



**FLORIDA'S
ELECTRIC VEHICLE
INFRASTRUCTURE
DEPLOYMENT PLAN**

July 2023



DRAFT



Contents

1: Introduction.....	1
2: State Agency Coordination.....	5
3: Public Engagement.....	6
4: Plan Vision and Goals	8
5: Contracting	10
6: Civil Rights.....	12
7: Existing and Future Conditions Analysis	14
8: EV Charging Infrastructure Deployment	21
9: Implementation.....	26
10: Equity Considerations	32
11: Labor and Workforce Considerations	33
12: Physical Security and Cybersecurity	34
13: Program Evaluations.....	35
14: Discretionary Exceptions.....	36
Appendix A: References and Acronyms	37

Tables

Table 1: Existing DCFC Sites Used for AFC Corridor Designation.....	19
Table 2: Phase 1 Gap Segments.....	27
Table 3: Phase 1 Sites Needed by FDOT District	27

Figures

Figure 1: Florida Population and Visitor Growth.....	3
Figure 2: Florida’s DCFC Locations within one-mile of an AFC.....	4
Figure 3: Funds Deployment Timeline	8
Figure 4: Annual Temperature.....	15
Figure 5: Annual Precipitation.....	15
Figure 6: Top Ten Counties for Projected Population Growth	16
Figure 7: Existing Travel Patterns (Annual Average Daily Trips).....	16
Figure 8: Projected Passenger and Light Duty EV Adoption in Florida	17
Figure 9: 2023 AFC Designations	18
Figure 10: Investor Owned Electric Utility Providers	24
Figure 11: Cooperative Electric Utility Providers.....	24
Figure 12: Municipal Electric Utility Providers.....	25
Figure 13: NEVI Corridor Gaps	26

1

INTRODUCTION

To receive the annual allocation of National Electric Vehicle Infrastructure (NEVI) formula funds, each State is required to submit an annually updated Electric Vehicle Infrastructure Deployment Plan (Plan) that describes how the State intends to use the funds in accordance with the NEVI formula Program guidance and 23 CFR 680. This Federal Fiscal Year 2024 (FFY 24) update provides a status of Florida's NEVI competitive selection efforts and updates data used for maps and tables. The sections within this Plan have also been updated to match the order provided in the June 2, 2023 Electric Vehicle Infrastructure Deployment Plan template. The following is a summary of updates by section:

SECTION 1: Introduction

Brief overview of FFY 24 updates reflected in this Plan.

SECTION 2: State Agency Coordination

New section per June 2, 2023 Plan guidance.

SECTION 3: Public Engagement

Updated outreach activities since approved FFY 23 Plan. Subsections added for Tribes, utility coordination, and one-on-one meetings.

SECTION 4: Plan Vision and Goals

Updated text to reflect the competitive selection method for Phase 1 and Request for Applications (RFA) process developed during FFY 23.

SECTION 5: Contracting

Updated to reflect progress for Program contraction and selection of an RFA as the competitive selection method for Phase 1.

SECTION 6: Civil Rights

Updated with the Program Civil Rights Plan and Section 508 compliance.

SECTION 7: Existing and Future Conditions Analysis

Updated references and data.

SECTION 8: EV Charging Infrastructure Deployment

Map and text updates on FFY 23 Plan implementation progress.

SECTION 9: Implementation

Updated to reflect the current RFA progress, updated Phase 1 gap map, and updated actions to reflect current status and progress.

SECTION 10: Equity Considerations

Updated references and data.

<p>SECTION 11: Labor and Workforce Updated for consistency with the current RFA.</p>
<p>SECTION 12: Physical Security and Cybersecurity Updated for consistency with the current RFA.</p>
<p>SECTION 13: Program Evaluations Updated with reporting requirements per the NEVI Final Rule.</p>
<p>SECTION 14: DISCRETIONARY EXCEPTIONS No change.</p>

This Plan is Florida’s framework for implementing the NEVI Program to invest funding for electric vehicle (EV) infrastructure improvements to address charging gaps identified in the market. The framework described in this updated FFY 24 Plan supports the goals and objectives of not only the State’s long-range transportation plan, the Florida Transportation Plan (FTP), but also the State’s Electric Vehicle Infrastructure Master Plan (EVMP).

Implementation of the NEVI Program in Florida will build on the existing EV charging network, which consists of both market-driven charging stations as well as 170 direct current fast chargers (DCFC) along 1,200 miles of the most traveled corridors in the State funded by the Volkswagen Settlement. DCFCs provide the fastest charging capability currently on the market. Charging speeds are minutes as opposed to Level 2 chargers that require hours to complete a full charge.

The FTP, the single overarching plan guiding Florida’s transportation future, identifies the need to develop transportation systems that increase mobility, provide accessibility, enhance Florida’s communities and environment, and are safe and resilient. Updated every five years, the FTP is a collaborative effort of State, regional, and local transportation partners across the public and private sectors.

The Florida Department of Transportation (FDOT) released the EVMP in 2021 meeting the Section 339.287, Florida Statutes (F.S.) requirements for FDOT to coordinate, develop, and recommend a Master Plan for the development of EV charging station infrastructure along the State Highway System (SHS). The EVMP provided an important foundation for the development of this Plan.

