

2024 Alabama Electric Vehicle Infrastructure Plan

For Whatever Drives You

DRIVE ELECTRIC ALABAMA



ACKNOWLEDGEMENTS

The Alabama Department of Economic and Community Affairs (ADECA) acknowledges the following EV Advisory Group stakeholder organizations and fellow cabinet agencies for the valuable input, support, time, and expertise they provided in development of this Plan. ADECA would also like to acknowledge the Alabama Clean Fuels Coalition (ACFC) for their efforts in developing and progressing this plan, as well as their support in facilitating interactions across a wide variety of stakeholders.

Alabama Governor Kay Ivey	Alabama Transportation Planners Association
Alabama Association of Emergency Managers	Association of County Commissions of Alabama
Alabama Association of Regional Councils (AARC)	Auburn University Transportation Research Institute
Alabama Automotive Manufacturers Association	Automobile Dealers Association of Alabama
Alabama Clean Fuels Coalition	Brice Consulting
Alabama Department of Agriculture & Industries	Burr & Forman LLP
Alabama Department of Commerce	Chamber of Commerce Association of Alabama
Alabama Department of Conservation and Natural Resources	City of Birmingham
Alabama Department of Economic & Community Affairs	Conservation Alabama
Alabama Department of Environmental Management	Creek Indian Enterprises Development Authority
Alabama Department of Finance	Direct Communications
Alabama Department of Labor	Economic Development Partnership of Alabama
Alabama Department of Transportation	Electric Cities of Alabama
Alabama Emergency Management Agency	Electric Power Research Institute
Alabama Governor's Office of Minority Affairs	Energy Institute of Alabama
Alabama League of Municipalities	Grow Southeast Alabama
Alabama Municipal Electric Authority	Honda Development & Manufacturing of America
Alabama Port Authority	Hyundai Motor Manufacturing Alabama
Alabama Power Company	Mercedes-Benz U.S. International, Inc.
Alabama Propane Gas Association	Petroleum & Convenience Marketers of Alabama
Alabama Rural Electric Association	PowerSouth Energy Co-Op
Alabama State Electrical Workers Association	Tennessee Valley Authority
Alabama Technology Network	Toyota Motor North America
Alabama Tourism Department	Resident EV Owners
Alabama Transportation Institute	

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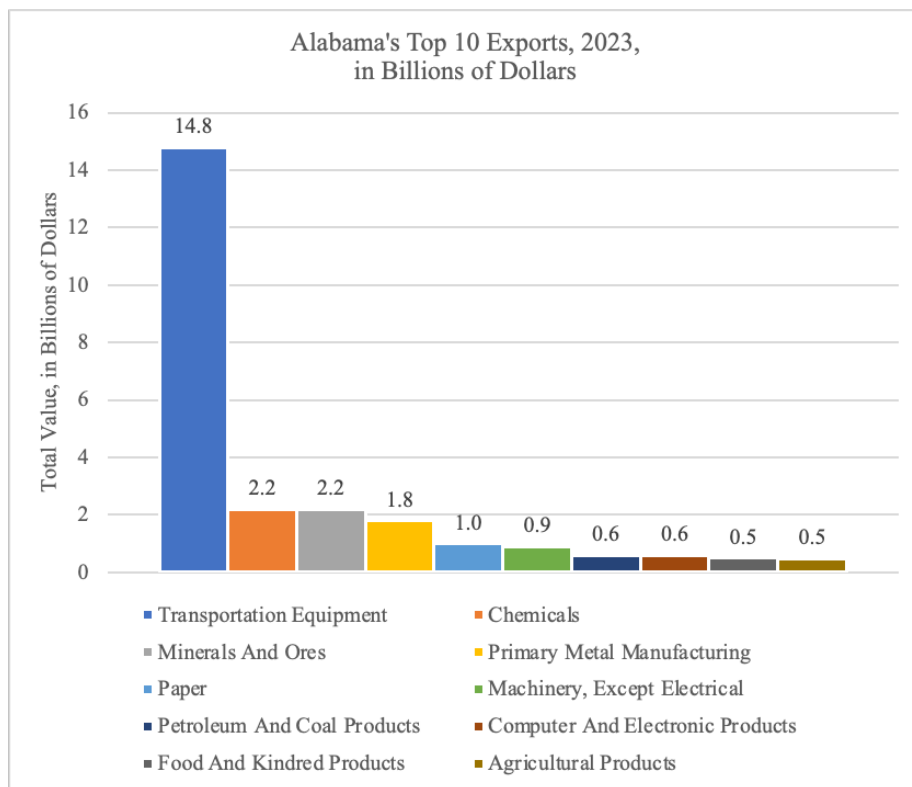
1. Introduction

This fourth version of Alabama’s Electric Vehicle Infrastructure Plan (EVIP) has been developed by ADECA to help establish annual goals for the Electric Vehicle Charging Infrastructure Program and the National Electric Vehicle Infrastructure (NEVI) Formula Program, both administered by ADECA. The federal government requires the State to submit an annual NEVI program plan, distinct from this document, that is available on the [ADECA NEVI webpage](#).

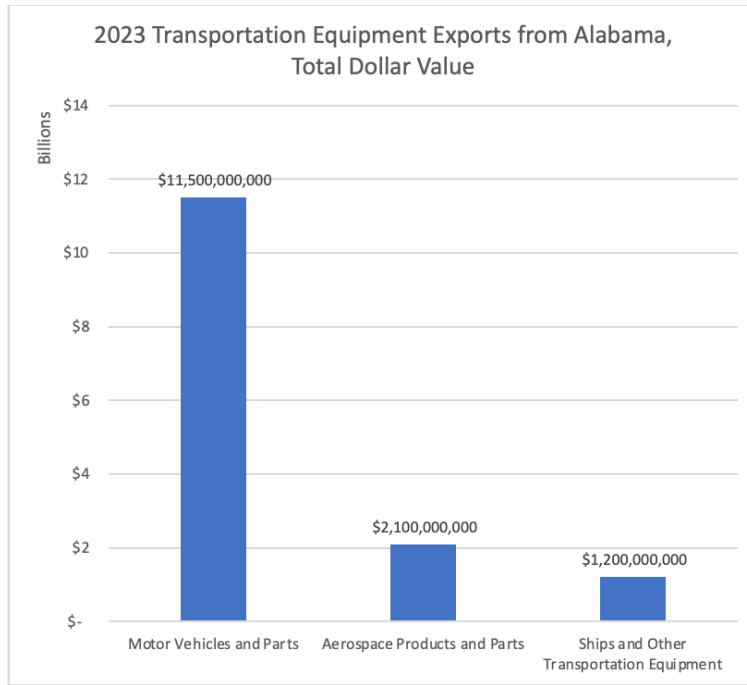
ADECA established an EV Advisory Group in 2020 that has expanded several times and now includes 66 individuals representing 49 organizations and citizen EV drivers. Beyond making specific recommendations for EV charging infrastructure programs administered by ADECA, the EV Advisory Group provides recommendations on topics including, but not limited to, workforce upskilling, public and private fleet conversions, EV charging corridors, emergency response, charging station resilience, EV registration fees, highway signage, public transportation, and medium duty(MD)/heavy duty (HD) EV charging.

2. Automotive Manufacturing is a Driver of Alabama’s Economy

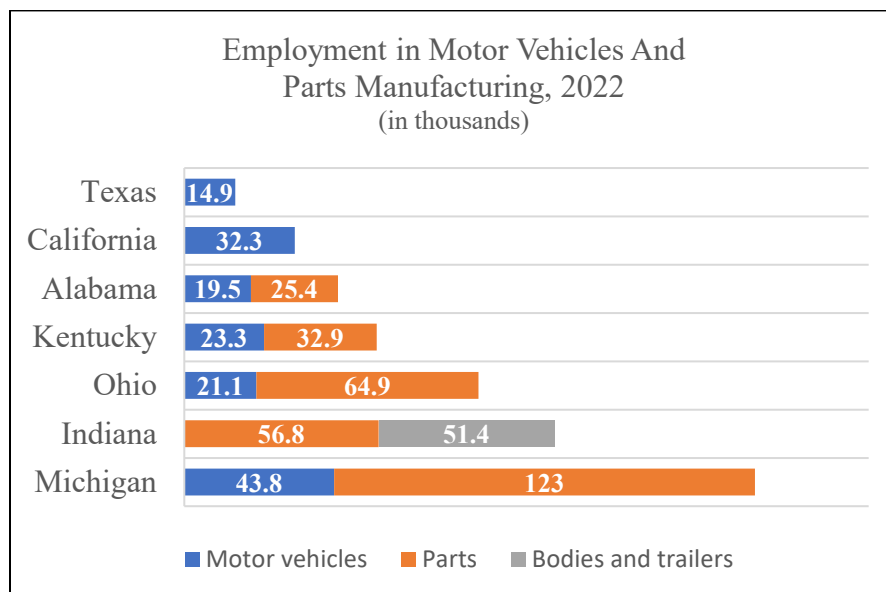
Alabama exports surged to over \$25.5 billion in 2022, setting a new annual record that was driven by rising overseas shipments of Alabama-made vehicles, aerospace parts, chemicals, minerals, metals, and paper products, according to data from the [Alabama Department of Commerce](#). Alabama’s top export category, transportation equipment, has about the same dollar value as the next nine categories combined.



Approximately 85% of the transportation equipment exported from Alabama is motor vehicles and motor vehicle parts worth approximately \$8.9 billion. Fifteen passenger automobile models manufactured in Alabama are exported to 38 countries and territories around the globe, according to [Autos Drive America](#).



