

2023 Transit Asset Management Roundtable

July 9, 2023



**TRANSIT
ASSET
MANAGEMENT**

Assessing TAM in 2023



U.S. Department of Transportation
Federal Transit Administration

Event Logistics



- Presentation slides
 - Available at www.transit.dot.gov/TAM -> TAM Events -> Roundtables -> 2023 Transit Asset Management Roundtable
- Note takers
 - US DOT staff at your tables
 - Statements will not be publicly attributed to any organization
- Logistics
 - Bathrooms
 - Wi-Fi
 - Coffee available at breaks in the American Ballroom Foyer, 4th floor

Agenda



Time	Session
9:00 AM	Welcome
9:20 AM	Round Robin, part 1
10:00 AM	Break (coffee provided)
10:20 AM	Round Robin, part 2
11:00 AM	FTA TAM Program Updates
11:45 PM	Lunch (on your own)
1:00 PM	Exploring Zero Emission Fleets Panel
2:40 PM	Break (coffee & snacks)
3:00 PM	Reinvestigating TAM Plan Elements
4:35 PM	Wrap up

Welcome and Introduction

Michelle Muhlanger

Region 1 Deputy Administrator

Federal Transit Administration



Round Robin Introductions



**Share your name, agency, role and response to:
What is at the top of your TAM wish list?**



Break

**Coffee available in the American Ballroom Foyer
(4th floor)**



Round Robin Introductions



**Share your name, agency, role and response to:
What is at the top of your TAM wish list?**



FTA TAM Program Updates

July 9, 2023

Tamalynn Kennedy
TAM Program Manager



Presentation Agenda



- Recent activities
- Peer program
- Upcoming efforts
- Resources





Recent Activities

NTD TAM Summary



2021 TAM Data Summary

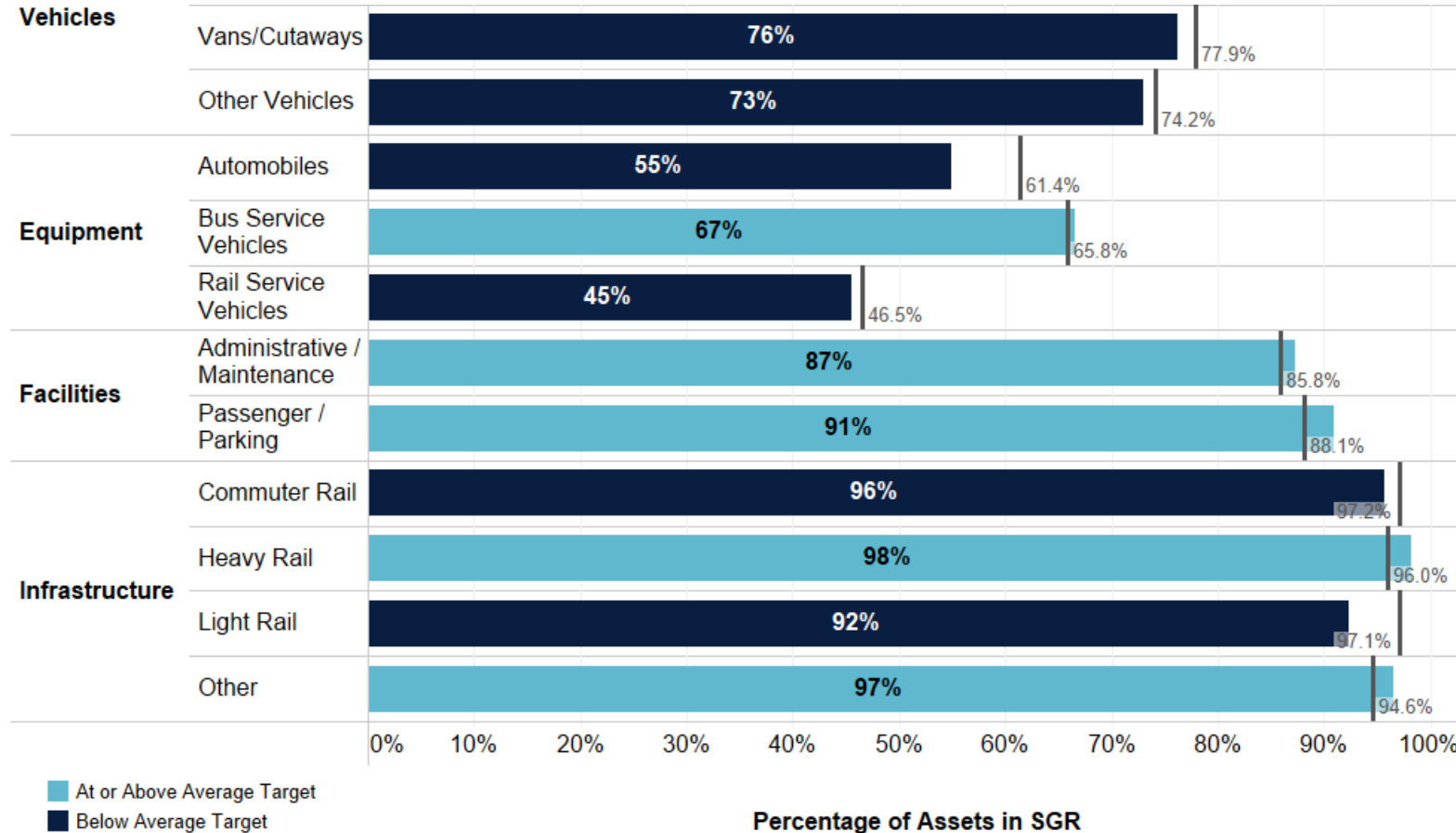
Asset Category	Total Assets	Assets with Capital Responsibility	% in SGR in 2021	<i>% in SGR in 2020</i>
Revenue Vehicles	168,235	145,731	80.1%	79.8%
Equipment (Service Vehicles)	31,202	30,996	63.4%	63.8%
Facilities	14,094	11,938	89.6%	88.9%
Infrastructure (Track Miles)	13,634	11,457	95.7%	96.3%



NTD TAM Summary



2021 TAM Data Summary – comparing percentage in SGR to targets



2021 Average Metrics (Bars) and 2021 Average Targets (Reference Lines) (Capital Responsibility Only)

TAM Program Multiyear Evaluation



- Purpose was to better understand:
 - The effectiveness of FTA's support to transit agencies implementing the TAM Rule
 - The effects of the TAM Rule requirements on individual agencies
 - The effects of the TAM Rule requirements on the transit industry

TAM Program Multiyear Evaluation (cont.)