<p>SUPPORT both short-range and long-range EV travel</p>	<p>ENCOURAGE the expansion of EV use in the State</p>	<p>SERVE evacuation routes in the State</p>
--	--	--

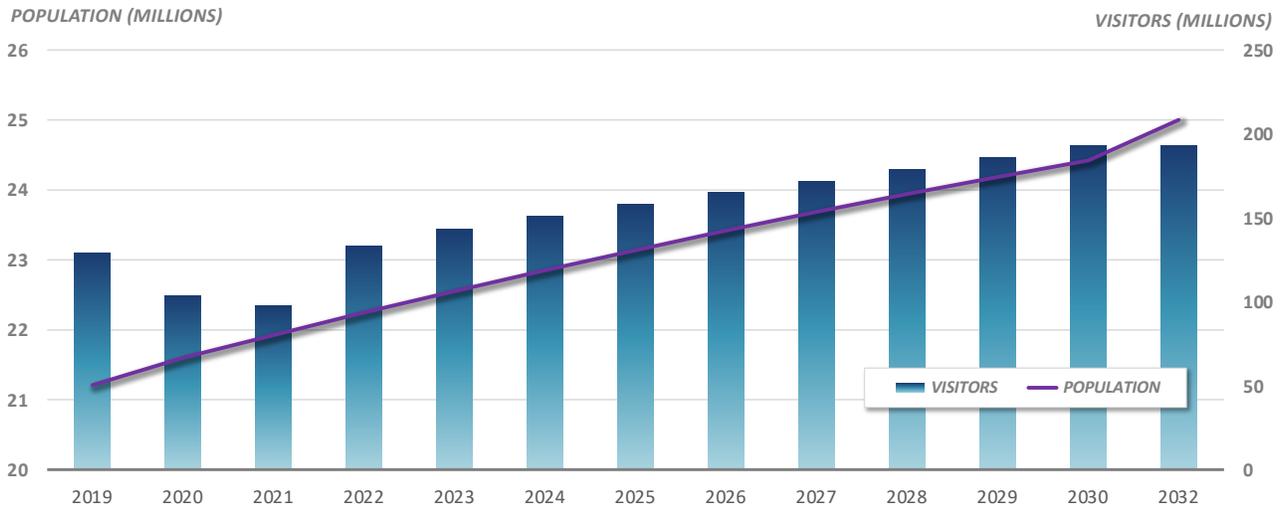
EVMP Objectives

The EVMP was developed through extensive public outreach, including seven outreach webinars with over 150 stakeholders, and supports the FTP goals to enhance Florida’s environment and strengthen Florida’s economy by advancing the use of EVs. It serves as a starting point for public and private entities to identify the challenges and opportunities for EV charging infrastructure investment and also as a guide for future legislation and public engagement. EV infrastructure includes the hardware technology used to charge an electric vehicle as well as site amenities where available.

State Characteristics

Florida's roadways are some of the most traveled in the nation serving nearly 22 million residents¹ and over 137 million annual visitors². Figure 1 displays Florida's projected population and visitor growth.

Florida Population and Visitor Growth (2019-2032)