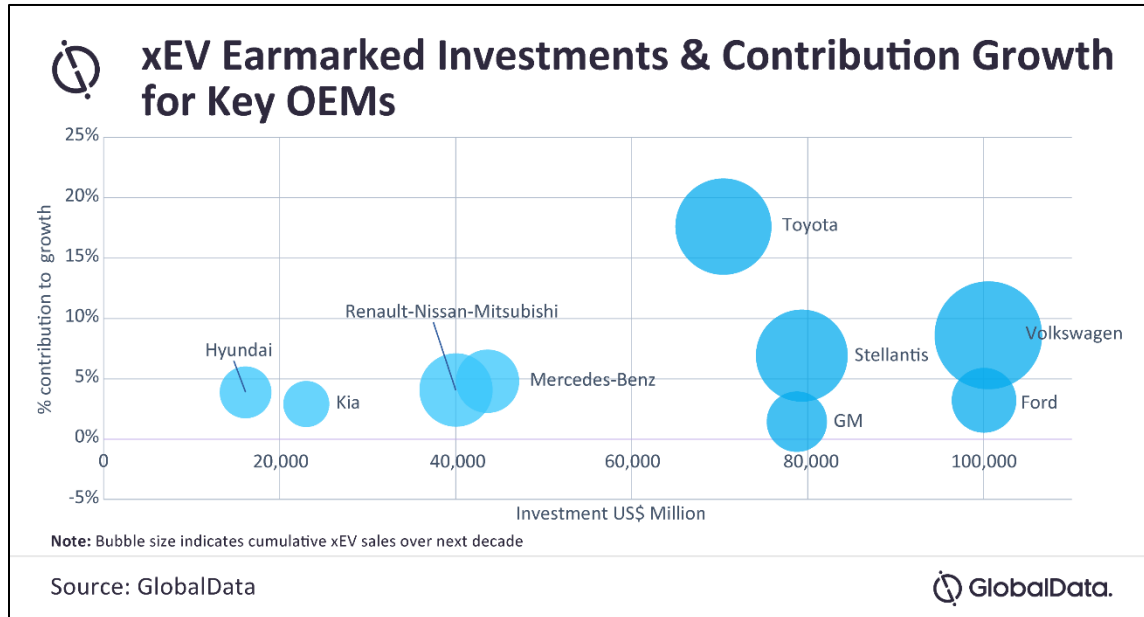
About 45,000 Alabama workers produce 1.3 million cars, light trucks, and motor vehicle parts per year, securing Alabama's status as the country's No. 5 motor vehicle producing state and the No. 3 motor vehicle exporting state. Over 150 Tier 1 and Tier 2 automotive suppliers currently support [production](#) from Hyundai, Honda, Toyota, Mercedes-Benz, Mazda, Autocar, and New Flyer.



Source: Bureau of Labor Statistics: Industry at a Glance: <https://www.bls.gov/iag/tgs/iagauto.htm>

3. Automakers Going Electric with \$600 Billion Investment

Nearly \$600 billion in global operational investments have been announced by automakers looking to secure their future position in the market, [according to data analytics firm GlobalData](#). The nature of these investments makes it clear that there is no turning back; the future will be electric. Specifically, these investments focus on activities in the next decade to develop production facilities, technology, EV batteries, and new products and to secure a future raw material supply (primarily semiconductor and battery materials).



* OEM = Original Equipment Manufacturer

The Southeast United States has been a hot zone for EV manufacturing projects, according to [AREA Development](#). EV investments in the Southeast reached \$54.6 billion in 2022—a 128% year-over-year increase, according to the [Southern Alliance for Clean Energy](#).

Alabama is well-positioned to cement its status as a globally competitive automotive manufacturing state for the next 100 years if we capitalize on the opportunities of these global investments.

4. Alabama Positioned for Many Wins as EV Ecosystem Matures

The Alabama Department of Commerce estimates that, since 2020, expansion or new location projects directly involving Original Equipment Manufacturer (OEM) investments in EV lines, battery manufacturing and its supply chain, EV battery recycling, and EV battery charging technology resulted in a total investment of approximately \$2.1 billion and 2,438 new jobs created.



Mercedes-Benz has invested over \$7 billion in its Alabama operations. This includes a \$1 billion expansion, announced in 2017, to launch EV production at its Tuscaloosa plant and construct an EV battery plant in Bibb County. The battery plant opened in [March 2022](#) and the first all-electric luxury EQS SUV rolled off the production line in [September 2022](#). To learn more about Alabama workforce upskilling efforts related to the EV ecosystem, see Section 5.

In April 2023, Hyundai Motor Manufacturing of Alabama began production of the company's all-electric SUV, the Genesis GV70, at its plant in Montgomery. To enable this, Hyundai invested \$300 million and added 200 new jobs. In July 2023, citing increased global demand for EVs, Hyundai also increased its global EV sales targets to 2 million units by 2030.



In June 2023, Autocar Trucks [announced](#) the addition of an advanced EV assembly line at its manufacturing facility in Birmingham to support increasing demand for electric terminal tractors and refuse trucks.



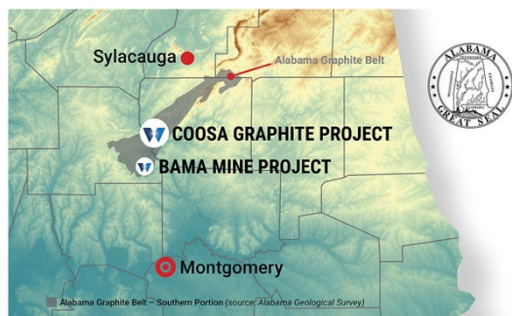
E-ACTT Autocar's All-Electric Terminal Tractor



New Flyer Xcelsior Charge NG

In Anniston, New Flyer of America manufactures electric transit buses. New Flyer [reports](#) actively supporting over 35,000 heavy-duty transit buses currently in service, of which 8,600 are powered by electric motors and battery propulsion.

Beyond vehicle and parts manufacturing, the EV ecosystem also delivers significant generational opportunities for new economic growth, and research and development (R&D), across Alabama.



Coated spherical purified graphite used in lithium-ion batteries, is not currently produced in the U.S. Alabama Graphite Products, a subsidiary of Westwater Resources. Westwater Resources, however, announced a \$202 million investment to become the first-of-its-kind U.S. company producing anode grade graphite for lithium batteries.

[Westwater announced plans](#) to establish an all-Alabama vertically integrated graphite supply chain capable of producing more than 40,000 metric tons of advanced anode material per year.

In addition to graphite, lithium is also a highly demanded metal used in EV and other batteries. There is currently only one lithium mine operating in the U.S. In January 2024, [LiTHOS Energy Ltd. announced](#) a Bessemer, Alabama, lithium processing facility that is enabling economically efficient, sustainable lithium production.

In October 2022, Li-Cycle opened a lithium-ion battery recycling facility in Tuscaloosa to support the recycling needs of a growing battery supply customer base in the southeastern U.S. [According to the company](#), across its four operating Spokes in North America, Li-Cycle now has a total input processing capacity of 30,000 tonnes per year, or the equivalent of batteries from approximately 60,000 EVs.

The Alabama Mobility and Power (AMP) Center at the University of Alabama (UA) in Tuscaloosa is formed out of a partnership between Alabama Power Company, Mercedes-Benz U.S. International, Inc., and the UA Transportation Institute. The AMP Center's Laboratory for Advanced Battery and Power Research (LAB-PR) will serve as a cutting-edge test bed for the research and development of customer-focused energy storage products and services to enable the new energy economy. It includes a working micro-grid, solar array, charging infrastructure, and more. AMP's Laboratory for Advanced Battery Component Research (LAB-CR) is designed to be a one-stop shop for the deployment of battery technologies at scale. It incorporates state-of-the-art instrumentation across all facets of the battery supply chain to enable research and development activities that holistically address the battery ecosystem from raw materials production (upstream), materials processing and cell manufacturing (midstream), to module and pack manufacturing and end-of-life recycling and reuse (downstream).



Gee's Bend Ferry

The Alabama Department of Transportation has operated the nation's first all-electric passenger/vehicle ferry at Gee's Bend since 2020. The ferry, converted by an Alabama company to run on electricity instead of diesel fuel, makes five daily round trips across the Alabama River between Gee's Bend and Camden.

Coden, Alabama-based Master Boat Builders, Inc. [will soon deliver](#) the eWolf, the first all-electric tugboat built in the United States. As of December 2023, it was undergoing sea trials and expected to enter service at the Port of San Diego in 2024.



The eWolf

The examples above clearly depict how Alabama is competing at the top of the automotive manufacturing food chain.

To remain competitive as an automotive manufacturing state into the future, the Alabama EV Advisory Group recommends that leaders continue embracing technology advancements in automotive manufacturing. The clearest way the State can support these efforts is to continue to raise awareness about EVs, support EV charging infrastructure installations, and prepare Alabama's workforce for a world with many more EVs.

5. Workforce Considerations

Alabama's leaders have long understood the need to collaborate with industry partners to identify and address workforce-related needs to advance the State's competitiveness and create opportunities for well-paying jobs for citizens. The Labor and Workforce Considerations Subcommittee of the Alabama EV Advisory Group has identified four primary areas of need:

- (a) EV manufacturing;
- (b) EV charger installation and maintenance;
- (c) First responder training; and
- (d) EV maintenance technician.

Specific efforts are underway in three of these areas, as discussed below.

Electric Vehicle Manufacturing

On November 29, 2023, Governor Kay Ivey [announced](#) a new \$30 million workforce training center in Decatur that will focus on electric vehicles and emerging technologies in order to position the State's auto industry for the next chapter of its growth. The center will be located on the campus of the Alabama Robotics Technology Park, a unique \$73 million center operated by Alabama Industrial Development Training ([AIDT](#)) that helps companies train workers on advanced R&D and manufacturing technologies. AIDT's stated goal for the center is to help the State's automakers continue to grow during the transition to electric powertrains and assist them as they embrace new technologies that are rapidly evolving.

Electric Vehicle Charger Installation and Maintenance

Under the NEVI program, as specified in the State's [FY2024 NEVI Plan](#), Alabama is now considering its next steps to implement a program that may include, but not necessarily be limited to, the following types of activities:

- (1) coverage of expenses associated with electrical workers who complete a 20-hour online Electric Vehicle Infrastructure Training Program (EVITP) training course.
- (2) installation of EV charging infrastructure for training purposes at state-based learning facilities where the charging infrastructure will be a critical component of electrical worker upskilling that is directly related to the proper installation, operation, and maintenance of electric vehicle charging infrastructure.
- (3) development of capacity at a state college level to deliver localized and in-person electrical worker upskilling directly related to the proper installation, testing, certification, operation and maintenance of electric vehicle charging infrastructure across the State. Any such training could only be utilized in place of the EVITP if and when such programs are approved by the Department of Labor per the 23 CFR 680.106(j).
- (4) payment of direct expenses to cover costs associated with electrical workers taking the in-person training contemplated in #3 above.
- (5) collaboration with a third party to develop inspection capacity to confirm NEVI project installations are compliant with the NEVI program requirements.

Electric Vehicle First Responder Training

Recent events, including an [EV fire on I-65](#) have underscored the growing need for a focused statewide effort to help train and equip first responders to handle EV-related emergencies. Alabama has 818 registered fire departments, of which 80% are completely run by volunteers.

