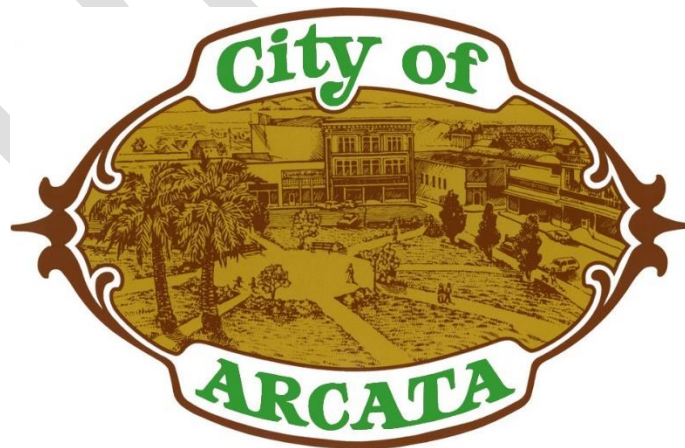


**Zero-Emission Bus Rollout Plan**  
**for**  
**Arcata & Mad River Transit System**

September 12, 2023



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## Background

The Innovative Clean Transit (ICT) regulation became effective on October 1, 2019 and requires all California public transit agencies to gradually transition their bus fleets to zero-emission technologies. The ICT regulation applies to all transit agencies that own, operate, or lease buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. It covers standard, articulated, over-the-road, double decker, and cutaway buses. The ICT regulation requires a percentage of new bus purchases to be zero-emission buses (ZEBs). The ZEB purchase requirement increases gradually over time. The ZEB purchase requirements begin in 2023 and 2026 for large<sup>1</sup> and small<sup>2</sup> transit agencies, respectively. Starting 2029, 100 percent of all transit agencies' new bus purchases must be ZEBs, with a goal of complete transition to ZEBs (all buses in each transit agency's fleet to be ZEBs) by 2040.

This document is created based on the template prepared for the Zero Emission Bus Rollout Plan Assistance Session at the [2022 CalACT Spring Conference and Expo](#).

The ICT regulation requires each transit agency to submit a complete Zero-Emission Bus Rollout Plan (Rollout Plan) before ZEB purchase requirements take effect. The Rollout Plan is meant to be a living document and should guide the deployment of zero-emission bus fleets and help transit agencies work through many of the potential challenges and explore solutions.

The Rollout Plans will provide information on the strategies each transit agency has determined best fit their own unique situations. The components of a Rollout Plan will provide the State with crucial information, such as the probable number of buses to be deployed by each transit agency, which will inform future policy and funding decisions, and other ways State agencies can support transit agencies through this transition. The Rollout Plans will also help energy and fuel providers learn about transit agencies' infrastructure needs during different stages of transition and help inform decisions regarding what support would best help transit agencies as they develop and expand the needed charging infrastructure. Information provided in the Rollout Plans is also critical to address barriers in implementation.

Each Rollout Plan must include **all** required components to be considered complete and must be approved by the transit agency's governing body through the adoption of a resolution, prior to submitting it to CARB. Large transit agencies must submit their approved Rollout Plans by July 1, 2020, and small transit agencies must submit Rollout Plans by July 1, 2023 (13 CCR §

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<sup>1</sup> The ICT regulation defines a "Large Transit Agency" (13 CCR § 2023(b)(30)) as a transit agency that meets one of the following criteria:

1. It operates either in the South Coast or the San Joaquin Valley Air Basin and operates more than 65 buses in annual maximum service; or
2. It operates outside of these areas, but in an urbanized area with a population of at least 200,000 as last published by the Bureau of Census before December 31, 2017, and has at least 100 buses in annual maximum service.

<sup>2</sup> The ICT regulation defines a "Small Transit Agency" (13 CCR § 2023(b)(49)) as all other transit agencies that do not meet the definition of the "Large Transit Agency".

## Section A: Transit Agency Information

Arcata & Mad River Transit System  
925 E. St  
Arcata, Ca 95521  
Peak Vehicles - 2  
Population 18,801

AMRTS is part of the North Coast Unified Air Quality Management District within the North Coast Air Basin

Annual maximum service peak vehicles: 3  
Combined population of total area served: 18,857.

Contact Information:  
Vance Law (Transit Operations Assistant)  
707-825-2041  
[vlaw@cityofarcata.org](mailto:vlaw@cityofarcata.org)

A&MRTS is not part of a Joint Zero- Emission Bus Group.





## Section B: Rollout Plan General Information

1. Does your transit agency's Rollout Plan have a goal of full transition to zero-emission technologies by 2040 that avoids early retirement of conventional transit buses (13 CCR § 2023.1(d)(1)(A))? **Yes.**
  - a. Is a copy of the board approved resolution attached to the Rollout Plan submitted to CARB (13 CCR § 2023.1(d)(2))?  
**No.** A future City Council meeting will approve the resolution.