- Covered 4 years, 2019 – 2022
- Collected information through interviews, focus groups, TAM Program event registration/feedback, National Transit Database (NTD), etc.



TAM Program Multiyear Evaluation (cont.)



- High level findings related to policy:
 - Transit agencies viewed FTA resources favorably, specifically those that supported implementation of the TAM Rule (including peer events, technical assistance resources, and the website).
 - FTA TAM Program could continue to adapt to current challenges by providing up-to-date guidance, communications, and outreach.
 - TAM Rule requirements helped agencies formalize business processes and contributed to more mature TAM Programs.

TAM Program Multiyear Evaluation (cont.)



- High level findings related to organizational change for transit providers:
 - Internal and external coordination improved between staff at transit agencies, metropolitan planning organizations (MPOs), and State Departments of Transportation (State DOTs); this remained an opportunity to grow.
 - Agencies continued to shift their individual focus from compliance to more complex topics including lifecycle analysis, risk-based planning, and investment prioritization.
 - Agencies continued to implement new decision support tools.
 - Challenges related to organizational change included TAM staffing shortages and reduced funding.
 - Agencies focused more resources on the impact of severe climate events and risk-based planning from 2020 through 2022, impacting funding and staffing choices.

TAM Program Multiyear Evaluation (cont.)



- High level findings related to public transit industry:
 - Global trends, such as supply chain disruptions and an increase in unanticipated events like severe weather, negatively impacted the transit industry and may impact progress on TAM-related initiatives.
 - Funding remained an industry-wide constraint throughout the evaluation period and was exacerbated by COVID-19 and the resultant supply chain disruptions.
 - Transit industry professionals continued to request more complex resources and technical assistance support from the TAM Program.

TAM Best Practices Review



- Provides a voluntary best practices review of the effectiveness of recipients' TAM programs, including TAM plans and implementation of those plans.
- This continued support will benefit recipients as they effectively develop, implement, review, and revise TAM plans as required by the TAM regulation
 - Nine (9) Agencies participating
 - Final reports published early 2024



Peer Program

Peer Program



- TAM Peer Working Group
 - Topic: Improving TAM data quality and utility
 - 12-month timeline, 14 participants
 - Meetings once per month



Peer Program



- Virtual Discussion Forums
 - September 2022: TAM and Investment Scenarios
 - May 2023: TAM Considerations for Zero-Emission Bus Fleets
 - Summary of discussion with key takeaways

Peer Program



- Identified Successes: Zero-Emission Bus Fleets
 - Securing Funding
 - Obtaining stakeholder buy-in
 - Organizing transition planning
 - Forming partnerships
 - Conducting block planning



Peer Program



- Identified Challenges: Zero-Emission Bus Fleets
 - Planning around supply chain delays
 - Overcoming upfront vehicle costs
 - Planning for winter weather
 - Adapting bus facilities
 - Staffing and workforce development
 - Other challenges or areas of uncertainty





Upcoming Efforts

TAM 101 Course Update



- Introductory course for those that are new to TAM
- Original National Transit Institute (NTI) course was designed for in-person delivery
 - NTI stopped running it during pandemic
- Currently updating content to offer both in-person and virtual options
- Anticipated Fall 2024



TAMPLATE Update



- TAMPLATE is a technical assistance resource to help transit providers develop TAM plans in alignment with the Final Rule on TAM (49 CFR Part 625)
- Ability to download your most recently published agency data from NTD
- TAMPLATE application is designed for any user, it is likely to be most helpful for
 - Tier II transit providers developing their own individual plans, or
 - Group TAM Plan Sponsors developing plans for subrecipients

Accessing TAMPLATE

www.transit.dot.gov/TAM



The screenshot shows the Federal Transit Administration website. At the top, there is a green banner with a notification: "Find the Latest Information on the Coronavirus/COVID-19 at [FTA's Coronavirus landing page.](#)". Below this is a dark blue header with the United States Department of Transportation logo and the Federal Transit Administration logo. A search bar is located on the right side of the header. Navigation links for "About", "Funding", and "Regulations & Programs" are visible. On the far right, there are social media icons for Facebook, Twitter, LinkedIn, and an email icon, along with a red plus sign for more options.

The main content area has a breadcrumb trail: [Home](#) / [Regulations and Programs](#) / [Asset Management](#). On the left, a sidebar menu lists "Transit Asset Management Overview", "Getting Started", "TAM Plans", "TAMPLATE" (circled in green), and "Performance Management". A large green arrow points from the "TAMPLATE" link in the sidebar to the main content area.

TAMPLATE

Transit Asset Management Planning Assistance Template

[Click Here to Access TAMPLATE](#)

[Click Here to Access TAMPLATE User Manual](#)

TAM Planning Assistance Template (TAMPLATE) is provided as a tool to assist Tier I and Tier II transit providers, and Group TAM Plan Sponsors, in developing their TAM Plans according to best practice and in alignment with requirements of FTA's Final Rule on Transit Asset Management (49 CFR Part 625). **This is not a compliance tool and should only be used for technical assistance**



Planned Updates

- Ability for more than one person to edit a single TAM Plan
- All users able to share their plan with stakeholders/executives
- Infrastructure calculations for inventory and condition corrected





Resources


Resources and Technical Assistance



 [TAM System Handbook](#)

 [TAM Plan Self-Assessment Tool](#)

 [Group Plan Sponsor Workbook](#)

 [TAM Investment Prioritization State of the Practice Synthesis](#)

 [TAM Infrastructure Performance Measure Reporting Guidebook](#)

 [TAM Decision Support Tool State of the Practice Synthesis](#)

 [Facility Performance Measure Reporting Guidebook, V 1.2](#)



Transit Asset Management
Overview

Getting Started

FAQs

TAM Plans

TAMPLATE

Performance Management

TAM for Tribes

FTA Outreach Materials

TAM Events

TERM-Lite

State of Good Repair Programs >

Resources Search

Transit Asset Management

Looking for TAM Resources?

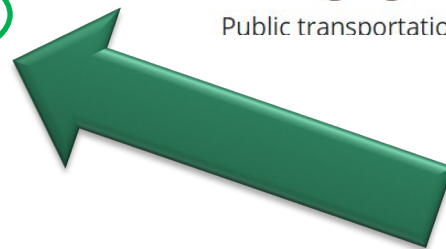
TAM Resources

Click here to view our interactive TAM Resource Table, or contact us at TAM@dot.gov.

