

# FTA

FEDERAL TRANSIT ADMINISTRATION

## **2021 Virtual Transit Asset Management Roundtable**

**June 22, 2021**

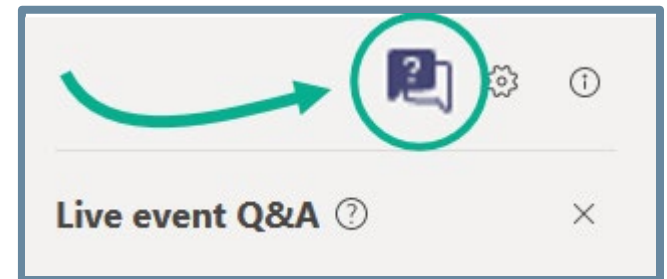


U.S. Department of Transportation  
Federal Transit Administration

# Event Logistics



- This Roundtable is being recorded and will be posted to the FTA TAM website
- Questions can be submitted using the Q&A feature
  - Some questions may not get published due to time constraints



# Welcome and Introduction

**Nuria Fernandez**

Administrator

Federal Transit Administration





# EXECUTIVE PANEL



# Julie Timm

Chief Executive Officer  
Greater Richmond Transit  
Company



# Leslie Richards

General Manager

Southeastern Pennsylvania  
Transportation Authority



# Henry Li

General Manager

Sacramento Regional Transit  
District



# Tom McKone

Chief Administrative Officer  
and Senior Vice President  
Chicago Transit Authority





# FTA TAM Roundtable

Snapshot of Greater Richmond Transit Company

Julie Timm, CEO

June 22, 2021





# GRTC Snapshot

## Quick Facts

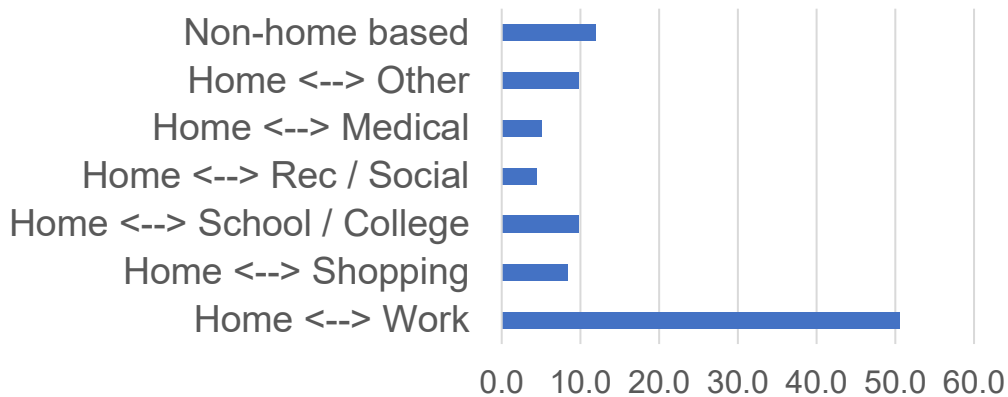
- Greater Richmond Transit Company (GRTC)
  - Public Mass Transit for Richmond, Virginia region (RVA region population ~ 1.3M)
  - Primarily serving Richmond and Henrico, Virginia (service population ~ 500,000)
- Providing Local Bus, Commuter Bus, Bus Rapid Transit, and Paratransit services
- Launch of BRT service and System redesign in 2018 resulted in double digit ridership growth in direct contrast to national trends showing double digit ridership drops
- Expansion of service area routes and core route frequencies starting in FY2022 with new dedicated regional funding (In planning phase now)

# GRTC Snapshot

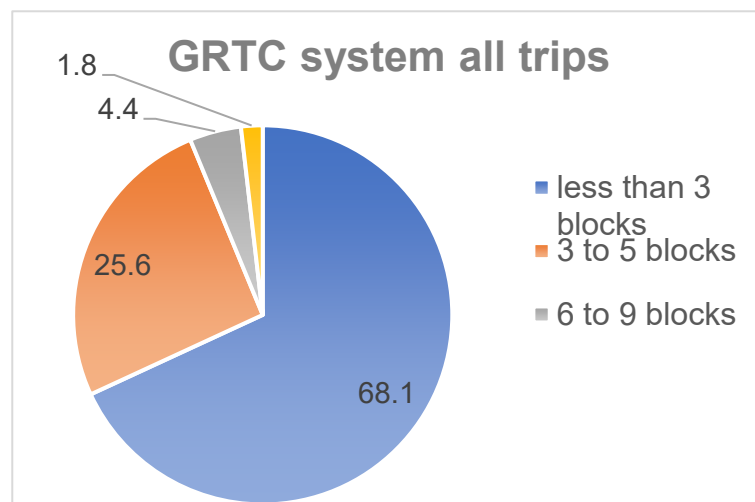
## Market Size and Use – Total Ridership

GRTC Originally Projected to Serve 10,000,000 Trips in FY21

GRTC system all trips



Half of GRTC trips are for part of the commute. On the express routes, 92 percent of travelers are going between home and work.

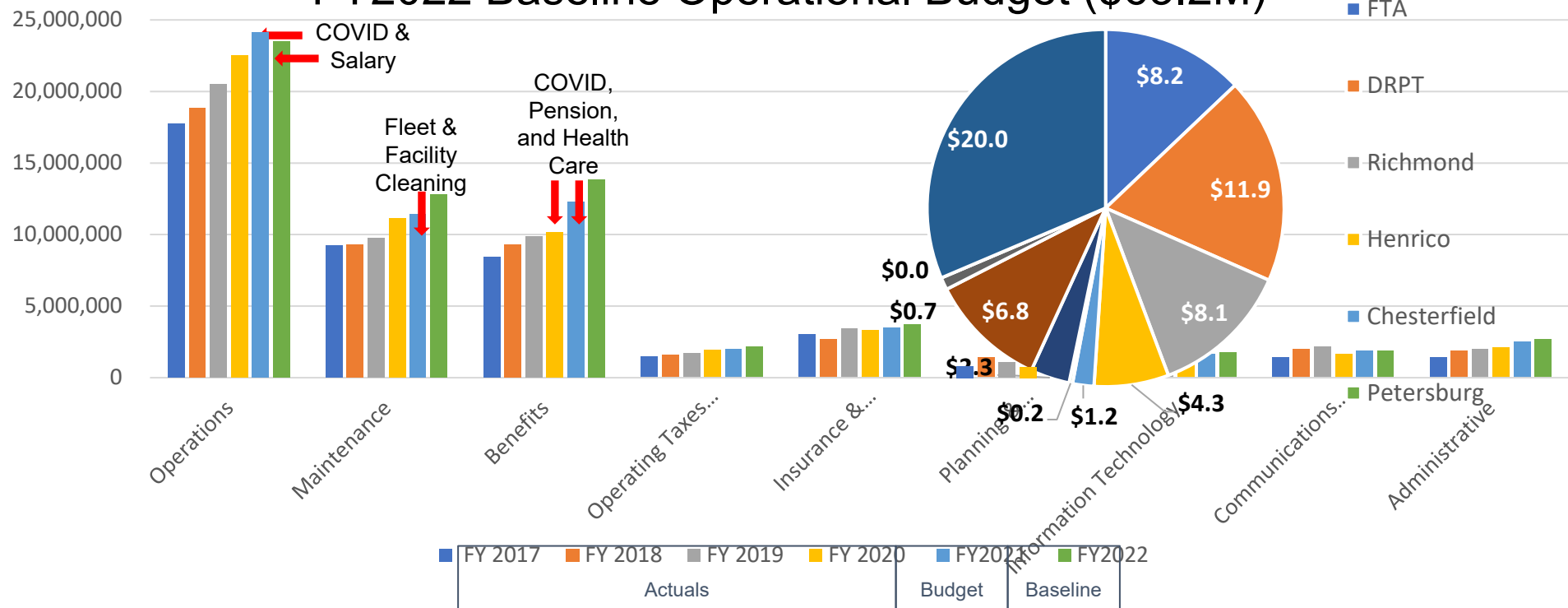


A very small share of riders who walk to their home end bus stop have to walk more than five blocks to catch the bus.