In 2021, the [National Fire Protection Association](#) received a grant from the U.S. Department of Energy to develop community [EV preparedness toolkits](#). Alabama Clean Fuels Coalition has held a number of virtual trainings on the topic of EV emergencies in recent years and regularly shares resources, including those listed on the U.S. Department of Energy's Alternative Fuels Data Center ([AFDC](#)). An effort is underway to disseminate EV training resources to Alabama's first responders and ACFC and the [Alabama Fire College](#) are working together to determine the best path forward.

In June of 2023, Hyundai [donated \\$75,000 to Montgomery Fire Rescue](#) to purchase two Rosenbauer Battery Extinguishing System Technology (BEST) systems. This new technology is designed to quickly extinguish fires in the battery of an EV.

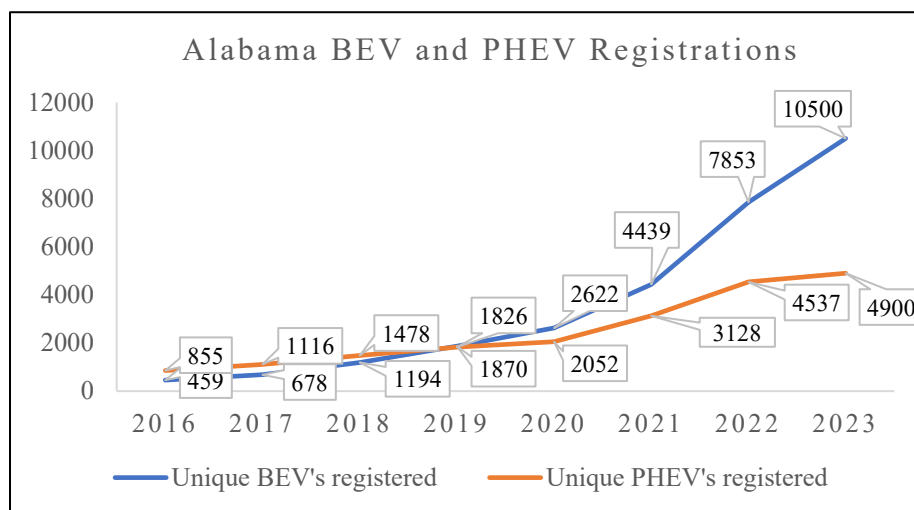
Special EV fire blankets have also been [deployed](#) in some areas of the State to help suppress EV fires that occur.

Electric Vehicle Maintenance Technician Training

With the growing popularity of EVs and the ever increasing number of models available, maintenance technicians will need training to perform the required maintenance and repairs on EVs. Those technicians that work for a particular auto dealership will have specialized training for that auto manufacturer's EV models, but technicians working at generalized repair shops will need training to work on EVs. The market for EV maintenance technicians is expected to develop in Alabama as EV registrations increase over time.

6. Electric Vehicle Registrations Are on the Rise in Alabama

According to [Cox Automotive](#), a record 1.2 million U.S. vehicle buyers chose to go electric in 2023. The EV share of the total U.S. vehicle market was 7.6%, up from 5.9% in 2022. In Alabama, Battery Electric Vehicle (BEV) and Plug-in Hybrid Electric Vehicle (PHEV) registrations are on the rise. BEV and PHEV registrations have



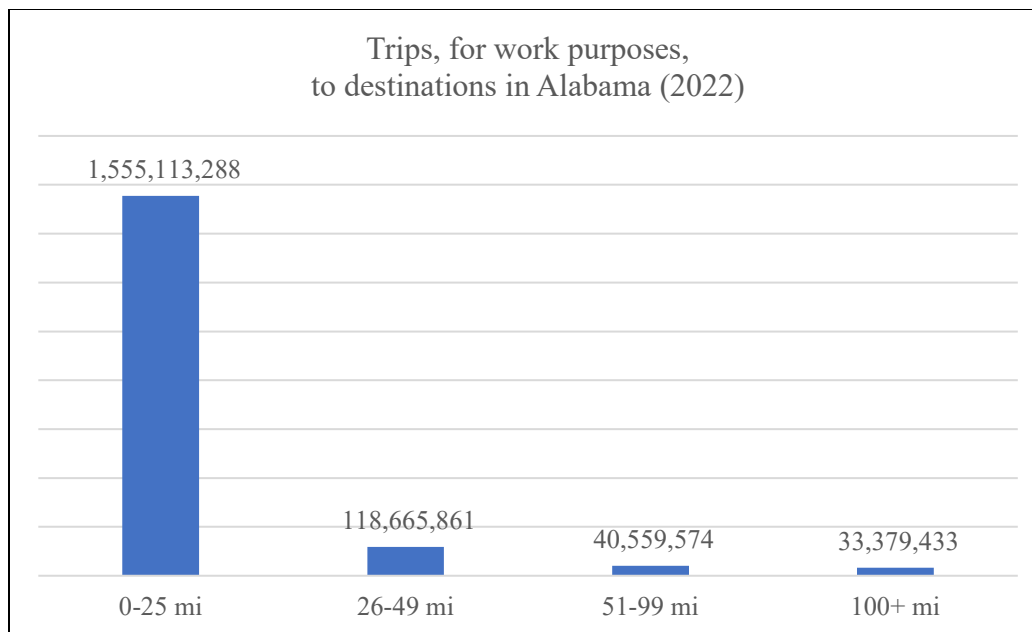
surged an average of 55% and 29% per year, respectively, since 2021. Alabama's total number of BEV and PHEV registrations should easily surpass 20,000 in 2024, and these registrations will generate approximately \$2.7 million in EV registration fees to be distributed in the same manner and for the same purposes as gasoline tax, for road and bridge construction purposes. Every 20,000 BEVs registered in Alabama will generate roughly \$4.06 million in EV registration fees, slightly more than the amount that is collected from 20,000 average gasoline-powered vehicles driven 13,500 miles per year.



EV prices are approaching parity with similar gasoline models. Automakers are continuing to introduce new passenger EV models that are increasingly attractive to consumers. According to [Kelly Blue Book](#), the average price of an EV fell almost \$15,000, to \$50,683, between September 2022 and September 2023. As a comparison, the average price for all new vehicles was \$47,899 in September 2023.

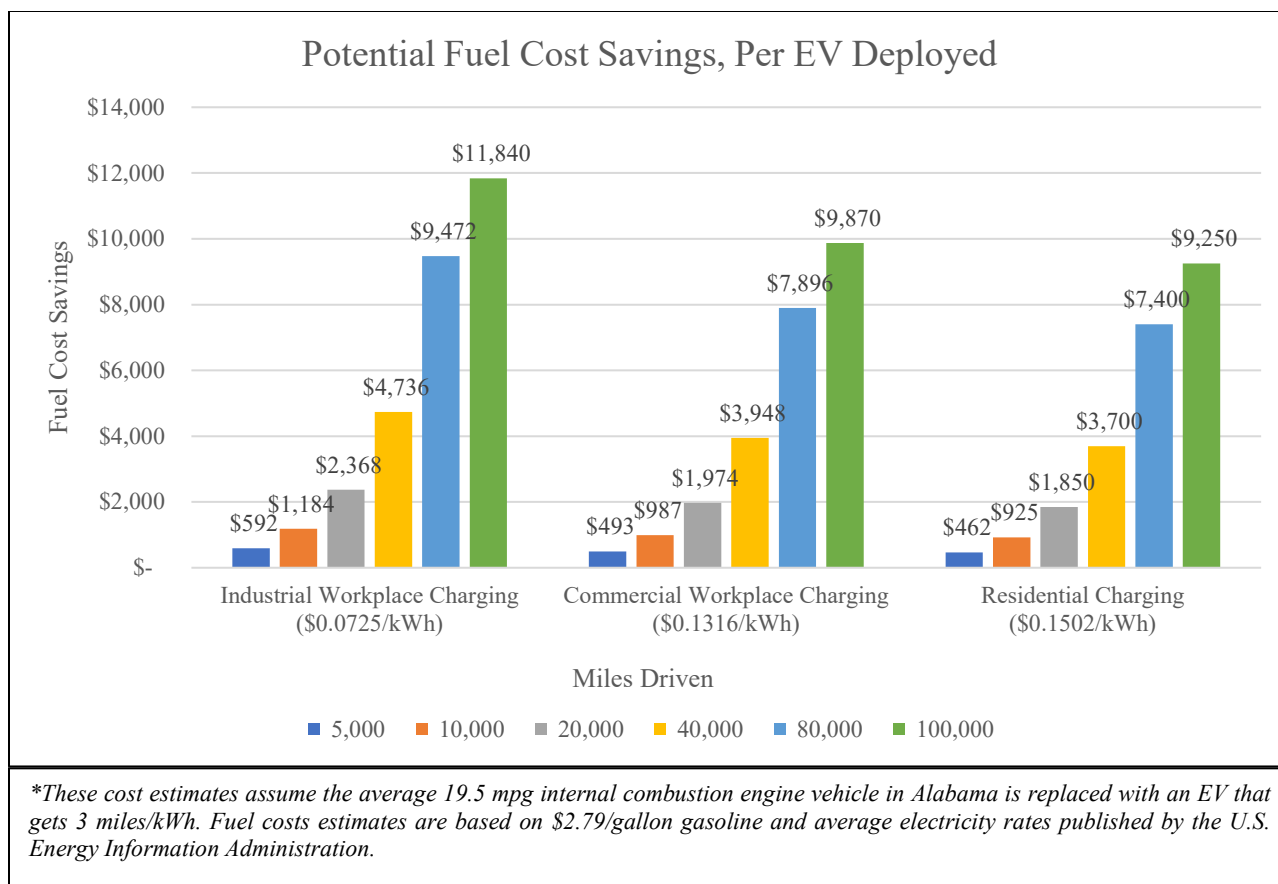
Electric Vehicles Have Potential to Deliver Significant Fuel Cost Savings

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The fuel cost savings associated with EV ownership can more than offset the initial purchase price difference between an EV and an internal combustion engine (ICE) vehicle. This can be true even before considering federal, utility, state, and other incentives to purchase an EV or install EV chargers. Utility incentives in Alabama are discussed in more detail in Section 12.