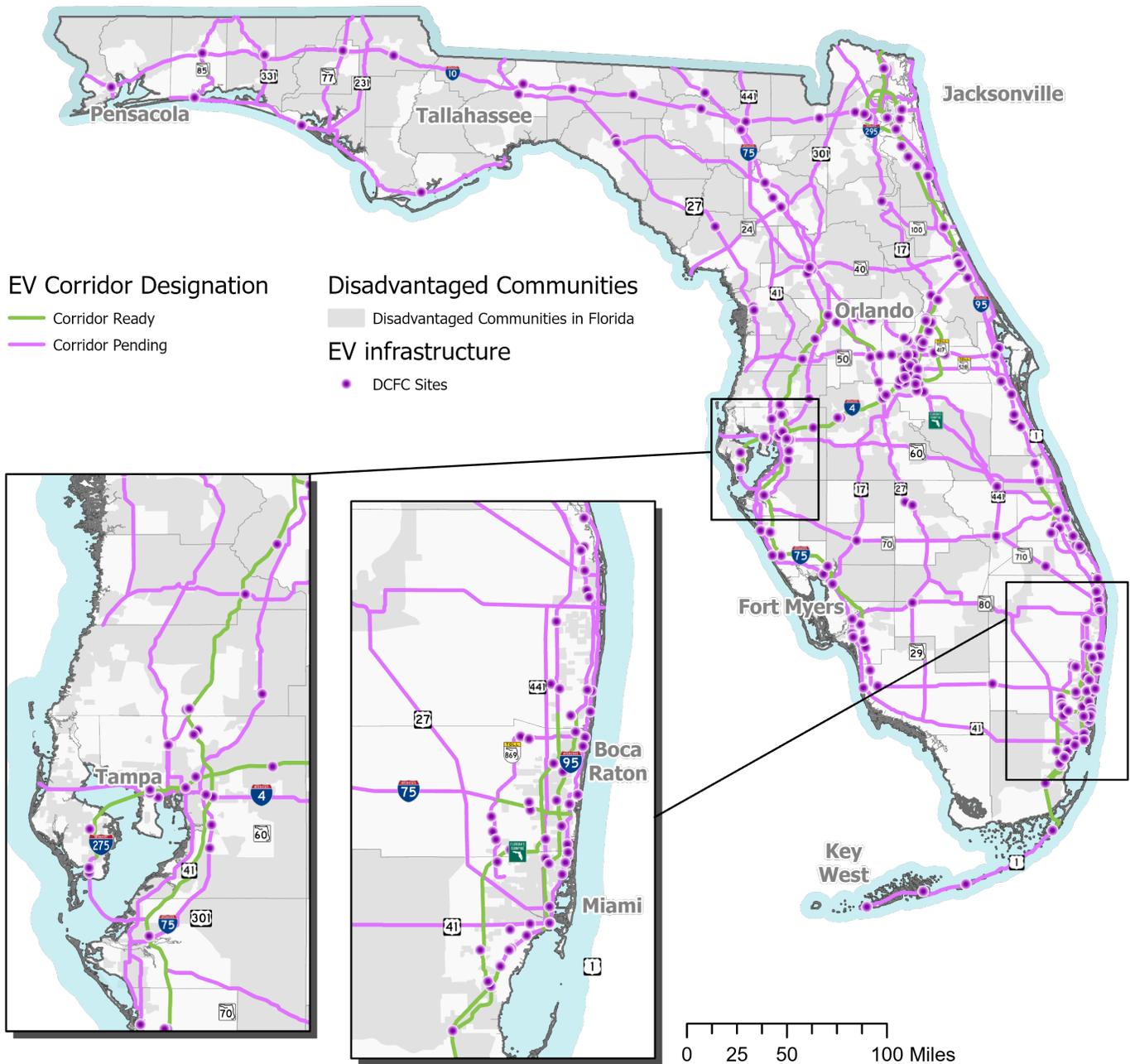
Source: <http://edr.state.fl.us/content/conferences/fleconomic/floridaeconomicresultslongrun.pdf> as of 02/15/23.

Figure 1: Florida Population and Visitor Growth³

Although Florida consumes over eight billion gallons of gasoline annually⁴, it also claims the **second-highest number of EV sales in the nation**⁵ and offers **more than 1,800 publicly available DCFC ports** and 5,500 publicly available Level 2 chargers⁶. The State EV market has experienced growth in EV sales and installation of new chargers. Since 2020, the number of available DCFCs increased by 115 percent, which offers a ratio of 50 EVs per DCFC port statewide. Recognizing this trend and keeping Florida's anticipated future EV charging needs in mind, the State added more than 4,000 miles to its EV alternative fuel corridor (AFC) designated network through the [Round 6 AFC nomination cycle](#)⁷. **This allows the State to utilize funds from the NEVI Program on EV charging gaps identified in the market over the five year period of NEVI.**

Figure 2 shows the existing DCFCs within one mile of a designated AFC⁸. To meet the NEVI requirements for buildout, EV charging stations must be located within one travel mile of the designated AFC, are no more than 50 miles apart, and have at least four DCFC ports that can provide 150 kilowatt (kW) of power simultaneously. Corridors with EV charging stations that meet all the requirements are labeled "corridor-ready" and the corridors that do not meet this criteria have been designated "corridor-pending".

The NEVI Final Rule requires States to identify communities that are traditionally underserved or disadvantaged. Figure 2 shows the disadvantaged communities in Florida as provided from the Climate and Economic Justice mapping tool.



(1) Designated segments support hurricane evacuation routes, economic development, tourism, rural needs, and/or freight as of 6/19/2023

Source: [https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+\(EV-Round+6\)](https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+(EV-Round+6))
 Source: https://services.arcgis.com/xOi1kZaI0eWDREZv/arcgis/rest/services/DOT_Disadvantage_Census_Tracts/FeatureServer

Figure 2: Florida's DCFC Locations within one-mile of an AFC

2

STATE AGENCY COORDINATION

In a continuation of our long-standing relationships with Federal, State, and local government agencies, FDOT relied heavily on input from other State agencies, including Department of Environmental Protection, Department of Agricultural and Consumer Services, and Florida Public Service Commission (FPSC) during the original development of this Plan. Collaborating through meetings, phone calls, and emails, these advisors shared information regarding EV infrastructure funded by the Volkswagen settlement, utility regulations and availability, and other considerations so FDOT could replicate and build upon successful strategies. The Plan also incorporates implementation strategies to maximize opportunities to utilize U.S.-made EV equipment.



3 PUBLIC ENGAGEMENT

To support the development of this Plan, a Partner and Public Engagement Plan (PPEP) was drafted to seek input, evaluate feedback, and inform partners and the public on the future installation of EV infrastructure under the NEVI Program. It has been updated to incorporate strategies from the 2.0 NEVI guidance released on June 2, 2023. The PPEP (Appendix B) describes the framework for requesting and receiving information and ideas from interested parties. The PPEP is committed to community engagement and will serve as a living document throughout the five-year life of the Program. Building upon the engagement activities of the EVMP, FDOT gathered input from a broad range of partners and the public through various events.