# GRTC Snapshot

## GRTC Expenses to Revenues

### FY2022 Baseline Operational Budget (\$63.2M)





# GRTC Snapshot

## GRTC Capital Sources of Revenue – Average \$21M annually

### Federal

- 5307 Formula Funds (Through FTA): ~ \$11M; Flex ~ \$8-9M to PM, ADA, CoC; \$2M leveraged to ~\$7M with state/local matches
- 5339 Formula Funds (Through FTA): ~ \$1.5M; leveraged to ~\$5M with state/local matches
- CMAQ and STBG Funds (Through TPO): Variable

### Virginia

- Formula, Smart Scale, other Discretionary Grants (From CTB/DRPT): 0% to 50% to 68% matching funds

### Regional Local

- Regional Transit/Transportation Revenue (CVTA): 2% - 10% match dependent on State award
- General Fund, Bonds (Local City/County) : 2% - 20% match dependent on State award and CVTA approved allocation

### Other

- Farebox/Passes, Business Partnerships, Sponsorships, Advertising (GRTC): 0% (Currently allocated to Operations at 100%)

# GRTC Snapshot

## GRTC Capital Needs Prioritization

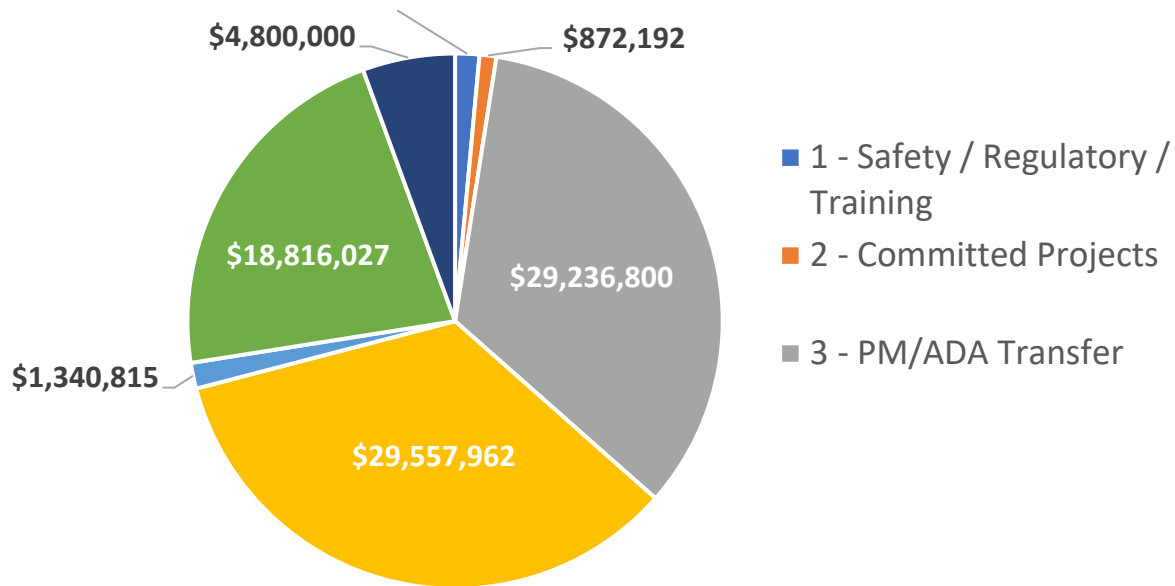
Identified Projects would be categorized in the following order of priority.

1. Safety / Regulatory / Training
2. Committed Projects
3. Transfer of Federal Capital Funds to Operational Preventative Maintenance and ADA
4. State of Good Repair (SGR)
5. Business Improvements
6. Service Improvements
7. System Expansion / High-Capacity Transit Development

# GRTC Snapshot

## GRTC Capital Needs

FY2020 Three Year Spend Plan  
\$85.9 M Funded



# GRTC Snapshot

## GRTC Baseline Forecasting

### Plans Needed to Support SGR and Active TAM 6-12 year budgeting

- Safety Management Plan (Completed)
- Annual PM and ADA Transfer (Ongoing)
- Fleet Replacement Forecast (Completed/Ongoing)
- Facilities and Asset Needs Forecast (In need of Update/Ongoing)
- Technology Replacement and Maintenance Forecast (In need of Update/Ongoing)
- Regional Mobility Plan (In Process)
- Public Comment and Community Partnerships (In Process)
- Industry Trends and Emerging Technologies (Ongoing)

# GRTC Snapshot

## FY2022 Projects and Studies

- **Improve Local Service, Infrastructure, and Equity**
  - Focus on reliability of service - on-time performance and detour communications
  - Implement increased frequency and extensions on high-capacity corridors
  - Advance fare equity solutions
  - Improve shelters, benches, and signage at existing stops in economically disadvantaged communities
- **Improve Stop Level Connectivity and Accessibility**
  - Partner for local coverage connections and on-demand micro-transit, small vehicle pilots
  - Partner to expand sidewalk network, crosswalks, mid-block signals
- **Improve Route Level Connectivity and Accessibility**
  - Identify location and start financing and engineering plans for Downtown Transfer Center - Temporary and Permanent
  - Identify local needs and design concepts for Southside Transfer Plaza and GRTC Annex Property Development
  - Identify and design Pulse West End transfer center and park and ride
- **Expand and Upgrade High-Capacity Service**
  - Launch articulated buses on frequent routes and BRT
  - Increase dedicated lanes on high frequency corridors and Pulse
  - Construct additional Pulse stations
  - Develop Locally Preferred Alignment for North-South BRT study and Pulse Extension
- **Future Proofing Service and Technology**
  - Study fleet electrification by 2050



# Connecting Opportunities

Breaking Down Barriers

Julie Timm, CEO

[julie.timm@ridegrtc.com](mailto:julie.timm@ridegrtc.com)





 **SEPTA** TAMping our Way to a Stronger Future

# SEPTA is a Legacy Transit System.

SEPTA must balance system preservation and system improvements when prioritizing investments.



