



2024 Transit Asset Management Plan

TAM Plan Type: Tier II
Accountable Executive: Jeff Jones
Date: May 3, 2024
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Signature of Accountable Executive

6-11-24

Date

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Section 1 | Introduction

The City of Arvin is located in Kern County, in California's Central Valley, approximately 100 miles north of Los Angeles and 20 miles southeast of Bakersfield. The city's population in 2023 stands at just over 19,600. Arvin Transit provides fixed-route and demand-response public transit service.

Fixed-route service includes a local (intracity) route, a route connecting Arvin with neighboring Lamont, a route linking Arvin with the Tejon Ranch/IKEA Industrial Complex, and a route connecting Arvin with Bakersfield. Service is operated Monday through Friday from 7:00 a.m. to 4:30 p.m. (Note: The Tejon Ranch route includes one early-morning trip at 4:00 a.m.).

Dial-A-Ride service is provided within Arvin city limits for seniors (age 60 and over) as well as ADA-certified individuals. Each vehicle is assigned to a specific route or service, resulting in one spare.

The Central Valley, given its geographic characteristics, experiences ongoing challenges with air quality. Arvin is located within a non-attainment area with respect to both eight-hour ozone and particulate matter 2.5. As a result, the City has placed a priority on reducing its greenhouse gas emissions by committing to improvements in a number of different areas. City efforts include securing Urban Greening and Urban Forestry grants, as well as the purchase of battery-electric or hybrid-electric vehicles for both the transit and police departments. In addition, the City has installed and continues to develop a public electric vehicle charging station to further reduce greenhouse gas emissions within the community. The City is moving forward in a bold manner to exceed state-wide goals.

As a recipient of federal transportation funding, Arvin Transit is required by the Federal Transit Administration (FTA) to prepare a Transit Asset Management (TAM) Plan to optimize the utilization of its capital assets. Capital assets as defined by the FTA to include rolling stock (revenue vehicles), equipment (non-revenue vehicles), and facilities.

The purpose of this TAM Plan is to document the condition of the various assets and prepare for replacement based on each asset type's useful life. The TAM Plan also provides a framework for effective decision-making with respect to capital assets. It is part of an overall mindset of continuous improvement and striving toward a high state of good repair for all capital assets.

Jeff Jones, City Manager of the City of Arvin, is the designated Accountable Executive for the City of Arvin Transit's TAM Plan. As defined by 49 CFR Part 625, the City of Arvin must designate a single, identifiable individual as its Accountable Executive. The Accountable Executive is responsible for ensuring the TAM Plan is developed and implemented in accordance with 49 CFR 5326 and 5329(d) and has control over the human and capital resources needed to develop the TAM Plan in accordance with Federal regulations.

Arvin Transit's TAM Plan includes a series of tables derived from the FTA's TAMPlate application.

As part of the ongoing planning process, Arvin Transit is required to set annual targets for key performance measures for each capital asset class. They are presented as percentages that refer to the percent of vehicles within that asset class that have met or exceeded their Useful Life Benchmark (ULB). For facilities, percentages refer to the percent of facilities that are rated less than 3.0 on the FTA's Transit Economic

Requirements Model (TERM) scale¹. The City’s annual targets are presented in Exhibit 1.1. The targets presented in Exhibit 1.1 are reflective of the custom ULBs proposed for the City of Arvin, which are discussed in greater detail in Section 3 and will be submitted as part of the FY 2023/24 National Transit Database reporting process.

Exhibit 1.1 Asset Performance Targets

Asset Category – Performance Measure	Asset Class	2024 Target	2025 Target	2026 Target	2027 Target	2028 Target	2029 Target
Revenue Vehicles							
Age - % of vehicles that have met or exceeded their ULB	BU – Bus	0%	0%	0%	0%	0%	0%
	CU – Cutaway Bus	100%	0%	0%	0%	0%	0%
Equipment							
Age - % of vehicles that have met or exceeded their ULB	Non-revenue/ service vehicles	0%	0%	0%	0%	0%	0%
Facilities							
Condition - % of facilities with a condition rating below 3.0 on the TERM Scale	Administration	0%	0%	0%	0%	0%	0%
	Maintenance	0%	0%	0%	0%	0%	0%

¹ See Section 3 for further description of FTA Useful Life Benchmarks and the Transit Economic Requirements Model.