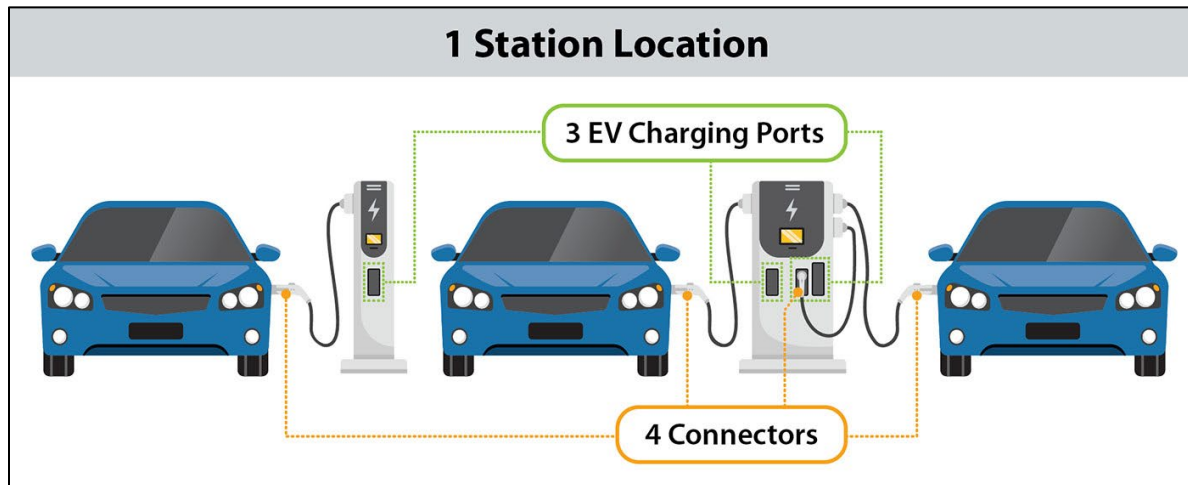
The following chart shows one possible scenario of fuel cost savings that could result from deploying an average EV instead of an average ICE vehicle in Alabama. This type of cost savings would accrue in multiples for each EV deployed in a public or private fleet operation.



As an example of the potential fuel cost savings associated with EV ownership, consider an individual who drives 40 miles to work and back each day. This person drives 20,000 miles per year, just for work purposes. If that individual replaces Alabama’s average (19.5 mpg) vehicle with an average EV (3 mi/kWh), they will convert an estimated \$2,850 annual gasoline expense to a \$500 – \$1000 charging expense. Based on average electricity rates at workplaces in Alabama, it would cost between \$40-80 per month to charge this vehicle at a workplace. Employers and their employees embracing this opportunity could significantly reduce the transportation fuel cost of getting to work. The employer and employee may also qualify for additional tax credits and other benefits and incentives that offset the cost of purchasing or leasing an EV and installing charging infrastructure at home or work.

8. Electric Vehicle Charging Station Terminology and Installation Costs

EV chargers are also referred to as electric vehicle supply equipment, or EVSE. There are three basic types, or Levels, of EV Chargers. Collectively, a charging station is a site with one or more EV charging ports at the same address. Each port at a charging station can provide power to one vehicle at a time. A port may have different types of connectors.



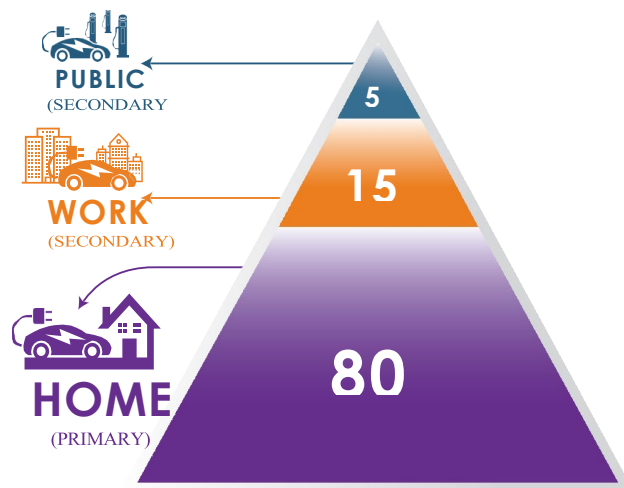
Charging Level	Source Voltage	Charging Power	Connector Types	Range from one-hour charge	Applications
Level 1	120V	1.9 kW	J1772	5 miles	Residential
Level 2 (AC)	240V	2.9 to 19.2 kW	J1772, NACS	25 miles	Residential/Commercial
Fast Charger (DC)	480V	25 to 350 kW	CCS, CHAdeMO, NACS	200 to 400+ miles	Commercial

The cost of installing a Level 2 charger can range from hundreds to thousands of dollars. The cost of installing a Fast Charger can easily exceed \$100,000 per port. Total costs per location will vary, depending on the cost of equipment acquisition, installation, maintenance agreements, any required electrical equipment upgrades, etc. Additional tax benefits and other incentives may reduce the cost of purchasing and owning an EV or installing charging infrastructure at a residential or other public or private location.

The EV Advisory Group highly recommends owners/operators interested in installing EV charging infrastructure at residential or commercial locations to contact their electric utility to discuss your plan. This will also provide an opportunity to learn about any utility incentives or special considerations specific to a location.

9. Charging Infrastructure Delivers Benefits to Communities

While charging their EV on December 23, 2023, a user of an EV charging station in Boligee, Alabama, off I-59 in Greene County, commented on a popular EV driver app: “So thankful this place was sitting at the edge of the Mississippi CHAdEMO desert! Small gas station with clean toilets.” On September 9, 2023, another user commented: “Worked beautifully. Very conveniently located. Charged 125 kW since able to draw on the other charger which was not occupied. Quick lunch in the gas station and back rolling.” In total, this one EV driver app has generated 113 ‘check-ins’ at the [rural Interstate location](#). With only five (5) EVs registered in Greene County, these check-ins are clearly from patrons who have stopped at the Boligee gas station and convenience store to fuel up during a road trip. Money spent in the community extends into the community as revenue that supports the local economy and government functions like law enforcement, safety, and sanitation.



According to the Electric Power Research Institute (EPRI), approximately 80% of EV charging occurs at home, 15% at work, and 5% at public locations. And, according to [S&P Global](#) analytics, despite the rapidly growing choices EV consumers have, and the unprecedented loyalty rates among EV return buyers, the industry as a whole still needs to tackle consumers’ range anxiety before widespread EV adoption will occur.

Range anxiety is the fear that a vehicle does not have enough range to reach a desired destination. Range anxiety is a major, persistent concern for people contemplating an EV purchase.

People who cannot charge at home or work are dependent on public charging and so are people who normally charge at home or work but have traveled outside the range of their EV. Without the charging station in Boligee, the users of that station mentioned above would not be showing up to charge, and they would not spend additional money on goods and services while their car is charging.

Communities and businesses that plan to meet the growing need for publicly accessible EV charging will also enjoy the benefits of becoming a charging destination, just like Boligee.

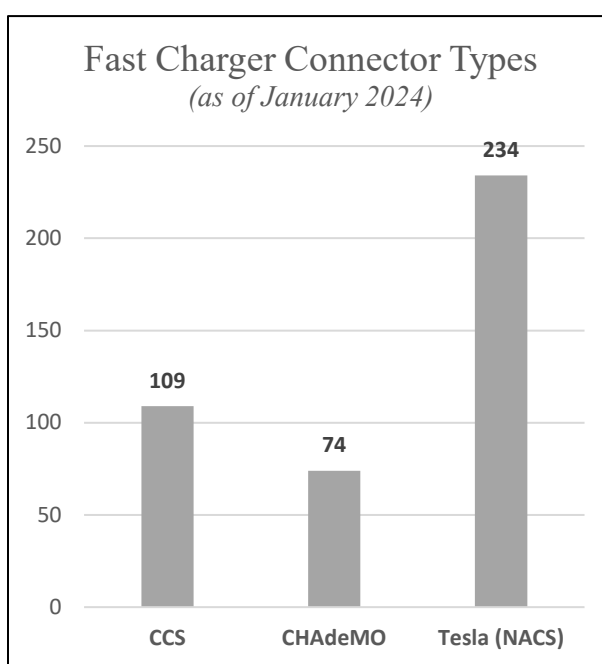
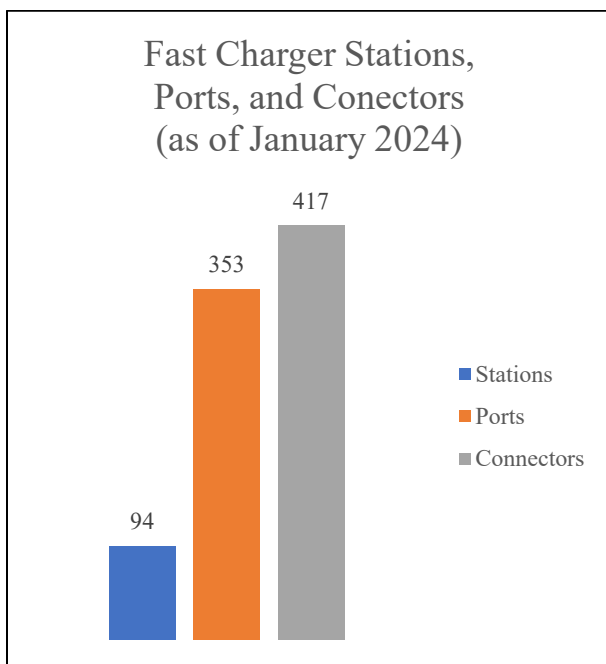
10. Snapshot: Publicly Accessible Electric Vehicle Charging in Alabama

