



***Making Your Community
EV Ready***

April 26, 2022



Agenda



1. Welcome & Intro

2. Why EV Fleets?

3. EV Fleet Planning

4. Federal Funding Opportunities

5. Questions & Answers



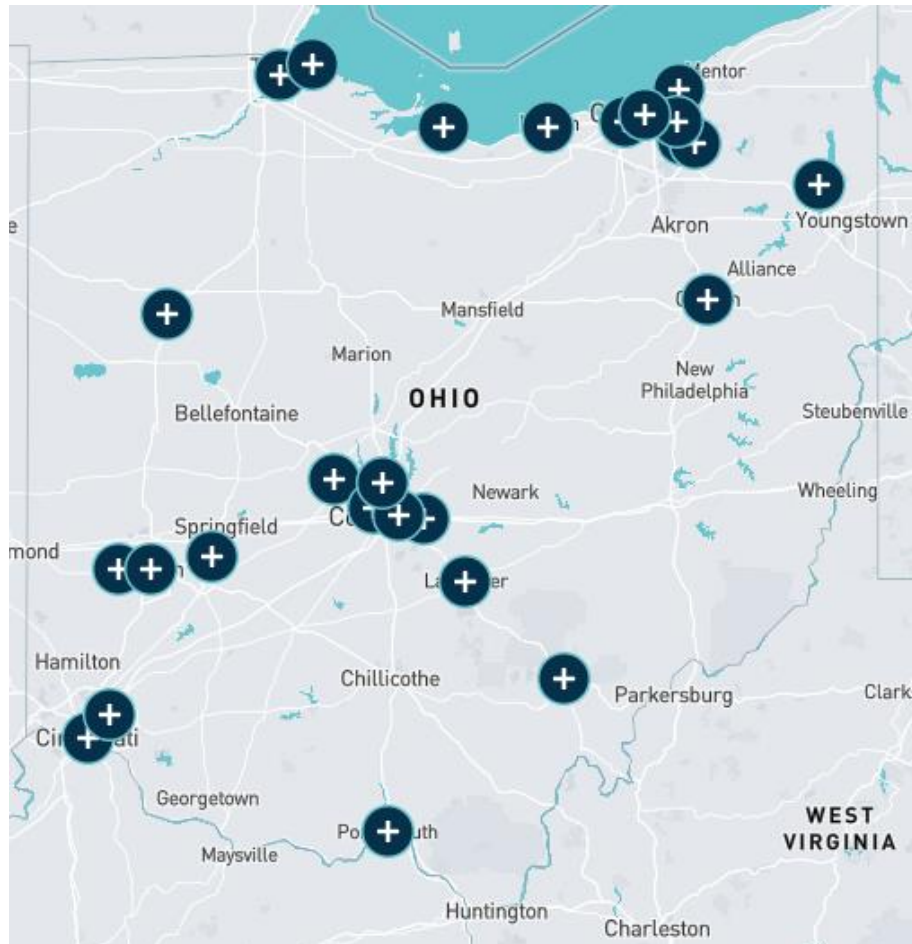
We are making Ohio a cleaner and
more prosperous state





**Power A Clean
Future Ohio**
LOCAL COMMUNITIES LEADING THE WAY

Power a Clean Future Ohio Communities:



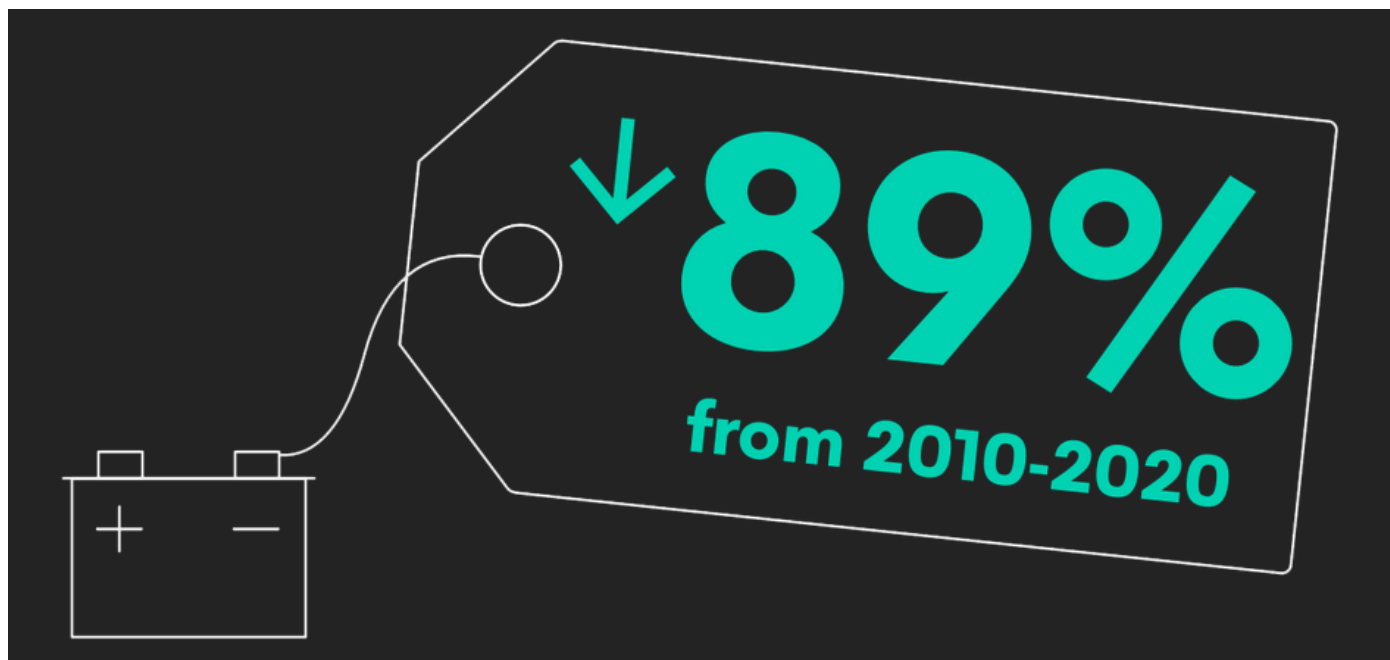
**FREE EV Fleet & EVSE
Analysis and Planning
services are available
to PCFO Leading
communities from
Clean Fuels Ohio**