Section 2 | Asset Inventory

This section provides an inventory of the assets used by City of Arvin Transit in the provision of transit service. Assets are divided into three categories:

1. Revenue Vehicles (further identified by vehicle type),
2. Equipment (further categorized as Non-Revenue/Service Automobile, Steel Wheel Vehicles, or Trucks and Other Rubber Tire Vehicles), and
3. Facilities (further categorized as Administration, Maintenance, Parking Structures, or Passenger Facilities).

Revenue Vehicles are identified as one of the following vehicle types:

- AB – Articulated Bus
- AO – Automobile
- BR – Over-the-Road Bus
- BU – Bus
- CU – Cutaway Bus
- DD – Double Decked Bus
- FB – Ferry Boat
- MB – Mini-bus
- MV – Minivan
- RT – Rubber Tire Vintage Trolley
- SB – School Bus
- SV – Sport Utility Vehicle
- TB – Trolleybus
- VN – Van



City of Arvin Transit currently uses two types of revenue vehicles: Bus and Cutaway Bus.

Exhibit 2.1 Asset Inventory Summary Table

Asset Category/Class	Total Number	Average Age	Average Mileage	Average Replacement Cost/ Value	Total Replacement Cost/ Value
Revenue Vehicles	5	8.0	122,037	\$1,210,00.00	\$6,050,000.00
BU - Bus	4	6.5	110,075	\$1,400,000.00	\$5,600,000.00
CU - Cutaway Bus	1	14.0	169,887	\$450,000.00	\$450,000.00
Equipment	2	2.0	N/A	\$41,500.00	\$83,000.00
Non-Revenue/Service Automobile	2	9.0	N/A	\$41,500.00	\$83,000.00
Facilities	2	11.0	N/A	\$750,000.00	\$1,500,000.00
Administration	1	18.0	N/A	\$600,000.00	\$600,000.00
Maintenance	1	4.0	N/A	\$900,000.00	\$900,000.00

Exhibit 2.2 Asset Inventory – Detail

Asset Category	Asset Class	Asset Name	Make	Model	Count	ID/Serial No.	Asset Owner	Acquisition Year	Vehicle Mileage	Unit Replacement Cost/Value
Equipment	Non-Revenue/Service Automobile	#555	Ford	Mach-E Electric	1	555	City of Arvin	2022	3,556	\$50,000.00
Equipment	Non-Revenue/Service Automobile	#777	Ford	Escape Hybrid	1	777	City of Arvin	2022	9,175	\$33,000.00
Facilities	Administration	Arvin Transit			1	18924	City of Arvin	2006		\$600,000.00
Facilities	Maintenance	Park & Ride Electric Charging Station			1	CHARG01	City of Arvin	2020		\$900,000.00
Revenue Vehicles	BU - Bus	#203 EV – 205 EV – 207 EV	Proterra	Catalyst 35	3	203-EV, 205-EV, 207-EV	City of Arvin	2019	265,706	\$1,400,000.00
Revenue Vehicles	BU - Bus	#211	Glaval	Freightliner	1	211	City of Arvin	2013	174,596	\$1,400,000.00
Revenue Vehicles	CU - Cutaway Bus	#110	Glaval	Ford 450	1	110	City of Arvin	2010	169,887	\$450,000.00

Section 3 | Condition Assessment

In order to ensure capital assets, remain in a state of good repair, their condition must be assessed on a regular basis. The default measure of condition is based on age (for rolling stock) and overall condition (facilities).

Vehicle Condition

The Federal Transit Administration (FTA) has set a default Useful Life Benchmark (ULB) for each vehicle type. The ULB is the average age-based equivalent of a 2.5 rating on the FTA Transit Economic Requirements Model (TERM) scale. While transit agencies can adjust their ULBs based on actual operating conditions (with approval by FTA), the City has traditionally used the useful life standards provided by the FTA in its Standard Agreement with the City of Arvin.



A challenge inherent to any new propulsion technology – such as battery-electric – is a solid understanding of how it will function in the environment. Given the relatively short time battery-electric buses have been in service, it is difficult to predict their useful life with any accuracy in the Arvin operating environment. While the City has traditionally utilized a ULB of 10 years for its large buses, it is unknown whether this metric continues to be appropriate. In addition, after 2025, the vehicles are expected to accrue mileage at a greater rate due to a planned service expansion. As a result, the ULBs used in this Plan are somewhat hypothetical. The City of Arvin will continue to monitor how its battery-electric vehicles perform and ensure any necessary changes to the ULB are reflected in the annual National Transit Database reporting and future updates of the TAM Plan.