**Section C: Technology Portfolio**

AMRTS is currently operating gasoline, diesel, and electric vehicles. A&MRTS plans to operate electric and/or hydrogen technologies in future. A&MRTS currently operates two batteries electric low floor Gillig buses.



## Section D: Current Bus Fleet Composition and Future Bus Purchases

The current fleet composition of A&MRTS is.

- Two battery electric lowfloor Gillig
- Two diesel lowfloor Gillig
- Two gasoline cutaways, one Ford and one Chevy

The projected near term procurement plan is shown in Table 1 below.

Table 1: Individual Bus Information of Current Bus Fleet

Timeline (Year)	Total Number of Buses to Purchase	Number of ZEB Purchases	Percentage of Annual ZEB Purchases	ZEB Bus Type(s)	ZEB Fuel Type(s)	Number of Conv. Bus Purchases	Percentage of Annual Conv. Bus Purchases	Type(s) of Conv. Buses	Fuel Type(s) of Conv. Buses
2026	2	2	100%	Lowfloor	Fuel Cell or Battery Electric	0	0%	N/A	N/A
2028	2	2	100%	Cutaway	Battery Electric	0	0%	N/A	N/A

A&MRTS is not considering converting some of the conventional buses in service to zero-emission buses.

Table 2: Schedule of Converting Conventional Buses to Zero-Emission Buses

Timeline (Year)	Number of Buses	Bus Type(s)	Removed Propulsion System	New Propulsion System
N/A	N/A	N/A	N/A	N/A

**Section E: Facilities and Infrastructure Modifications**

Table 3: Facilities Information and Construction Timeline

<b>Division/ Facility Name</b>	<b>Address</b>	<b>Main Function(s)</b>	<b>Type(s) of Infrastructure</b>	<b>Service Capacity (bus number)</b>	<b>Needs Upgrade? (Yes/No)</b>	<b>Estimated Construction Timeline</b>
HTA Admin and Maintenance Facility	133 V St. Eureka, CA 95501	Operations, Maintenance, Fueling	Fueling infrastructure, Maintenance, Garages, Cleaning Stations, and Admin. Offices	Current: 45-50  Target: 60-70	Yes	Charging infrastructure has been completed for the current electric fleet.  Hydrogen fueling and infrastructure supporting FCEBs will be completed in FY24-25. Additional charging infrastructure needs unknown at this time.  Full yard redesign planned for completion by 2030
Arcata Transit Center	925 E St, Arcata, CA 95521	Admin, Operations	Admin offices, bus stop and transfer center	5-6	Yes	On-route charging infrastructure planned



## Section F: Providing Service in Disadvantaged Communities

A&MRTS provides services to low income communities and communities with high burden scores across numerous metrics on pollution, health, housing, income, transportation insecurity, workforce development, and others as described by the following tools and shown in:

- Low Income Community per CalEnviroScreen (CES) 4.0 Priority Populations Tool<sup>3</sup>
- Disadvantaged Community per the Climate and Economic Justice Screening Tool (CEJST) 1.0<sup>4</sup>
- Transportation Disadvantaged per Department of Transportation's Disadvantaged Census Tracts<sup>5</sup>

HTA's Administration and Maintenance Facility, where A&MRTS buses are maintained and garaged, is in census tract 6023000500, and the Arcata Transit Center is in census tract 6023001000. Both census tracts are identified as Low Income by the State Government and Disadvantaged by the Federal Government.

As all A&MRTS routes serve census tracts identified as disadvantaged by two federal mapping tools and identified by California as having high Population Characteristics burdens, A&MRTS does not plan to prioritize deployment of ZEBs on specific routes.

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<sup>3</sup> <https://webmaps.arb.ca.gov/PriorityPopulations/>

<sup>4</sup> <https://screeningtool.geoplatform.gov/>

<sup>5</sup> <https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a>

## Section G: Workforce Training

All A&MRTS bus operators, maintenance and repair staff are trained by Humboldt Transit Authority (HTA). HTA will leverage manufacturer training services during procurement, and training center services for train-the-trainer and refresher courses. Table 4 shows a high-level summary of the planned training schedule. HTA will offer and extend training opportunities and events to key stakeholders such as first responders and towing companies. In addition, HTA is partnering with local and regional workforce development programs to explore opportunities for supporting the regional transition to zero emission vehicles.

Table 4: Proposed training schedule. HTA staff are shown in blue and will be required. Stakeholders are shown in green and will be offered on a voluntary basis.