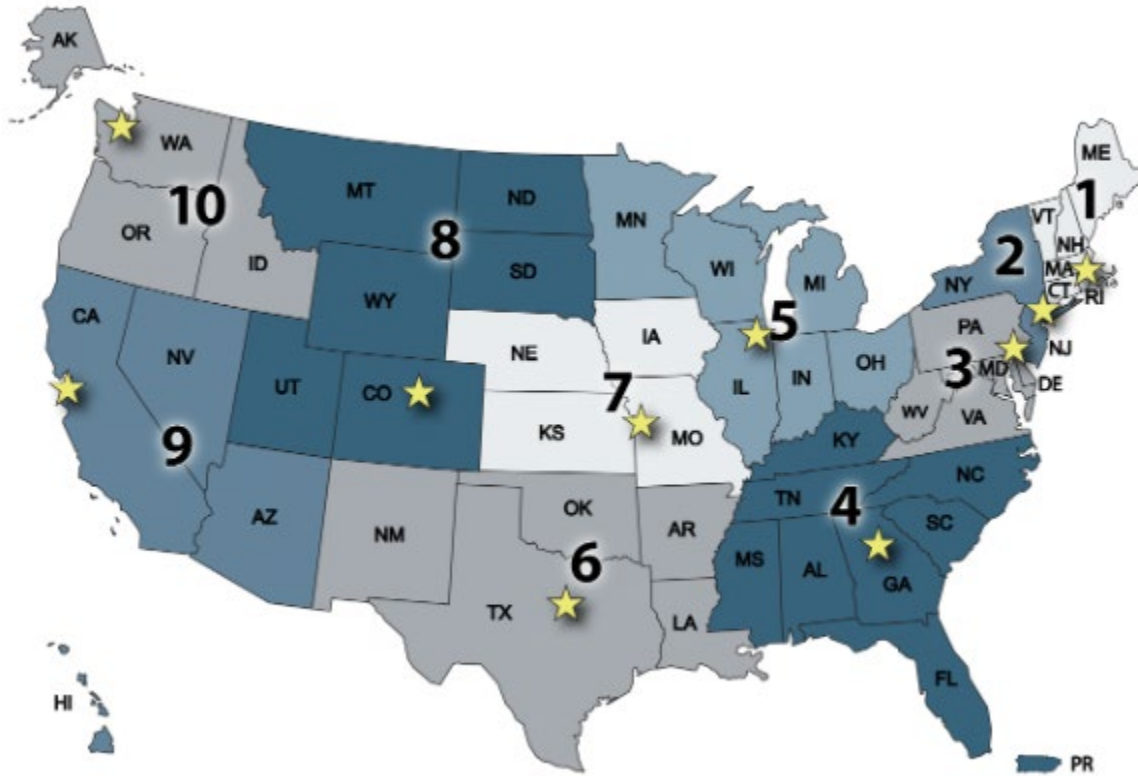


Managing Transit Assets

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



Best Resource: TAM Contacts



Region	Name	Email
1	Chris LaMacchia	C.LaMacchia@dot.gov
2	Sheldon Soleyn	Sheldon.Soleyn@dot.gov
3	Jason Yucis	Jason.Yucis@dot.gov
4	Guanying Lei	Guanying.Lei@dot.gov
5	Lisa Joiner	Lisa.Joiner@dot.gov
6	Eddie Chavarria	Heriberto.Chavarria@dot.gov
7	Bill Kalt	William.Kalt@dot.gov
8	Ranae Tunison	Ranae.Tunison@dot.gov
9	Susan Ko	Susan.Ko@dot.gov
10	Abhishek Koirala	Abhishek.Koirala@dot.gov

Questions?



- Visit the FTA TAM website: www.transit.dot.gov/TAM
- Contact the TAM team: TAM@dot.gov
- TAM Manager: Tamalynn Kennedy, Tamalynn.Kennedy@dot.gov





Q&A





Thank you!

transit.dot.gov/TAM | TAM@dot.gov





[TRANSIT.DOT.GOV](https://www.transit.dot.gov)



Lunch Break (1 hour & 15 minutes)





Exploring Zero Emission Fleets Panel





Exploring Zero Emission Fleets Session

2023 FTA TAM Roundtable

Scott Korth – Transit Grants Administrator

Madison Metro Transit Snapshot

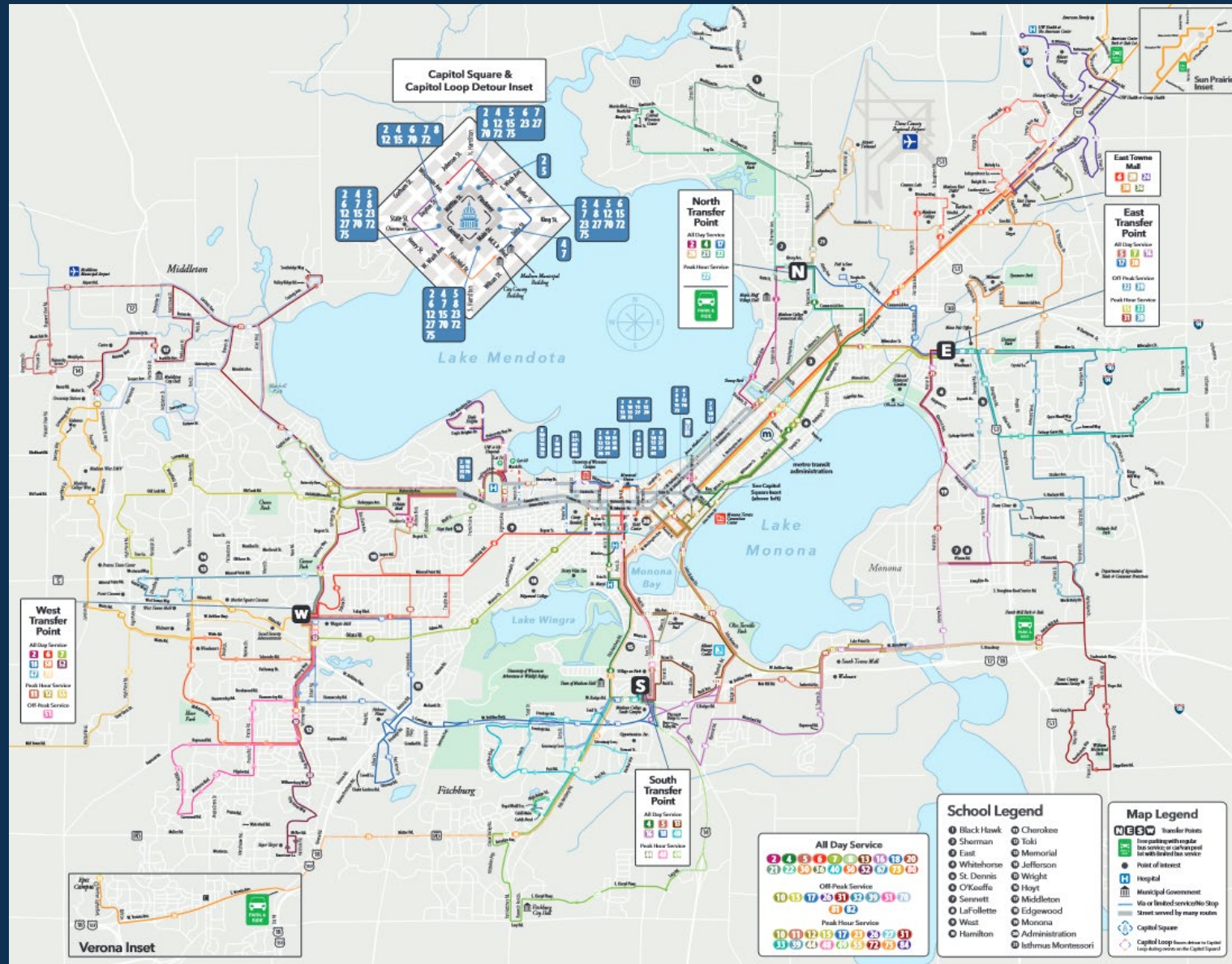
- Department of the City of Madison, Wisconsin
- Provides transit service across a 72 square-mile urban area
- Tier 1 Agency with a Fleet of 215 low floor 40 foot buses
 - Majority are diesel, but include 20 hybrid electric & 3 new battery electric buses
- Provided more than 13 million fixed-route & paratransit rides in 2019
- Due to the pandemic ridership dropped to 4.7 million in 2020.
- Ridership improved to 5.4 million in 2021 and about 8.3 million in 2022
 - 76% improvement from 2020 as ridership recovers from the Covid-19 pandemic.



