

On-Route Charging Feasibility Study

Scope of Work

A. Objective

The objective of this project is to study the feasibility of on-route charging of electric buses in RGRTA's fixed-route system.

B. Background

Governor Cuomo has announced aggressive zero emission goals for the RGRTA fleet: 25% by 2025 and 100% by 2035. RGRTA will develop a Zero Emission Master Plan that describes the strategy for achieving these goals, including fleet makeup (battery electric, hydrogen fuel cell), charging and fueling strategy, and resulting requirements these impose on our electrical and fueling infrastructure and campus. RGRTA currently has ten battery electric buses in service and plans to add ten more late in 2021, which brings its fleet up to 10% zero emission.

One important consideration for the Master Plan with respect to charging strategy is on-route charging. Having the ability to charge buses on-route reduces the amount of required electrical infrastructure on campus and can allow buses with smaller battery capacities to remain in service for longer periods without the need to return to the campus to recharge. On-route charging is not always feasible due to several factors, including fragmenting the fleet by adding buses with short-range fast charge batteries that cannot be used elsewhere in the system. Meeting the 2035 goal is the most problematic - given the 12-year life of a heavy-duty transit bus, no diesel buses would be purchased after 2024. Decisions on required infrastructure and fleet makeup need to be made within the next two-to-three years. This study will evaluate RGRTA's current fixed-route system and identify potential locations for on-route charging, including the downtown Transit Center. Each location will be evaluated against several criteria, including but not limited to utility electrical capacity, zoning restrictions, ownership restrictions, costs and physical space requirements, and availability.

C. Tasks

- Establish a project steering committee including members of RGRTA's Maintenance, Engineering, Transportation Services, and Planning departments along with a GTC representative.
- Develop a scope of work and issue an RFP (RGRTA - 6 weeks)
- Select vendor to perform the on-route charging feasibility study (RGRTA - 8 weeks)
- Develop an initial list of potential on-route charging locations based on route design and service frequency (Vendor - 8 weeks)
- Develop a set of criteria that each location will be evaluated against and a scoring mechanism (Vendor - 2 weeks)
- Research all criteria for each location and score locations (Vendor - 16 weeks)
- Summarized recommendations to RGRTA (Vendor - 2 weeks)

D. Products

Deliverables will be a Final Report consisting of the on-route feasibility study with summarized recommendations. These recommendations will be an important input for RGRTA's Zero Emission Master Plan. This master plan will guide RGRTA's path towards meeting the state mandate to have a 100% zero emission fleet by 2035.

E. Public Participation Plan

RGRTA will ensure that the consultant coordinates with property owners when necessary. This study simply identifies potential sites for on-route charging. This study will be incorporated into RGRTA's Zero Emission Master Plan which will be prepared in conjunction with New York State. As the plan is implemented, further public outreach will take place as appropriate.

F. Schedule

Schedule summarized below is reflected in the task list above.

Issue RFP and select vendor – August 2021

Conduct Feasibility Study – March 2022 (dependent on vendor's proposal)

Present recommendations – April 2022

G. Project Budget

Sources of Funds		Uses of Funds	
	<u>FY 2021-22</u>		<u>FY 2021-22</u>
<u>Federal Funds</u>		<u>GTC</u>	
FHWA	\$0	Staff	\$0
FTA	\$150,000	Contractual	0
Subtotal	\$0	Subtotal	\$0
<u>Matching Funds</u>		<u>Other Agency</u>	
State (In-kind)	\$0	Staff	\$0
Local (In-kind)	\$16,667	Contractual	150,000
Local (Cash)	0	In-kind Exp.	16,667
Subtotal	\$0	Subtotal	\$166,667
<u>Total</u>	<u>\$166,667</u>	<u>Total</u>	<u>\$166,667</u>