



Metropolitan
ENERGY CENTER

The logo for Metropolitan Energy Center consists of a large yellow circle on the left, and the text "Metropolitan" in a bold, black, sans-serif font above "ENERGY CENTER" in a smaller, black, sans-serif font to its right.

Electrifying Terminal Trucks in Unincentivized Markets

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Metropolitan Energy Center
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Project ID: ti117

This presentation does not contain any proprietary, confidential, or otherwise restricted information.

Overview

Timeline

- **Start:** October 2019
- **End:** December 2022
- **51% Complete**

Barriers Addressing

- National Security
- Economic Growth
- Affordability for Businesses

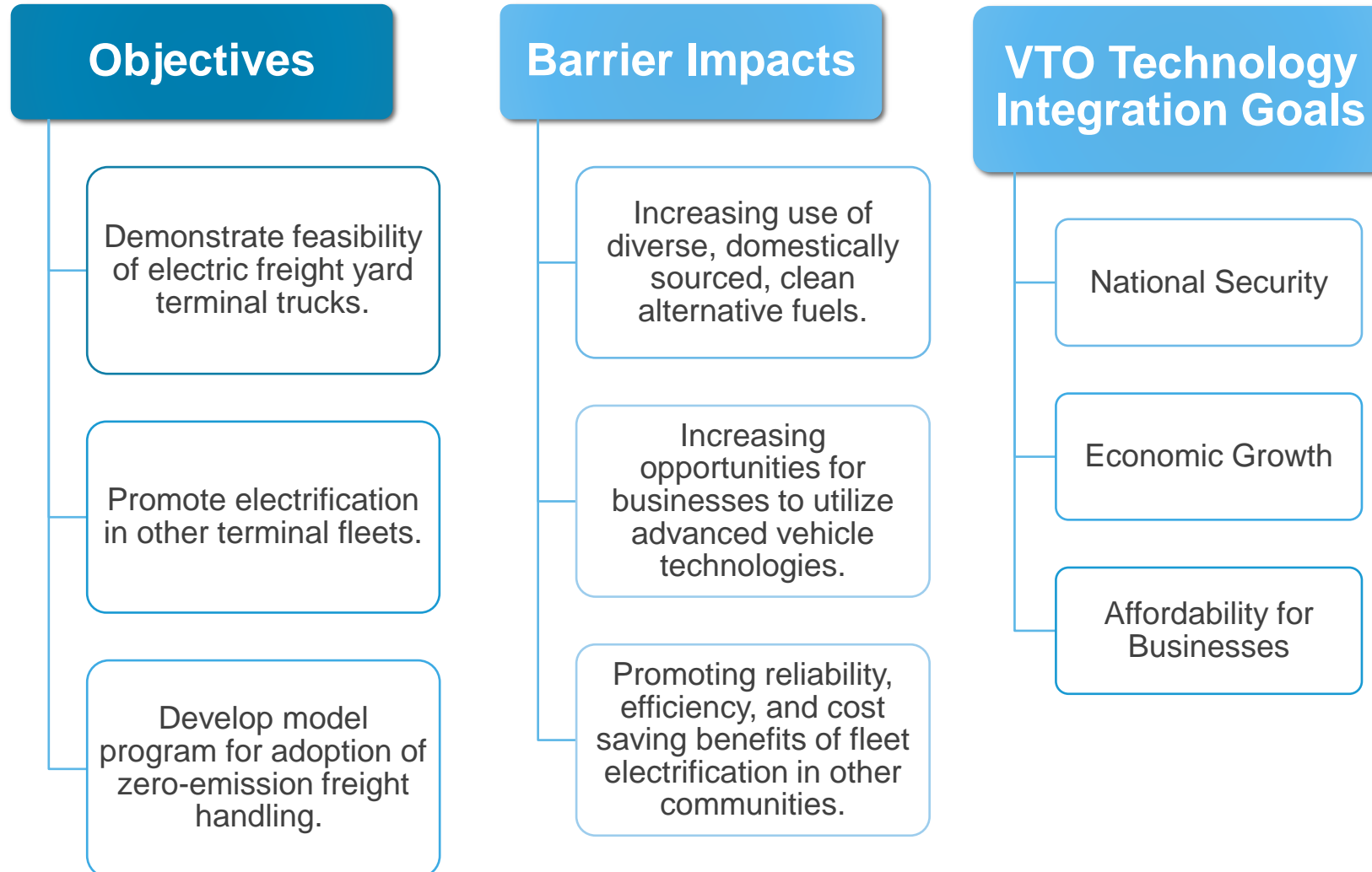
Budget

- **Total: \$1,781,776**
 - DOE: \$780,000
 - Local: \$1,001,776
- **FY 2020: \$1,593,601**
- **FY 2021: \$70,933**
- **FY 2022: \$117,242**