Routes & Stations

- Currently, operating 46 routes, plus university and school service.
 - Weekday, Weekend/Holiday
- 5 transfer locations throughout Madison
 - East, West, North & South Transfer Points
 - Capitol Square
- Over 2,500 bus stop locations throughout Metro service area.

Serves population of 269,840 in Madison per 2020 Census and have service contracts with immediate suburbs: City of Middleton, Fitchburg, Monona, Sun Prairie and Verona that adds an additional hundred thousand served





Transition to Alternative Energy

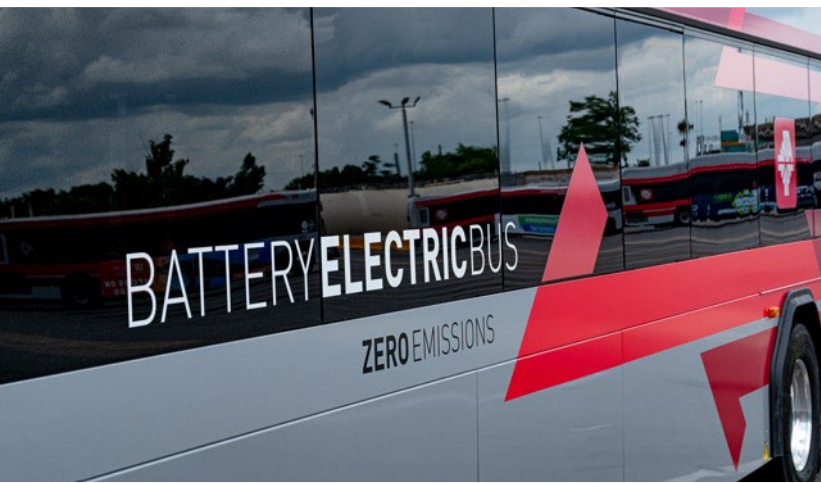
- Started in 2006 with purchase of hybrid-electric buses
 - First of its kind in the area & currently 20 are still active
- In 2016 City focused on Zero Emission Technology
 - Mayor initiative to convert 50% of fleet by 2035
 - Sustainable Madison—Electric Bus Deployment project
- 2017 Section 5339c Low or No Emission Grant Award
 - 3 electric buses, tools and charging infrastructure
 - Partnered with Center for Transportation & Environment (CTE), Proterra and Madison Gas & Electric (MGE)
 - Pandemic and manufacturing issues delayed project over 2 years
 - Deployed buses in 2021 and run mainly peak service

Metro Transit
Electric Bus



Transition to Alternative Energy Continued

- 100% RENEW Madison Report
 - Adopted by Common Council March 2019
 - Scenario adopted: 100% Renewable Energy and Zero Net Carbon by 2030
 - 55% carbon reduction with at least 25% from self-generated renewable energy sources
 - Transit to be no emission or carbon neutral and emphasizes all future procurements to be zero emission vehicles.
- 2022 Bus Rapid Transit Project
 - All Battery Electric: 46 Sixty Foot Articulated Buses
 - On-Route Charging incorporated for first time

