



**Yosemite Area Regional Transportation System**  
*Public Transit to Yosemite National Park*



*Photo Courtesy of Natalia Austin*

# **TRANSIT ASSET MANAGEMENT PLAN**

**October 2022**

## **INTRODUCTION**

YARTS (Yosemite Area Regional Transportation System) is a public transit agency that provides daily fixed-route service into the Yosemite Valley, with buses entering Yosemite National Park from Merced, Mariposa, and seasonally (typically May through September) from Mammoth Lakes, Sonora, Groveland, Fresno, Madera and Oakhurst- as well as many different gateway communities along the way. YARTS began service in May 2000, and now provides an alternative to driving to an average of 60,000 riders over the last 3 years.

YARTS is currently administered by the Merced County Association of Governments, and offers rides to all visitors to the Yosemite Valley, providing the highest possible level of service regardless of ethnicity, national origin, gender, sexual orientation, or accessibility needs. YARTS contracts with VIA Trailways in Merced to provide operations and maintenance services.

## **MISSION STATEMENT**

YARTS mission is to provide safe, clean, reliable, and comfortable vehicles effectively and efficiently for use by its customers and operators.

## **ABOUT THE TAM PLAN**

YARTS Transit Asset Management Plan (TAM) acts as a guide for information concerning YARTS assets, asset management strategies, long-term expenditure forecasts, and business management processes. Over time the plan will be further improved and become an important tool for YARTS in demonstrating how we achieve our mission. In addition, the plan will portray YARTS' dedication to sustaining asset stewardship, effective use of resources, and commitment to passenger safety. The YARTS TAM Plan is a tactical-level document which focuses its analysis, options development, programs, delivery mechanisms, and reporting mechanisms on ensuring that strategic objectives are achieved.

## **PREVENTIVE MAINTENANCE PROGRAM**

The emphasis of YARTS' maintenance program is preventive rather than reactive maintenance. A strong preventive maintenance program effectively reduces overall maintenance costs by decreasing the number of road calls and the high cost of unpredictable repairs caused by reactive maintenance. YARTS uses a graduated preventive maintenance program (PM) that is based on the manufacturer's recommendations and modified based on experience and the varied terrain and weather conditions buses are operated. Solid PM practices maximize useful life, are cost efficient over the life of the vehicle, and ensures that our vehicles remain in safe operating condition.

Daily inspections of the vehicles are performed by the driver while using the Driver Vehicle Inspection Report (included in the attached State of Good Repair Report). These inspections ensure the safety of all passengers, as well as keep the vehicle in service and free of defects. DVIR reports are critical in maintaining the vehicle to above OEM standards. They are reviewed prior to each vehicle departing the bus facility. Any reported defects are repaired prior to the vehicle beginning its route, or if it is a minor defect that will not compromise safety of the passengers, it is scheduled for delayed maintenance and repair.

A vehicle maintenance software system, Dossier Fleet Asset Maintenance System or DoFAMs, was implemented when the YARTS service began in 2000 and is used for detailed tracking and reporting of vehicle mileage, specifications, parts usage, maintenance inspections, related vehicle repairs, preventive maintenance, and mechanic productivity hours. Capabilities of this system allow for detailed reporting that help decrease vehicle down-time, assist with inventory control, determine vehicle cost per mile and additionally, allows reporting for all mechanical aspects of each YARTS bus. Daily reports are created for maintenance staff to ensure that all maintenance inspections for YARTS vehicles are strictly adhered to.

## **OPERATING CONDITIONS AND MAINTENANCE**

Operating conditions have a direct impact on the level of preventive maintenance needed. YARTS provides service throughout several counties and within a geographical radius of 480 miles. The elevation varies from 200 ft ASL (above sea level) to almost 10,000 feet ASL at its highest point along the Eastern Sierra route at Tioga Pass in Yosemite National Park. In addition to extreme elevation changes, also factored into driving conditions are varied weather conditions, mountainous terrain, and unpredictable natural events such as rockslides, flood and fires.

