Decentralized Mobility Ecosystem in Columbus, Ohio

Market Solutions for 21st Century Electrified Mobility

This project will create a first-of-a-kind, decentralized and electrified mobility ecosystem, leveraging Columbus Yellow Cab's (CYC) growing fleet of EVs to bring mobility hubs (publicly available EVs and charging infrastructure for licensed drivers of any use including CYC’s taxi drivers, TSP/TNC, personal use) to three areas of the Columbus, Ohio region. The EVs and charging stations will be accessible through an app-based platform that will allow users to see all available mobility hub vehicles, provide paperless financial transactions, and enable keyless entry and EV operation.

Improving Transportation & Mobility Services Electrification by Addressing Unique Challenges

Led by Clean Fuels Ohio and CYC, the project seeks to address unique challenges surrounding the intersection between electrification planning, mobility and transportation services, community engagement, and environmental and economic sustainability.

1. Maximizing EV utilization across all use cases: Building on CYC’s robust taxi cab fleet operations to guarantee an anchor user base and implementing strategic mobility hub site location to maximize EV utilization across all use cases (taxi, TNC/TSP, car-sharing, delivery, rental cars, personal use, etc.) through a unified neutral app platform for EV access while eliminating personal financial risks of EV use for drivers.

2. Enabling increased EV & EVSE access to underserved groups focusing on equity & inclusion Using an inclusive and equitable focused lens to overcome barriers of electrification in communities with limited e-mobility/transportation service options and to address educational and employment opportunities, health risks, and environmental justice concerns.

Columbus Yellow Cab Decentralized Mobility Ecosystem Solutions & Impacts

Decentralized Mobility Ecosystem in Columbus (EVs & EVSE Hubs) Designed and Deployed

Web-based Geospatial Mobility Hub Modeling Tool Created, Tested, and Commercialized

Unified, neutral app based car-reservation platform for all vehicle use cases

Replication Playbook & Marketing Tools Created and Disseminated for similar fleets to adopt

About Columbus Yellow Cab (CYC)

Columbus Yellow Cab, a thriving traditional taxi services company in central Ohio, provides transportation services to over a million passengers per year throughout the region. CYC has operated as a centralized fleet model requiring all cab drivers to commute daily to a central fleet facility to pick up and drop off cabs for operations. Throughout its 90 year history, CYC strives for continuous improvement and innovation and is doing so today with a growing fleet of EVs and charging stations.

The U.S. Department of Energy (DOE) selected Clean Fuels Ohio for this $1.36 million awarded project, conducted from 2019 to 2022, to explore new, innovative solutions to transportation, energy, and technology integration challenges unique to a geographic area targeting end-user groups that may currently be underserved by new fuels or technologies with potential for replication in other areas across the country. This project is supported by the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (EERE) under the Vehicle Technologies Office Award Number DE-EE0008894.

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