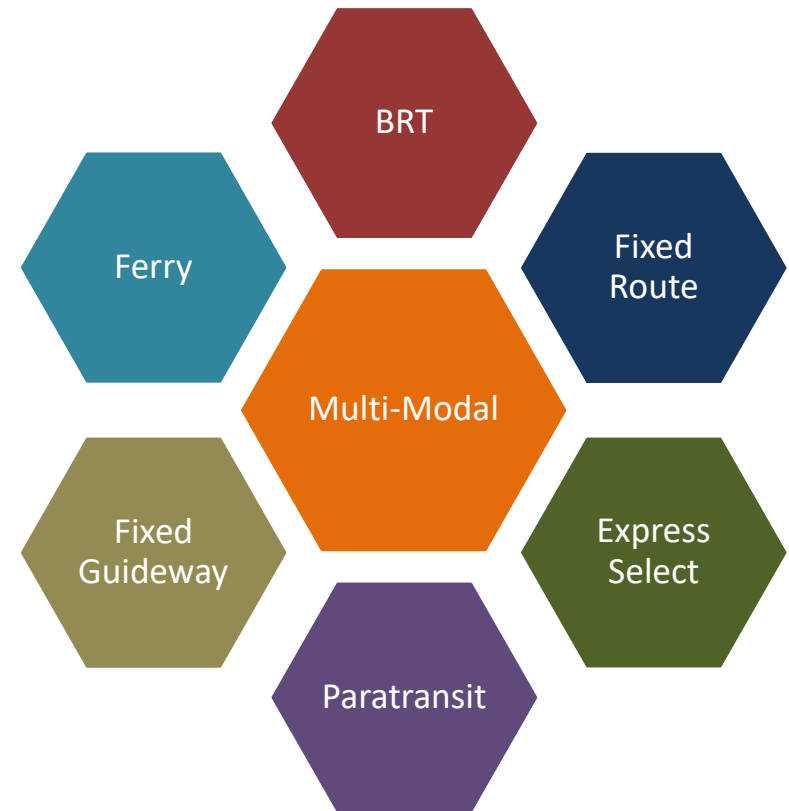


JTA Transitioning to Zero-Emission Fleet



Jacksonville Transportation Authority

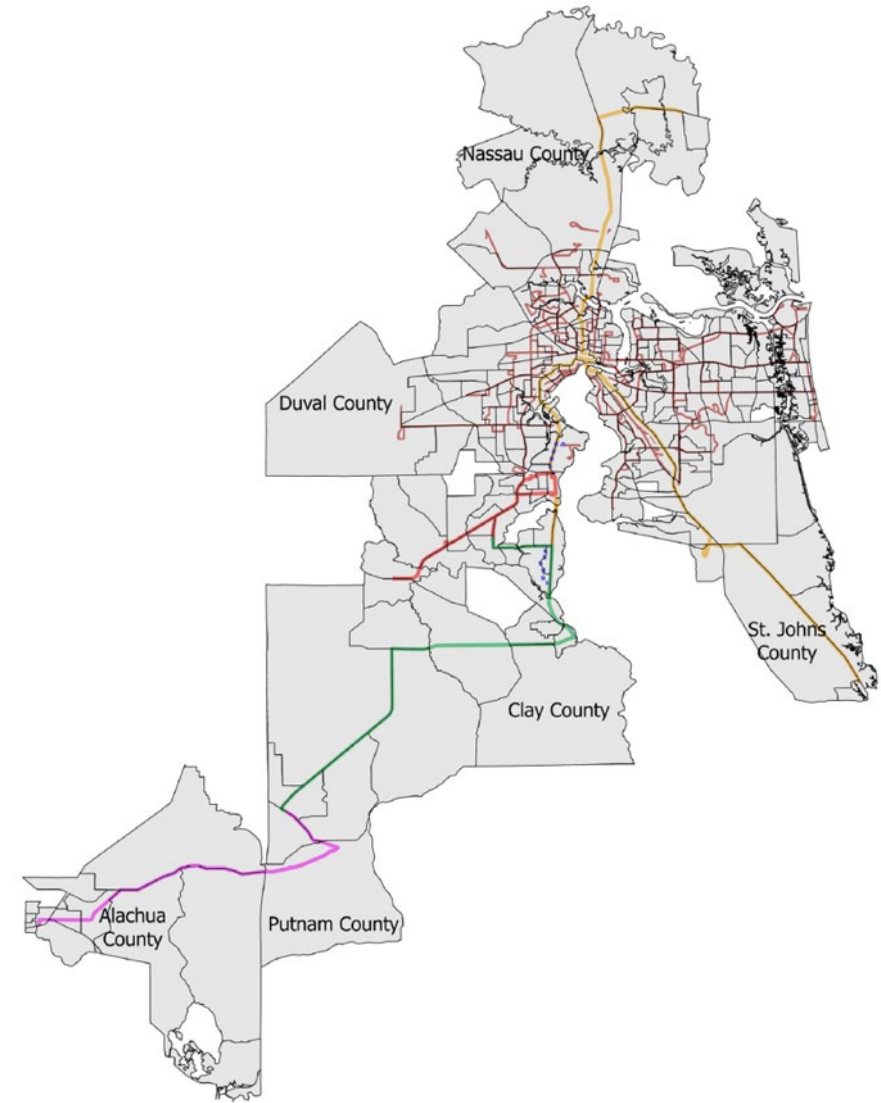
- Independent Agency of the State of FL
 - 1955 – Jacksonville Expressway Authority (JEA)
 - 1971 – JEA becomes the Jacksonville Transportation Authority (JTA)
- Tier 1 Mid Size Agency: Multi-Modal
 - Bus – BRT/Fixed Routes/Express Select (210)
 - Paratransit – Connexion/Connexion-Plus (123)
 - Fixed Guideway – Skyway Monorail (6)
 - St John’s River Ferry (1)
- Road Construction Project (COJ/FDOT)





Jacksonville Transportation Authority

	FY 22
Population	1,108,442
Square Miles	1,180
Fixed Route Miles (Daily)	2,227
Ferry Route Miles (Daily)	47
Fixed Guideway Miles (Daily)	252
Fixed Route Passenger Count	5,131,106
Paratransit Trips	348,131
Fixed Guideway Passenger Count	292,559
Ferry Passenger Count	417,351





Fleet Composition

- BRT
- Fixed Route
- Paratransit
- Express Select
- Fixed Guideway
- Ferry

	Electric	Hydrogen	CNG	Hybrid	Diesel	Unleaded	Total
BRT	0	0	58	0	0	0	58
Fixed Route	2	0	69	7	67	0	145
Paratransit	0	0	0	0	0	123	123
Express Select	0	0	0	0	0	7	7
Fixed Guideway	6	0	0	0	0	0	6
Ferry	0	0	0	0	1	0	1