The following conditions were considered when developing a PM program for YARTS vehicles:

- Service Design
- Length of urban service along the route- Due to the frequency of the stops and traffic congestion in the urban areas, vehicles may require a higher level of PM
- Length of rural service along the route – Infrequent stops in long distance corridors may require less maintenance but contribute to more “wear and tear” on mechanical components.
- Topography –The terrain YARTS operates in is mostly mountainous regions. Due to this changing terrain, parts expected to be affected the most (such as axles and struts) are inspected more frequently than the manufacturer recommends.
- Weather – YARTS operates in varied weather, including, but not limited to; rain, sleet, hail, high temperatures (over 100 degrees Fahrenheit) and snow. Due to the shifting temperatures and sometimes rapidly changing weather conditions, bus components, such as brakes and tires, are inspected and replaced more frequently than the manufacturer recommends.
- YARTS’ vehicles are equipped with cloth seats for the passengers and restrooms. These amenities must be cleaned on a specified schedule and therefore are costlier to maintain, as compared to “traditional” transit vehicles.

Throughout the PM and repair process the tasks performed by maintenance staff are under constant review by the Fleet Manager. This constant review is designed to ensure that decisions are made at the proper level of management.

**PERFORMANCE TARGETS AND MEASURES**

YARTS uses the FTA Guidelines for Asset Management to determine useful life benefit due to the type of vehicle operated. None of the rolling stock has reached the 500,000 mile or 12-year life cycle ULB and the YARTS Park & ride facility will not reach its useful life benchmark until 2040.

<b>Asset Category</b>	<b>Performance Measure</b>	<b>Target</b>
Rolling Stock (all revenue vehicles)	% of revenue vehicles within an asset class that have met or exceeded their Useful Life Benchmark (ULB)	10% FY 2022/23
Rolling Stock (all revenue vehicles)	% of revenue vehicles within an asset class that have met or exceeded their Useful Life Benchmark (ULB)	19% FY 2023/24
Rolling Stock (all revenue vehicles)	% of revenue vehicles within an asset class that have met or exceeded their Useful Life Benchmark (ULB)	19% FY 2024/25
Rolling Stock (all revenue vehicles)	% of revenue vehicles within an asset class that have met or exceeded their Useful Life Benchmark (ULB)	0% FY 2025/26
Rolling Stock (all revenue vehicles)	% of revenue vehicles within an asset class that have met or exceeded their Useful Life Benchmark (ULB)	10% FY 2026/27
Battery Electric or Hybrid Vehicles	% of new battery electric or hybrid vehicle incorporated into the YARTS fleet	25% by 2029
Equipment (non-revenue vehicles)	% of vehicles that have exceeded their ULB	N/A
Facilities (all buildings or structures)	% of facilities with a condition rating below 3.0 on the FTA Transit Economics Model (TERM) Scale	0%

**TAM PLAN GOALS**

YARTS has developed three priority goals as part of transit asset management. In keeping with continuous improvement, YARTS staff will review the effectiveness of the performance measures on an annual basis. These goals are summarized below.

<b>Goals</b>	<b>Objectives</b>
Develop policies and processes to manage all assets	Create a policy that can be incorporated by YARTS' contractors regarding the management of all of YARTS' assets

Systematically and efficiently maintain, renew, and extend the life of transportation assets	Ensure that preventative maintenance is conducted based on OEM recommendations and that assets are maintained in a manner that supports the ULB of assets.
Incorporation of low emissions vehicles into YARTS fleet	Procure at least six (6) over-the-road low emissions diesel coaches by 2023. Procure at least three (3) over-the-road low emissions diesel coaches by 2024
Incorporation of low or no emission vehicles into the YARTS fleet	Procure at least six (3) battery electric or hybrid over-the-road coach buses by 2029 to insure Department of Transportation (DOT) and California Air Resources Board compliance.
Provide passengers with a safe, reliable, and cost-effective transportation system that serves the Yosemite region	Ensure that assets are safe for the passengers, while providing a cost-efficient alternative mode of transportation through preventative maintenance. Keep repair costs minimized through the PM program, thereby reducing the costs passed on to passengers to maintain the fleet.

### **ROLES AND RESONSIBILITIES FOR GOAL ACHEIVEMENT**

The following positions have been identified as responsible parties for monitoring TAM activities and updating the plan as needed. The Executive Director of YARTS shall also serve as the accountable executive for the TAM Plan.