Activities conducted to date are summarized below.

Community Engagement Outcomes Report

Since the September 14, 2022 approval of the FFY 23 Plan, an industry forum was held on November 18, 2022 to provide an update on the Program progress. The 390 attendees at the meeting discussed general themes including limitations of equipment for the program, utility and power limitations in the State, resiliency options, workforce development, general non-technical requirements for Applicants, local permitting, and Federal requirements for NEVI. These discussion items have been incorporated into Program plans and documents as well as the Phase 1 RFA that is discussed under Section 5, Contracting. A second industry forum is planned to occur prior to publication of the Phase 1 RFA. Proposed activities for the Program in general, include engagement with communities, and is provided in the attached PPEP in Appendix B. A public engagement webinar on the Plan update was conducted by FDOT on July 5, 2023 to obtain feedback for this FFY 24 Plan.

Additional outreach activities are summarized in the following subsections.

Tribal Engagement

Section 106 of the National Historic Preservation Act and its implementing regulations, [36 CFR Part 800: Protection of Historic Properties](#), effective August 5, 2004, require that Federal agencies consult with Federally recognized Native American Tribes in all phases of the Section 106 process when an agency undertaking may have the potential to affect Native American historic properties on or off Tribal lands. In recognition of the need to treat Native American issues and concerns in a manner that is consistent with current Federal and State legislation, the FDOT, in partnership with the Federal Highway Administration (FHWA), Florida Division, utilizes their government-to-government relationship with Federally recognized Native American Tribes to ensure compliance with Section 106.

Under National Environmental Policy Act (NEPA) Assignment, FDOT has the responsibility to conduct the day-to-day consultations and communications with Tribes affiliated with Florida for the purposes of compliance with Section 106. Notwithstanding NEPA Assignment, government to government consultation between Tribes and Federal agencies remains the responsibility of FHWA as set forth in 23 CFR Section 773.105(b)(4). In the event of a Tribe requesting government to government consultation with FHWA, FDOT's Office of Environmental Management will inform FHWA or other appropriate Federal agencies of the request.

Utility Coordination

A utility workshop was held on February 24, 2023 to provide an overview of the Program and request a point of contact for the State and interested Applicants or member of the public. Seventy-eight attendees participated in the workshop. Comments included requests for load profiles per site to help size transformers, notes that some sites fall within multiple co-ops within a gap, and that transformers are running at 46 to 54 weeks for deliveries in the current market.

One-on-One Partner and Industry Meetings

In addition, FDOT staff met individually, upon request, with stakeholders including utilities, EV providers, private businesses, consultants, and local government agencies. Information shared and discussed during these meetings was considered in the development of implementation strategies. FDOT solicited information via a formal request for information (RFI) from June 6th to June 28th, 2022 that provided insight into the EV industry, workforce requirements, utility needs, and the range of types of organizations interested in providing EV infrastructure services.

It should be noted that the PPEP will continue to be utilized and updated over the course of the five-year deployment timeline of the NEVI Program.

Public Comment

During FFY 23 Plan development, eight regional listening sessions were conducted across the State to share updates on FDOT's effort on the Freight, Rail, Transit, and EV planning efforts. Eighteen surveys were collected for EV deployment with ideas provided for mobile charging, site accessibility, and general inquiries on how to stay engaged with the Plan efforts. The question most received during these events was the mechanism to engage partners and members of the public to advance of funding under the new NEVI Program. The original Plan was also posted for a public comment period where major themes included requests to clarify what zone-based competitive selection would entail, support for new EV infrastructure to be installed as soon as possible during the deployment period, and the benefits of increasing the power standards to 350 kW. The Plan was posted on the FDOT EV website for public comment.



4 PLAN VISION AND GOALS

This Plan serves as a guide for how EV funds will be invested across the State over the five-year timeline of the NEVI Program. The Plan’s RFA strategy includes a transparent, market-based, competitive approach that balances required regulation with customer experience, as described in Section 9, Implementation. The FTP and EVMP are two foundational documents that have informed the development of this Plan and influence how the State of Florida will address NEVI requirements. Both the FTP and EVMP address the need for a network of convenient, reliable, affordable, and equitable charging infrastructure.

The goals of the Plan used the EVMP as a foundation and were updated to focus on implementation. The following goals will guide Florida as it moves forward to buildout an EV network.

- ☑ Expand energy sources for transportation fuels.
- ☑ Position Florida as a national leader in EV infrastructure implementation.
- ☑ Expand EV charging access to all users in Florida.
- ☑ Anticipate changes in travel choices and transportation technologies towards EV adoption.
- ☑ Enhance Florida’s overall transportation system, including roadways within rural and urban disadvantaged communities.
- ☑ Support emergency evacuation.

Achieving these goals will help Florida meet its target of 100 percent completion of a built-out network for EV charging infrastructure that is convenient, reliable, equitable, and accessible.

