

# Regional Fleet Electrification Study

## Scope of Work

### A. Objective

To develop a strategy for advancing fleet electrification in the Genesee-Finger Lakes Region.

### B. Background

Fleet Electrification is the process of transitioning fleet fuel sources from fossil fuels to electricity. Key justifications for this transition include reduced emissions, improved air quality, and cost savings for vehicle operations and maintenance. Other benefits include positive public relations, the ability to leverage financial incentives including tax credits and rebates to acquire electric vehicles, compliance with current and anticipated government regulations regarding alternate fuels, and a decreased reliance on foreign fuel sources. Barriers to this transition include the high capital cost of purchasing electric vehicles, the limited availability of public and private charging infrastructure, and a lack of viable electric vehicle options for fleet operation needs.

The decision of whether to electrify a fleet is largely dependent on an individual fleet's operations needs. Public transit fleets benefit from electrification through lower bus operations, maintenance, and lifecycle costs, as well as improved air quality and reduced vehicle noise for residents in economically distressed areas. Like transit, commercial truck fleets also benefit from electrification through lower operations and maintenance costs. Companies can use fleet electrification to advertise and promote their environmental sustainability initiatives and contributions. A third fleet type that benefits from electrification is public school fleets. Switching to cleaner fuel sources not only improves air quality in areas where children congregate and reduces bus maintenance costs for school districts, but also familiarizes students with electric vehicles. Other fleets transitioning from fossil fuels to electricity include those operated by municipal public works departments, universities, utility services, and refuse collection companies.

Within the Genesee-Finger Lakes Region, several fleets are taking initial steps towards electrification. The Regional Transit Service (RTS) has been mandated by New York State to electrify 25% of its fleet by 2025 and 100% of the fleet by 2035. Through this effort, RTS will be leading the Upstate New York transit agencies in deploying electric buses; if future fleet totals stay the same, this means that RTS will eventually deploy about 400 electric buses. Fairport Electric, one of 47 municipal utilities in New York State, operates 14 electric vehicles in its fleet. The Village of Perry is working towards acquiring an electric police interceptor vehicle, while Monroe County is looking to expand the use of electric vehicles in its fleet. In addition, several school districts in the region have investigated bus electrification.

There are several challenges facing fleet electrification efforts in the region. While great progress has been made in deploying charging infrastructure over the past ten years, there remains a need for additional charging facilities to support fleet operations, as well as a need for fleet operators to better understand what charging capabilities they require as they add electric vehicles to their fleet. Another challenge is the limited availability of electric Class 5-7 (medium- to heavy-duty) trucks, which serve regional economic activities such as food and goods movement. Medium-duty trucks are often well-suited to electrification because they

operate within a limited distance of their depot and can recharge overnight. Lastly, municipalities across the region have a need for fleet vehicles with specialized capabilities, such as snow and ice removal. This project will examine relevant national models to determine their suitability for application in this region.

This project will be advanced in coordination with ongoing vehicle electrification initiatives in the Genesee-Finger Lakes Region, New York State, and beyond. These initiatives include the Georgetown Climate Center's Transportation and Climate Initiative, which is developing a memorandum-of-understanding that will establish a cap-and-invest program to advance alternate fuels among member jurisdictions. The Go All-Electric campaign sponsored by Causewave Community Partners is an ongoing effort to coordinate stakeholders and advance electrification efforts for buildings and fleets in metropolitan Rochester. Lastly, a fleet electrification workshop will be held in partnership with the Buffalo-area Clean Energy Community Coordinator and National Grid. This workshop is tentatively planned for Fall 2020 and will help coordinate stakeholder efforts across Western New York to advance fleet electrification.

### **C. Tasks**

1. Establish a Steering Committee of representatives from stakeholder organizations, including but not limited to the New York State Energy Research and Development Authority; the New York State Department of Environmental Conservation; Regional Transit Service; the Greater Rochester Clean Cities Coalition, the National Workforce Development Institute; public and private sector fleet operators; school district fleet operators; battery manufacturers; and regional utility companies (National Grid, Rochester Gas & Electric, New York State Electric & Gas, municipal utilities).
2. Develop an inventory of existing fleet electrification conditions, including 1.) Current and planned electric-vehicle deployments for medium-to-heavy duty fleets; 2.) Current and planned EV-supportive infrastructure within fleet facilities, including garages/depots; and 3.) Current utility infrastructure and planned infrastructure enhancements outside fleet facilities required to support fleet electrification.
3. Identify opportunities for fleet electrification to advance regional economic development priorities, including workforce training and development and supply chain/manufacturing opportunities.
4. Conduct three case studies to demonstrate the fleet electrification process. Potential case studies include the Regional Transit Service, a school district fleet, and a county fleet.
5. Develop draft alternatives, including policy recommendations and strategies for advancing fleet electrification; Federal, State, and Local funding opportunities for supporting fleet electrification; and contact information for stakeholders.
6. Prepare a Draft Report for review by the Steering Committee. The Draft Report will be formatted in a series of "modules" focusing on specific topics related to fleet electrification, including but not limited to fleet inventory, vehicle charging infrastructure, workforce training and development, supply chain, case studies, funding opportunities, and quick modeling techniques for route-range analysis. Each module will be based on information obtained from data collection and stakeholder interviews and include actionable recommendations and stakeholder contacts. The modules will be stand-alone documents

that can be extracted from the guidebook and provided to interested stakeholders. The Draft Report will also include recommendations, based on fleet typology, for the transition from fossil fuels to electrification.

7. Prepare a Final Report and associated Executive Summary based on Steering Committee comments on the Draft Report.

**D. Products**

1. Draft Fleet Electrification Guidebook in electronic format.
2. Final Fleet Electrification Guidebook with associated Executive Summary in electronic format.

**E. Public Participation Plan**

Per the GTC Public Participation Policy, this project is classified as a Technical/Data Collection Project. Accordingly, no public input activities are required or will be undertaken.

**F. Schedule**

- |                                            |                       |
|--------------------------------------------|-----------------------|
| 1. Scope of work approved                  | May 2020              |
| 2. Project initiation meeting              | June 2020             |
| 3. Regional inventory completed            | July-September 2020   |
| 4. Economic development analysis completed | October-November 2020 |
| 5. Select case study partners              | December 2020         |
| 6. Three case studies completed            | January-February 2021 |
| 7. Recommendations selected                | March 2021            |
| 8. Draft guidebook completed               | April 2021            |
| 9. Final guidebook completed               | May 2021              |
| 10. Financial closeout                     | June 2021             |

**G. Project Budget**

| Sources of Funds      |                 | Uses of Funds       |                 |
|-----------------------|-----------------|---------------------|-----------------|
|                       | FY 2020-21      |                     | FY 2020-21      |
| <u>Federal Funds</u>  |                 | <u>GTC</u>          |                 |
| FHWA                  | \$31,500        | Staff               | \$0             |
| FTA                   | 0               | Contractual         | 0               |
| Subtotal              | \$31,500        | Subtotal            | \$0             |
| <u>Matching Funds</u> |                 | <u>Other Agency</u> |                 |
| State (In-kind)       | \$0             | Staff               | \$0             |
| Local (In-kind)       | 3,500           | Contractual         | 31,500          |
| Local (Cash)          | 0               | In-kind Exp.        | 3,500           |
| Subtotal              | \$3,500         | Subtotal            | \$35,000        |
| <u>Total</u>          | <u>\$35,000</u> | <u>Total</u>        | <u>\$35,000</u> |