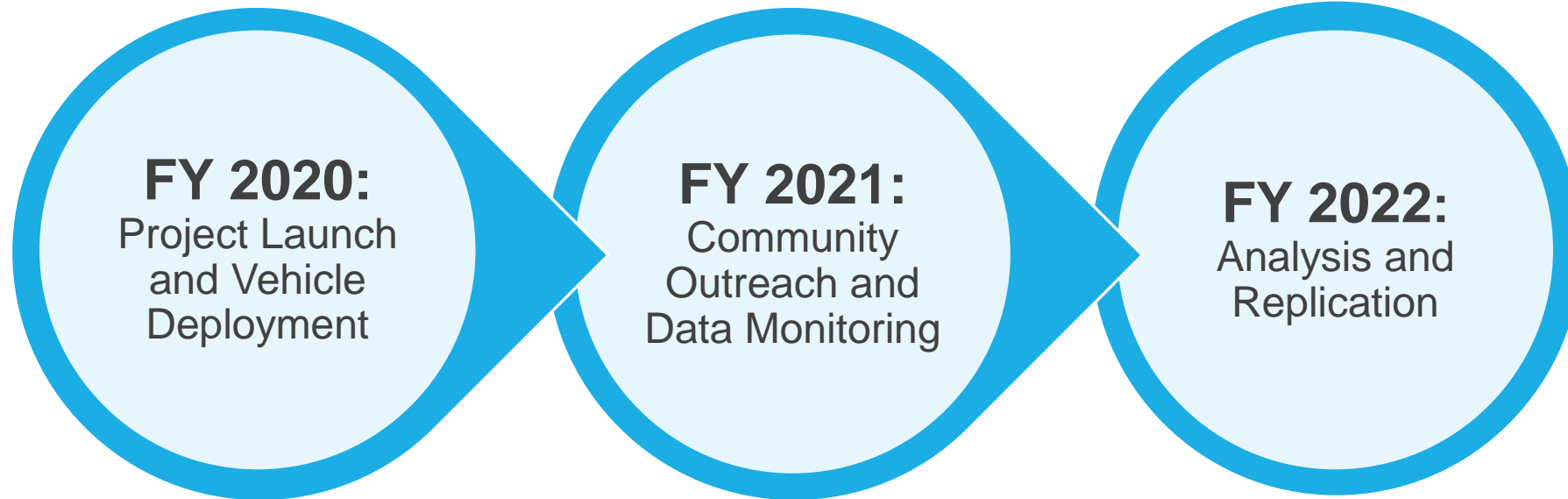
Partners

- Orange EV
- Hirschbach Motor Lines
- Johnson County Wastewater Department
- Lazer Spot, Inc.
- Missouri University of Science and Technology

Project Objectives



Approach



- Execute subrecipient contracts
- Develop Communications Plan
- Deploy vehicles

- Implement Communications Plan
- Begin data monitoring, fleet roundtables, and demo surveys
- Hold community workshop

- Complete data analysis
- Develop outreach materials
- Present findings at national conference

Milestones

Critical Milestones	Deadline	Status
FY 2021		
100% of Subrecipient Contracts Executed	9/30/2021	Complete
Data Collection Initiated	3/31/2021	Complete
50% of Outreach Documentation Completed	12/31/2021	In Progress
100% of AFVs Procured	12/31/2021	Complete
Go/No-Go: Community Workshop Completed	12/31/2021	In Progress
FY 2022		
100% of Outreach Documentation Completed	12/31/2022	Not Started
Conference Participation Completed	12/31/2022	Not Started
Data Preserved	12/31/2022	Not Started
Project Evaluation Completed & Released	12/31/2022	Not Started

Project Accomplishments and Progress



Subrecipient fleets deployed four Orange EV T-Series pure electric terminal trucks in FY 2020.

As of May 14, ten fleets have used the Orange EV T-Series demo truck.

Began fleet roundtables and administering subrecipient and demo surveys.

Project Accomplishments and Progress



Johnson County's truck at their new wastewater treatment facility in Leawood, KS.