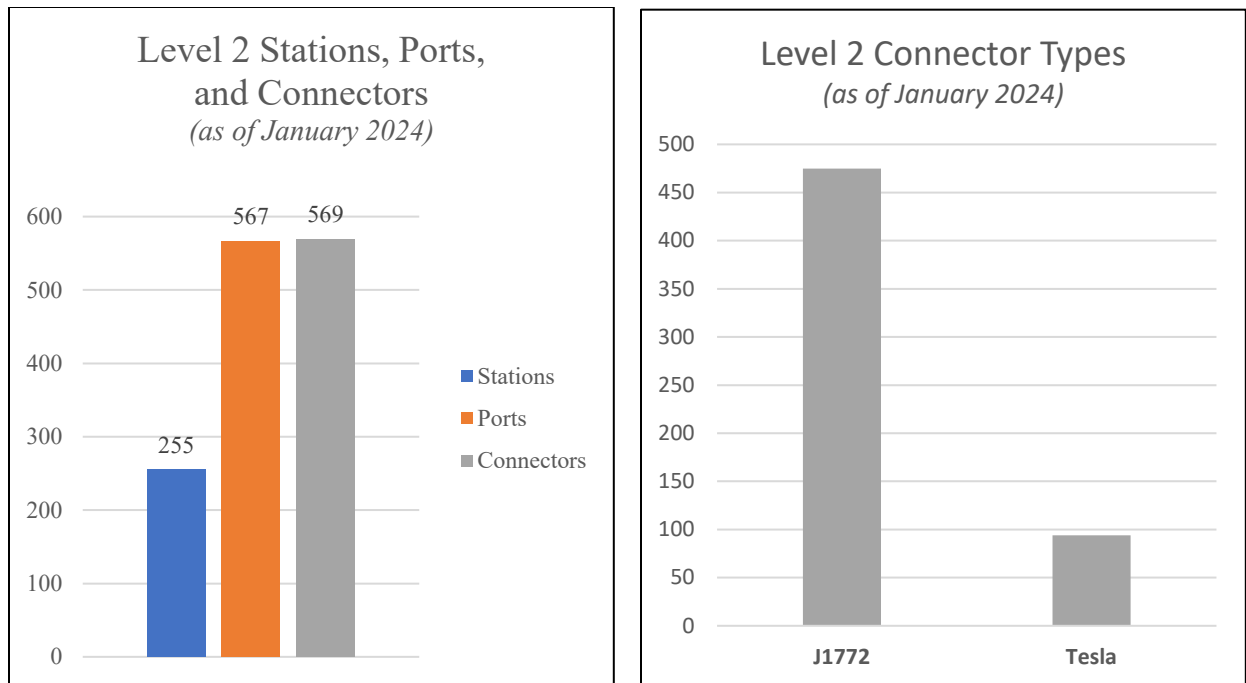
Since 2021, on average, the number of plug-in vehicles registered in Alabama has increased by about 50% per year and the State's number of publicly accessible EV charging stations has grown by almost 9% per year, according to data provided by the Alabama Clean Fuels Coalition (ACFC).

Period	Growth, Publicly Accessible EV Charging Ports per 100 EVs*
Q2 2021	N/A
Q3 2021	8.60%
Q4 2021	12.70%
Q1 2022	4.40%
Q2 2022	15.70%
Q3 2022	4.60%
Q4 2022	8.80%
Q1 2023	5.20%
Q2 2023	4.20%
Q3 2023	9.90%
Q4 2023	11.80%
AVERAGE	8.59%

*Data provided by the Alabama Clean Fuels Coalition, based on data collected from the AFDC [EV Charging Infrastructure Trends Reports](#)

A current map of publicly accessible EV charging stations in Alabama is available on the AFDC's [Alternative Fuel Station Locator](#). The following charts provide a current snapshot of Alabama's inventory of publicly accessible EV charging stations as of January 2024.





11. Electric Vehicle Charging Grant Programs Administered by ADECA

A program was launched at ADECA in 2021 to support EV charging infrastructure installations. The program, referred to as ADECA's Electric Vehicle Charging Infrastructure Program, was initially supported by \$3.2 million from the VW Settlement and \$1 million from the Alabama legislature. The success of this program was especially important, at the time, because Alabama would soon be shipping EVs across America and to dozens of other countries around the world.

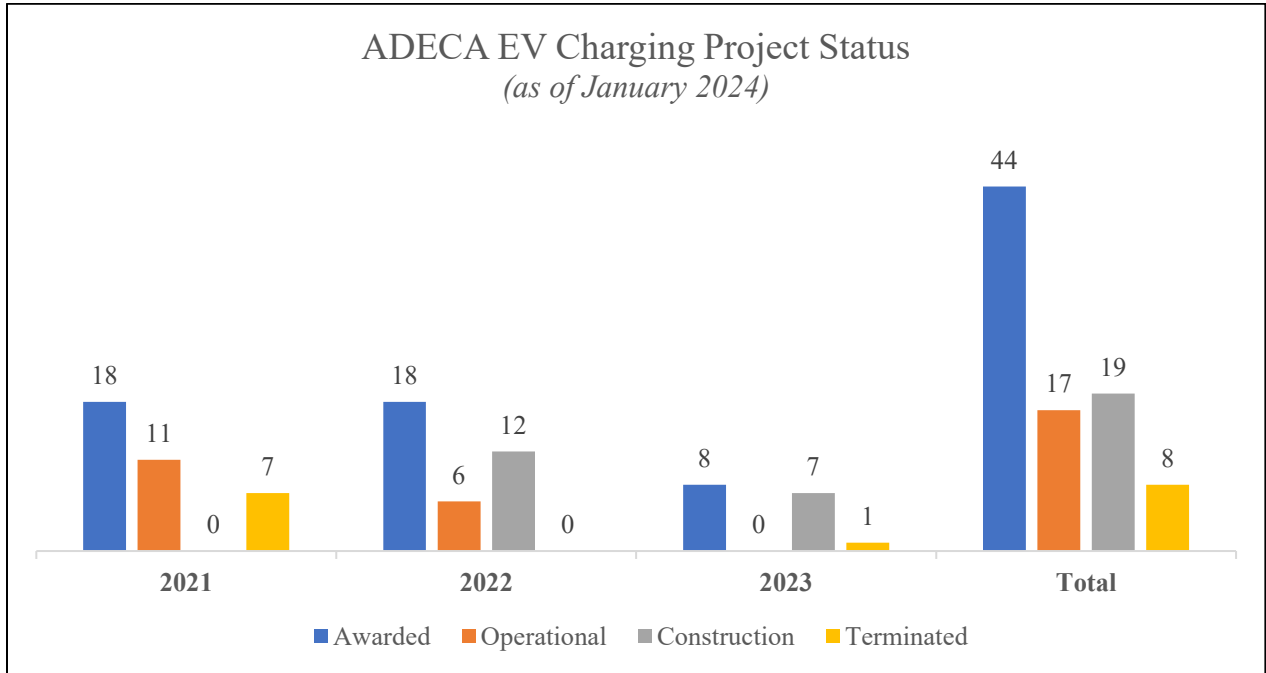
Alabama Governor Kay Ivey and ADECA Director Kenneth Boswell were able to competitively award 18 grants to install EV chargers in 2021. The locations of these chargers would make it possible for an EV produced in Alabama to be driven across the State.

Today, multiple Alabama manufacturers are shipping EVs and EV parts and supplies all over the country and the world. In addition, the number of Alabamians who are now driving a car that plugs in has grown steadily and should easily surpass 20,000 in 2024. As mentioned previously, these registrations will generate approximately \$2.7 million in EV registration fees to be distributed in the same manner and for the same purposes as gasoline tax, for road and bridge construction purposes.

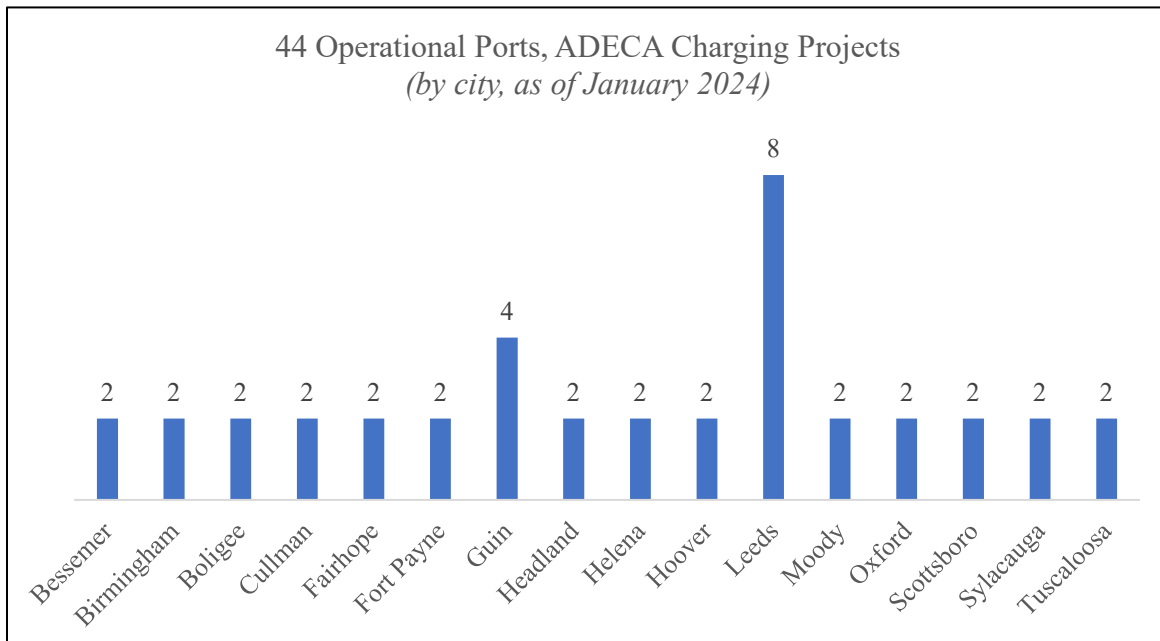
Below is an overview of the programs ADECA has in place that support EV charger installations. Additional suggestions about these programs are included in the list of recommendations from the Alabama EV Advisory Group.