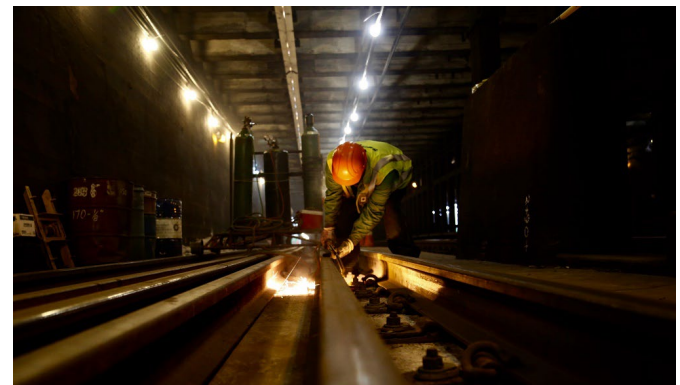
- Operating area: 2,200 square miles in Bucks, Chester, Delaware, Montgomery and Philadelphia Counties, NJ, and DE.
- Multimodal:
  - Heavy Rail
  - Commuter Rail
  - Light Rail
  - Bus/ Trolleybus
  - Paratransit
- Utilizing infrastructure maintained and/ or owned by SEPTA, Amtrak, freight railroads, and municipalities.
- Infrastructure built by legacy transportation providers, dating back to the 1830's.



# Asset Management: Early Wins

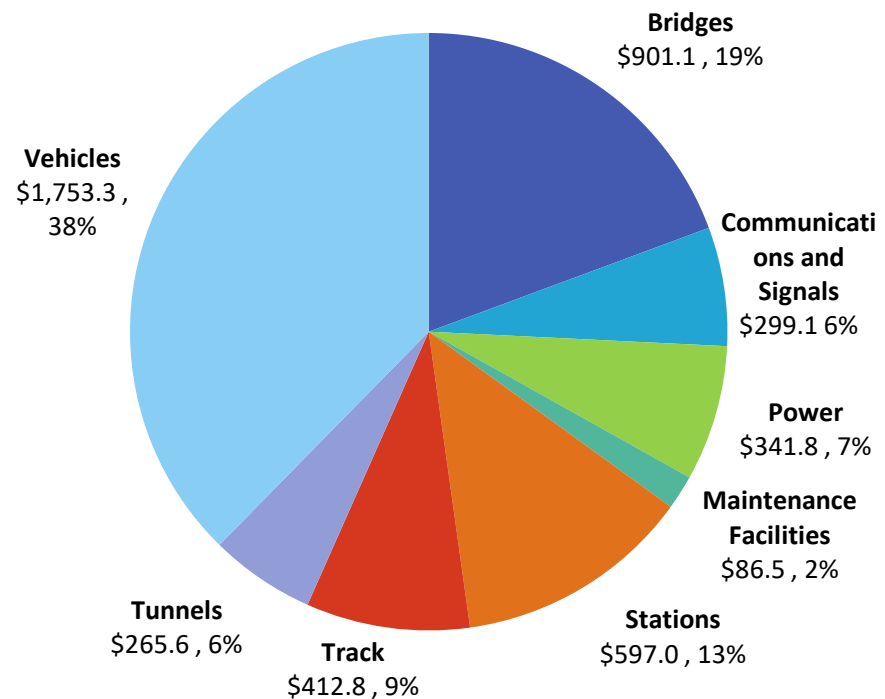
Giving all assets a "voice" in the planning process.

- SEPTA started TAM initiative in 2010.
  - First comprehensive assessment of age, condition, and performance of SEPTA's transit assets.
- Basis of Stakeholder Conversations about System Needs
  - Stable transportation funding.
  - Achieving SGR became a core component of capital programming.
  - MPO needs analysis and target-setting for long range plan.



# Stable Funding Allowed SEPTA to Address the SGR Backlog.

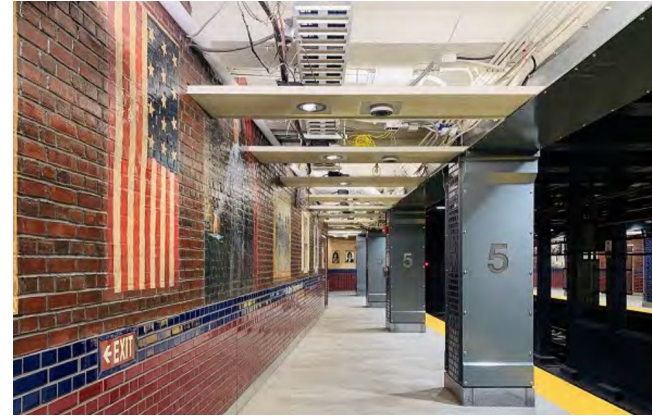
The SGR backlog was reduced from \$5.2B to \$4.6B over 5 years.



# Commitment to SGR Throughout Challenging Times.

All Programs were Evaluated to Identify Ways to Allow Work to Advance Safely.

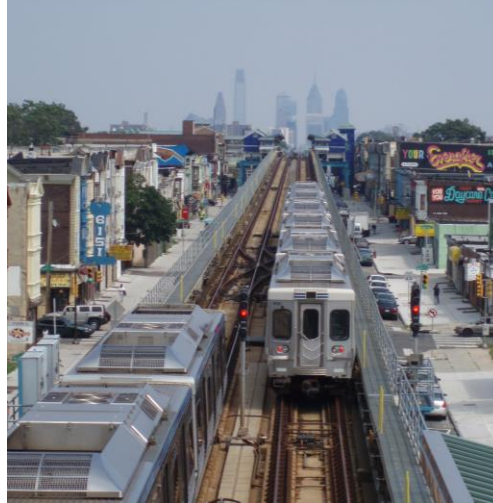
- Core projects advanced with heightened safety protocols.
- Utilized daytime to perform maintenance and inspections.
- “Lifeline Service” identified corridors of greatest need.
- Evaluating ridership changes allows SEPTA to balance SGR needs and equity.





# Asset Management Provides a Framework for Program Development.

SEPTA remains committed to refining processes to support collaborative regional planning.



# Addressing the Needs of Current and Future Passengers

SEPTA continues to seek sustainable funding solutions for major projects.

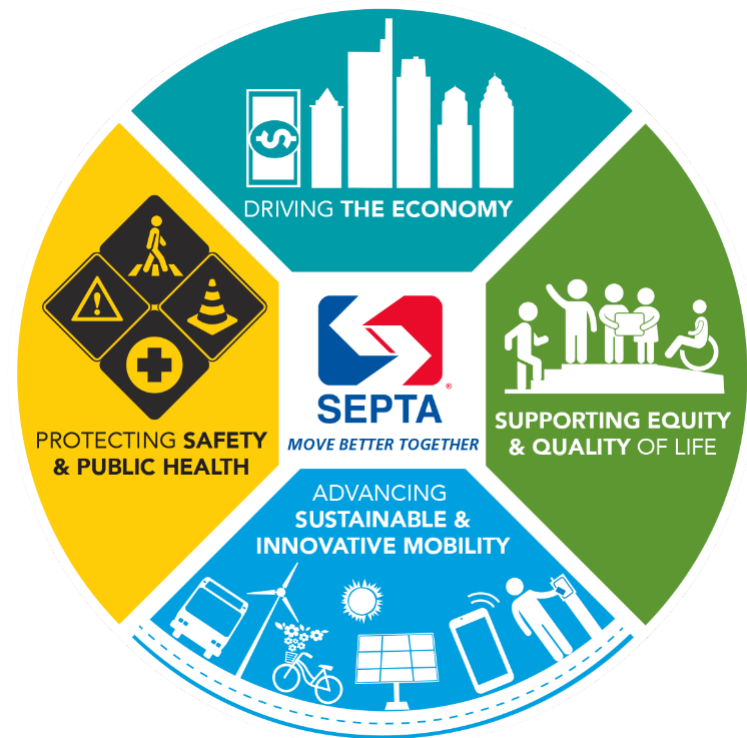
- Replacing the rail fleet remains a high priority.
- Critical core infrastructure programs have been identified.
- ADA Station priorities have been established.
- Projects of Regional Significance will address SGR needs while modernizing the system for regional mobility.
  - Trolley
  - Regional Rail
  - Market-Frankford Line Vehicles and Signals



# Why SEPTA has Embraced TAM

A Tool to Align Priorities in the Capital Budget with Strategic Goals.

