

Transit Asset Management Plan

Unitrans

City of Davis & ASUCD

Updated: May 3, 2021

Under the FAST Act and MAP-21, “transit providers are required to submit an annual narrative report to the National Transit Database (NTD) that provides a description of any change in the condition of its transit system from the previous year and describes the progress made during the year to meet the targets previously set for that year. This report is intended to meet the requirement.

Agency Information

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Accountable Executive: Jeff Flynn, General Manager

Prepared by Jeff Flynn, General Manager, on November 24, 2020 for Reporting Year 2020.

Signature Page

I, Jeff Flynn as the accountable executive, hereby certify that I have reviewed Unitrans’ Transit Asset Management Plan. The information in this plan is consistent with Unitrans’ operating and capital plans and budgets.

A handwritten signature in black ink, appearing to read "Jeff Flynn", with a long horizontal line extending to the right.

Jeff Flynn
General Manager

FY2019-20 Update & Summary

The following summarizes major updates to the TAM plan through June 30, 2020 for the University of California, Davis doing business as Unitrans.

Revenue Fleet

Through June 30, 2020 has a revenue fleet consisting of four vintage double decker buses, four modern double decker buses, 45 single decker buses, and two cutaway vehicles or 55 vehicles.

Updates:

Unitrans received five new single deck buses in FY2019-20 which will retire five single deck buses that are past their useful life. The five old buses will be sold in summer/fall 2020 reducing the fleet size to 50 vehicles.

- Single deck fleet: 18% exceed useful life benchmark of 12 years. Eight of 45 buses exceed their useful life. Five replacement buses arrived in FY2019-20 and five buses exceeding their useful life will be retired in summer/fall 2020.
 - FY2020-21 Target is 7.5%.
- Double deck fleet: 50% exceed useful life benchmark of 14 years. All four vintage buses exceed their useful life and all four modern double deckers are within their useful life. Two vintage buses are being rehabilitated to get to a state of good repair and two are active. The vintage buses are expected to be beyond their useful life by design.
 - FY2020-21 Target is 50%.
- Cutaways: 0% of vehicles exceed their useful life benchmark of ten years. Two total vehicles.
 - FY2020-21 Target is 0%.

Progress:

In addition to the five replacement buses, Unitrans started a rehabilitation program on 13 2009 single deck buses to extend the useful life of those buses by six years each. The rehabilitation program will be completed in late 2021/early 2022. Unitrans is also seeking to replace 14 buses from 2006 and 2009 in the coming three years with battery electric buses. Funding is secured for 11 of the 14 buses.

Challenges:

Stable, reliable funding is an on-going challenge for vehicle replacement.

Non-Revenue Fleet

Unitrans has made significant progress over the last three years in replacing older, unreliable non-revenue vehicles. Unitrans currently has a fleet of ten non-revenue vehicles. Automobiles have a useful life of eight years and trucks/other rubber tire vehicles have a useful life of ten years.

Non-revenue fleet: 10% of the non-revenue fleet exceeds its useful life benchmark.

- FY2020-21 Target is 0%.

Updates/Progress:

In FY2019-20, Unitrans purchased a replacement service truck and a replacement sports utility vehicle. The service truck that was replaced was disposed and the vehicle replaced by the sports utility vehicle will be disposed of in summer/fall 2020. This will reduce the fleet size to a total of nine vehicles.

Challenges:

Stable, reliable funding is an on-going challenge for vehicle replacement.

Infrastructure

Unitrans has four facilities: an Operations & Maintenance Facility, a CNG Fueling Facility, a Fuel Island, and a Bus Wash.

Facilities under a “Three” rating are prioritized for rehabilitation or replacement. Facilities are maintained by facility maintenance workers and evaluated for condition. Of the facilities, the bus wash is beyond its useful life and needs replacement. In addition, the Operations and Maintenance Facility pavement is in a state of disrepair and needs rehabilitation.

Infrastructure: 25% of the infrastructure is rated at less than a “three”.

- FY2020-21 Target is 25%.

Updates/Progress:

Unitrans secured funding to replace and rehabilitate half of the facility pavement as part of the battery electric bus infrastructure project. The worst pavement will be repaired by the end of 2020. Unitrans also secured initial funding for a replacement bus wash and started planning work for a new facility. The bus wash is planned for replacement by FY2023-24.