Journey to Electrification

TAM Roundtable-2023

Boston, MA

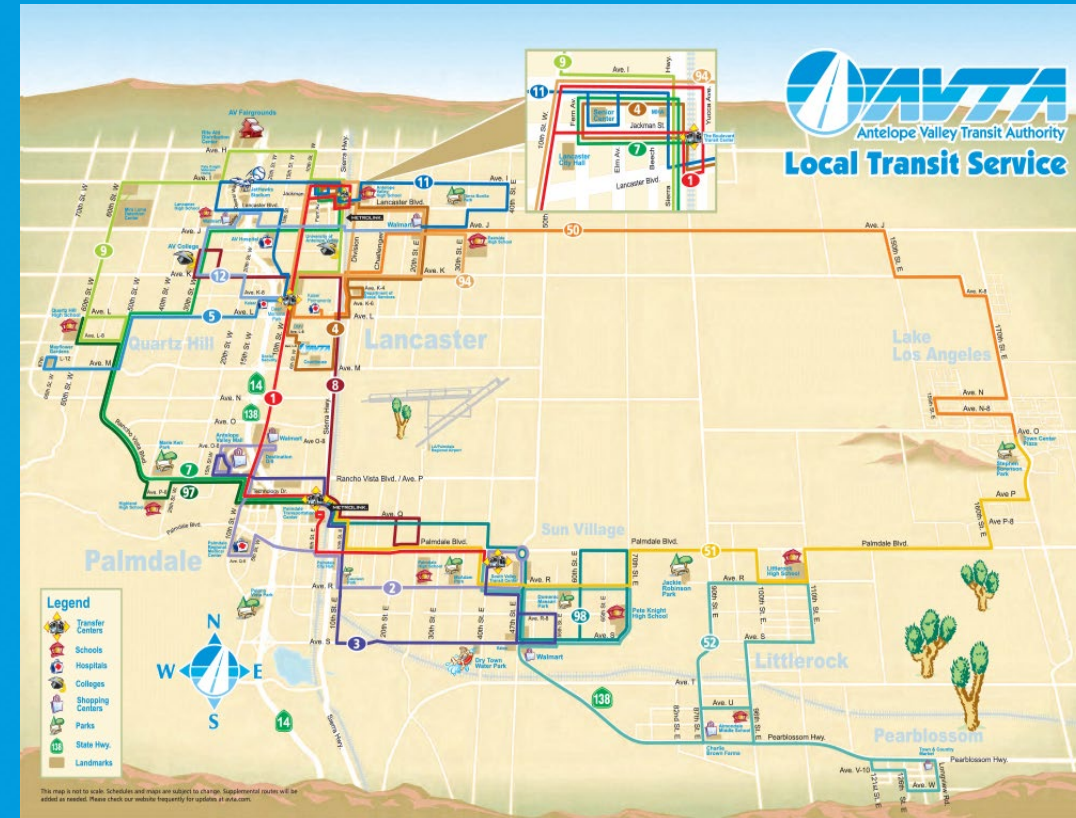


Agency Overview

Tier 2

Local, Commuter, Micro-Transit, and Dial-a-Ride services

- 62 Local transit BYD electric vehicles (models K8S, K9M & K11M)
- 24 Commuter, over the road MCI coaches (model D45 CRT LE)
- 4 Transit centers equipped with 12 WAVE inductive wireless charging pads
- 450,000+ residents
- 13 Local routes connecting Lancaster, Palmdale, and the unincorporated portions of northern Los Angeles County (1,200 square miles)
- 4 Commuter routes to Santa Clarita, West San Fernando Valley, Century City/West Los Angeles, and Downtown Los Angeles





Journey to Electrification

2017-PLAN

Infrastructure overhaul and reimage of electric vehicle chargers vs. fuel (diesel) island. In conjunction to modification of AVTA base, WAVE pads installed at transit centers.



2019-MILESTONES

Data bank of electric miles, kWh consumption and collection.

- 1 Million Electric Miles
- 252,000 Gallons of Diesel saved
- \$ 310,000 Net Savings
- 5.9 Million LBS of CO2 averted
- 18,700 LBS of PM reduced

2022-TRANSITION

AVTA decommissioned its last diesel bus from their contingency plan, 24 Commuter Coaches from manufacture MCI were fully commissioned to connect the Antelope Valley with central Los Angeles and San Fernando.

- 8 Electric paratransit vans
- 8 Electric support vehicles
- Solar Farm- Resilience



2014-VISION

The Board of Directors developed a vision for an all-battery-electric fleet. Two 40' BYD electric, zero emissions pilot program in the high desert communities--Lancaster, Palmdale, and Los Angeles County.

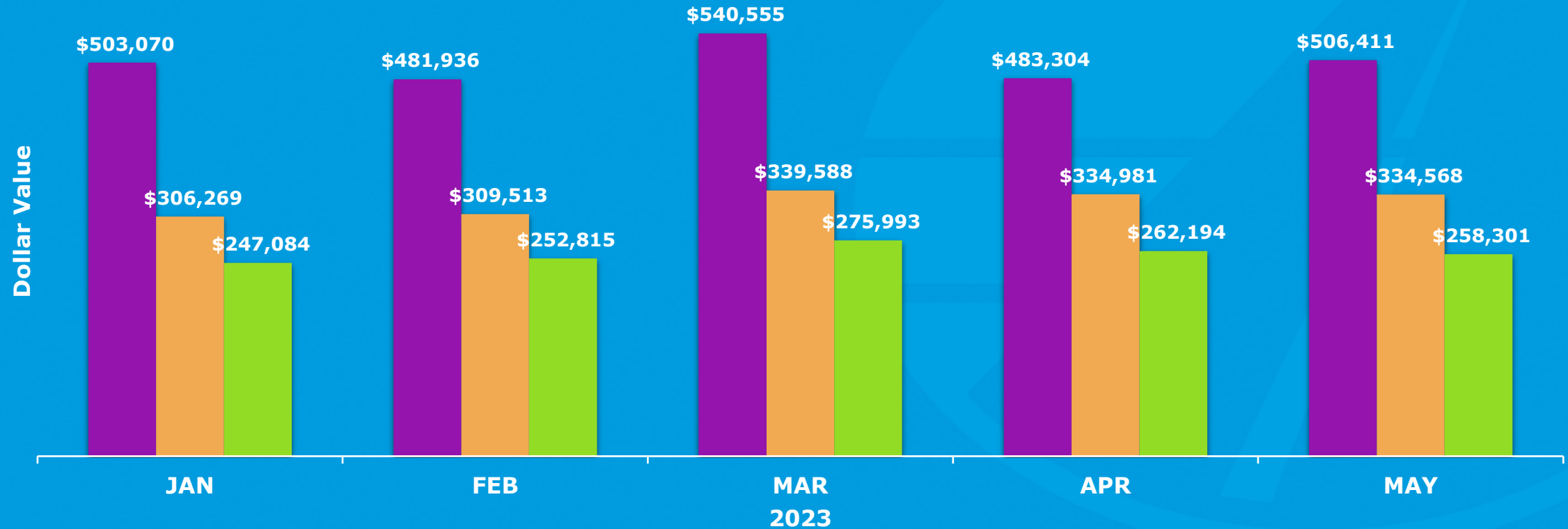


2016-COMMITMENT

February, the Board of Directors voted to purchase up to 85 electric buses from local, BYD manufacture. First phase to become the nation's first battery-electric, zero emissions fleet

COMBINED OPERATING FLEET COSTS ENERGY AND MAINTENANCE

■ Diesel ■ Electric-Currently ■ LCFS Applied



Electric Milestones To Date

- Diesel avoided: 2,498,000 gallons
- CO2 averted: 59,400,000 pounds
- Net savings: \$ 3,065,000
- Electric miles traveled: 11,500,000



Thank you!