- Maintains a safe and reliable system.
- Identification of greatest needs.
- Facilitates programmatic planning.
- Optimizes use of human and financial resources.
- Increases stakeholder transparency.
- Promotes system stewardship.







**Transit Asset Management Roundtable**  
**Henry Li, General Manager/CEO**  
**Sacramento Regional Transit District**  
June 22, 2021



# Snapshot of SacRT

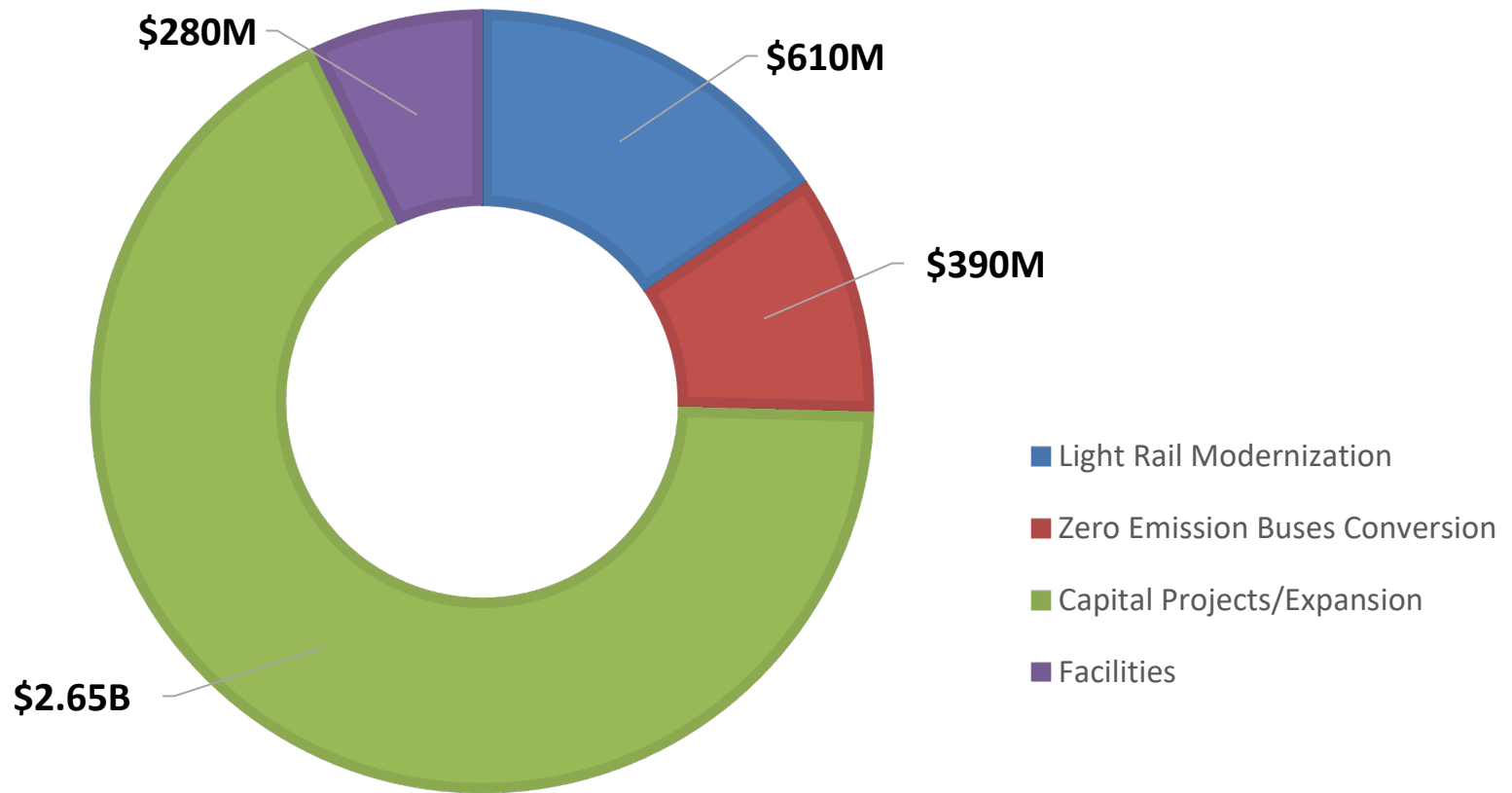
- 400-square mile service area
- Operates bus, light rail, paratransit and microtransit services
- 3 light rail lines
- 52 light rail stations
- 22 park-and-ride lots
- 43 miles of light rail
- 80 bus routes
- 9 SmarT Ride Zones
- SacRT GO Paratransit Services
- 3,100+ bus shelters/stops
- Annual Ridership 22 million (pre-COVID)
- 1,289 employees





# Long Term Needs – 30 to 40 Year Plan

## State of Good Repair & Major Capital Projects



# State of Good Repair



**Light Rail  
Modernization  
Project**

**Non-Revenue  
Vehicles/Equipment  
/Facilities  
Management Plan**

**SacRT's Zero  
Emission Bus  
Transition Plan**

# SacRT Personnel as Assets



SacRT Demographics, 2016 vs 2021 and compared to Sacramento County

	SacRT-2016	SacRT-2021	Sac County*
American Indian/Alaskan Native	1%	1%	1.5%
Asian	9%	12.50%	17.0%
Black/African American	30%	31%	10.9%
Hispanic	15%	17%	21.0%
Multiple Race	3%	5%	6.5%
Native Hawaiian/PI	1%	2.50%	1.3%
White	41%	31%	41.8%



# Transit Asset Management

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*June 2021*





# Chicago Transit Authority – An Essential Public Service

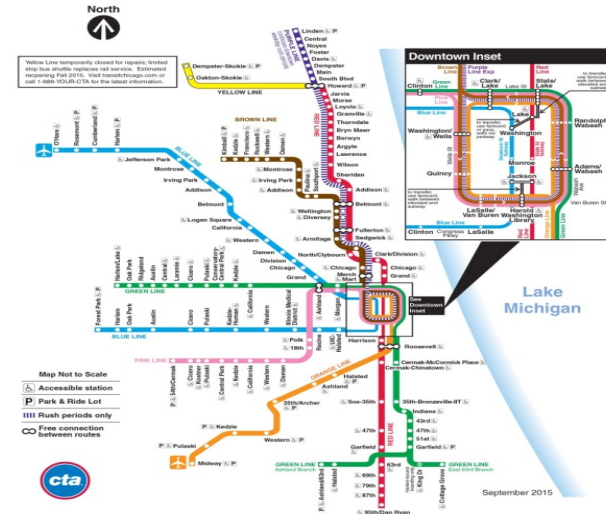
- \$1.64 billion annual operating budget
- \$3.4 billion five year capital budget for 2021-2025
- 8 rail lines and 127 bus routes
- 24/7 rail service