Investments made with NEVI funds will aim to close network gaps by spacing DCFC sites no more than 50 miles apart and provide at least four ports at each location along the AFC. Private sector investments in EV charging infrastructure will continue during this deployment. Federal Fiscal Year 2023 activities will focus on continued planning and awarding the Phase 1 sites along the Interstate system. As infrastructure is added to the EV charging network, planning efforts will shift to conducting performance evaluations. By the end of the five-year period, operations and maintenance will be the dominant activity of the Program. A timeline of activities is presented in Figure 3. Opportunities to increase the network will be monitored and explored throughout the NEVI cycle. Status reports of Florida’s Plan will be provided annually to monitor the EV infrastructure deployment progress.

IMPLEMENTATION STRATEGY	FFY 22	FFY 23	FFY 24	FFY 25	FFY 26
Planning and RFA	█	█	█	█	█
Installation and Buildout		█	█	█	
Operations and Maintenance			█	█	█
Program Evaluations	█	█			

Figure 3: Funds Deployment Timeline

This Plan is supported by three implementation strategies:



IMPLEMENTATION STRATEGY 1

Planning an equitable, reliable, and future-proof network:

Lead the effort to develop and deliver the process for the buildout of Florida's EV infrastructure, which further supports a national network of DCFC sites.

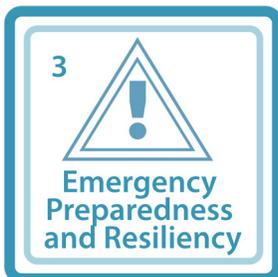
Advancing the initiatives outlined in this implementation strategy requires continuous performance measurement and evaluation as well as coordination and partnerships.



IMPLEMENTATION STRATEGY 2

Installation and operations to build out the network:

FDOT will deploy a grant program to install and provide for long-term operations and maintenance to ensure the successful deployment of a national network of convenient, reliable, and accessible DCFC infrastructure. **The success of this implementation strategy is predicated on a competitive RFA process in collaboration with partners delivering innovation and best value through sustainable, market-informed solutions.**



IMPLEMENTATION STRATEGY 3

Emergency preparedness and resiliency:

Provide accessibility to reliable DCFCs during emergency events. This is paramount to the safety and mobility of Florida's residents and visitors. Resiliency of the EV charging infrastructure along evacuation corridors will be addressed. Solutions for the overall system will include solutions for storm hardening. **This implementation strategy supports furthering consumer confidence and enhanced EV adoption.**

These strategies are supported by implementation actions and activities that are described in greater detail within Section 9, Implementation.

5

CONTRACTING

Per Section 9, Implementation, the installation, operations, and maintenance will be contracted through competitive RFA processes. NEVI formula funds will be released in phases with Phase 1 concentrated towards gaps along the Interstate system. The State will use a competitive selection process authorized under State law to award Phase 1 pass-through grants to private entities (Subrecipients) to deliver NEVI projects. The Subrecipients will be required to comply with all applicable Federal and State laws and FDOT will remain responsible for compliance. In June 2022, FDOT posted an RFI to serve as an information-gathering process to help understand the EV-charging industry and support the development of the contractual documents. The RFA package was submitted to FHWA in May 2023. The results of the RFI and FHWA review clarify the roles and responsibilities, especially those unique to Florida, that will be incorporated into the contractual documents. FDOT will continue working with stakeholders to understand business models and applicable competitive selection methods for future phases that best serve achievement of Plan goals.

Performance indicators incorporated into the RFA package and Subrecipient agreements

- » Site criteria including amenities.
- » Accessibility requirements including Section 553.5041, F.S., and American with Disabilities Act (ADA).
- » Minimum technical requirements in accordance with the NEVI Final Rule.
- » Operation and maintenance, including frequency and minimum reliability measures.
- » Workforce development and community engagement.
- » Minimum performance measures.
- » Data and reporting requirements.
- » Warranty requirements.

In implementing the formula NEVI program, FDOT will contract with private entities for the installation, operation, and maintenance of EV charging infrastructure through a competitive RFA process. The State will not own, operate, or maintain the EV charging infrastructure. The private entities will pay the entire non-Federal share of the project costs.

The draft Subrecipient agreement includes provisions for payment to achieve efficient delivery of EV charging infrastructure and reliable operational performance. Subrecipients are not precluded from using private funding sources to provide alternative charger technology (proprietary chargers, level 2 charging, or 350 kW charging) co-located with NEVI funded DCFCs. Payment for phase completion will be outlined and will include provisions for construction and maintenance timelines as well as minimum performance criteria. Operations and maintenance payments to the Subrecipient will be structured to encourage increased private competition for EV infrastructure in rural, disadvantaged and underserved areas. Increased competition in lower utilized areas helps to ensure a comprehensive network of EV charging locations across Florida.

FDOT will require all Subrecipients to maintain all NEVI-funded EV infrastructure in compliance with the requirements of 23 CFR Part 680 for five years from the initial date of operation. In addition, the State will consider Applicants' plans to keep stations in service beyond five years as part of the selection process. Beyond five years, operations and maintenance of NEVI funded EV infrastructure will be solely at the option of Subrecipients. FDOT will not be responsible financially or otherwise for the infrastructure after the NEVI funding period.

Contracting Process

Since the FFY 23 Plan approval, the State has been actively drafting an RFA which includes a scope of work and sample Subrecipient agreement. The FHWA review of this package began in May 2023 and will be complete prior to publishing the Phase 1 RFA. The Phase 1 RFA is scheduled to publish in Summer 2023.