Orange EV's new tandem axle truck that was deployed by Lazer Spot at a manufacturing facility and distribution center in the Chicago metro area.

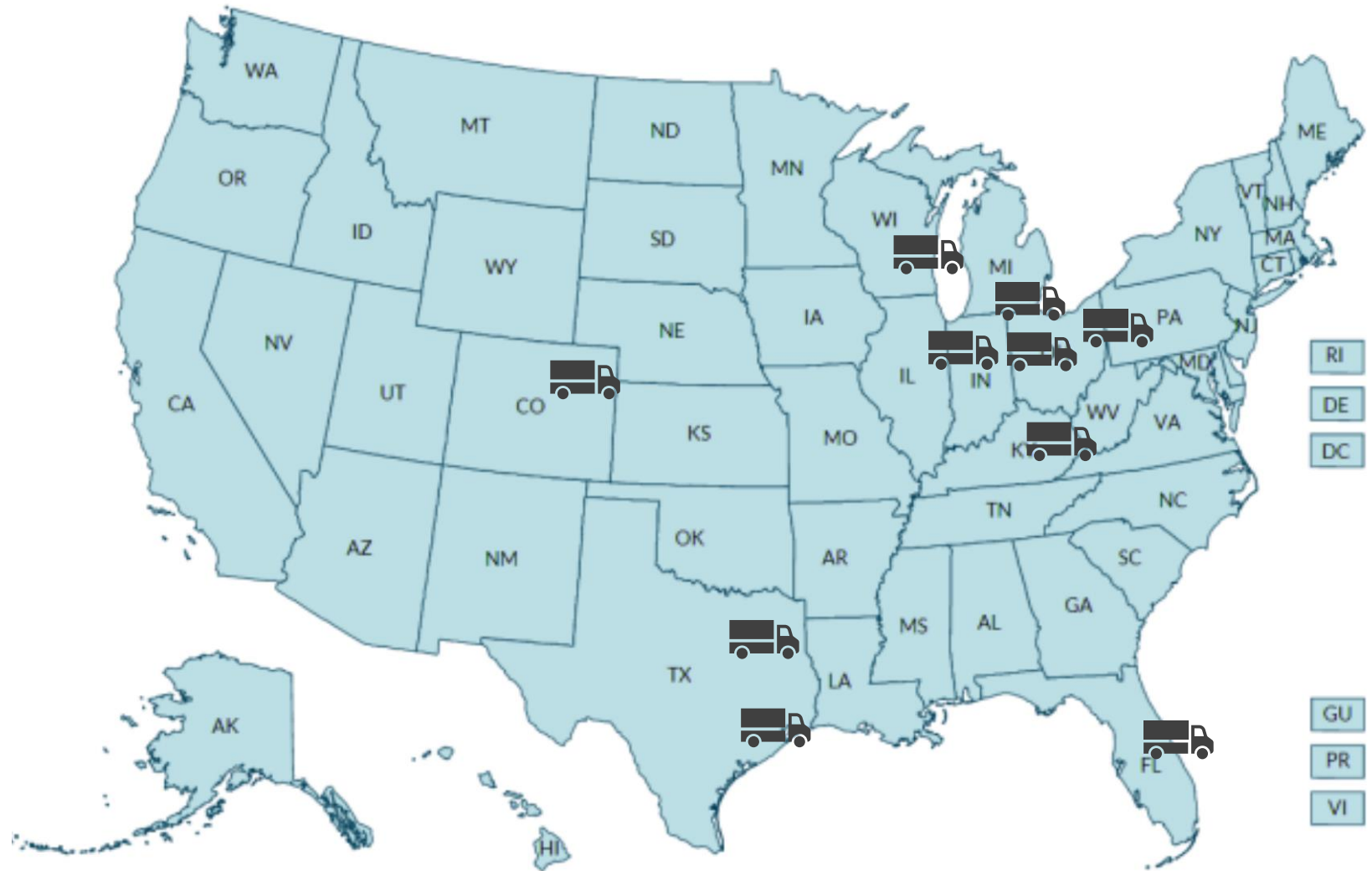


Hirschbach Motor Lines' truck at their client site in Kansas City, KS.