Alabama Electric Vehicle Charging Infrastructure Program

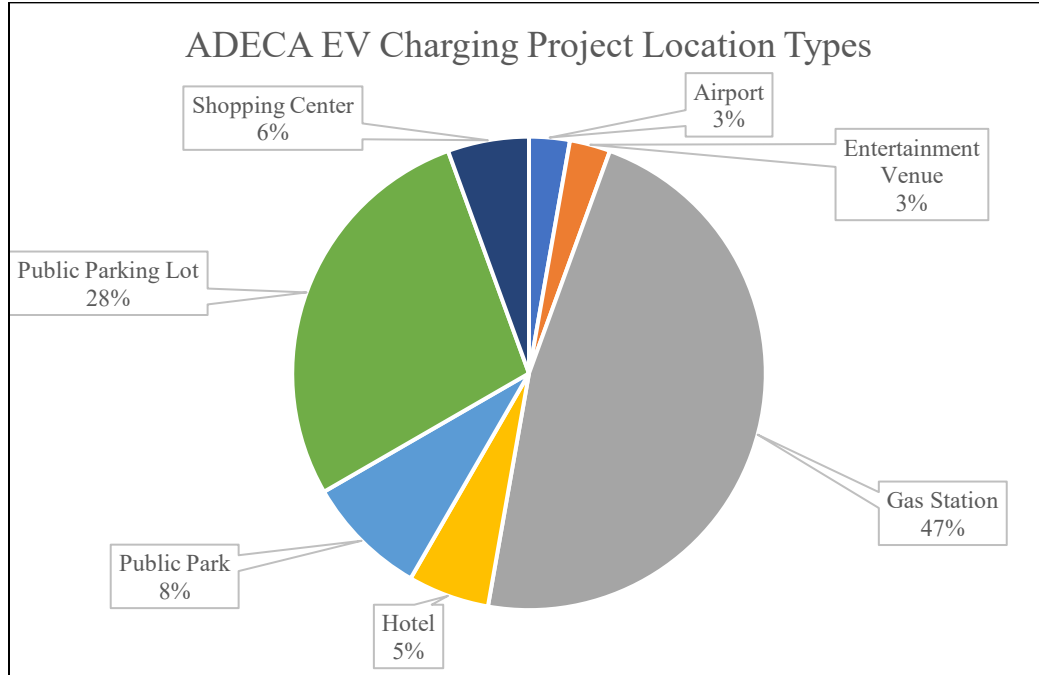
ADECA initiated a competitive grant program in 2021 to support installations of publicly accessible EV chargers. The program has been extremely popular, generating over 250 applications. As of January 2024, funding has been awarded to support 44 projects.



ADECA EV charging projects typically become operational within 12-18 months of the time of award. As of January 2024, 17 completed projects have made 44 EV charging ports available in locations across Alabama.



The most common location type for ADECA projects is traditional gasoline stations. These locations are usually along travel corridors and have amenities and conveniences that enhance the charging experience. ADECA projects at other types of locations show EV charging is desired and possible at many different types of establishments.



Boligee



Leeds



Fort Payne



Fairhope



Guin

As of January 2024, nineteen ADECA EV charging projects were in the construction phase.

City	# of Projects in Construction Phase
Alexander City	1
Decatur	1
Dothan	1
Enterprise	1
Gadsden	2
Geneva	1
Guntersville	1
Hartselle	1
LaFayette	1
Montgomery	2
Orange Beach	1
Phenix City	3
Robertsdale	1
Smiths Station	1
Wedowee	1
TOTAL	19

Almost half (48%, or 21 of 44) ADECA EV Charging Projects are in census tracts designated as disadvantaged communities by the federal government, according to the Argonne National Laboratory’s [EV Charging Justice40 map](#). This shows that EV charging is desired all over the State and not just in areas where socioeconomic status is the highest.

National Electric Vehicle Infrastructure (NEVI) Formula Program

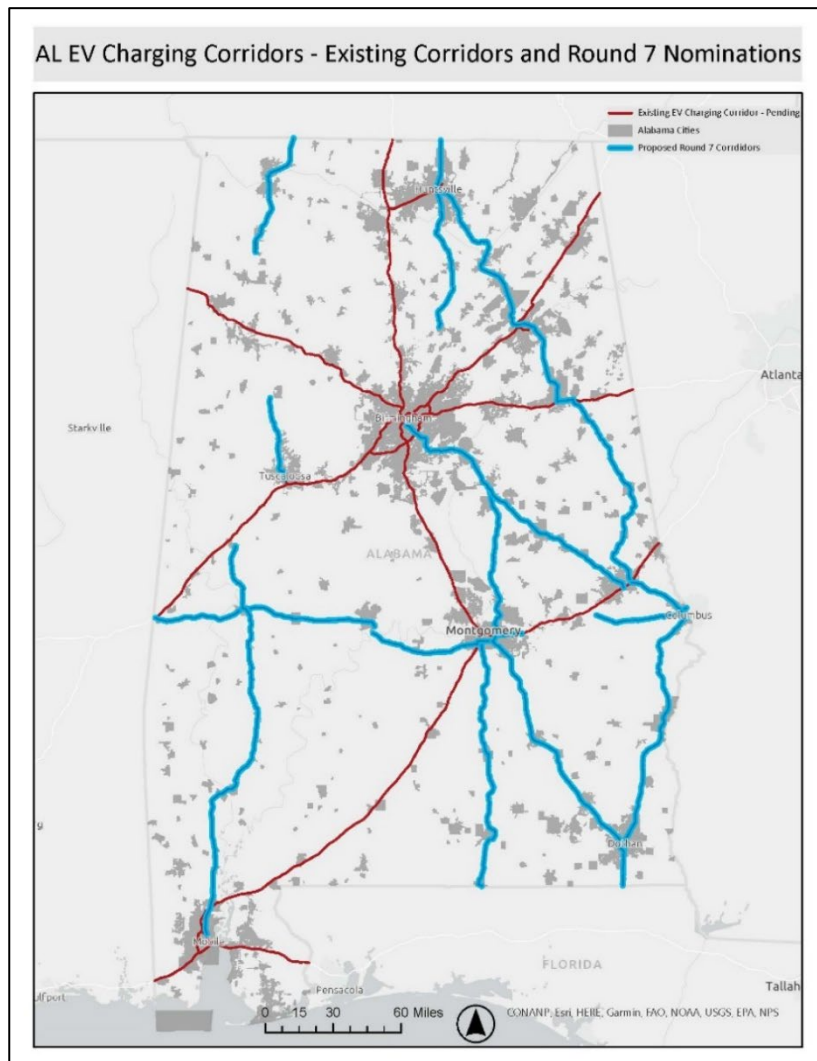
The federal government has committed over \$79 million of 80% funding to Alabama under the federal NEVI Formula Program.

ADECA is administering the Alabama NEVI program as a competitive grant program that requires applicants to provide matching funds to cover the non-federal share of each project. ADECA is

required to remain involved in each project for approximately seven (7) years from the time of award through construction and a 5-year operational period while meeting quarterly and annual reporting requirements related to each individual project and the entire program. ADECA is also required to ensure the workforce is properly trained to install and maintain the chargers.

This program requires each charging station be located within one mile of an approved Federal Highway Administration (FHWA) [EV Charging Corridor](#). In addition to the federal requirement that each port have one CCS Fast Charging connector, Alabama has also elected to require NACS connectors at each port. Ports must be capable of meeting four simultaneous vehicle requests for up to 150kW.

Locations close to [EV charging corridors](#) designated by FHWA are eligible NEVI charging



project locations. Currently designated are all 1,002 miles of Interstate (I-65, I-165, I-565, I-20, I-59, I-359, I-459, I-759, I-85, I-10, and I-22) and 1,231.3 miles segments) of six U.S. Highways (43, 80, 231, 331, 431, and 280) that are part of the National Highway System (NHS).

The first round application period closed on January 24, 2024. ADECA received 86 applications during this round.

For more information on the Alabama NEVI Program, and to read Alabama's most currently approved federal NEVI deployment plan, go to the ADECA [NEVI Formula Program webpage](#).

12. Utility Programs to Support Electric Vehicle Chargers in Alabama

Anyone in Alabama who intends to install EV charging infrastructure at residential or commercial locations is encouraged to contact their electric utility to make the utility aware of the plan. This will lead to better outcomes and some utilities even offer additional incentives. A list of utility incentives is maintained on the U.S. Department of Energy's Alternative Fuels Data Center (AFDC) [website](#).

Alabama Municipal Electric Authority (AMEA)

EV Charging Initiative Fund for Chargers

\$1 million EV Charging Initiative Fund for AMEA members to install EV chargers in Member Electric Territories.

EV Charging Initiative Fund for Grant Matching Funds

Additional \$1 million EV Charging Initiative Fund to be used as matching funds for Member grant applications to install EV charging infrastructure in Member Electric Territories.

Future Rebate Program

Future rebate program for Member residential customers to install EV chargers in their homes.

Alabama Power

Commercial Electric Vehicle Charging Station Rebate

Alabama Power's Make Ready Program offers rebates to commercial customers for the installation of Level 2 and direct current fast charging (DCFC) stations. Rebates are available in the following amounts:

Charger Type	Minimum Power Rating	Rebate per Port*	Minimum Port Installations per Site	Maximum Port Installations per Site	Maximum Rebates per Applicant per Calendar Year
Level 2	6.6 kW	\$2,000	4	20	60
DCFC	20 kW	\$5,000	4	15	30
DCFC	50 kW	\$10,000	2	4	24
DCFC	100 kW	\$15,000	2	4	24
DCFC	150 kW	\$20,000	2	4	24

Additional terms and conditions apply. For more information, see the Alabama Power [Make Ready Program](#) website.

Alabama Power Residential EV Night Charging Discount (PEV Rate Rider)

Alabama Power offers a Time of Use (TOU) rate to residential customers that own or lease an EV. For more information, see the Alabama Power [EV rate website](#).

Alabama Power Business Electric Vehicle Time-Of-Use Rate

Alabama Power offers a time-of-use (TOU) rate to commercial and industrial customers for public EV charging stations. Eligible customers' electricity usage must be separately metered from all other electrical load and be for the exclusive purpose of charging EVs. For more information, see the Alabama Power [BEV rate terms](#).

PowerSouth Energy Cooperative

EV Rebate Program

Residential EV owners and lessees can register their EV with their local distribution cooperative for a financial incentive.

Residential EV Time of Use rate

Some local distribution cooperatives are implementing residential EV Time of Use rates.

Tennessee Valley Authority (TVA)

Electric Vehicle (EV) Charging Station Rebate

TVA will establish and fund a network of DCFC stations every 50 miles along interstates and major highways through the Fast Charge Network Program (Program). The Program offers funding for public DCFC stations along EV corridor gaps, 80% of eligible project costs up to \$250,000 per DCFC station depending on charger technical requirements. Eligible applicants include TVA Local Power Companies, and eligible projects must include a minimum of two DCFC ports per location. Program participants must identify suitable host sites and agree to own, operate, and maintain Program-funded DCFC stations for a minimum of five years. For more information, including guidelines and additional eligibility requirements, see the [TVA Fast Charge Network website](#).

13. Drive Electric Alabama

Launched on November 29, 2021, Drive Electric Alabama is a platform that brings together multiple stakeholders working to promote electric transportation in Alabama.