Applications received will be evaluated and scored on project technical approach and commitment to meeting criteria, prior experience, site details, and innovation and will be weighted against price. The scores will be tabulated for final award.

The RFA package includes language for compliance with State and Federal requirements of the Program. A Grant Management Plan and Standard Operating Procedures have also been developed for the Program to direct how compliance will be achieved by the State and Subrecipients of the Program.

6

CIVIL RIGHTS

Florida is committed to compliance with Federal and State civil rights laws. The following outlines the approach to delivering this Plan.

Title VI, Civil Rights Current Assurances

FDOT complies with the Statutory and Regulatory Authorities as set forth in U.S. Department of Transportation, Standard Title VI/Non-Discrimination Assurances – DOT Order NO. 105-2A¹⁰.

FDOT will require, as part of each RFA package, that the selected Applicant receiving a project award shall adhere to the Title VI/Nondiscrimination Assurance¹¹ to be attested to by signature of its Chief Executive Officer with regard to the work performed during the contract.

In addition, FDOT has adopted a Title VI Program and Related Statutes Implementation Review Procedure (275-101-1091-f¹²) that details the process FDOT implements statewide for the Title VI Nondiscrimination Program in accordance with U.S. Department of Transportation regulations.

NEVI Civil Rights Policy

FDOT has created a FDOT Civil Rights Plan in support of the Florida NEVI Program. FDOT will utilize its existing Title VI/Nondiscrimination Implementation Program to monitor Subrecipient compliance with the requirements of applicable law and regulations, and the Subrecipient assurances executed in connected with each Phase 1 subgrant agreement. A Subrecipient must demonstrate to FDOT that it complies with Title VI requirements. Minimum expectations are an executed assurance, Title VI policy and complaint procedures document, and identification of a Title VI point of contact. FDOT will conduct in-depth reviews of Subrecipients as part of quality assurance reviews. Subrecipient deficiencies will be addressed by either determining the Subrecipient ineligible for Federal funding or withholding project payments for deficiencies. FDOT seeks voluntary compliance to the maximum extent possible, providing tools, training, and even one-on-one technical assistance, where requested or warranted.

ADA , Section 504, and Section 508 of the Rehabilitation Act Commitments by Reference

Pursuant to ADA (1990, Public Law 101-336) which serves as a broad civil rights statute prohibiting discrimination against individuals with disabilities in all areas of public life, Title II of the ADA prohibits disability discrimination by State and local government entities.

Design Standards

FDOT will ensure that contract services for installation, operations, and maintenance of EV charging infrastructure are compliant with the U.S. Department of Justice Civil Rights Division – Information and Technical Assistance on ADA Standard for Accessible Design¹³.

Public Meeting Guidelines

FDOT will ensure compliance with Title II, Regulation Supplement¹⁴ and as set forth in Subpart B – General Requirements, Section 35.130¹⁵, for meetings and events that may be scheduled regarding EV Charging Station(s). FDOT uses the Florida Relay Services to communicate with residents in the State of Florida who are Deaf, Hard of Hearing, Deaf/Blind, or Speech Disabled. Public participation is solicited without regard to race, color, national origin, age, sex, religion, disability, or family status.

Website/Digital Presentations

Website standards and guidelines¹⁶ will be adhered to by FDOT per applicability based on content format. pursuant to Section 508 of the Rehabilitation Act of 1973, as amended (29 United States Code, Sec . 794[d]. Electronic and Information Technology).

7

Existing and Future CONDITIONS ANALYSIS

Successful Plan implementation requires an assessment of the State's physical features as well as the existing market for EVs and their infrastructure. This section of the Plan outlines the State's geography, terrain, climate, and land use and travel patterns along with an analysis of the current EV infrastructure within the State.