# An Essential Public Service

- **Second largest public transportation system by ridership in the United States**
- Provides bus and rail service to a 310 square mile area including the City of Chicago and 35 surrounding suburbs
- More than 1.6 million CTA rides on an average weekday pre-COVID
- April 2021 Ridership compared to 2019
  - System: -64%
  - Bus: -55%
  - Rail: -73%
- Supports Northeastern Illinois region through critical links to Pace (Suburban Bus) and Metra (Commuter Rail)

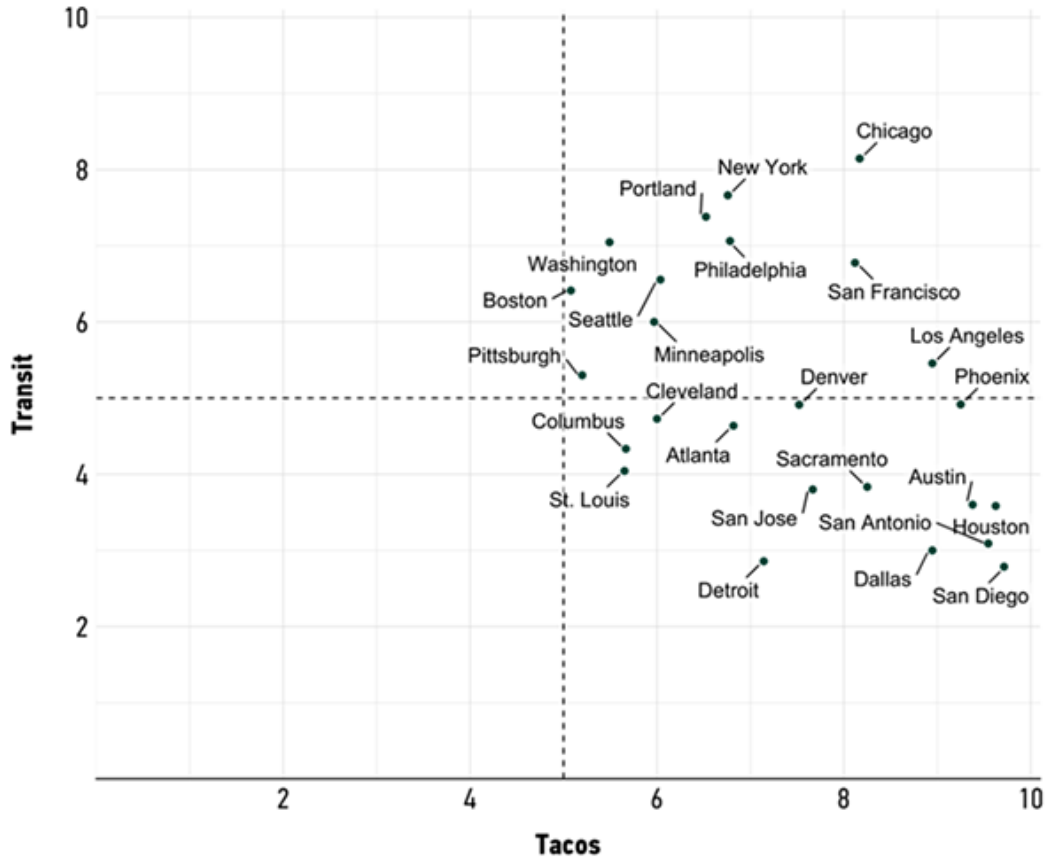




# Chicago Specialties

## How Americans rank their cities' tacos and transit

For metro areas with at least 10 votes. Data as of Dec. 13, 2018.



Source: CityLab online survey (David H. Montgomery / CityLab)

COURTESY CITYLAB





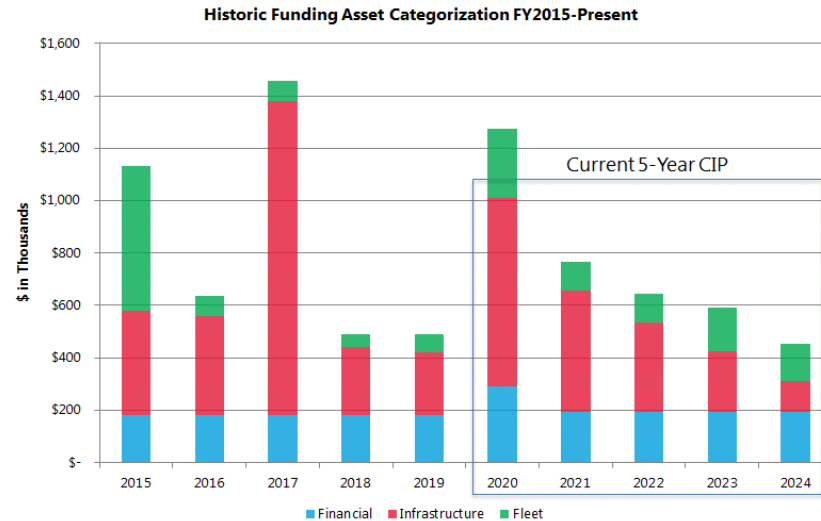
## Large Asset Base (Replacement Value: \$50+ Billion)

1,870 Buses	294 Miles of Power Cable
1,492 Rail Cars	42 Subway Electrical Service Rooms
753 Rubber Tire Service Vehicles	42 Sump Pumps
114 Pieces of Steel-Wheel work Equipment	61 Ventilation - Control Systems
22 Work Motor Cars	245-250 Workstations/kiosks on Shop Floors
29 Maintenance and Administrative Facilities	Cable Fiber Network
107 Bus Turnarounds	Network backbone infrastructure
145 Stations	Servers
16 Parking Facilities	4500+ cameras
106 Interlockings	7500 telephones
33 Grade Crossings	4500 handheld radios
105 Bi-Directional Miles of Cab Signaling	312 SCADA Remote Terminal Units
106 Miles of Elevated Structure	2 main radio transmitters and ~15 receiver sites
115 Bridges and Viaducts	Public Address (PA) Systems
225 Miles of Revenue Track	Uninterruptible Power Supplies (UPS)
12 Rail Yards (incl. ~40 miles of track)	Dynamic Message/Bus tracker signs
64 Substations + 5 Substation Tie Houses	





# Major Challenges



- Unpredictable funding
- Very old asset base
- Transit Asset Management helps to quantify and communicate these challenges and frame trade-offs and key decisions



## Challenges: Old System



- CTA has added 103 accessible stations since 1980. Current 5-year funding will only bring an additional 9 stations to full accessibility, leaving 33 non-ADA stations.
- In addition to accessibility, CTA operates several stations that have received minimal upgrades since opening in the 1890s.



