Zero-Emission Fleet Transition Plan

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Valley Transit Background

Valley Transit provides public transit and mobility services throughout the Fox Cities region. This region consists of the Cities of Appleton, Neenah, Menasha and Kaukauna; Towns of Buchanan and Grand Chute; and Villages of Fox Crossing, Kimberly and Little Chute. Annual fixed-route bus ridership is about 1M rides, which is approximately 3,300 rides per day. Valley Transit is owned and operated by the City of Appleton, WI.

Valley Transit also provides ADA paratransit and demand-response ancillary services. These services are operated through turn-key contracts with private providers and are not included in this plan. The vehicles utilized are owned by the applicable contractor and are not dedicated to transit service under contract with Valley Transit. However, Valley Transit will encourage service providers to utilize zero-emission vehicles when future service procurements are developed.

Further info about Valley Transit can be found at: myvalleytransit.com

Introduction & Plan Components

Transportation is a major source of greenhouse gas (GHG) emissions in the United States, accounting for 29 percent of 2019 GHG emissions (EPA's U.S. Greenhouse Gas Emissions and Sinks: 1990-2019). Public transportation plays an important role in reducing a community's transportation GHG emissions through transportation and land use efficiencies. On June 15, 2021, the Federal Transit Administration (FTA) launched the Sustainable Transit for a Healthy Planet challenge to encourage transit agencies to build on progress already made and to further reduce GHG emissions from public transportation to support the President's GHG reduction goal.

The Valley Transit has committed to the Federal Transit Administration's Sustainable Transit for a Healthy Planet Challenge to take actions and make investments to cut GHG emissions.

This document will serve as a long-range planning tool for future transit investments.

As defined in statute, a Zero-Emission Transition Plan must:

- Demonstrate a long-term fleet management plan with a strategy for how the applicant intends to use the current request for resources and future acquisitions.
- Address the availability of current and future resources to meet costs for the transition and implementation.
- Consider policy and legislation impacting relevant technologies.
- Include an evaluation of existing and future facilities and their relationship to the technology transition.
- Describe the partnership of the applicant with the utility or alternative fuel provider.

- Examine the impact of the transition on the applicant's current workforce by identifying skill gaps, training needs, and retraining needs of the existing workers of the applicant to operate and maintain zero-emission vehicles and related infrastructure and avoid displacement of the existing workforce.

Agency Goal

Valley Transit currently operates twenty-eight (28) clean diesel heavy duty buses and one (1) gas cutaway bus to provide fixed-route service. Valley Transit is in the process of converting this fossil fuel fleet to zero emission with a goal of complete adoption by 2035.

Valley Transit has begun the transition toward zero emissions with the planned purchase of two electric trolleybuses. Once deployed, 6% of our total fixed-route bus fleet will be at zero emissions. Valley Transit will deploy the electric buses on one of our core central downtown routes. These electric vehicles will allow Valley Transit to prepare for future deployments and inform staff, facilities and planning as the agency moves toward full implementation.

Our remaining fossil fuel fleet (diesel) has not surpassed its useful life. Valley Transit will continue to operate and maintain the current fleet according to its Maintenance Plan. Valley Transit will then use diligent advanced planning to replace each vehicle with zero-emission buses once each diesel vehicle's useful life is surpassed.

Revenue Vehicle Fleet Replacement Plan

Valley Transit's current revenue fleet is comprised of twenty-eight (28) clean diesel heavy-duty buses and one (1) gas cutaway vehicle. As shown below, Valley Transit will be adding two (2) electric trolleybuses by 2024 to replace the cutaway vehicle.

We plan to replace our diesel fixed-route buses with electric or hydrogen technology for propulsion beginning in 2029 and repeating replacements every subsequent year as funding allows.

Please note: As zero-emission propulsion technology evolves, Valley Transit will research the most effective option and select what is the best fit for our operating environment. As a placeholder, Valley Transit lists "Electric or Hydrogen" in the revenue and non-revenue vehicle replacement tables below.

Replacement schedule (in progress):

Replacement Year	**# of Buses**	**Current Gas Cutaway Fleet ID #s**	**Replaced with:**	**Funding Source**
2024	2	518	Electric	5339(b)

Replacement schedule (planned, funding TBD).

Replacement Year	# of Buses	Current Clean Diesel Bus Fleet ID #s	Replaced with*:	Funding Source
2029	3	1701,1702,1703	Electric or Hydrogen	Competitive
2030	1	1801	Electric or Hydrogen	Competitive
2031	4	1931,1932,1933,1934	Electric or Hydrogen	Competitive
2032	5	1935,1936,1937,1938,1939	Electric or Hydrogen	Competitive
2033	5	2001,2002,2003,2004, 2005	Electric or Hydrogen	Competitive
2034	5	2131,2132,2133,2134,2135	Electric or Hydrogen	Competitive
2035	5	2201,2202,2203,2231,2232	Electric or Hydrogen	Competitive
2036		Cycle Restarts....		