WHY EV FLEETS?



BATTERY COSTS FALLING FAST

Falling lithium-ion battery prices



\$137/kWh (volume weighted price average)

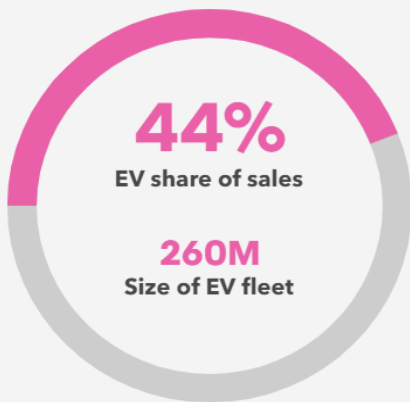
Most analysts agree **EV price parity** vs conventional fuels **when battery costs are <\$100/kWh**, likely achieved in **the mid-2020s**.

2020 US EV MARKET SHARES

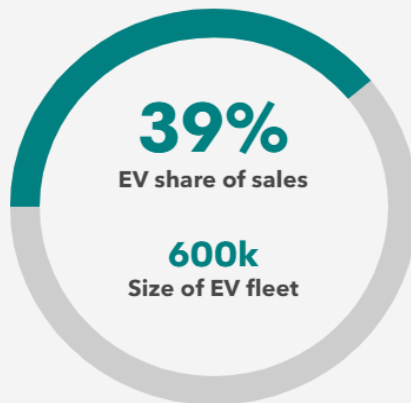
BloombergNEF

Electric Vehicle Outlook 2021

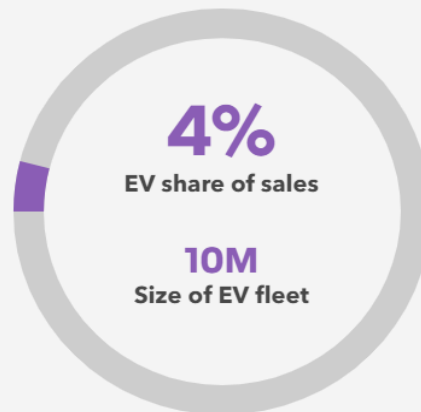
2 and 3 wheelers



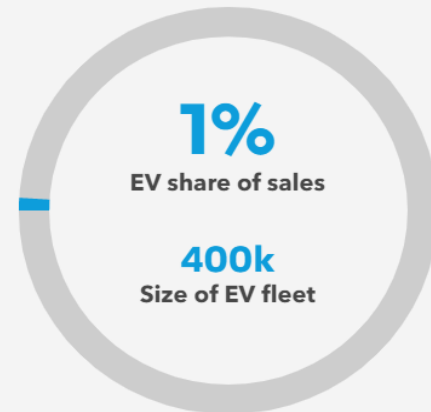
Buses



Passenger cars