## Challenges: Old System

- With 225 miles of track in service, CTA can quickly fall into a backlog without timely renewal programs
  - 16% (36 miles) of CTA Track is beyond useful life, and 24% (54 miles) is nearing end of life
- CTA facilities are nearly 50 years old on average, and some facilities dating to the 1890s are still in service
  - 36% of CTA facilities are in 'marginal' or 'poor' condition





## Challenges: Old System



38-77th St - 04/10/1923 (CSL Photo)

Circa 1923 – Chicago Surface Line 77<sup>th</sup> Carriage House



Current Day 2021 – CTA 77<sup>th</sup> Bus Garage

- Limited capital funds means CTA must continue to operate and maintain very old assets
- CTA has many assets that have been in continuous operation for multiple decades and in some cases more than a century
- Additional investments needed to replace assets that have long exceeded Useful Life Expectancy





# Capital Needs

- State of Good Repair (SOGR) Backlog: The CTA's current backlog is roughly \$14B; an additional \$6B of assets are projected to age out in the next 10 years
- Modernization
- RPM Phase 1 - \$2.1 Billion Project (Largest in CTA History) to fully replace 100+ year old infrastructure, relieve bottlenecks, and boost capacity. Future phases: \$4b+
- Bus Fleet modernization (electric buses and infrastructure)
- Core Capacity: Power, Signals, Yard upgrades
- Rail System Accessibility – funding needed to rehab or reconstruct 33 non-ADA stations
- Equity and Expansion: Red Line Extension to underserved areas



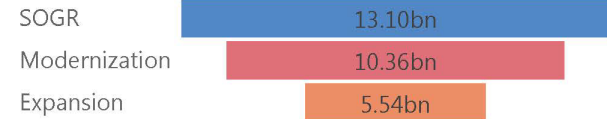


# Capital Needs

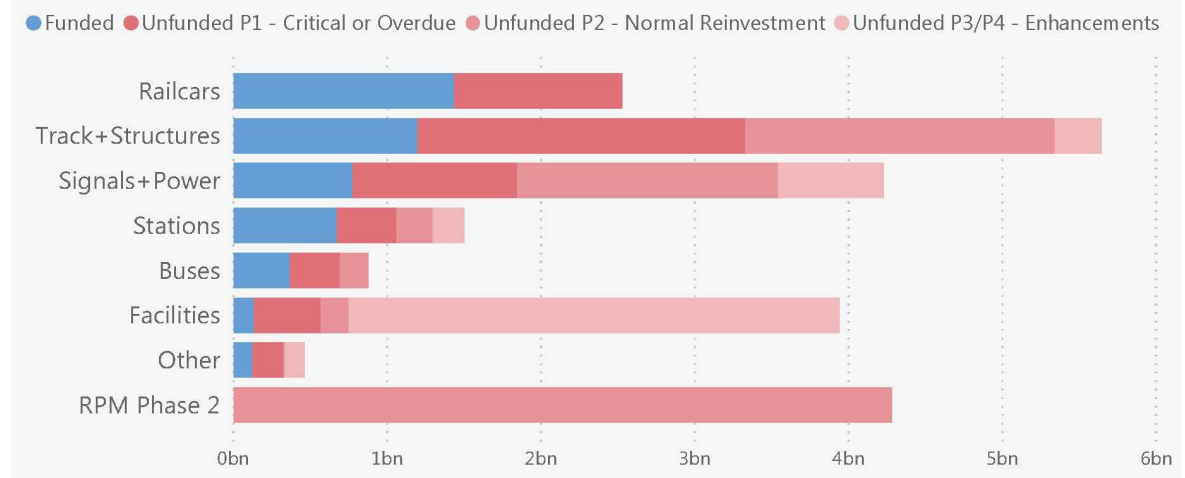
- CTA has identified \$29 billion in capital project needs, but the 5-Year CIP is only \$3.4 billion
- SOGR needs alone are over \$13 billion, with a similar amount needed for Modernization and Expansion
- Limited funding requires many difficult trade-offs and choices to defer replacements while maintaining safety and reliability

Total Identified Needs  
**29.00bn**

Capital Project Needs by Type



Funded vs. Unfunded SOGR Needs





# Capital Needs

## Rail Infrastructure SGR and Modernization Needs

Darker shades indicate greater relative investment needs



Line / Branch	Signals	Structures	Power	Subway Safety	Track	Stations	Total
North Red-Purple	Light Green	Dark Green	Light Green	White	Light Green	Light Green	Dark Blue
Blue Line - Forest Park	White	White	Light Green	White	Dark Green	Light Green	Blue
Systemwide	Light Green	Light Green	Light Green	White	Light Green	Light Green	Blue
Blue Line - O'Hare	Light Green	White	Light Green	White	Light Green	Light Green	Blue
Green Line - West	Light Green	Light Green	White	White	Light Green	White	Blue
Downtown Subways	Light Green	White	White	Light Green	Dark Green	White	Blue
Green Line - South	Light Green	Light Green	White	White	Light Green	White	Blue
Brown Line	Light Green	Light Green	Light Green	White	Light Green	White	Blue
Purple Line	Light Green	White	White	White	Light Green	White	Blue
Orange Line	Light Green	White	White	White	Light Green	White	Blue
Yellow Line	Light Green	White	White	White	Light Green	White	Blue
Red Line - Dan Ryan	White	White	White	Light Green	Light Green	White	Blue
Loop	White	White	White	White	Light Green	White	Blue
Pink Line	White	White	White	White	White	White	Blue
<b>Estimated Total</b>	<b>\$2.48B</b>	<b>\$1.74B</b>	<b>\$1.14B</b>	<b>\$608M</b>	<b>\$3.91B</b>	<b>\$1.50B</b>	<b>\$11.4B</b>

- TAM helps CTA to describe and categorize numerous capital needs geographically and by asset/department
- In addition to revenue equipment, TAM objectively helps to identify and highlight other areas of concern such as aging infrastructure







# MODERATED Q&A

**FTA**

FEDERAL TRANSIT ADMINISTRATION



Eric Papetti, Acting TAM Program Manager

# **FTA TAM PROGRAM UPDATES**

**FTA**

FEDERAL TRANSIT ADMINISTRATION

# FTA



FEDERAL TRANSIT ADMINISTRATION

# Transit Asset Management

**2021 Virtual TAM Roundtable**  
**June 22, 2021**



U.S. Department of Transportation  
Federal Transit Administration

# Today's Presentation



- TAM Plan Updates
- Resources
- Learning Opportunities & Research

# TAM Plan Updates



- First TAM Plan Update by October 2022
  - First TAM plans were completed Oct 2018,
- What is a TAM Plan update?
  - “49 CFR 625.29 c) *Updates*. A provider must update its entire TAM plan at least once every four (4) years. A provider’s TAM plan update should coincide with the planning cycle for the relevant Transportation Improvement Program or Statewide Transportation Improvement Program.”
- Many resources available and in development to assist in updates
  - Synthesis Reports
  - Self Assessment Tool
  - TAMPLATE
  - Webinars (forthcoming)

# TAM Plans

- Outline how people, processes, and tools come together to address asset management policy and goals
- Provide accountability and visibility for furthering understanding of leveraging asset management practices
- Support planning, budgeting, and communications to internal and external stakeholders