Non-Revenue Vehicle Fleet Replacement Plan

Valley Transit's non-revenue fleet is comprised of five trucks/SUVs (diesel & gas) and two cars (hybrid). See below for our non-revenue vehicle replacement schedule:

Replacement Year	#of vehicles	Current Vehicle Fleet ID#s	Replaced with*:	Funding Source
2025	2	F250, GMC (diesel)	Hybrid, Electric or Hydrogen	5339
2030	1	Staff 19 (gas)	Electric or Hydrogen	Competitive
2031	1	Staff 20 (gas)	Electric or Hydrogen	Competitive
2032	2	Staff 16 (hybrid),17 (hybrid) ,18 (gas)	Electric or Hydrogen	Competitive
2030	2	Staff 21(gas)	Electric or Hydrogen	Competitive
2035		Cycle Restarts...	Electric or Hydrogen	Competitive

Facilities & Technology

Valley Transit currently owns these facilities:

Whitman Facility	Admin, Maintenance, and bus storage facility	801 S. Whitman Ave.
Appleton Transit Center	Multi-Modal transfer center	100 E Washington St.

Valley Transit is in process of renovating its administration, bus storage & maintenance facility at 801 S. Whitman Ave. The phase 1 construction focuses on the administrative portion of the building and will kick off in 2023. This will add geothermal and solar power to the facility and greatly reduce the current resource need for the facility. Phase 2 construction will renovate the maintenance and bus storage areas. Bus storage will be designed to accommodate charging stations in preparation for future fleet require this infrastructure. Maintenance bays will be built to safely maintain electric vehicles. Rainwater will be collected for the bus wash reducing Valley Transit's draw from the water utility. Rooftop solar will be installed to sell power back to the grid. Savings and proceeds realized by the design will be used to reduce overall operating costs of the facility.

Valley Transit has completed a master plan for its downtown transit center. The plan is to secure funding for a joint development project that meets Valley Transit's multi-modal transit center needs on the ground floor and provided a base for development above the transit center for possible housing or other development. The master plan includes design for electric charging stations built into the transit center structure. This will allow in-service charging and increase the electric vehicle capacity to avoid switching out buses mid-day due to limited battery capacity. The facility will also be designed to cover all areas where passengers transfer, which will reduce resources required to maintain outdoor space, i.e., snow and ice removal.

Valley Transit has and will continue to pursue 5339(b) grant funds for these facility projects. A RAISE grant will also be submitted as an opportunity to fund our joint development project. These grants are both highly competitive, so applications will be revised, improved and re-submitted as needed.

With each facility upgrade, technology is employed to ensure the infrastructure is in place to account for zero-emission vehicles. For future zero-emission vehicles, Valley Transit's current fuel management, fleet maintenance, dispatch & scheduling and database management system all have modules in place to account for electric vehicles. We will activate these modules prior to vehicle deployment to ensure successful operation.

Alternative Fuel Infrastructure

The City of Appleton and Valley Transit has an ongoing relationship with the regional electrical utility; WE Energies. The City of Appleton consults WE Energies with each facility project and has existing agreement to deploy rooftop solar at Valley Transit's Whitman Facility. WE Energies also participated in the downtown transit center master plan to explore infrastructure requirements to implement electrical charging stations at the new joint development. The current Master Plan has a preliminary design location for a required sub-station needed to accommodate all electricity supply needs for charging vehicles and other uses. Prior to electric vehicle deployments, WE Energies is consulted to evaluate the existing infrastructure or plan for upgrades when needed.

Future Resources

As seen in the replacement schedules above, our future replacement schedule will be contingent upon available competitive federal funding. The State of Wisconsin does not currently provide capital funds utilizing state transportation funds to transit systems.

Valley Transit reserves annual Section 5339(a) funds for capital projects. However, these formula funds are insufficient to meet most ongoing capital needs, so competitive grants are required to fund the majority of vehicle and facility projects.

Our FY24 replacements will be secured with grant funds that have already been awarded to Valley Transit.

Legislative Impacts

The current legislation and policies that have been published since 2021 have been supportive of endeavors to transition to a zero-emission fleet. The Bipartisan Infrastructure Bill has been a catalyst in the acceptance and acceleration of alternative-fuel vehicles in public transportation. This policy direction is also evident is applicable competitive grant notices.

Valley Transit and the City of Appleton has made strides in years past to become more environmentally aware. Valley Transit continually meets with the City of Appleton's Resiliency Manager to ensure coordination and awareness of community initiatives. The City of Appleton has been working on securing grant funding to purchase electric vehicles and provide city-wide electric vehicle charging infrastructure.

Workforce Training

Valley Transit staff will be provided with ongoing support and training to learn how to operate alternative fuel vehicles to the highest efficiency. Maintenance staff will be trained and have access to state-of-the-art tools for working on alternative fuel vehicles. Each vehicle procurement will include requirements for training from the manufacturer and supply of all tooling required to ensure maximum efficiency and safety.

Our zero-emission roadmap includes the following tasks/steps and examples:

1. Research & Discovery: collect data, understand needs & research technologies.
2. Modeling & Analysis: Evaluate ZE fleet alternatives with a focus on Valley Transit's operating environment.
3. Resource Requirements: software, utility requirements, other infrastructure, charging speed.
4. Vehicle Alternatives: Consider range, capacity, useful life, maintenance.
5. Funding Options: Explore funding alternatives, rebates, non-traditional funding sources.
6. Design: infrastructure needed for charging, operation, maintenance, and storage; software needs.
7. Build and Deploy: construction, installation, licensing, permitting and data tracking.