Challenges:

Stable, reliable funding is an on-going challenge for facility rehabilitation and improvements.

Extenuating Circumstances

This year, the COVID-19 pandemic presented a large challenge for Unitrans. The pandemic delayed the start of our facility rehabilitation project and the rehabilitation project for 13 2009 buses. The facility project is back on track in FY2021 however the bus rehabilitation project will continue until late 2021/early 2022 due to the delays.

Additional Information and Supporting Documents

The following report provides the full Unitrans TAM Plan including detailed tables of vehicle and facility assets.

Chapter I – Introduction

Introduction

The City of Davis is located at the southern end of the Sacramento Valley, along the Putah Creek near the Solano County line. Davis is approximately 12 miles west of Sacramento, 8 miles south of Woodland, and 5 miles northeast of Dixon. Davis is Yolo County’s largest city with a population of approximately 68,000 in 2018 and home to the county’s largest employer – the University of California, Davis (UC Davis).

Unitrans is the City of Davis and UC Davis’ local public transit service operating 18 lines ranging from 15 minute to 60 minute frequencies approximately 18 hours a day, 360 days a year. Unitrans has a fleet of 48 revenue vehicles and an Operations and Maintenance Facility located at 800 Garrod Drive, Davis, California on UC Davis campus. The service is operated by the Associated Students of UC Davis (ASUCD) and is a partnership between the City of Davis and UC Davis with each party providing approximately half of the annual operating funding. In FY2018, Unitrans transported over four million passengers.

Unitrans is one of the nation’s largest student operated bus agencies and employees over 200 UC Davis undergraduate students and 20 career staff.

Performance Targets & Measures

The following chart shows the performance targets for each asset class – rolling stock, non-revenue vehicles, and facilities. For rolling stock and non-revenue vehicles, the performance targets are based on useful life years. For useful life benchmarks, Unitrans uses a 12 year benchmark for standard single deck buses in line with FTA funding eligibility guidelines. Unitrans does not use a 14 year useful life benchmark for the regular single deck fleet as this denotes when the vehicle enters the state of good repair backlog as stated in FTA Circular 5010.1E. For double decker buses and cutaways, Unitrans uses the FTA Default Useful Life Benchmark as the modern double decker buses are generally heavier duty than a standard 40’ single deck bus and Unitrans’ duty cycle for cutaways is in line with FTA useful life standards. For facilities, targets are based on condition assessments on a 1-5 scale as outlined and defined by the Federal Transit Administration as noted below.

Rating	Condition	Description
5	Excellent	No visible defects, new or near new condition, may still be under warranty if applicable
4	Good	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective; but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

Source: FTA TAM Facility Performance Measure Reporting Guidebook: Condition Assessment Calculation (April 2017)

Unitrans' vintage double decker fleet far exceeds its assigned useful life. These vehicles have been in service for 70 or more years each and are extensively maintained and as well as rehabilitated each summer. Non-revenue vehicles have an assigned useful life but may exceed their TAM performance targets based on funding and condition.

Useful life and condition assessments are used to ensure that customers experience vehicles in good repair so that they feel confident with the safety and reliability of Unitrans service. Targets are established through this document to provide guidance on capital replacement and improvement projects.