Facility Condition

Facility condition is assessed using the TERM scale. The TERM scale rates the condition of an asset on a scale of one to five:

- 1 = Poor (asset is in need of immediate repair or replacement or may have critically damaged components)
- 2 = Marginal (asset is reaching or is just past the end of its useful life; there are an increasing number of defective or deteriorated components and increasing maintenance needs)
- 3 = Adequate (asset has reached its mid-life; some moderately defective or deteriorated components)
- 4 = Good (asset shows minimal signs of wear; some slightly defective or deteriorated components)
- 5 = Excellent (asset is new with no visible defects)

The two City of Arvin Transit facilities are assessed as a four and five on the TERM scale. This is considered to be in adequate repair according to the FTA.

Exhibit 3.1 Asset Condition Summary Table

Asset Category/Class	Count	Average Age	Average Mileage	TERM Scale Condition	Average Replacement Cost/Value	Total Replacement Cost/Value	% at or past ULB
Revenue Vehicles	5	8.0	122,037	N/A	\$1,210,000.00	\$6,050,000.00	20%
BU - Bus	4	6.5	110,075	N/A	\$1,400,000.00	\$5,600,000.00	0%
CU - Cutaway Bus	1	14.0	169,887	N/A	\$450,000.00	\$450,000.00	100%
Equipment	2	2.0	N/A	N/A	\$41,500.00	\$41,500.00	0%
Non-Revenue/Service Automobile	2	2.0	N/A	N/A	\$41,500.00	\$41,500.00	0%
Facilities	2	11.0	N/A	4.5	\$750,000.00	\$1,500,000.00	N/A
Administration	1	18.0	N/A	4	\$600,000.00	\$600,000.00	N/A
Maintenance	1	4.0	N/A	5	\$900,000.00	\$900,000.00	N/A

Exhibit 3.2 Asset Condition – Detail (Revenue Vehicles and Equipment)

Asset Category	Asset Class	Asset Name	Count	ID/Serial No.	Age (Years)	Vehicle Mileage	Unit Replacement Cost/Value	ULB (Years)	Past ULB?
Revenue Vehicles	BU - Bus	#203 EV – 205 EV – 207 EV	3	203-EV, 205-EV, 207-EV	5	88,569	\$1,400,000.00	10	No
Revenue Vehicles	BU - Bus	#211	1	211	11	174,596	\$1,400,000.00	10	Yes
Revenue Vehicles	CU - Cutaway Bus	#110	1	110	14	169,887	\$450,000.00	5	Yes
Equipment	Non-Revenue/Service Automobile	#555	1	555	2	3,556	\$50,000	8	No
Equipment	Non-Revenue/Service Automobile	#777	1	777	2	9,175	\$33,000	8	No

Exhibit 3.3 Asset Condition – Detail (Facilities)

Asset Category	Asset Class	Asset Name	Count	Age (Years)	TERM Scale Condition	Replacement Cost/Value
Facilities	Administration	Arvin Transit	1	18	4	\$600,000.00
Facilities	Maintenance	Park & Ride Electric Charging Station	1	4	5	\$900,000.00

Section 4 | Decision Support

The City of Arvin’s Asset Management Policy and Asset Management Goals and Objectives inform the agency’s capital asset decision making.

Asset Management Policy

The City of Arvin is committed to establishing an asset management system that supports its mission of providing a safe, efficient, and reliable transportation service while protecting the environment.

TAM Vision

Through careful and appropriate asset management, the City of Arvin will realize increased ridership, extension of routes, and adding trips to existing routes. The City has placed a high priority on a clean transit program through its transition to battery-electric vehicles. The City has also expanded its vision to include a renewable solar microgrid with battery backup for public safety power shutoff (PSPS) resiliency.

Asset Management Goals and Objectives

In support of this asset management policy, three specific goals and objectives have been identified.

1. Convert to a 100 percent electric fleet – The fleet is projected to be 100 percent electric by 2025, which exceeds the state-wide goal of 100 percent by 2040.
2. Increase reliance on renewable energy – Utilize a solar-powered microgrid and battery storage to support PSPS resiliency for essential City and transit operations, especially in the event of an emergency.
3. Expand transit operations – The City plans to expand its fixed-route service by extending service hours on several of its routes and offering more trips per day. It also intends to launch a route between Arvin and the Tejon Casino, which is expected to open in Summer 2025.