Event	Maintenance / Technician	Operator	Other HTA Staff	First Responders / Towing	Local Workforce Development Program
<b>New Hire</b>	All trainings required by position	Fundamentals	Fundamentals	Fundamentals	Fundamentals
<b>Vehicle Purchase</b>	All OEM Trainings	As recommended by OEM	N/A	As recommended by OEM	As recommended by OEM
<b>Train-the-Trainer</b>	Minimum three years for fundamentals and compressed gas tank testing, as recommended for all other trainings	Minimum three years on fundamentals	Minimum three years on fundamentals	Minimum three years on fundamentals	Minimum three years on fundamentals
<b>Scheduled Refresher</b>	Minimum three years on fundamentals, as recommended on all other trainings	Minimum three years on fundamentals	Minimum three years on fundamentals	Minimum three years on fundamentals	Minimum three years on fundamentals

For more details, see HTA's Zero Emission Bus Rollout Plan at [https://hcaog.net/sites/default/files/hta\\_zero\\_emission\\_bus\\_rollout\\_plan\\_v1.0.pdf](https://hcaog.net/sites/default/files/hta_zero_emission_bus_rollout_plan_v1.0.pdf)

## **Section H: Potential Funding Sources**

A&MRTS will be monitoring multiple funding sources to support this transition, including:

- Federal Transportation Administration (FTA)
- Federal Highway Administration (FHWA)
- Environmental Protection Agency (EPA)
- Department of Energy (DOE)
- California Air Resource Board (CARB)
- California Transportation Commission (CTC)
- California Department of Transportation (Caltrans)
- State Transit Assistance (STA)
- Local Transportation Fund (LTF)
- Low Carbon Transit Operations Program (LCTOP)

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## **Section I: Start-up and Scale-up Challenges**

There are a number of scale-up challenges associated with transitioning to zero emission. For example, A&MRTS currently operates two battery electric buses on one route, which one diesel bus was able to operate. This is a 2:1 replacement ratio.

A&MRTS will monitor progress of HTA's plans to tackle challenges associated with this transition. For more details, see HTA's Zero Emission Bus Rollout Plan at [https://hcaog.net/sites/default/files/hta\\_zero\\_emission\\_bus\\_rollout\\_plan\\_v1.0.pdf](https://hcaog.net/sites/default/files/hta_zero_emission_bus_rollout_plan_v1.0.pdf)

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## Section J: City Council Resolution

A&MRTS will present a resolution to adopt this Plan to the City Council.

### RESOLUTION 234-15

#### **A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF ARCATA, APPROVING THE ZERO-EMISSION BUS ROLLOUT PLAN FOR THE ARCATA & MAD RIVER TRANSIT SYSTEM (A&MRTS)**

**WHERE AS**, California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.3, Part 2023.1(d) Zero Emissions Bus Rollout Plan Requirements requires that a transit agency Zero-Emission Bus Rollout Plan must be approved by its governing Board; and

**WHERE AS**, Zero-Emission Bus Rollout Plan sets forth the A&MRTS's plan which meets the following requirements:

- A goal of full transition to zero-emission buses by 2040 with careful planning that avoids early retirement of conventional internal combustion engine buses.
- Identification of the types of zero-emission bus technologies (A&MRTS) is planning to deploy.
- A schedule for zero-emission and conventional internal combustion engine bus purchases and lease options.
- A schedule for conversion of conventional internal combustion engine buses to zero-emission technologies.
- A schedule for construction of facilities and infrastructure modifications or upgrades, including charging, fueling, and maintenance facilities, to deploy and maintain zero-emission buses.
- Explanation of how (A&MRTS) plans to deploy zero-emission buses in Disadvantaged Communities.
- A training plan and schedule for zero-emission bus operators and maintenance and repair staff; and
- Identification of potential funding sources.

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of City of Arcata hereby approves the A&MRT's Zero-Emission Bus Rollout Plan as set forth in full.

**BE IT FURTHER RESOLVED** that insofar as the provisions of any Ordinance, Resolution, document, or previous action of the Council, prior to the date of this Resolution, are inconsistent with the provisions of this Resolution or any policy adopted by this Resolution, this Resolution and the Council Policies adopted herein shall control.

This Resolution shall be effective upon its adoption.

Dated: October 18, 2023



**ATTEST:**

**APPROVED:**

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City Clerk, City of Arcata

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Mayor, City of Arcata

**CLERK'S CERTIFICATE**

I hereby certify that the foregoing is a true and correct copy of Resolution No. 234-15 passed and adopted at a regular meeting of the City Council of the City of Arcata, County of Humboldt, State of California, held on the 18<sup>th</sup> day of October 2023, by the following vote:

AYES:

NOES: **NONE**

ABSENT:

ABSTENTIONS: **NONE**

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City Clerk, City of Arcata