Unitrans (City of Davis) - Transit Asset Management (TAM) Performance Targets

Asset Category	Asset Class	Fleet Size	Vehicle age	Useful Life Benchmark	FY 2019/20 % Exceeding ULB	2021 Target	2022 Target	2023 Target	2024 Target	2025 Target	Notes
Rolling Stock	Bus (BU) – DD 2019	2	1	14 years	0%	0%	0%	0%	0%	0%	
	Cutaway bus (CU) – 2019	2	1	10 years	0%	0%	0%	0%	0%	0%	
	Bus (BU) - Vintage Fleet	4	71	14 years	100%	100%	100%	100%	100%	100%	Vintage double decker fleet will always exceed useful life benchmark. One is under heavy rehabilitation and is not expected to be back in service for 2+ years. One is under rehabilitation and should be back in service by FY2022. Two are active.
	Bus (BU) - Orion 2005	4	15	12 years	100%	100%	0%	0%	0%	0%	Three of four disposed as of Oct. 2020. Remaining bus to be disposed of by end of 2020.
	Bus (BU) - Orion 2006	4	14	12 years	100%	100%	100%	100%	100%	100%	Buses will be used as training buses
	Bus (BU) - NF 2009	25	11	12 years	0%	0%	50%	50%	50%	50%	Mid-life rehab underway for 13 buses (prolong to 2026). 12 buses to be replaced in next 1-2 years.
	Bus (BU) - DD 2009	2	11	14 years	0%	0%	0%	0%	100%	100%	May rehabilitate in FY2024
	Bus (BU) - NF 2014	3	6	12 years	0%	0%	0%	0%	0%	0%	
	Bus (BU) - NF 2016	4	4	12 years	0%	0%	0%	0%	0%	0%	
	Bus (BU) – NF 2020	5	0.5	12 years	0%	0%	0%	0%	0%	0%	
Equipment	Automobiles (non-revenue S10)	1	0.5	8	0%	0%	0%	0%	0%	0%	Purchased replacement for S5.
	Automobiles (non-revenue S6)	1	7	8	0%	0%	0%	100%	0%	0%	Vehicle replacement budgeted for FY2022
	Automobiles (non-revenue S7)	1	3	8	0%	0%	0%	0%	0%	0%	Vehicle is new and will not need replacement in TAM horizon.
	Automobiles (non-revenue S115)	1	9	10	0%	0%	100%	100%	100%	0%	Purchased used for support vehicle
	Automobiles (non-revenue S116)	1	7	10	0%	0%	0%	100%	100%	100%	Purchased used for support vehicle
	Trucks & Other Rubber Tire Vehicles (S8 Gem Polaris)	1	1	10	0%	0%	0%	0%	0%	0%	Purchased in FY2019
	Trucks & Other Rubber Tire Vehicles (S9 Taylor Dunn)	1	1	10	0%	0%	0%	0%	0%	0%	Purchased in FY2019
	Trucks & Other Rubber Tire Vehicles (S117 Service Truck)	1	1	10	0%	0%	0%	0%	0%	0%	Purchased in FY2019
	Trucks & Other Rubber Tire Vehicles (S118 Facilities Truck)	1	0.5	10	0%	0%	0%	0%	0%	0%	Out of service. Up for auction in FY2020.
	Automobiles (non-revenue S5)	1	14	8	100%	100%	0%	0%	0%	0%	Being disposed of in 2020-21.
Facilities (if applicable)	Operations & Maintenance Facility	1	1984 2004	3.0 condition rating	0%	0%	0%	0%	0%	0%	Current rating is a 4 overall. Parking and pavement is rated as a 2 and is in need of replacement. 50% of paving being replaced now. Completion in 2020.

CNG Fueling Facility	1	1995 2019	5.0 condition rating	0%	0%	0%	0%	0%	0%	0%	Compressors replaced in FY2019 and facility improved.
Fuel Island	1	1985, 1995, 2004	3.0 condition rating	0%	0%	0%	0%	0%	0%	0%	Currently rated as a 3. Pavement around fuel islands currently being replaced. Completion in 2020.
Bus Wash	1	1990	2.0 condition rating	100%	100%	100%	100%	100%	100%	0%	Currently rated as a 2. Facility is in need of upgrades or replacement. Preliminary assessment to replace underway. Planned for replacement in FY2021-22.

Chapter 2 – Capital Asset Inventory

Unitrans owns 51 revenue vehicles (or rolling stock), has 10 non-revenue or support vehicles, and has one primary operations and maintenance facility comprised of a main building for operations and maintenance, a bus wash facility, a fueling island, and a fueling facility. A majority of Unitrans' rolling stock is comprised of 40' single decker buses but Unitrans also has two cutaways, four vintage double decker buses dating back to as early as 1950, and four modern double decker buses. Unitrans prioritizes fleet rehabilitation and replacement in our capital program.