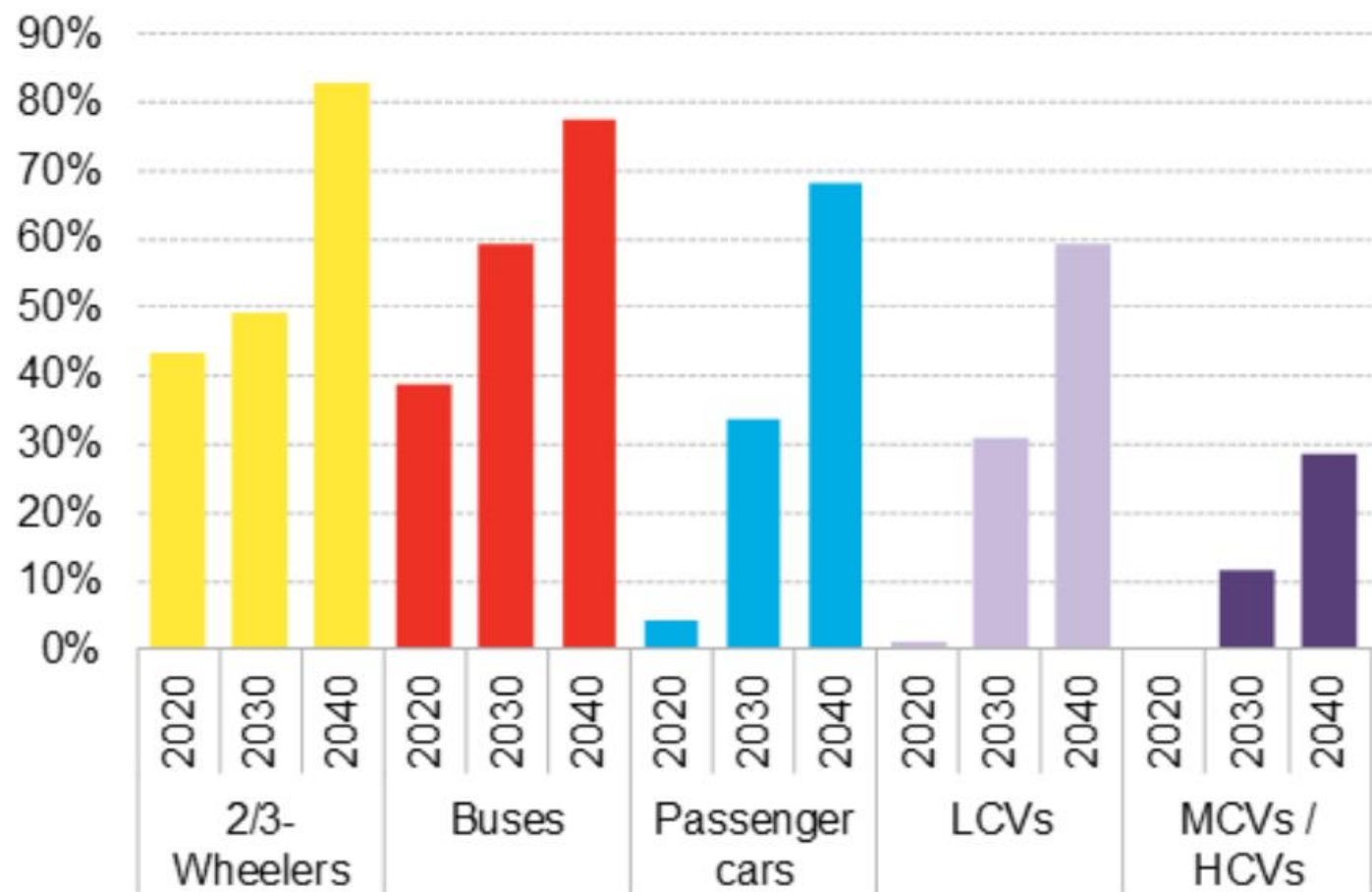
Vans and trucks



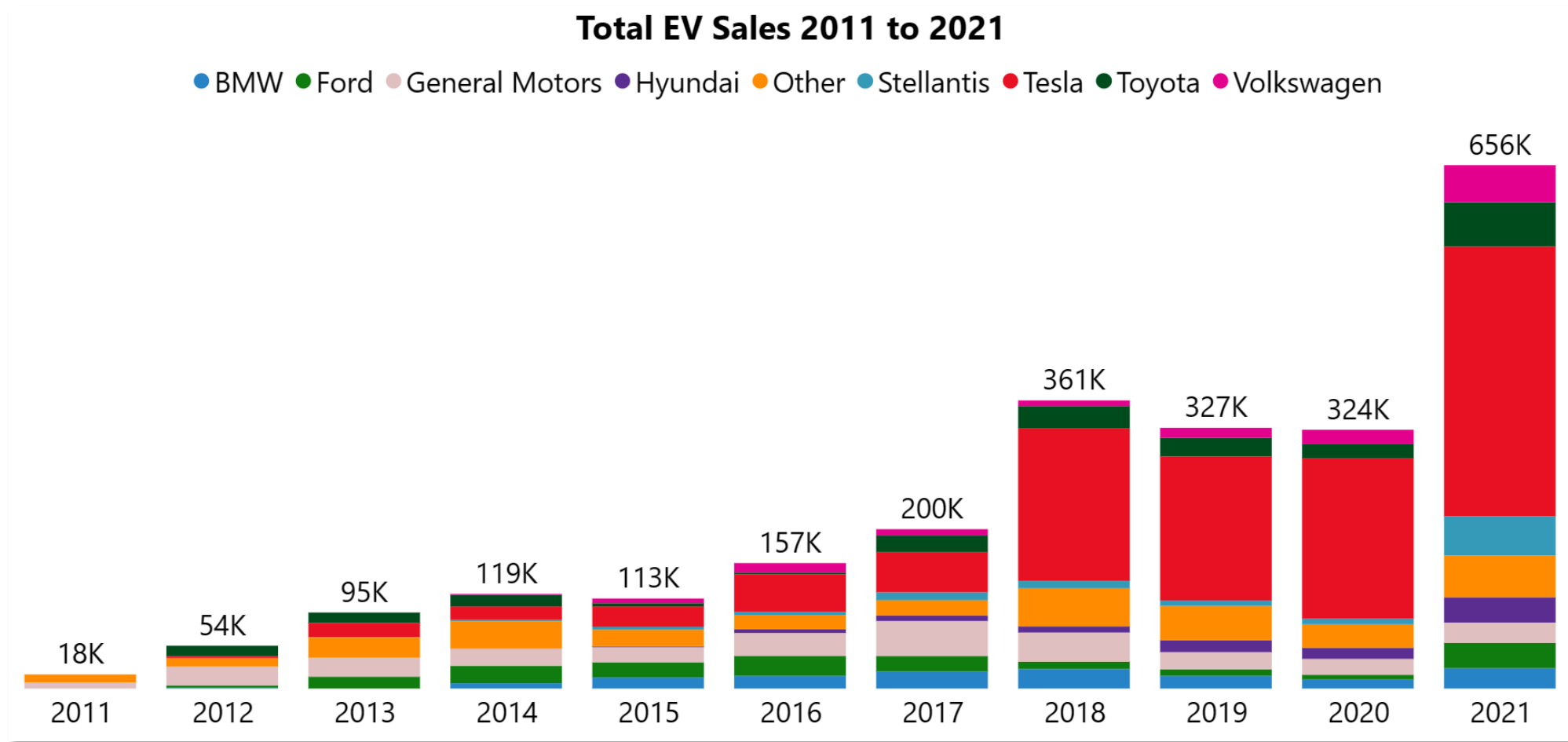
US EV SALES PROJECTIONS

BloombergNEF

Electric Vehicle Outlook 2021



Source: BNEF. Note: LCVs = light commercial vehicles. M/HCVs = medium/heavy commercial vehicles.



U.S. EV Sales Soar 102% in 2021

- 655K EVs sold in 2021, more than a quarter of all EVs sold
- EVs achieve 5.8 percent market share in Q4
 - 4.4 percent market share for the year
- 71K EVs sold in December sets all-time record
 - Monthly sales records in each month of 2021