Drive Electric Alabama has engaged millions of consumers through various methods, including billboards along rights-of-way, social media, television advertising, radio advertising, and specific in-person and online events. As of November 2023, Drive Electric Alabama had generated approximately 355 earned media stories, reaching a Nielsen audience of 1,355,942 with a calculated publicity value of \$563,854. Drive Electric Alabama has also documented 1,579,927 Facebook accounts reached; 97,552 Instagram accounts reached; 57,118 Twitter users engaged;

and over 3.97 million views on YouTube since the launch of these social media accounts in November 2021.

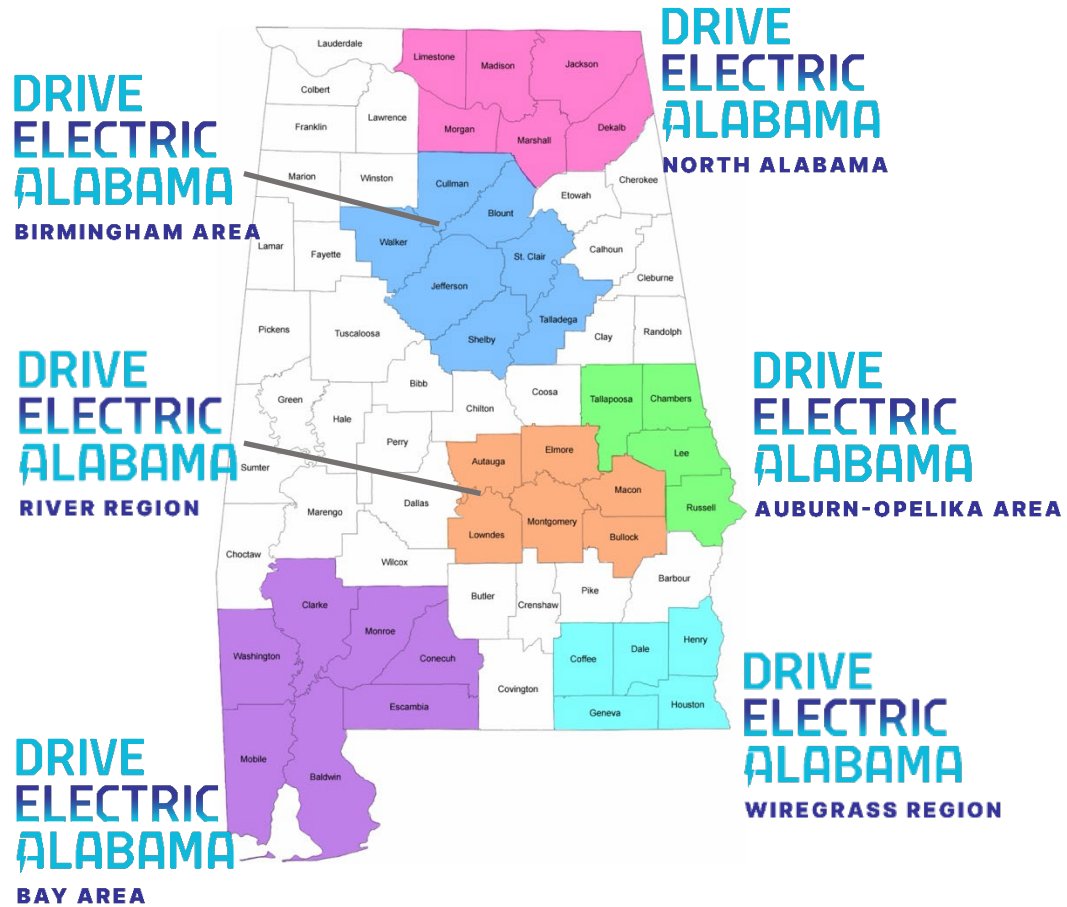
Drive Electric Alabama's community engagement efforts were boosted through a sponsored advertising partnership between the non-profit Alabama Clean Fuels Coalition (ACFC) and the Alabama Broadcasters Association. The Public Education Partnership campaign delivered 7,762 television commercials, 23,247 radio advertisements, and 36.7 million digital impressions over a fourteen-month period. Numerous Drive Electric Alabama outreach events are held throughout each year. For more information on upcoming events, visit www.driveelectricalabama.com.

Drive Electric Alabama Messaging Examples

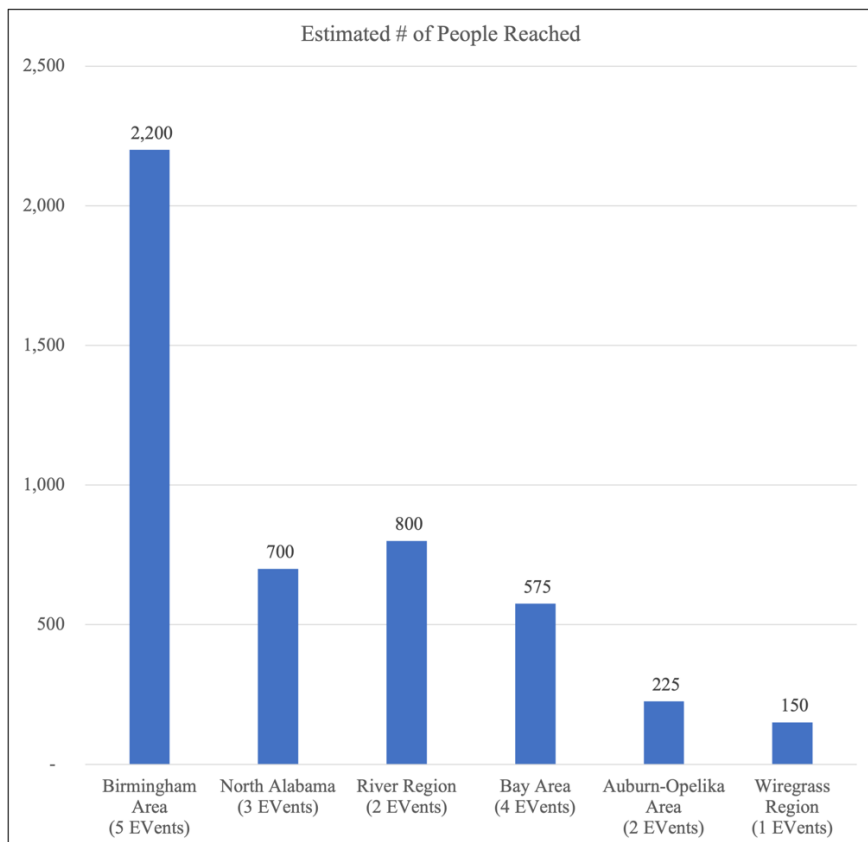


Drive Electric Alabama Electric-Vehicle Owner Chapters

Six grassroots Drive Electric Alabama EV Owner Chapters have been created to serve major markets across Alabama. Chapters have been established with a clear intent for locally based leaders to drive the activity of each chapter into the future. ACFC offers support and guidance to help fledgling chapters succeed. Logos were created to reflect the geographical area covered by each Chapter. The map below depicts the estimated coverage area for attendees at these chapter EV Showcases. Notably, several of the Drive Electric Alabama events are attended by individuals from all around the State.



The Drive Electric Alabama Chapters have held a total of 17 EV showcases since spring of 2022. An estimated total of 4,650 people attended the EV events to learn about EVs and to speak to actual EV owners during these EV events.



An in-person EV Summit was held September 21-22, 2022. Attendance at this two-day Drive Electric Alabama event was very close to 500 people. The agenda included multiple educational panel discussions and presentations with networking opportunities for interested stakeholders to interact. The agenda also included a basic EV charging grant writing workshop conducted by the Alabama Clean Fuels Coalition. A second EV Summit is being planned for August 14-15, 2024.



14. Alabama’s Electric Vehicle Advisory Group and Its Recommendations

Alabama’s EV Advisory Group has also established the following subcommittees:

- Utility Subcommittee,
- Equity Considerations Subcommittee,
- Labor and Workforce Considerations Subcommittee, and
- Public Engagement and Collaborative Funding Opportunities Subcommittee.

The EV Advisory Group makes the following recommendations to the State of Alabama.

CONTINUE AND EXPAND PROGRAMS THAT CAN HELP FILL CHARGING INFRASTRUCTURE GAPS

The Alabama EV Advisory Group recommends expanding efforts to support government and non-government entities in Alabama that want to install EV chargers. State support should continue to be delivered through competitive grant programs, whenever possible.

CONTINUE ONGOING PLANNING PROCESS

Alabama should maintain its ongoing electric vehicle supply equipment or EVSE, planning process and update the Alabama Electric Vehicle Infrastructure Plan (EVIP) on at least an annual basis. Updating the EVIP each year should follow approval of the federally required NEVI plan, due August 1, each year.

EV INFRASTRUCTURE PLANNING AND GRANT PROGRAM

- The State should fund the Electric Vehicle Infrastructure Planning and Grant Program at ADECA at \$5 million in FY2025 to enable ADECA to continue its competitive grant program and reserve funds for the long-term administration of the federal NEVI program.
- After reserving sufficient funds to support ADECA’s involvement in the NEVI program, ADECA should award approximately half of remaining funds for fast-charging projects that are not eligible under the NEVI program and the other half to Level 2 charging projects serving destinations where people frequently gather for extended periods of time, including, but not limited to, hospitals, schools, public and private workplaces, hotels, places for leisure and outdoor recreation, entertainment and sporting venues, and near multi-unit residential dwellings.
- Operators of stations supported with grant funds should be required to list their site on the Alternative Fuels Data Center as a planned station during the construction phase and then update the status to active once the station is operational. (AFDC: –Add New Station: <https://afdc.energy.gov/stations/#/station/new>).

NEVI PROGRAM

- This popular program, in which ADECA received 86 applications in Round 1, should continue to be administered for the State by ADECA. Discontinuation of this program would result in the funds currently obligated for Alabama ([\\$79,308,285](#)) being redistributed to other states.
- The U.S Department of Transportation issued a [NEVI memorandum](#) earlier this year which confirmed that permissible expenditures include costs related to the deployment of onsite distributed energy resources that will increase the reliability of the EV charging station and that infrastructure reliability is a metric that states should utilize to evaluate their EV deployment plans. In future rounds of funding under the Alabama NEVI program, additional points should be awarded to projects, including those with generators that can run on propane, to promote operational resilience during emergencies and extreme weather events.

