

PROJECT OVERVIEW REPORT

1. UTC Identifying Number
69A3551847102
2. Center Identifying Number
CAIT-UTC-REG66
3. Project Title
Comparison Analysis of Charging System Designs for Battery Electric Bus
4. Principal Investigator & Contact Information
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7. Project Description
The primary goal of this proposal is to develop a robust charging system for battery electric buses considering economic and environmental impacts. Case studies will be conducted on the selected NJ Transit bus routes focusing on three charging system design scenarios: depot charging, on-route charging, and hybrid charging that can provide equivalent energy supply and transit service. The research results will help NJ Transit develop the deployment strategy of charging infrastructure and refine the plan of garage modification in the future for a full zero-emission bus system.
8. Implementation of Research Outcomes (or why not implemented)
The intended outcome of the project is to develop a sound methodology to help NJ Transit select the most appropriate charging system design with less life-cycle cost and carbon footprint.
9. Impacts/Benefits of Implementation (actual, not anticipated)
To Be Determined

10. Dates and Budget

Start date: 3/1/2022

End date: 8/31/2023

UTC (CAIT) Dollars: \$81,012

Cost Sharing: \$0

Total Dollars: \$81,012

11. Keywords

Depot charging; on-route charging; battery electric bus; life-cycle cost; environmental impact

12. Web Links (Reports and Project Website)

<https://cait.rutgers.edu/research/comparison-analysis-of-charging-system-designs-for-battery-electric-bus/>