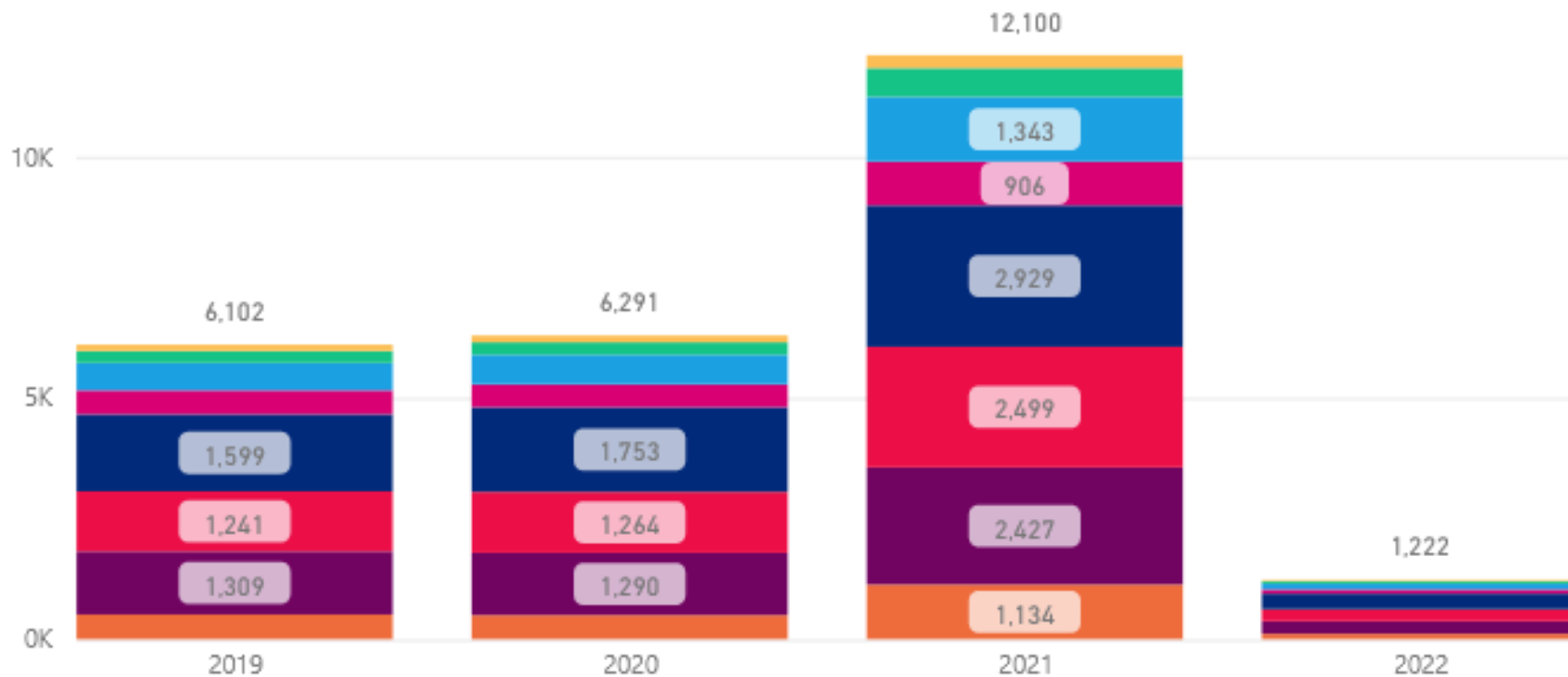
OHIO EV SALES GROWTH

2021 Ohio EV Sales Set Record Pace

[*https://drive.ohio.gov/wps/portal/gov/driveohio/about-driveohio/resources/ohio-alt-fuel-vehicle-reg-dashboard](https://drive.ohio.gov/wps/portal/gov/driveohio/about-driveohio/resources/ohio-alt-fuel-vehicle-reg-dashboard)

New AFV Registrations By Region

Region ● Akron-Canton ● Cincinnati ● Cleveland ● Columbus ● Dayton ● Other ● Toledo ● Youngstown



****Data includes dedicated battery electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV)**



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OHIO'S CLEAN TRANSPORTATION ADVOCATE

EV COST SAVINGS



Electric vehicles **save consumers money**

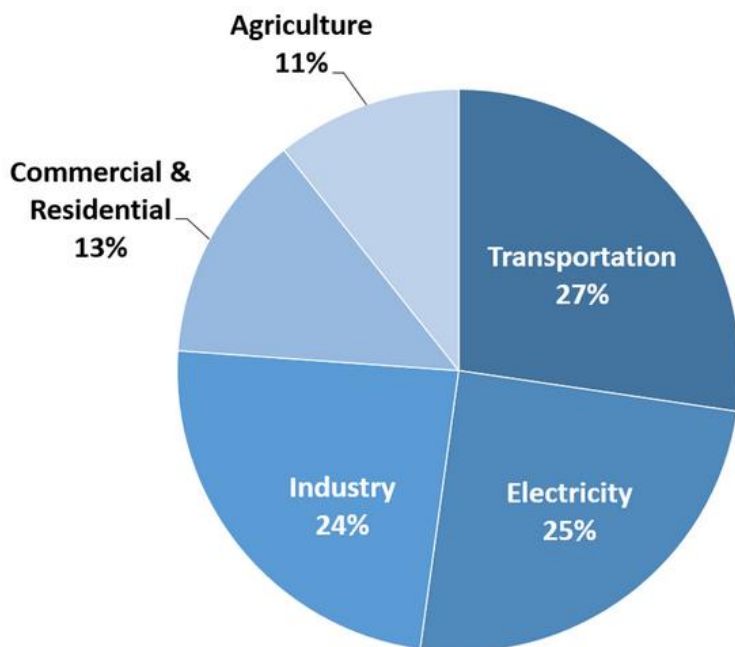
A **Consumer Reports** analysis of electric vehicle (EV) ownership costs takes fuel, maintenance and repair costs into account, in addition to purchase price, financing, and resale value.

Owning an electric vehicle will **save the typical driver \$6,000 to \$10,000 over the life of the vehicle**, compared to owning a comparable gas-powered vehicle.