<b>Individual</b>	<b>Job Title</b>	<b>Agency</b>
Stacie Guzman	Executive Director	MPO/MCAG
Christine Chavez	Transit Manager	YARTS
Jose Perez	Assistant Transit Manager	YARTS
Skyler Summers	Assistant Transit Manager	YARTS

### **ASSET PORTFOLIO**

The attached table shows YARTS asset portfolio, including an inventory of all YARTS owned properties.

<b>Asset Category</b>	<b>Asset Class</b>	<b>Asset Name</b>	<b>Make</b>	<b>Model</b>	<b>ID/Serial No.</b>	<b>Asset Owner</b>	<b>Age (Yrs.)</b>	<b>Replacement Cost/Value</b>
-----------------------	--------------------	-------------------	-------------	--------------	----------------------	--------------------	-------------------	-------------------------------

Facilities	Park & Ride	Park & Ride	n/a	n/a	n/a	YARTS	11	\$885,638.72
Rolling Stock	Bus	Bus 501	MCI	D4500	1M8PDMEA1AP059404	YARTS	12	\$320,381.18
Rolling Stock	Bus	Bus 502	MCI	D4500	1M8PDMBA3CP059864	YARTS	11	\$388,848.02
Rolling Stock	Bus	Bus 503	MCI	D4500	1M8PDMBA5CP059865	YARTS	11	\$388,848.02
Rolling Stock	Bus	Bus 504	MCI	D4500	1M8PDMBA7CP059866	YARTS	11	\$388,848.02
Rolling Stock	Bus	Bus 505	MCI	D4500	1M8PDMBA1CP012686	YARTS	10	\$415,916.40
Rolling Stock	Bus	Bus 506	MCI	D4500	1M8PDMBA3CP012687	YARTS	10	\$415,916.40
Rolling Stock	Bus	Bus 507	MCI	D4500	1M8PDMBA5CP012688	YARTS	10	\$415,916.40
Rolling Stock	Bus	Bus 508	MCI	D4500	1M8PDMBA7CP012689	YARTS	10	\$415,916.40
Rolling Stock	Bus	Bus 509	MCI	D4500	1M8PDMBA7FP013510	YARTS	7	\$527,820.69
Rolling Stock	Bus	Bus 510	MCI	D4500	1M8PDMBA9FP013511	YARTS	7	\$527,820.69

**PREVENTIVE MAINTENANCE SCHEDULE- ALL ASSETS**

YARTS strictly adheres to the following maintenance schedule for all vehicles and Park & ride facility.

Asset Category/Class	Maintenance Activity	Frequency	Avg Duration (Hrs.)	Cost
45ft Bus	AC Systems/ PM Inspection	Annual	1	\$1,650
45ft Bus	Air Bags	5 yr. replacement schedule	6	\$3,850
45ft Bus	Air Dryer Service	Every 60,000 miles	1	\$300
45ft Bus	Air Filter Service	Annual	1	\$450
45ft Bus	A-Service (safety inspection)	45 days or Every 4000 miles	2	\$700
45ft Bus	B- Service (Oil, Filter and Lube)	Every 15,000 miles	4	\$1,100
45ft Bus	C-Service (Transmission service)	Every 75,000 miles	4	\$1,650
45ft Bus	Cooling System	Annual	2	\$550
45ft Bus	Crankcase Filter	Annual	2	\$550

45ft Bus	D-Service (Differential service)	Every 75,000 miles	5	\$1,350
45ft Bus	Diesel Exhaust Fluid (DEF) Filter Replacement	Every 50,000 miles	2	\$550
45ft Bus	Fire Suppression System	Annual	1	\$300
45ft Bus	Fuel Filter Replacement	Every 36,000 miles	1	\$300
45ft Bus	Power Steering Service	Every 36,000 miles	1	\$300
45ft Bus	Wheel Bearing Replacement	Every 100,000 miles	3	\$1,100
45ft Bus	Wheelchair Lift Inspection	Every 45 days	1	\$150
45ft Bus	Wheelchair Lift Service	Annual	2	\$550
Park & Ride	General Landscaping	Monthly	5	\$1350
Park & Ride	Camera System Upgrade	Bi-Annually	1	\$1950
Park & Ride	Backflow Testing	Annually	1	\$140

**YARTS STATE OF GOOD REPAIR REPORT**

The attached YARTS State of Good repair report was created and implemented in 2022 and addresses disposal and replacement strategies for all YARTS assets.