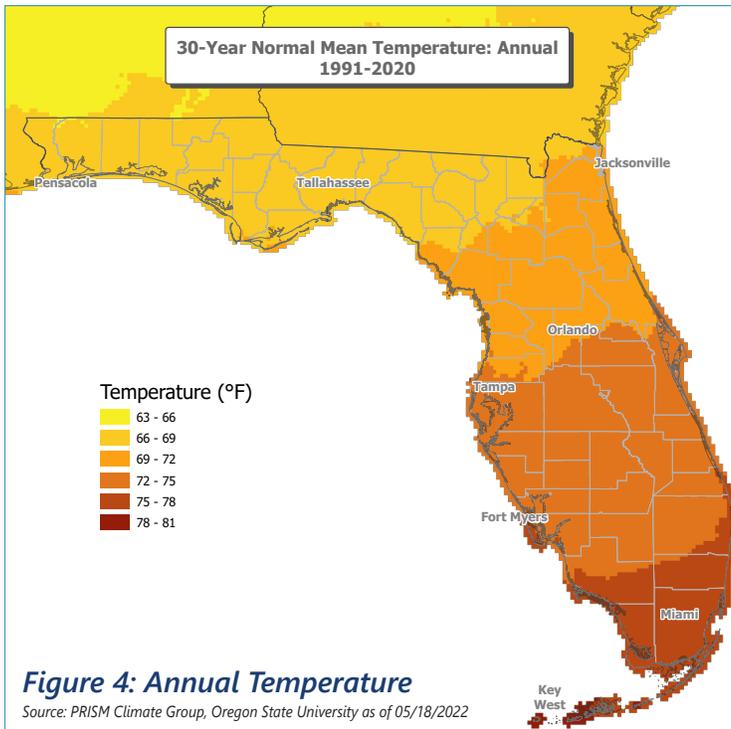
Current State EV Infrastructure Needs

The EVMP provided an overview of EV ownership and market adoption by vehicle type. Florida is second in the nation in terms of both EV adoption rate and availability of DCFCs (1,800). Ownership and adoption rates are the highest in the major urban areas of Jacksonville, Orlando, Tampa, and Miami. Although EV sales are below one percent of all vehicle sales in the State, in a moderate growth scenario their adoption is projected to represent 20 percent of vehicles by 2040 in the State. Even a conservative rate of adoption of EVs will require an intensive build out of charging infrastructure.

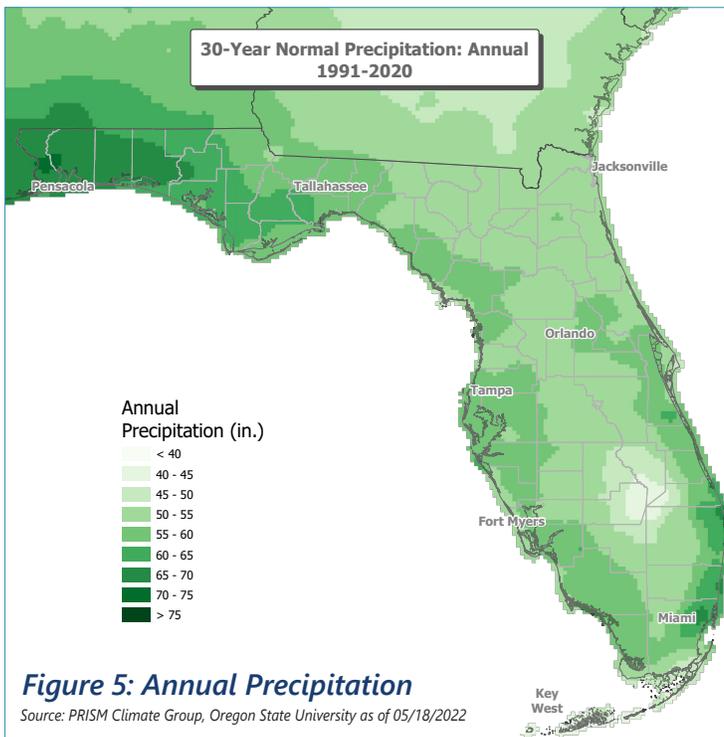
State Geography, Terrain, Climate, and Land Use Patterns

Florida is a peninsula that lies primarily between the Atlantic Ocean and the Gulf of Mexico and is bordered along the north by Georgia and Alabama. It is the southernmost state of the 48 contiguous states. Most of the State is located at or near sea level, with portions of Northwest Florida reaching elevations up to 345 feet above sea level.





Florida’s climate is considered humid subtropical, which translates to cool winters with hot, humid summers. The average daily temperature (72.3 degrees Fahrenheit (°F)) is ideal for EV vehicles and infrastructure, with lows reaching into the 20s and highs above 100 °F. While Florida does not receive measurable snowfall, frost does occur occasionally during the winter months. The average annual precipitation is 53.7 inches, with the most rain occurring between June and August. Figures 4 and 5 summarize the annual temperature and precipitation experienced within the State.



The State is also prone to tropical disturbances during the Atlantic hurricane season between June and November. Large volumes of lightning strikes tend to occur during summer storm events with Central Florida receiving more lightning strikes than any other area in the United States. Tornadoes are prevalent in Florida, but typically do not reach very strong intensities.

Since 2000, Florida has been affected by 79 tropical or subtropical cyclones. During Hurricane Irma in 2017¹⁷, nearly seven million residents were evacuated, illustrating the need for a robust and resilient network to provide alternative fueling for EV owners.

Following the 2017 storm season, FDOT developed *Hurricane Irma’s Effect on Florida’s Fuel Distribution System and Recommended Improvements*, with several recommendations, such as mobile charging, included in this Plan. Responding to the need for EV charging during evacuation events, significant investments have been made by FDOT along these corridors to support safe and efficient mobility during emergency events. This includes the expansion of EV charging to support alternative fuel choices across the transportation network.

Travel Patterns

Land use across the State includes a mix of density, intensity, and uses. Eighty-eight percent of the State's population resides in urbanized areas. The projected 10 fastest growing counties are shown in Figure 6 and continue to experience increasing density. The State contains several emerging areas including Fort Myers/Naples, Ocala/The Villages, and Tallahassee, which continue to grow. These areas rely heavily on personal vehicles for mobility needs. Remaining areas are classified as rural. Within the rural areas are three designated Rural Areas of Opportunity which are defined as rural communities or regions that have been adversely affected by extraordinary economic events or natural disasters that present a unique economic development opportunity of regional impact.