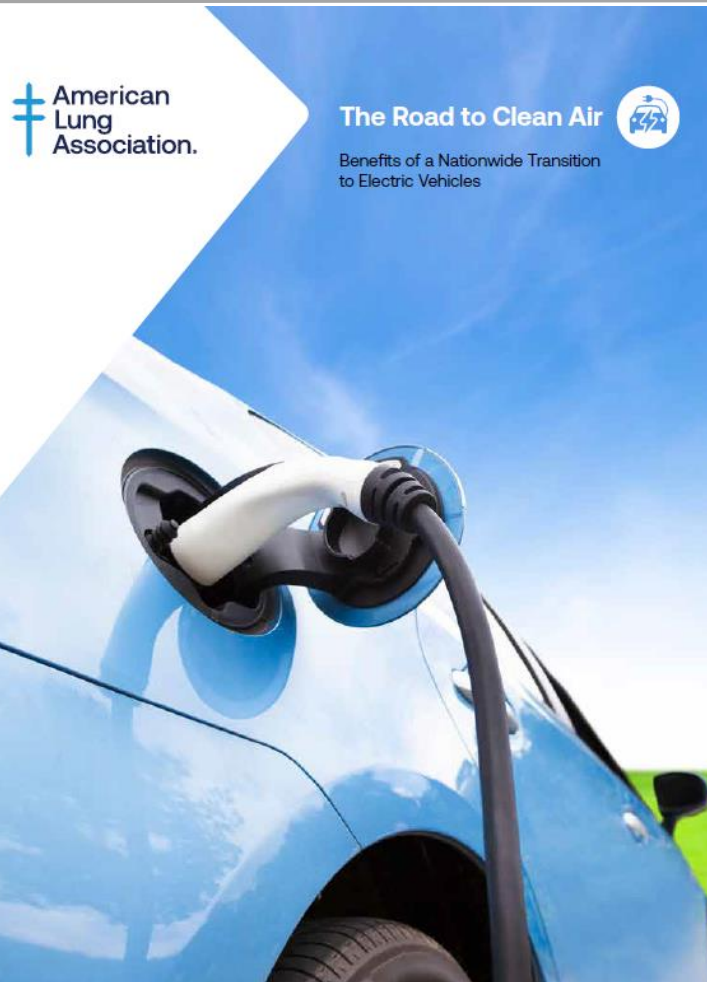
DECARBONIZATION & CLEAN AIR

Total U.S. Greenhouse Gas Emissions
by Economic Sector in 2020



Total Emissions in 2020 = 5,981 [Million Metric Tons of CO₂ equivalent](#). Percentages may not add up to 100% due to independent rounding.

<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>



<https://www.lung.org/clean-air/electric-vehicle-report>

- **27%** of US greenhouse gas emissions come from transportation, more than any other sector
- transitioning to a nationwide electric transportation system by 2050 would **save approximately 6,300 lives every year and avoid 93,000 asthma attacks and 416,000 lost work days annually**

Clean Cities Energy and Environmental Justice (EEJ) Initiative

Provide Clean Cities Coalitions training, resources, and funding to pursue EEJ activities



Benefit DACs through capacity building, community engagement, technical assistance, and training



Develop best practices for future Clean Cities EEJ activities.

Electric Vehicle Charging Equity Considerations

Ensuring investments in electric vehicle charging benefit disadvantaged communities

Electric Vehicle Charging and the Justice40 Initiative

Many of the burdens from the transportation and energy systems have been historically and disproportionately borne by disadvantaged communities. Unequal distribution of benefits from the transportation and energy systems has prevented disadvantaged communities and minority-owned and women-owned businesses from realizing equitable benefits from these systems, while other historic barriers to transportation have made facilities inaccessible to individuals with disabilities. For these reasons, it is important to emphasize equity considerations when planning investments in electric vehicle charging stations and avoid exacerbating existing disparities in the transportation system.

The Justice40 Initiative, established in January 2021 by [Presidential Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad](#), states a goal that at least 40 percent of the overall benefits of certain Federal investments flow to disadvantaged communities (DACs). The [Interim Implementation Guidance for the Justice40 Initiative](#), released in July 2021, identifies clean transportation as a Justice40 covered program and identifies access to electric vehicle charging stations as an example benefit of a covered program.

Electric Vehicle (EV) Charging Justice40 Map Tool

Consistent with the Justice40 Interim Guidance, U.S. Department of Transportation (DOT) and U.S. Department of Energy (DOE) developed a joint interim definition of disadvantaged communities (DACs) for the National Electric Vehicle Infrastructure (NEVI) Formula Program. The joint interim definition



Electric Vehicle Charging Justice40 Map displays DOE/DOT interim guidance disadvantaged communities.

ES Division	
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PROJECT INFORMATION

Funding: U.S. Department Of Energy, Office Of Energy Efficiency And Renewable Energy

CONTACT US

If you have questions on the joint interim definition of disadvantaged communities, please contact doe-dot-jo.ta@nrel.gov.

RELATED ORGANIZATIONS

[Energy and Global Security](#)

EV FLEET PLANNING PROCESS





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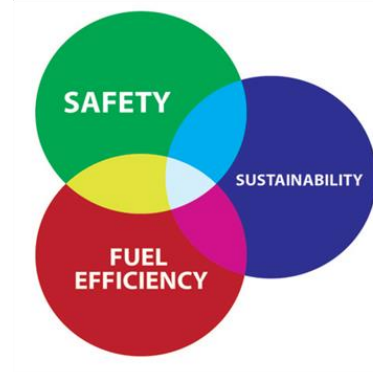
REPLACEMENT FEASIBILITY



GETTING THE JOB DONE (FLEET PERFORMANCE)