Asset Inventory Listing Summary Table

ASSET CLASS: ASSET CLASS NAME	<u># OF ASSETS</u>	<u>AVG. AGE</u>	<u>AVG. ODOMETER</u>	<u>AVG. VALUE</u>
	Sum	Avg	Avg	Sum
BU - Bus	49	9.72	201,356	\$628,309
CU - Cutaway bus	2	1.50	--	\$146,271
Automobiles	4	5.7	60,473	\$37,667
Trucks & other rubber tire vehicles	6	3.3	17,215	\$32,000
Vehicle Washing Facility	1	31	-	\$400,000
Vehicle Fueling Facility	2	9.3	-	Included below
Combined Administrative and Maintenance Facility	1	15.7	-	\$20,000,000
Facilities Summary	4	18.2		\$20,400,000

Asset Inventory Table

Unitrans owns all its assets. See Asset Inventory Table on the following table.

Chapter 3 – Condition Assessment

Asset Condition Summary

Unitrans strives to fully fund our rolling stock replacement in order to ensure our vehicles are at or below their useful life. Vehicles cost more to maintain as they age and provide a poorer customer experience over time. Providing a reliable, comfortable, and cost efficient maintenance and operations program is critical to Unitrans service stability. Of the 2005 (eight buses) and 2009 fleet (25 buses), funding is in place to replace all 2005 buses, rehabilitate 13 of the 2009 buses, and replace nine of the remaining 2009 buses. Unitrans is pursuing funding to replace the three unfunded buses. Our vintage double decker fleet has exceeded its useful life however these are extensively maintained and rehabilitated based on need.

Unitrans has typically not performed rehabilitation or rebuild projects to extend the useful life of rolling stock however with the 2009 New Flyer fleet of 25 buses, Unitrans plans on rehabilitating 13 of those buses to extend the useful life of the asset by six years each. The remaining buses are planned for replacement with electric buses pending funding securement.

The bus wash facility is serviceable but in need of major rehabilitation and upgrades or replacement. Staff is securing funding for this project and hopes to start construction in FY2021-2022.

See Asset Class Performance chart, rolling stock, non-revenue vehicle, and facility condition assessments on the following pages.

Asset Class Performance Table

Asset Class: Asset Class Name	# of Assets	Avg. Age	Avg. Odometer	Avg. Rating	Avg. Value	% Past ULB	% Below 3.0
Revenue Vehicle / Rolling Stock							
BU - Bus	49	9.72	201,356		628,309	16.3%	0%
CU - Cutaway bus	2	1.50			146,271	0.0%	0%
Equipment							
Automobiles	4	5.7	60,473		37,667	25%	0%
Trucks & other rubber tire vehicles	6	3.3	17,215		32,000	0%	0%
Facilities							
Vehicle Washing Facility	1	31		2	400000	100%	100%
Vehicle Fueling Facility	2	9.3		4	600000	0%	0%
Combined Administrative and Maintenance Facility	1	15.7		4	2000000	0%	0%

Revenue Vehicles Condition Table

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Non-Revenue Vehicle Condition Table

Insert here

Facilities Condition Table

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Chapter 4 – Decision Support

Decision Support

Unitrans relies on staff expertise and regular, diligent planning primarily to inform capital asset management decisions. Below are the tools and/or processes in place to support investment decision-making, including project selection and prioritization.

Process/Tool	Brief Description
ThingTech	A software system that uses asset inventory and condition information to generate condition forecasts.
Maintenance Checks and Review	As recommended by the vehicle manufacturers, Unitrans follows a strict preventative maintenance schedule and daily safety checks. Facilities are also routinely maintained and checked internally and by UC Davis Facilities staff. This information helps inform budgeting and planning.
Annual Budget	In annual budget process, staff reviews capital needs and budgets accordingly. Capital expenditures are updated annually in Unitrans' 10 year capital plan.
Short Range Transit Plan (SRTP), 10 Year Capital Plan, Other Planning Documents	Unitrans has an approved SRTP and annually updates the 10 Year Capital Plan during the annual budget process. These planning documents are used to inform and support asset management.
Program of Projects	Unitrans works with the Davis City Council, Unitrans Advisory Committee, ASUCD Senate, and others to create a program of projects for the regional Capital Improvement Plan. These require elected official approval, public notice, and at times, public hearings.