Tier	Element	Brief Description
Tier I and II	1. An inventory of asset	A register of capital assets and information about those assets.
	2. A condition assessment of inventoried assets	A rating of the assets' physical state; to be completed for assets an agency has direct capital responsibility for; should be at a level of detail sufficient to monitor and predict performance of inventoried assets
	3. Description of a decision support tool	An analytic process or tool that (1) assists in capital asset investment prioritization and/or (2) estimates capital needs over time <i>does not necessarily mean software</i>
	4. A prioritized list of investments	A prioritized list of projects or programs to manage or improve the SGR of capital assets
Tier I only	5. TAM and SGR policy	A TAM policy is the executive-level direction regarding expectations for transit asset management; a TAM strategy consists of the actions that support the implementation of the TAM policy
	6. Implementation strategy	The operational actions that a transit provider decides to conduct, in order to achieve its TAM goals and policies
	7. List of key annual activities	The actions needed to implement a TAM plan for each year of the plan's horizon
	8. Identification of resources	A summary or list of the resources, including personnel, that a provider needs to develop and carry out the TAM plan
	9. Evaluation plan	An outline of how a provider will monitor, update, and evaluate, as needed, its TAM plan and related business practices, to ensure the continuous improvement


# Companion Synthesis Reports



**TAM Investment  
Prioritization State of  
the Practice Synthesis**  
A Review of Transit Agency Use of  
Investment Prioritization Processes

September 2020

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**TAM Decision  
Support Tool State of  
the Practice Synthesis**  
A Review of Transit Agency Use of  
Decision Support Tools

September 2020

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# Synthesis Reports

- FTA published companion synthesis reports on investment prioritization processes and decision support tools.
  - These reports may assist in updating TAM plan element 3 & 4
- The reports compile existing practices in one document highlighting best practices and shared challenges



# TAM Plan Self Assessment Tool

**Table 3. Element 1. Inventory of Assets (E1)**

	Compliant (1)	Expanded (2)	Advanced (3)	Comments
<b>Description</b>	<ul style="list-style-type: none"> <li>▪ Includes register of Capital Assets.</li> <li>▪ Organized by Rule Asset Category and Asset Class.</li> <li>▪ Clearly identifies asset categories (Equipment, Rolling Stock, Infrastructure, and Facilities).</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identifies NTD Reporting forms (Form A-30, A-35, etc.) to compile information regarding assets.</li> <li>▪ Defines agency hierarchy of asset classes.</li> <li>▪ Contains supplemental information about assets.</li> <li>▪ Includes information regarding past and planned maintenance of assets.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Demonstrates use of advanced Asset Management concepts that drive the Inventory of Assets.</li> <li>▪ Incorporates a contingency for future purchases or procurements.</li> <li>▪ Contains a schedule for replacement of assets.</li> </ul>	
<b>Rating</b>				

[www.transit.dot.gov/TAM/TAMPlans/SelfAssessment](http://www.transit.dot.gov/TAM/TAMPlans/SelfAssessment)

# TAM Self Assessment Tool

- [Tool](#) for agencies to assess their TAM Plan quality and completeness.
- Includes rating guide to evaluate the maturity of TAM Plan.
- Can be used to evaluate existing plan and highlight areas to improve upon in update.



# The TAMPLATE

**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	Avg Value
Revenue Vehicles	0	-	-	-
AB - Articulated Bus	0	-	-	-
AD - Automobile	0	-	-	-
BR - Over-the-road Bus	0	-	-	-
BU - Bus	0	-	-	-
CU - Cutaway Bus	0	-	-	-
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	-	-	-
TR - Trolleybus	0	-	-	-

[Summarize](#)

United States Department of Transportation

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Federal Transit Administration

**TAMPLATE**  
Transit Asset Management  
Planning Assistance Template

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# Updated TAM Plan Template (TAMPLATE)

- Assists in developing TAM plans by automatically populating with data that the agency has submitted to the NTD.
- The recently updated tool offers:
  - A clone capability to carry over modified records from year to year,
  - Options for download using either Microsoft Excel or Word,
  - Highlights modified fields in plan to track manual adjustments,
  - New “experimental TAM plan” option to build a non-regulatory TAM plan, primarily for research, and
  - Updated functionality and ease of use

# RESOURCES



# Updated NTD Narrative Report Template

Updated [“NTD Narrative Report Template”](#) is now available on the TAM website under “featured resources”

## Context: Two types of Deliverables

### Process (not collected by FTA)

1. Compliant TAM Plan
  - Group
  - Individual Tier I
  - Individual Tier II
2. Recordkeeping & Coordination with Planning
3. Certification

### Reports (submit to NTD)

1. Data Report
  - Performance Targets
  - Performance Status
  - NTD Inventory

2. Narrative report

# Updated NTD Narrative Report Template Excerpt

## Revenue Vehicles

### 1. *How did your agency calculate the targets? (1-2 paragraphs)*

You may want to include some or all of the following example information in your response:

- The inputs your agency used to come up with targets.
- How your agency determined the ULBs, including a description of any custom ULBs that were used instead of FTA-provided default ULBs.
- Whether the targets are the same as/lower/higher than previous years, and why.
- How, if at all, anticipated funding levels for the next fiscal year have influenced your targets.
- For Group Plans, how your agency engaged with subrecipients in the target setting process.
- Whether these targets are annual reporting on longer timelines.

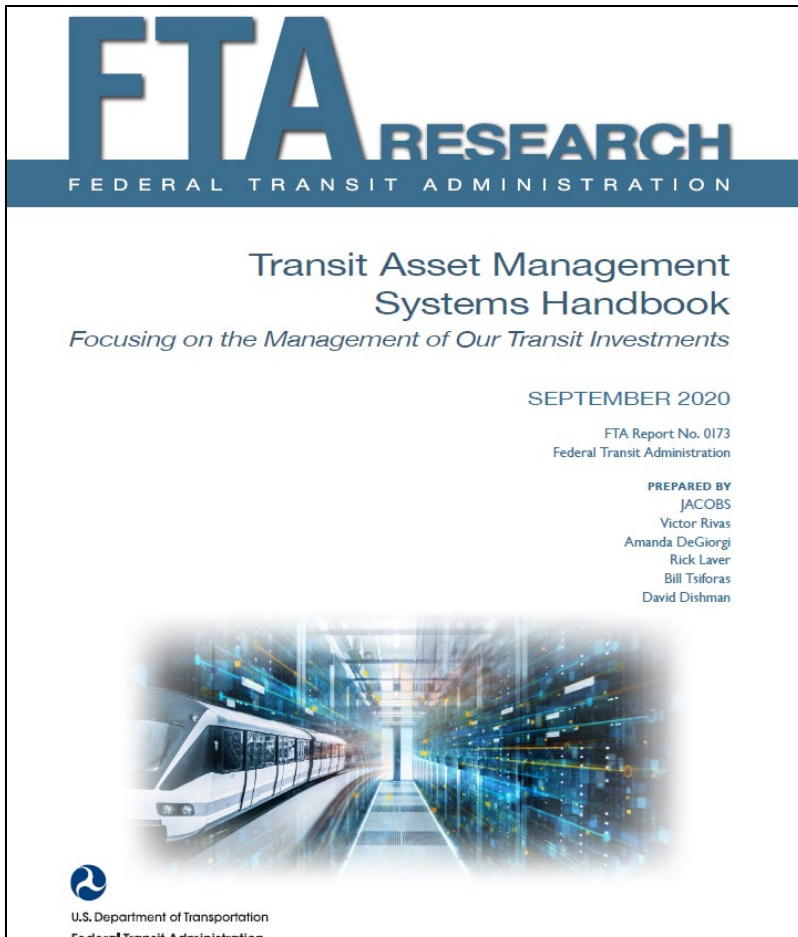
### 2. *How has your agency made progress toward the targets? (1-2 paragraphs)*

You may want to include some or all of the following example information in your response:

- Whether your agency replaced vehicles as planned.
- A description of new processes, procedures or tools your agency implemented that may have supported progress towards targets.