SUSTAINABILITY GOALS & PLANNING



STAYING WITHIN BUDGET



**Total Cost
of Ownership**

EV FLEET ANALYSIS & PLANNING



1) Understanding Fleet Operations

- a) Goal Setting
- b) Data Gathering & KPIs

2) Options & Replacements

- a) Available Vehicle Options
- b) Replacement Feasibility

3) Future Planning & Management

- a) Infrastructure Needs
- b) Management Best Practices

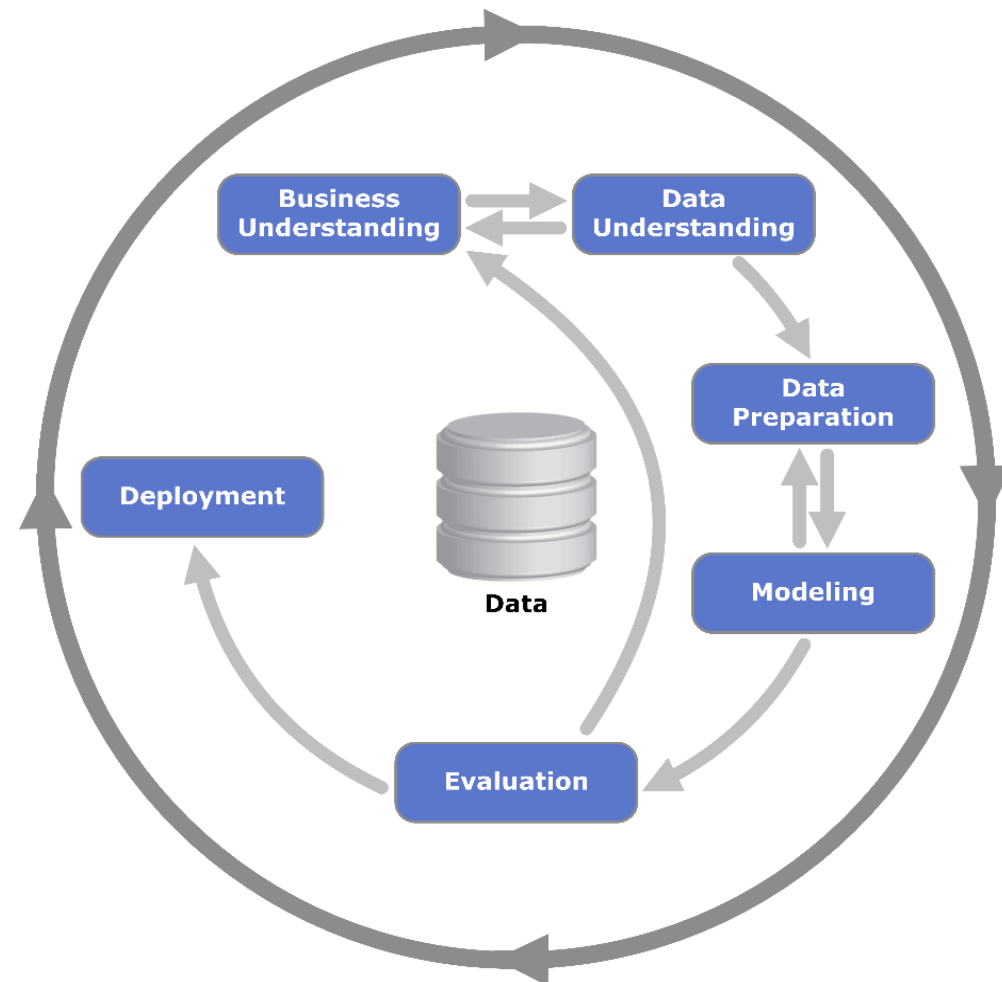