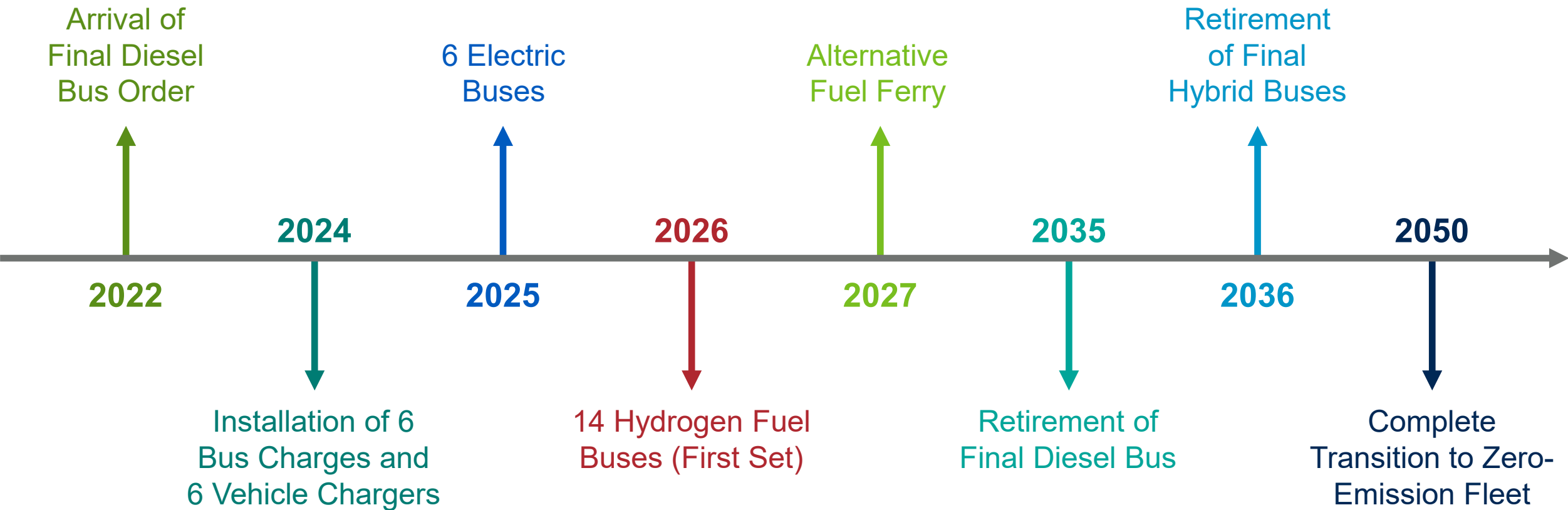


Q&A





Projected Milestones





Issues/Considerations

- Electrical Grid – Upgrade versus Micro Grids
- Charging/Fueling Placements (Decentralization)
- Availability of Alternative Fuels (Hydrogen)
- Permissibility of alternative vehicles of the future (Buy-America/Road Safety Certs)
- Maintenance Training/Certs – Electricians – Additional Safety Concerns of Hydrogen Fuel
- Funding – Extreme increases in cost of alternate fuel vehicles in comparison to current – lack of infrastructure investments
- Reliability – Hurricanes

Exploring Zero Emission Fleets: Discussion questions



1. What is the status of your organization's transition to a zero-emission fleet? Where/how did the process start? Have you made a commitment yet?
2. How do you balance the transition and SGR needs? How does it fit into aspects like investment prioritization?
3. What would you say is your biggest success? Biggest challenge? Response to unintended consequences?





Report Back



Break

**Coffee available in the American Ballroom Foyer
(4th floor)**





Reinvestigating TAM Plan Elements





Planning for Success

Implementing an Asset
Management System in Fresno

Fresno Area Express

- Asset Makeup
 - 121 - 40' fixed route buses (9 BEBs)
 - 57 cutaways operated by NEXT for paratransit
 - ~45 non-revenue fleet vehicles (trucks, sedans, misc.)
- 18 Routes covering ~299 square miles (Fresno/Clovis Metro area)
- Facilities
 - 1 combined admin / maintenance / bus wash / fueling facility
 - 1 combined admin / maintenance paratransit facility
 - 1 customer service center and transfer center
 - ~1500 bus stops
- 8.5 million trips in FY23 (July '22 to June '23)
 - Peaked just under 11 million in FY19



First Steps

Failure to plan is planning to fail

What do we have in place today?

Processes

- Staff notifications
- When do different teams get involved?
- Note taking, record keeping, reporting

Software

- Assetworks (rolling stock only)
- Bus Stop Management (BSM)
- Excel
- Outlook
- FresGo

What are we required to report on?

- FTA (TAM)
 - Tier 1 agency, 9 element TAM Plan
- State
 - Long-life grant funded assets (Prop 1B, TIRCP)
- City of Fresno
 - Tracking of “capital assets”, over \$5,000 in value
- How does (or should) FAX’s TAM Plan address these?



Looking at TAM Plan Elements

1. An inventory of asset(s)
 2. A condition assessment of inventoried assets
 3. Description of a decision support tool
 4. A prioritized list of investments
-
5. TAM and SGR Policy
 6. Implementation Strategy
 7. List of key annual activities
 8. Identification of resources
 9. Evaluation Plan

Needs Analysis

- Is there anything we are outright missing?
 - Clarity
 - Well-defined roles
- 80/20 rule
 - This was going to be an iterative project and knowing that not all needs will immediately be met
- What could be made better?
 - Seeking Department-wide input
 - Linking the existing rolling stock work to similar processes for facilities
- Control scope creep
 - Identifying needs vs. wants

Goals

- Scalability
 - Knew that we likely wouldn't capture all assets up front + ongoing growth
- Ease of implementation
 - Didn't want to get bogged down in a clunky implementation when still trying to understand TAM and how best to utilize it
- Transit-focused
 - Looking for a software designed to meet the needs of our current and future TAM plan(s)

Procurement

How do you eat an elephant?

Available Options

- Researched several software solutions
 - Ebuilder
 - Tyler-Munis
 - Trapeze Enterprise Asset Management (EAM)
- Settled on Trapeze EAM
 - Looked to coordinate work with two other upgrades happening simultaneously
 - TransitMaster + Enterprise Purchasing + Assetworks converting to EAM
 - Contract cost \$343,056.00

Iteration

This is the plan that never ends, it goes on and on my friends...

Never Stop Planning

Project Award to Go-Live

- Staff interviews
 - Virtual
 - Site visits
 - Questionnaires
- Confirm the needs analysis from different angles within the organization

Never Stop Planning (cont.)

