

Vermont Transit Battery-Electric Bus Transition Plan

Background:

The Vermont Agency of Transportation's Public Transit Program is dedicated to electrifying the transit fleet to the extent practicable. The testing, procurement, and operations of a variety of electric transit vehicles are underway and the Agency is putting in place the case studies and metrics necessary to ensure the electric transit vehicles are capable of maintaining the routes and services currently in place and planned for the future.

Vermont has a total of 14 electric vehicles planned or in operations in Vermont as of January 1, 2021. These 14 are just the start of our efforts to transition our fleet to the battery-electric buses. There are 5 levels of vehicles used to deliver the spectrum of public transit in Vermont.

Type 1 - The largest vehicles are the over the road buses used by our intercity contractors and LINK type commuter coach services.

Type 2 - Full-size buses used to deliver city routes. These are the most common in use for public transit in the nation.

Type 3 – Smaller size transit vehicles, used to deliver service to small cities and towns as well as more rural areas across the state.

Type 4 – Van, sprinter size, mini-van, etc. not always accessible, not a lot in service but we are looking at them for greater deployment.

Type 5 – Cars, these are used by volunteers which deliver service across the state.

Levels 1-4 will be the focus of this transition plan and total just over 400 gas/diesel transit vehicles.

Scope of Work:

To develop a Battery-Electric Bus Transition Plan. The Plan will guide early implementation steps consisting of design, construction, fleet acquisition, and other activities that develop the blueprints for future standards and requirement for buses, energy storage systems, charging infrastructure, electric-utility modification, and operations of electric buses.

The Plan should include details on the existing public transit fleet and operations plus future needs organized by the following topics.

- Technology Overview (Electric vehicles, batteries, and charging)
- Fleet Characteristics
- Operations
- Facilities
- Charging

- Service Model
- Timing/Scheduling of transition
- Procurement of vehicles
- IT Needs
- Asset Management and Replacement
- Training

The plan should use the following time horizons for the transition.

By 2025 – 10% of the vehicle fleet transitioned

By 2050 – 80% (should be 100%) of the vehicle fleet transitioned.

A model or tool that allows us to enter data to see the resulting affects to the transition (x amount of money over x number of years).

GHG reduction analysis (per vehicle class and total)