# Other Helpful resources

- TAM Systems Handbook
- Group Plan Sponsor Workbook
- Tribal Reporting Tool
- Webinar and FAQ archives





# TAM Professional Capacity Building Program



- What is Professional Capacity Building (PCB)?
  - PCB programs aim to provide training, technical assistance, resources, tools, and peer learning opportunities to build capacity on a topic among their audiences.
- Progress so far
  - Past activities of the TAM Program have been inventoried and assessed. Interviews conducted with TAM Program stakeholder groups (USDOT Staff, transit agency staff, and partner organizations) to develop a needs assessment.
- Next steps
  - Using interviews & information to develop plan for future of PCB and create plans for new and updated resources.

# LEARNING OPPORTUNITIES & RESEARCH

**FTA**

FEDERAL TRANSIT ADMINISTRATION

# Learning Opportunities



- Enhancing Your Transit Asset Management Program with Lifecycle Management (NTI)
- Recent Webinars available online
  - Staying on Track with TAM: FTA Updates, Upcoming Deadlines and Resources (Oct 2020)
  - Maintaining MomenTAM (March 2021)
  - Making the TAM Connection: Capital Planning and Investment Prioritization (May 2021)

# Research Reimagining TAM through Advanced Technologies

## **Artificial Intelligence**

– smart sensors to track the health of rail tracks

**Advanced scanning technologies** - light detection and ranging technologies, optical imaging, and overhead catenary automated scanning to assess track conditions in real-time

**Digital Twins Simulation and Modeling** – real-time infrastructure maintenance through virtual representation of assets and predictive modeling

# Real-Time Transit Infrastructure and Rolling Stock Condition Assessment Program

Agency	Project
Board of Trustees of the University of Illinois	Real Time Track and Vehicle Health Monitoring through Rail-mounted Load Quantification Smart Sensors
Maryland MTA	Mobile LiDAR: Modernizing Condition Assessments An innovative approach to data acquisition
Regional Transportation Commission of Southern Nevada	The Digital Twin Paradigm for Real-Time Transit Infrastructure Maintenance
Dallas Area Rapid Transit Authority	DART Real-time Infrastructure and Asset Digital Condition Assessment Project
Southeastern Pennsylvania Transportation Authority	SEPTA Regional Rail Automated Wire Scan
Utah Transit Authority	Polarized Infrared and Optical Imaging System for Transit Infrastructure Condition Assessment
	<b>Total Funding Amount \$1,368,816</b>

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TAMPLATE

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TAM for Tribes

FTA Outreach Materials

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State of Good Repair Programs >

Resources Search

## Transit Asset Management



# Looking for TAM Resources?

### TAM Resources

Click here to view our interactive TAM Resource Table, or contact us at [TAM@dot.gov](mailto:TAM@dot.gov).



## Managing Transit Assets

Public transportation provides millions of Americans with daily access to jobs, schools, health care and other essential services.



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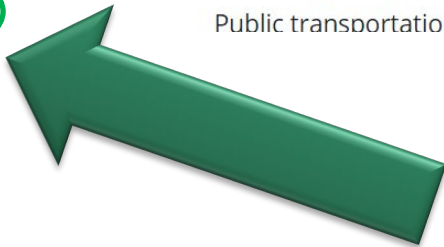
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## Transit Asset Management Resource Table

The TAM Resource Table is designed to support successful agency implementation of Transit Asset Management. This table contains resources such as FTA reports, materials from webinars and roundtables, and publications from external stakeholders. Search the inventory of available resources by keyword, author, date range, or document type. View documents by clicking on resource titles.

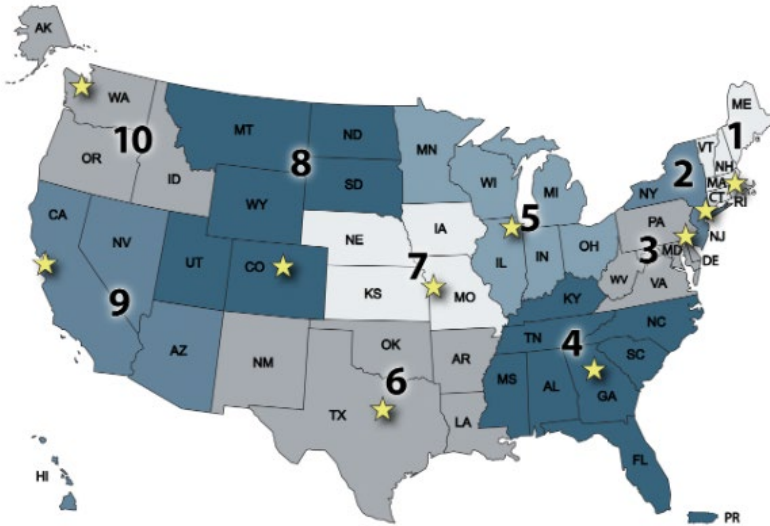
Agencies are encouraged to submit examples of policies, processes, tools, and other resources to [TAM@dot.gov](mailto:TAM@dot.gov) for inclusion in the table. TAM Plans are also accepted, to be featured on the [APTA Transit Asset Management](#) site.

Keywords  Author  From   To

2021  Document Type  Tag

Title ↕	Author ↕	Document Type	Date ↕
<a href="#">Making the TAM Connection Transcript</a>	FTA	Webinar	May 2021
<a href="#">Making the TAM Connection: Capital Planning and Investment Prioritization</a>	FTA	Webinar	May 2021
<a href="#">TAMNews - March 2021</a>	FTA	Newsletter	March 2021
<a href="#">Maintaining MomenTAM</a>	FTA	Webinar	March 2021
<a href="#">Maintaining MomenTAM Transcript</a>	FTA	Webinar	March 2021
<a href="#">NTD Narrative Report Example Format</a>	FTA	Template	February 2021
<a href="#">TAMNews - December 2020</a>	FTA	Newsletter	December 2020
<a href="#">Staying on Track with TAM: FTA Updates, Upcoming Deadlines and Resources</a>	FTA	Webinar	October 2020

# TAM Contacts



Region	TAM Points of Contact
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3	Anne Marie Coughlin
4	Guanying Lei
5	Lisa Joiner
6	Lynn Hayes
7	Bill Kalt
8	Ranae Tunison
9	Susan Ko
10	James "Steve" Saxton

## TAM Roundtable Team

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Eric Papetti	FTA
Anna Biton	US DOT Volpe Center
Emily Lawless	US DOT Volpe Center
Benjamin Bressette	US DOT Volpe Center
Neeka Mahdavi	US DOT Volpe Center



# Questions and Feedback



- Training needs?
- Resource needs?
- Ideas?
- Email us! [TAM@dot.gov](mailto:TAM@dot.gov)



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# Q&A

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# Thank you for attending the 2021 Virtual TAM Roundtable!

[transit.dot.gov/TAM](https://transit.dot.gov/TAM) | [TAM@dot.gov](mailto:TAM@dot.gov)