Project Accomplishments and Progress

Demo Truck Locations To Date

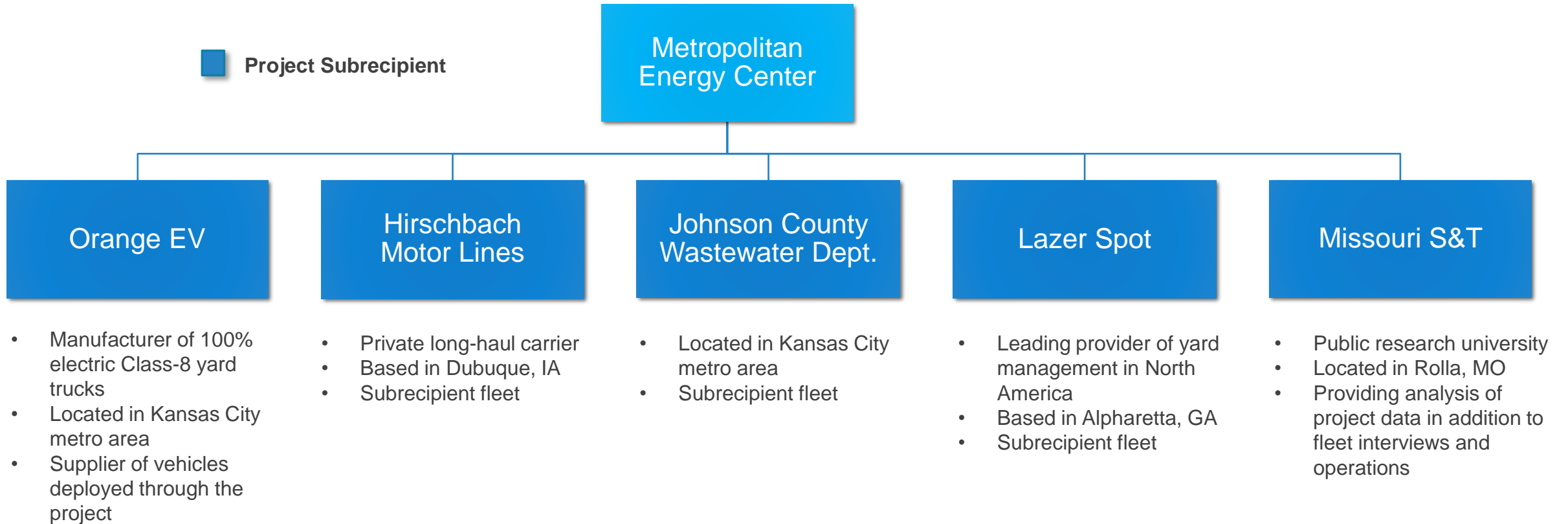
- Apopka, FL
- Fort Wayne, IN
- Grand Rapids, MI
- Fort Worth, TX
- Baytown, TX
- Aurora, CO
- Goshen, IN
- Findlay, OH
- Plymouth, WI
- Georgetown, KY



Project Accomplishments and Progress

- **First subrecipient roundtable focused on cold weather experiences and best practices.**
 - *At one site electric trucks were still moving (never out of service) while the diesel were frozen/gelled.*
- **First subrecipient quarterly survey focused on their companies' experiences, concerns, considerations, etc. regarding alternative fuels.**
 - *Besides purchasing the vehicle, they stated installation of the charging equipment and increased state/local sales taxes with a more expensive vehicle were the most expensive costs to using alternative fuels.*
- **Demo user surveys focus on their experience with the truck and their companies' experiences, concerns, considerations, etc. regarding alternative fuels.**
 - *Several users stated the truck's torque and ease of operation surprised them.*

Collaboration and Coordination



Overall Impact

Achievements To Date:

- ❖ Subrecipient fleets deployed four Orange EV T-Series pure electric terminal trucks in FY 2020.
- ❖ As of May 14, ten fleets have used the project demo truck.
- ❖ Began fleet roundtables and subrecipient and demo user surveys.

Upcoming Activities:

- ❖ Continue planning community workshop.
- ❖ Expand network to promote demo truck opportunity to additional fleets.
- ❖ Generate outreach documents to promote electrification in other fleets.

Any proposed future work is subject to change based on funding levels.



Summary

Objectives

- Demonstrate feasibility of electric freight yard terminal trucks.
- Promote electrification in other terminal fleets.
- Develop model program for adoption of zero-emission freight handling.

Approach

- **FY 2020:** Project Launch and Vehicle Deployment
- **FY 2021:** Community Outreach and Data Monitoring
- **FY 2022:** Analysis and Replication

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