Investment Prioritization

Unitrans strives to maintain our fleet and facilities in a state of good repair within budgetary constraints. Unitrans prioritizes fleet investment above other investments. Fleet is assessed on an on-going basis through regular preventative maintenance checks and daily driver safety checks. Facilities are regularly maintained and assessed by internal maintenance personnel at Unitrans and with the University of California facilities staff.

A combination of age and condition are used to determine replacement and rehabilitation for fleet and facilities. Rolling stock is on a replacement schedule in line with FTA guidance however vehicles may be retired in advance or rehabilitated if conditions warrant as determined by Unitrans' Maintenance Department and operating and capital budgets. Facility conditions are reviewed regularly by Maintenance staff and investment priorities are outlined in our annual budgeting process based on need. Fleet and facilities improvements are in Unitrans' 10 year capital plan and short range transit plan.

Addressing Unplanned Maintenance

Unitrans budgets for unplanned fleet and facilities maintenance based on historical averages. Operating funds are set aside for this purpose. Unitrans relies on internal staff, third party contractors through standard FTA compliant contracting procedures, and on-call contracts for scheduled and un-scheduled maintenance needs. For capital purchases, these are typically more regimented and planned.

Overhaul Strategy

Unitrans has not typically performed heavy overhaul to extend vehicle life in the recent past. With our 2009 fleet though, Unitrans plans to overhaul 13 buses and replace 12 buses. Unitrans has secured approximately 100% of the funding needed for the overhaul project. We expect this to increase the life of the buses another six years each. Moving forward, Unitrans will be assessing overhauls in order to extend the useful life of vehicles.

Asset Category	Asset Class	Overhaul Strategy
Revenue Vehicles	BU - Bus	Mid-life overhaul - rebuilds bus engine, transmission and cooling system, and rehabilitation and reconfiguration of interior to increase capacity and improve ADA amenities. Cost is approximately \$200,000 per bus and is expected to be completed by December 2021.

Acquisition and Renewal Strategy

Unitrans typically seeks to join bus procurements from larger agencies in order to take advantage of cost savings in the procurement process and vehicle quantities. Unitrans is currently part of an Omnitrans procurement for new buses and regularly engages with the transit community for new joint procurement opportunities.

Unitrans aggressively pursues securing discretionary grant funding to replace, rehabilitate, and expand fleet and facilities with a focus on vehicle replacement. In addition, Unitrans reserves part of its annual FTA 5307 formula funds for the capital program and receives approximately \$400,000 annually in a dedicated UC Davis student fee for capital funding.

Asset Category	Asset Class	Acquisition and Renewal Strategy
Revenue Vehicles 2005-2006 Fleet	BU - Bus	Two 40' Electric Buses in 2020-2021 to replace remaining two 2006 buses. Unitrans is included in a joint procurement for electric buses through the California Department of General Services department. Funding is secured. These buses are expected in Fall 2021.

Revenue Vehicles 2009 Fleet	BU - Bus	Unitrans is included in a joint procurement for electric buses through the California Department of General Services department. For 2021-2023, Unitrans is seeking to purchase 12 electric buses. Currently nine buses are funded. Buses will be replaced in the next 1-3 years.
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Chapter 5 – Investment Prioritization

Proposed Investments

Current investment priorities are planned based on age for rolling stock and equipment and condition for facilities. Below is a summary of our current investment priorities with planned replacement years. High priority items are currently underway and medium priority ones are in the planning and finance phase. These projects will become a higher priority as time progresses.

Project Year	Asset Category	Asset Class	Size	Age	Useful Life Benchmark	Cost	Priority
FY2021	Rolling Stock	Bus (BU) – Orion 2006	2	14	12 years	\$1,500,000	High (Funded)
FY2021-22		Bus (BU) – NF 2009 Rehab Project	13	11	12 years	\$2,000,000	High (Funded)
FY2021-23		Bus (BU) - NF 2009	12	11	12 years	\$12 M	High (Partial Funding)
FY2021	Facilities	Operations & Maintenance Facility (Paving and Stormwater)	1	14	2 (condition rating)	\$3,200,000	High (Funded)
FY2022	Facilities	Bus Wash	1	30	2 (condition rating)	\$400,000	Medium