LEVEL 2 WORKPLACE CHARGING PROGRAM

Public and private workplace charging programs are attractive for employers and employees. Workplaces typically have the lowest electricity rates, which would amount to the greatest transportation fuel cost reductions for employee and fleet vehicle charging. If the EPA CPRG PCAPs include eligibility, the State should consider applying for, or supporting another eligible entity in applying for, an approximate \$10 million CPRG Implementation grant to utilize these 100% federal dollars to implement a statewide workplace charging program.

ELECTRIC VEHICLE TECHNOLOGY EDUCATION PROGRAM AT ADECA

The State should continue the Electric Vehicle Technology Education Program at ADECA and provide \$2 million to continue support for the Drive Electric Alabama public-private partnership that is promoting consumer EV-related education and awareness.

FHWA ALTERNATIVE FUEL CORRIDOR PROGRAM

Before nominating any additional EV charging corridors through the [FHWA Alternative Fuel Corridor](#) program, the estimated cost of transitioning all corridors from FHWA’s “EV Corridor Pending” to “EV Corridor Ready” status should be considered against the NEVI funding available to support the total build-out.

Alabama nominated EV charging corridors through seven previous rounds between 2016 and 2023 as defined in [23 U.S.C 151](#). “EV Corridor Pending” corridors in Alabama include 1,002 miles of Alabama Interstates 65, 165, 565, 20, 59, 359, 459, 759, 85, 10, and 22 and 1,231.3 miles (National Highway System segments) of six U.S. Highways 43, 80, 231, 331, 431, and 280). FHWA maintains a map of all EV charging corridors [on its website](#).

NEVI program, created by Congress in 2021, requires states to obligate program funds to transition designated corridors from their initial status, “EV Corridor Pending,” to a completed status called “EV Corridor Ready.” The “Corridor Ready” designation is used by FHWA to describe corridors covered by public DCFC stations that are no greater than 50 miles apart and no greater than 5 miles off the highway. After a state’s corridors achieve “EV Corridor Ready” status, NEVI funds may be used in other locations.

EV-RELATED WORKFORCE DEVELOPMENT AND UPSKILLING

To prepare for Alabama's anticipated industry needs, workforce upskilling efforts should continue to be supported and encouraged. Specific workforce needs are related to EV manufacturing, EV maintenance, EVSE installation and maintenance, and EV-related emergency first responder training. Federal and private sector partnerships should be leveraged, whenever possible, to provide additional support to these efforts.

HURRICANE EVACUATION CONSIDERATIONS

- The State should seek to identify ways to support charging infrastructure needs during hurricane evacuation events and consider participating in multi-state collaborative opportunities.
- State and local emergency management agencies should work with utilities and other involved stakeholders to plan appropriate post-disaster protocol related to power restoration at EV charging sites, especially along designated evacuation routes. Charging stations that serve hurricane evacuation routes need the capacity to simultaneously charge multiple vehicles.
- Several methods of temporary charging have been developed, including small self-contained portable battery systems, larger scale battery systems on heavy-duty trucks, and stand-alone, transportable, temporary charging installations. Portable, self-contained systems are now available that can be used to charge EVs and provide power for emergency installations such as field medical facilities and shelters. The systems can be tied to the electrical grid or installed as stand-alone systems that use solar photovoltaic (PV) and battery storage to provide power for vehicles and equipment.

FLEET CONVERSIONS

Alabama owns and operates just over 9,000 motor vehicles and is one of the only statewide government fleet management programs consistently recognized by the National Association of Fleet Administrators on their annual list of the "100 Best Fleets in the Americas."

In 2009, the Alabama Legislature created a Green Fleets Review Committee and Green Fleets Policy requiring state-owned motor vehicles to achieve annual increases in average fleet fuel economy. The law also requires life cycle cost to be factored into purchasing decisions, which should be adjusted for EV proficiency. Individual state-agency fleet managers are required to submit annual plans for procuring fuel-efficient vehicles.

State agencies register an estimated 1,500-2,000 new vehicles per year. Transitioning some of these vehicles to EVs could help agencies achieve their emissions reduction goals while also achieving fuel and maintenance cost savings. Each year, the Alabama Green Fleets Review Committee, in conjunction with the Alabama Department of Transportation (ALDOT) Fleet Management, should assess EV models available on the market that match the duty cycle of agency fleets and would be a good option.

These identified EVs and the related charging infrastructure should be added to statewide purchasing contracts. Subsequently, the Green Fleets Review Committee should provide guidance

to agency fleet managers detailing which EVs and related charging infrastructure are available on statewide purchasing contracts to assist them in meeting their Green Fleets Policy goals.

HIGHWAY SIGNAGE

Informational signage along travel corridors helps travelers locate fueling stations and other essential services like food and lodging. State transportation planners base signage decisions on guidance and standards issued through FHWA's Manual on Uniform Traffic Control Devices (MUTCD). Alabama should incorporate EV charging station signage into its highway signage program in a manner that complies with the [new edition](#) of the MUTCD, dated December 2023.

15. Addendums

A. Addendum 1: Glossary

Term	Acronym Defined	Additional Information
AC	Alternating Current Electricity	Used in Level 1 and Level 2 Charging Stations
ADECA	Alabama Department of Economic and Community Affairs	ADECA is a state agency that partners with leaders at the local level to positively impact and enhance the quality of life in Alabama communities through dozens of federal and state grant programs, surplus property, and water resource management.
ADEM	Alabama Department of Environmental Management	ADEM is a state agency whose mission is to assure for all citizens of the State a safe, healthful, and productive environment.
AFDC	Alternative Fuels Data Center	The Alternative Fuels Data Center (AFDC) provides a wealth of information and data on alternative and renewable fuels, advanced vehicles, fuel-saving strategies, and emerging transportation technologies. This site features interactive tools, calculators, and mapping applications to aid in the implementation of these fuels, vehicles, and strategies. The AFDC functions as a dynamic online hub, providing information, tools, and resources for transportation decision makers seeking domestic alternatives that diversify energy sources and help businesses make wise economic choices.
AIDT	Alabama Industrial Development Training	AIDT is a state agency established to build a healthy state economy by recruiting and training a skilled workforce to attract new industries to the State and to expand existing industries.

ALDOT	Alabama Department of Transportation	ALDOT is a state agency with the primary responsibility of statewide transportation through all modes of travel. ALDOT employs approximately 4,000 people and expends or disburses more than \$600 million per year, including federal, state, and local funds.
AMP	Alabama Mobility and Power Center	AMP is a public/private partnership between The University of Alabama (UA), Alabama Power Company (APC) and Mercedes-Benz U.S. International (MBUSI) to meet the needs of the electric vehicle market.
BEST	Battery Extinguishing System Technology	A system developed by Rosenbauer to assist in extinguishing battery fires.
BEV	Battery Electric Vehicle	BEVs are completely powered by electricity from on-board battery systems that are charged from off-board sources of electricity.
CCS	Combined Charging System Connector	A connector used to connect an EV to a charger.
CHAdMO	CHArge de MOde Connector	A connector used to connect an EV to a charger.
CPRG	Climate Pollution Reduction Grant	The Climate Pollution Reduction Grants (CPRG) program provides \$5 billion in grants to states, local governments, tribes, and territories to develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution. Authorized under Section 60114 of the Inflation Reduction Act, this two-phase program provides \$250 million for noncompetitive planning grants, and approximately \$4.6 billion for competitive implementation grants.
CSPG	Coated Spherical Purified Graphite	CSPG is a component of lithium-ion batteries.
DAC	Disadvantaged Community	DACs are disadvantaged communities as defined by the federal government, according to the Argonne National Laboratory EV Charging Justice40 map .
DC	Direct Current Electricity	DC is electrical current that runs continually in a single direction.

DCFC	Direct Current Fast Chargers	<u>Direct current fast charging (DCFC) equipment offers rapid charging along heavy-traffic corridors at installed stations. DCFC equipment can charge a BEV to 80 percent in just 20 minutes to 1 hour. Most PHEVs currently on the market do not work with fast chargers.</u>
EPA	Environmental Protection Agency	The EPA is a federal government agency with a mission to protect human health and the environment.
EV	Electric Vehicle	EVs encompass all electric vehicles, including Battery Electric Vehicles (BEVs), Plug-in Hybrid Electric Vehicles (PHEVs), and Hybrid Electric Vehicles (HEVs).
EVIP	Electric Vehicle Infrastructure Plan	This plan is titled the Alabama Electric Vehicle Infrastructure Plan.
EVITP	Electric Vehicle Infrastructure Training Program	The EVITP provides training and certification for electricians installing electric vehicle supply equipment (EVSE).
EVSE	Electric Vehicle Supply Equipment	All EV charging equipment falls under the umbrella of the EVSE category.
FHWA	Federal Highway Administration	FHWA is a division of the U.S. Department of Transportation and specializes in highway transportation. FHWA manages the alternative fuel corridor designations.
GHG	Greenhouse Gas Emissions	Gases that trap heat in the atmosphere.
HD	Heavy Duty Vehicle	HDs are vehicles with a gross vehicle weight rating of more than 26,001 pounds.
HEV	Hybrid Electric Vehicle	HEVs combine a conventional internal combustion engine with one or more electric motors that use energy stored in batteries.
ICE	Internal Combustion Engine	ICE vehicles are vehicles powered by traditional fuels, such as gasoline or diesel.

MD	Medium Duty Vehicle	MDs are vehicles with a gross vehicle weight rating of between 10,001 and 26,000 pounds.
MUTCD	Manual on Uniform Traffic Control Devices	A manual published by FHWA setting standards for the usage of traffic signs, road surface markings, and signals in the United States.
NACS	North American Charging Standard	An EV charging connector system, also known as the Tesla charging standard.
NEVI	National Electric Vehicle Infrastructure Program	The NEVI Formula Program provides funding to states to strategically deploy EVSE and to establish an interconnected network to facilitate data collection, access, and reliability.
OEM	Original Equipment Manufacturer	OEMs are the manufacturers in the State of Alabama, which manufacture vehicles.
PEP	Public Education Partnership	A program of the Alabama Broadcasters Association that enables cost-effective broadcast of public education messaging on radio and television stations, plus digital marketing in the Google Ad Network across the State.
PHEV	Plug-In Hybrid Electric Vehicle	PHEVs have both a battery and a gas-powered engine. When the battery level reaches a certain level, the gas-powered engine takes over.
TOU	Time of Use	Time of Use rates are when the amount a consumer pays for electricity is based on the time of day the user consumes the electricity.