Decision Support

Decision support for the City’s Transit Asset Management program is guided by state and federal transit and climate initiatives. These include:

- State Climate Initiatives: The City looks to state climate initiatives (such as AB 32) to guide its goals for the reduction of greenhouse gas emissions and use of clean-air vehicles. Decision support is also provided by microgrid programs in response to climate emergencies (including public safety power shutoffs) arising from the increased risk of wildfires.
- State Transit Initiatives: The City looks to state funding initiatives (such as SB-1) to provide capital funding for fleet replacement and conversion of the fleet to zero-emission. Decision support is also provided through programs such as the California Air Resources Board's Innovative Clean Transit (ICT) initiative.
- Federal Transit Initiatives: The City seeks federal funding initiatives (such as the FTA's Low-No and Bus and Bus Facilities programs under Section 5339) to provide capital funding for fleet replacement and conversion of the fleet to zero-emission. Decision-making is also guided by initiatives such as Justice 40, which seeks to ensure that at least 40 percent of federal climate investments go directly to front-line communities most affected by poverty and pollution.

Future investment needs are determined by established priority lists based on asset condition and useful life. Proper investment planning is essential so as not to affect the core operating services of transit.

Section 5 | Investment Priorities/Fleet Replacement Plan

The City of Arvin maintains a fleet replacement plan, which is consistent with the Useful Life Benchmarks used in the TAM Plan. The City is in the process of transitioning its fleet to battery-electric zero-emission vehicles, which is expected to be completed by 2025. The City is committed to a zero-emission fleet due in part to its location within an air pollution non-attainment area.

In addition to programmed fleet replacement and transition to a battery-electric fleet, the City of Arvin has identified the following as capital investment priorities:

- Replacement of one cutaway and two buses with battery-electric vehicles,
- Addition of an expansion cutaway (battery-electric) to increase the spare ratio for the demand-response service,
- Addition of two expansion buses (battery-electric) to increase the spare ratio for the fixed-route service and accommodate expansion, and
- Installation of a solar renewable microgrid to provide public safety power shutoff (PSPS) resiliency.

The microgrid is an especially high priority project for the City. In the summer of 2021, Arvin experienced several brown-outs when Pacific Gas and Electric (PG&E) shut down power transmission due to high usage. Such shutoffs may also occur during periods of extreme wildfire danger. The proposed microgrid would enable the City to retain electric power via battery storage – including keeping battery-electric transit vehicles operational. A renewable resource, the microgrid would allow City Hall, Arvin Transit, and the Police Department to be fully operational for three days. While the City would still be linked to the PG&E grid, it would not be completely dependent on them. It is expected the microgrid will also provide valuable resources in the event of an emergency or natural disaster requiring City response.

Investment priorities are shown in Exhibit 5.1.

Exhibit 5.1 Investment Priorities

Project Name	Project Year	Asset Category	Asset Class	Unit Cost	Priority
Replace 2010 gas cutaway (#110) with electric cutaway	2024	Revenue Vehicles	CU – Cutaway Bus	\$450,000.00	High
Replace 2013 diesel bus (#209) with electric bus	2024	Revenue Vehicles	CU – Cutaway Bus	\$1,150,000.00	High
Replace 2013 diesel bus (#211) with electric bus	2025	Revenue Vehicles	BU - Bus	\$1,400,000.00	High
Purchase new (small) electric cutaway	2025	Revenue Vehicles	CU – Cutaway Bus	\$450,000.00	Medium
Purchase new electric bus	2025	Revenue Vehicles	BU - Bus	\$1,400,000.00	High
Purchase new electric bus	2026	Revenue Vehicles	BU - Bus	\$1,400,000.00	Medium

The three replacement vehicles (one cutaway and two buses) will replace conventionally fueled vehicles (gas and diesel) with battery-electric vehicles of the same asset class. Two of the vehicles (#110 and #211) are currently in active service, while one (#209) has already been disposed of but not yet replaced. The expansion vehicles planned for 2025 and 2026 would increase the fleet to nine vehicles, thereby

increasing the spare ratios for both fixed-route and demand-response services while also providing sufficient assets for service expansion.

The City has identified several opportunities for service expansion. Bakersfield City College will be opening its Arvin campus in Winter 2024. As such, there is expected to be additional demand for service to the college in future years. In addition, planned expansion includes the following, which are expected to be implemented on or before July 1, 2025:

- Arvin Local Route – expanding the service span by two hours (going from 19 trips per day to 23 trips per day with 30-minute frequency).
- Arvin-Bakersfield Route – extending daily service by four hours (going from 19 trips to 23 trips per day) It would operate from 6 a.m. to 4 p.m. and add a couple of trips that were not operated before.
- Arvin-Lamont Route – electric bus service would be expanded to this route in 2025. It would operate Monday through Friday from 7 a.m. to 5 p.m., 17 trips per day. The route currently offers 12 trips per day.
- Arvin-Tejon Industrial Park/IKEA – there is potential for expansion of this route, which currently operates two round trips per day.
- Arvin-Tejon Casino Route – this new route would serve the new Tejon Casino, which is expected to open in Summer 2025. The route would operate seven days per week, 13 hours per day. One of the expansion vehicles would be dedicated to this route.