1. Understanding Fleet Operations

a. Goal Setting

- ✓ Establish fleet criteria and goals
- ✓ Cost-Effectiveness (Lifecycle or Shorter Payback)
- ✓ Sustainability/Other Goals

b. Data Gathering & KPIs

- ✓ Gather inventory and operational data
- ✓ Baseline performance assessment—key performance indicator (KPI) metrics



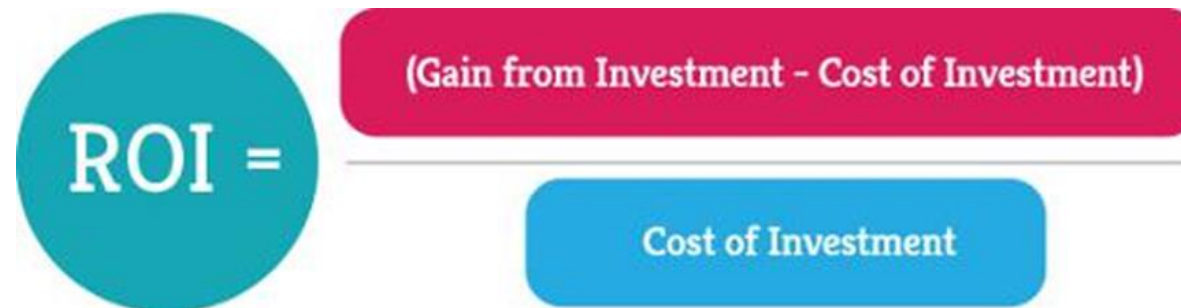
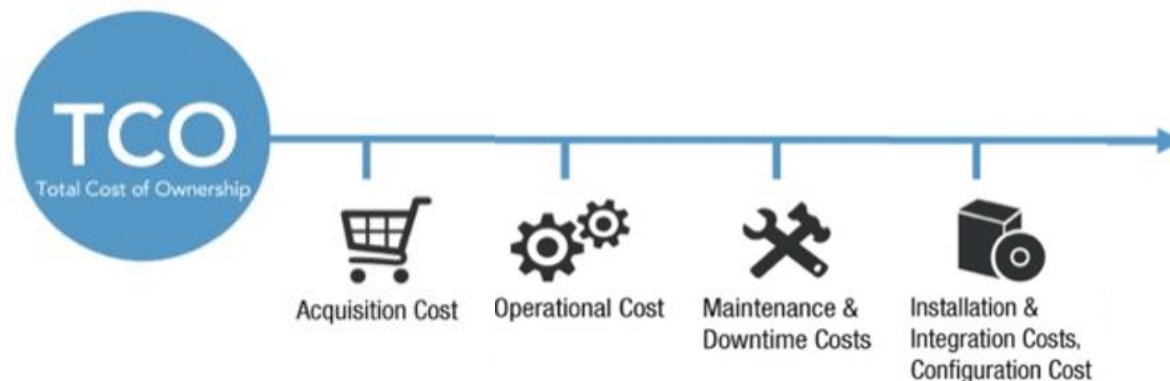
2. Options & Replacements