- Swim lane diagrams
- Business Process Assessment (BPA) document and review
- Weekly check-ins
- Milestone assessments and reviews

Data

Garbage in, garbage out.

Data Collection

- FAX hired Bureau Veritas to perform collection
- Contract cost \$98,080.48
- Scope of work:
 - Inventory of FAX real property and assets over \$5,000 in value (no rolling stock in this contract)
 - Looking for serials, acquisition date + cost, useful life (either from benchmarks or FAX documents), condition rating (1-5 scale)

Data Loading

- Edited Bureau Veritas data sheets to include items deemed most relevant for EAM
- Inserted this edited data into out-of-the-box data loaders (Excel spreadsheets)
- Referenced swim lanes and employee testimony to make sure what went in would answer the needs of the teams
- Follow ups and edits as necessary to capture the full picture

Testing

The part where you are contractually obligated to break everything!

Testing

- Planned out test scripts
- Assigned testing leads
- Systematized reporting on test pass/fail
- Document improvements along the way
- Test environment
 - Playing in the sandbox

Project Go-Live

To the live environment, and beyond!

Live Environment

- System is now live
- Check-ins on technicians
 - Accounting for technology skill gaps
 - Training for necessary skillset growth
- Phased roll out to broader range of staff
- Recorded trainings and shared knowledge base for access
- Keep asking, how can we make this better?
 - Beginning a new phase of work with individual business units to answer the question "What does EAM need to do for ____?"

My Contact

FAX is an open book!

Kristopher Grey – Projects Administrator

559-621-1539

Kristopher.grey@fresno.gov

2223 G Street, Fresno, CA 93706



Thank you!



Mass Transportation Authority Flint

FTA Roundtable

Paul Mattern
Chief Development
Officer

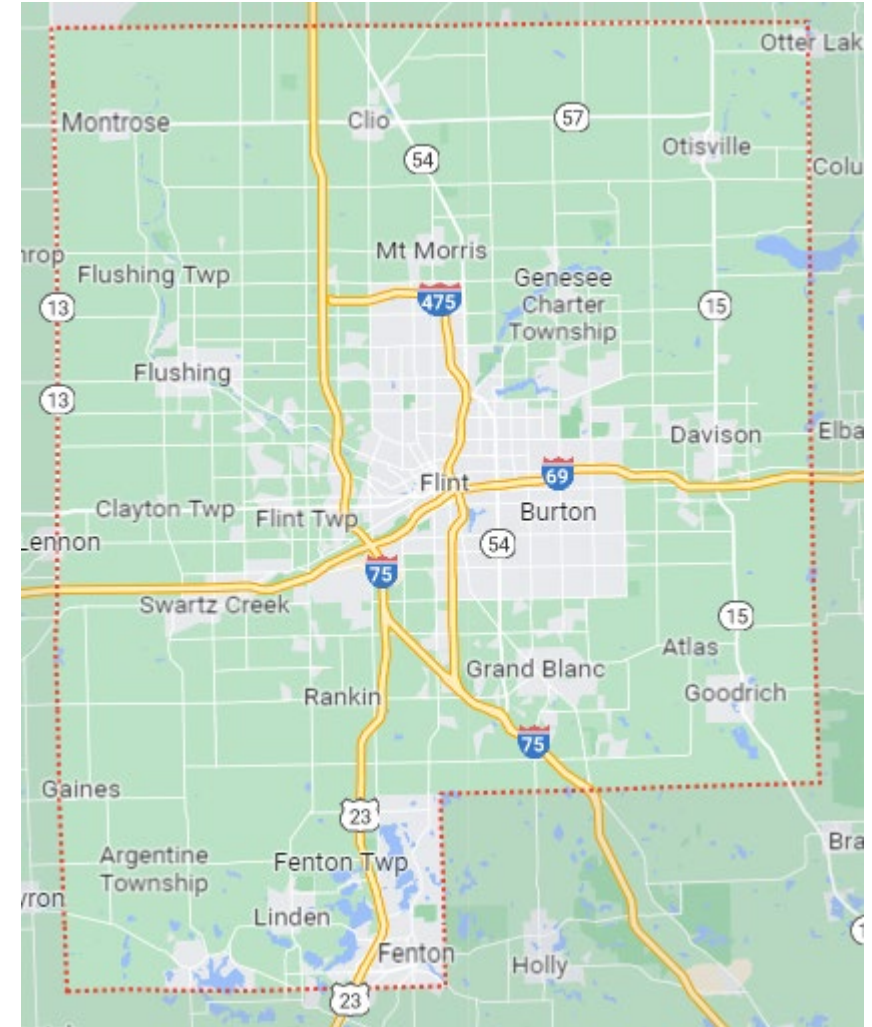


Mass Transportation Authority – Flint MI

Service Area Population: 404,208

2022 Annual Ridership: 2.5M

Fleet Size: ~320



Background

TAM Plan created in 2018.

MTA contracted with a consultant to create our first TAM Plan.

Identified goals for the TAM Program



Continuous Improvement

We treat the TAM Plan as a living document

Evaluate the TAM Program in four key areas:

1. Capital Projects
2. Process Improvement
3. Staffing
4. Metrics



Continuous Improvement

Capital Projects

- Projects focused on moving the TAM program to the desired end state
- Identify projects that must be done in an ordered process
- Identify projects that can be done in at the same time as other projects (share example)



Continuous Improvement

Process Improvement

- Align processes with goals of the TAM Program
- Ensure processes are updated in a timely manner



Continuous Improvement

Staffing

- Align staff with TAM Program roles where current duties fit naturally
- Monitor staffing as the program matures to identify possible new roles that may need to be created
- Sunset any staff positions that are no longer needed as the TAM Program matures



Continuous Improvement

Key Performance Indicators

- Use KPI's to assist decision making
- Use KPI's to drive the program goals





Questions, Comments, Remarks

Paul Mattern

Chief Development Officer

Mass Transportation Authority

pmattern@mtaflint.org





Q&A



Reinvestigating TAM Plan elements session:



Discussion questions

1. How has your organization adapted your TAM Plan so that it can be used as an actionable guiding document, rather than one that sits on a shelf?
2. How have TAM related decision support tools changed at your organization since the rollout of the TAM Rule?
3. What are some examples of positive changes that have occurred at your organization as a result of (formal or informal) continuous improvement efforts related to TAM?





Report Back





Closing





Thank you for attending the 2023 TAM Roundtable!

Don't forget the evaluation in your
folder!

transit.dot.gov/TAM | TAM@dot.gov





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