Continued development of the charging infrastructure at the Park and Ride facility is expected to be able to provide overflow to dedicated transit charging stations. The installation of the microgrid is also likely to add another bus charger.

Exhibit 5.2 ages the existing fleet, showing the number of each vehicle type/years remaining in each of the next five years. Exhibit 5.3 identifies the year of replacement for revenue vehicles in the current fleet, based on the default Useful Life Benchmark (ULB). Exhibit 5.4 calculates the required purchase of revenue vehicles per year. An inflation rate of three percent is used to estimate year-of-expenditure costs based on current value. Exhibit 5.5 provides a graphical representation of fleet development.

Exhibit 5.2 Existing Remaining Fleet Per Year

Fleet Type (Year/Make/Model)	Number	Replacement Cost	Acquisition Year	ULB	2024	2025	2026	2027	2028	2029
2019 Proterra Catalyst 35	3	\$1,400,000.00	2019	10	3	3	3	3	3	3
2013 Glaval Freightliner	1	\$1,400,000.00	2013	10	0	0	0	0	0	0
2010 Glaval Ford 450	1	\$450,000.00	2010	5	0	0	0	0	0	0
Grand Total					3	3	3	3	3	3

Exhibit 5.3 Fleet Required

Fleet Type (Year/Make/Model)	2024			2025			2026			2027			2028		
	Peak Vehicles Scheduled	Spare Factor	Vehicles Required	Peak Vehicles Scheduled	Spare Factor	Vehicles Required	Peak Vehicles Scheduled	Spare Factor	Vehicles Required	Peak Vehicles Scheduled	Spare Factor	Vehicles Required	Peak Vehicles Scheduled	Spare Factor	Vehicles Required
2019 Proterra Catalyst 35	2	33%	3	2	33%	3	2	33%	3	2	33%	3	2	33%	3
2013 Glaval Freightliner	1	100%	2	2	50%	3	3	33%	4	3	33%	4	3	33%	4
2010 Glaval Ford 450	1	0%	1	1	100%	2	1	100%	2	1	100%	2	1	100%	2

Exhibit 5.4 New Fleet

Fleet Type (Year/Make/Model)	2024		2025		2026		2027		2028	
	Number	Unit Cost in 2024 \$	Number	Unit Cost in 2024 \$	Number	Unit Cost in 2024 \$	Number	Unit Cost in 2024 \$	Number	Unit Cost in 2024 \$
2010 Glaval Ford 450	1	\$450,000.00	1	\$450,000.00	0	\$0.00	0	\$0.00	0	\$0.00
2019 Proterra Catalyst 35	0	\$0.00	1	\$1,400,000.00	1	\$1,400,000.00	0	\$0.00	0	\$0.00
2013 Glaval Freightliner	1	\$1,400,000.00	1	\$1,400,000.00	0	\$0.00	0	\$0.00	0	\$0.00
<u>Total in Current Year \$</u>		\$1,850,000.00		\$3,250,000.00		\$1,400,000.00		\$0.00		\$0.00
<u>Inflation Rate</u>		0.0%		3.0%		6.0%		9.0%		12.0%
<u>Compounded Inflation</u>		1.000		1.030		1.060		1.090		1.120
<u>Total in Year of Expenditure \$</u>		\$360,500.00		\$3,347,500.00		\$1,484,000.00		\$0.00		\$0.00

Exhibit 5.5 Fleet Development Through 2029

Vehicle	Asset Class	2024	2025	2026	2027	2028	2029
2010 Glaval Ford 450 (#110)	CU						
2013 Glaval Freightliner (#209) (already disposed)	BU						
2013 Glaval Freightliner (#211)	BU						
2019 Proterra Catalyst 35 (#203)	BU						
2019 Proterra Catalyst 35 (#205)	BU						
2019 Proterra Catalyst 35 (#207)	BU						
Replacement: 2024 electric cutaway (#110)	CU	X					
Replacement: 2024 electric bus (#209)	BU	X					
Replacement: 2025 electric bus (#211)	BU		X				
Expansion: 2025 electric cutaway	CU		X				
Expansion: 2025 electric bus	BU		X				
Expansion: 2026 electric bus	BU			X			

Blue = existing fleet | orange = replacement fleet | yellow = expansion fleet | X = vehicle purchase