a. Available Vehicle Options

- ✓ Commercially Available EVs & PHEVs
- ✓ Purchasing Methods
- ✓ Near-Term and Threshold Scenarios

b. Replacement Feasibility

- ✓ ROI & TCO Modeling Tools
- ✓ Fleet-Specific Payback Timelines
- ✓ Drive & Duty & Battery Needs
- ✓ GHG Emissions Savings



3. Future Planning & Management

a. Infrastructure Needs

- ✓ EV Charging Station Requirements
- ✓ Vendor and Ownership Model Options
- ✓ Procurement, Installation, Operation, and Maintenance Considerations

b. Management Best Practices

- ✓ EV Implementation Resources
- ✓ Alternate GHG Emissions Savings Practices
- ✓ Funding Guidance



FEDERAL EV & EVSE FUNDING OPPORTUNITIES



Priority Clean Transportation Areas of the IIJA/BIL



\$5 billion for states to build a national EV charging network along corridors (U.S. DOT program)



\$2.5 billion in community grants for EV charging, as well as hydrogen, natural gas, and propane fueling infrastructure (U.S. DOT program)



\$5.6 billion in support of low- and no-emission transit bus deployments (U.S. DOT program) – **2022 Deadline May 31**



\$5 billion in support of electric school bus deployments (U.S. EPA program)

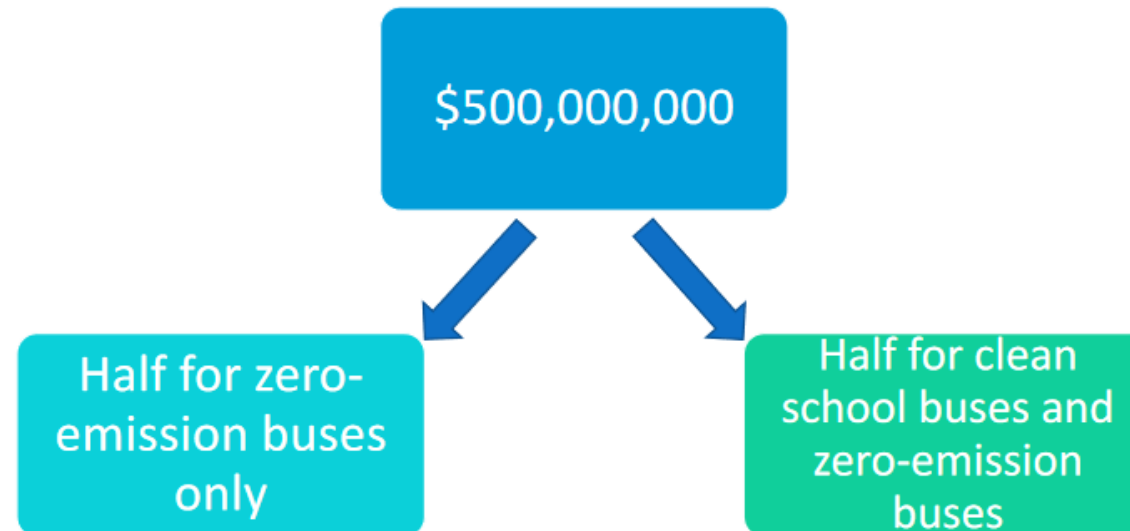
2022 Low-No & Buses and Bus Facilities Competition

Available Funding: Approximately \$1.72 billion

- Buses and Bus Facilities Competitive: Approximately \$545 million
- Low or No Emissions: \$1.176 billion (\$294 million for low emission projects)

Important Dates	
Notice of Funding Opportunity	March 4, 2022
Applications Due	11:59pm EST May 31, 2022
Project Evaluations	June-July, 2022
Award Announcement	No Later than August 15, 2022
Pre-Award Authority	Starts on date of project announcement
Available for Obligation	The year of award plus 3 years – September 30, 2025

2022 Clean School Bus Rebate Program - Available Funding



- EPA may award more than \$500,000,000 based on applicant demand and other considerations.
- The amount received by all eligible entities in a State cannot exceed 10 percent of the total amount awarded each fiscal year.



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