Target: %
Inventory in Poor Condition





Going Beyond the Basics

Mid- and Long-Term Targets



WHITE PAPER
 American Public Transportation Association
 13001 Street, NW, Suite 1200 East, Washington, DC 20006

APTA SUDS-TAM-WP-009-19
 First Published: xxxx xx, 2019
 First Revision: xxxx xx, 2019
 Working Group Approved:
 Public Comment:
 CEO Committee Approval:
 Policy & Planning Approval:
 State of Good Repair/Transit Asset Management Working Group

Using Performance Targets to Drive a Transit Asset Management Program

Abstract: This white paper describes a strategy for setting short-, mid- and long-term targets for measures of the condition of transit assets and how to use performance targets to drive an agency's transit asset management (TAM) program.

Keywords: asset condition, capital programs, performance, targets, transit asset management

Summary: This document describes a strategy for setting and reporting short-, mid- and long-term targets for state of good repair performance measures for key assets, as required by federal regulations, and the associated benefits for transit agency capital programs.

Scope and purpose: This document explains the benefits of setting and reporting short-, mid- and long-term performance targets for TAM programs beyond the federal required annual targets.

Target	Inputs	What do the targets tell us?	Who is the audience?	How are targets used?	Risks to setting or achieving targets
Short	<ul style="list-style-type: none"> Age/condition of existing assets Capital plan for next year 	What impact will this year's capital program have on asset condition?	<ul style="list-style-type: none"> FTA MPO Executives Public 	Communicate intended impact of current-year capital program, evaluate how well an agency executed the current program	Failure to achieve targets can be due to delayed procurement, construction delays, late delivery, failure to receive grant money or revenue shortfalls
Mid	<ul style="list-style-type: none"> Age/condition of existing assets Capital plan for next four to six years 	How will planned revenues, prioritization and capital packages impact asset condition?	<ul style="list-style-type: none"> MPO Executives Board 	Communicate intended impact of planned capital program	Emergencies or other decisions that result in reprogramming of funds can result in changes to the targets
Long	<ul style="list-style-type: none"> Age/condition of existing assets Planned investments in the TAM plan, TIP Revenue and expense projections Executive input 	<p>What will the condition be if we execute projects included in the TAM plan or TIP?</p> <p>What do we <i>want</i> the condition of our assets to be given current conditions and expected funding?</p>	<ul style="list-style-type: none"> MPO Executives Board 	<ul style="list-style-type: none"> Define state of good repair Communicate projected impact of TAM plan Drive project prioritization Communicate additional funding needed to meet targets 	Changes in revenues, expenses can result in fewer resources available and inability to execute all prioritized projects