EV travel patterns are expected to occur similarly to how people and goods move around the State currently. Visitors travel Florida's roadways from out of state to reach destinations such as beaches, public spaces, theme parks, and cruise-, air-, and space-ports. Residents travel along these same roadways between regions for work and leisure. Seasonal travel patterns include temporary residents who reside in Florida over the winter months from out of state as well as holiday visitors. In the year 2022, Florida welcomed over 137 million visitors. Additionally, nearly 90 percent of the State's commuters travel by car¹⁸. Figure 7 shows Florida's Annual Average Daily Trips across the Strategic Intermodal System overlaid on top of areas that are traditionally underserved or disadvantaged. The Strategic Intermodal System provides interregional travel and is comprised of corridors and hubs that serve as the backbone for moving Florida's people and goods.

60%
OF FLORIDA'S
POPULATION GROWTH
IS CONCENTRATED IN
10 COUNTIES...



Figure 6: Top Ten Counties for Projected Population Growth

Source: Bureau of Economic and Business Research

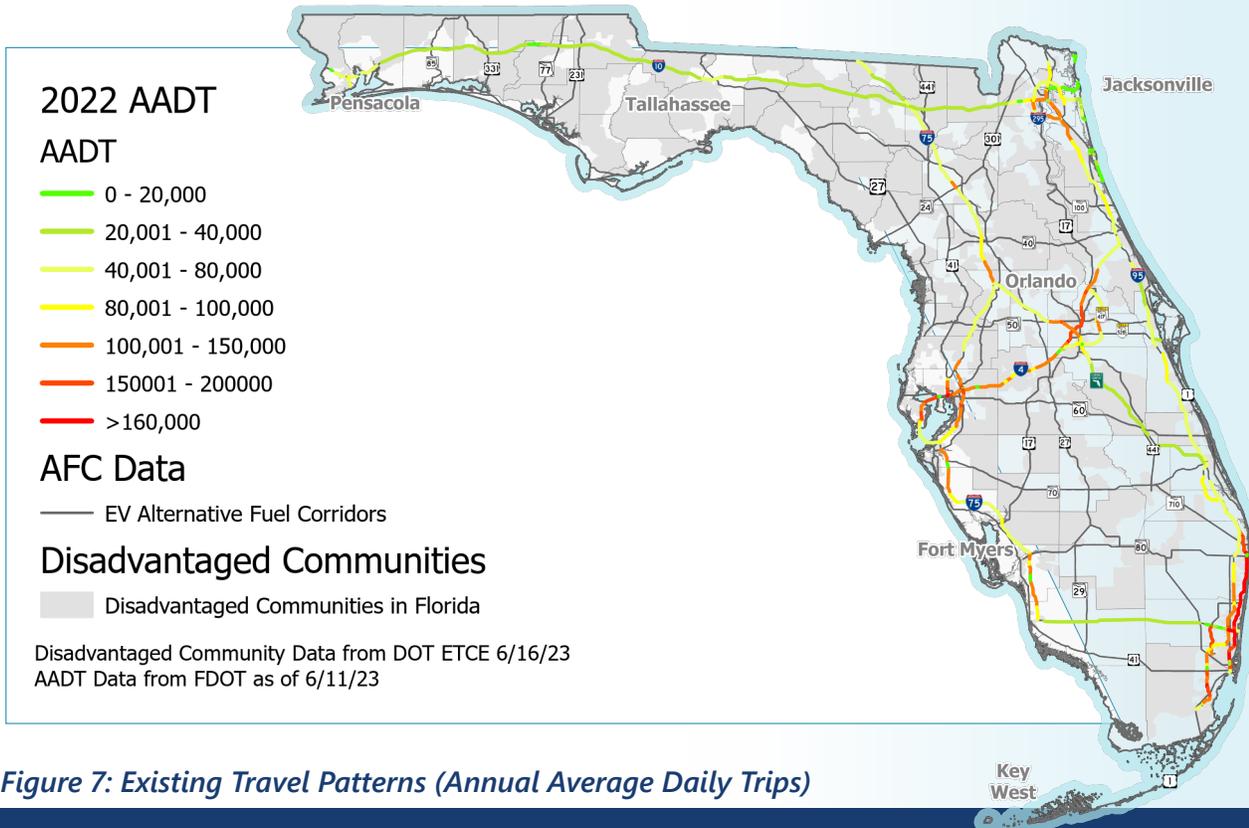


Figure 7: Existing Travel Patterns (Annual Average Daily Trips)

Current Market Conditions

The global market for EVs is growing with significant increases in EV sales. Automobile manufacturers are increasing EV production with many committed to a fully electric future, offering only zero emissions vehicles by 2035. It is projected that by 2025, there will be 165 models available to consumers. As of December 2022, Florida had a 0.8 percent adoption rate, based on analysis of registered vehicles, marking an 87 percent increase in EV registration from September 2021. FDOT conducted analysis using Market Acceptance and Advanced Automotive Technologies modeling and developed three adoption scenarios: aggressive, moderate and conservative. Figure 8 illustrates projected adoption of EVs by 2040 showing ownership could be as high as 35 percent in Florida.

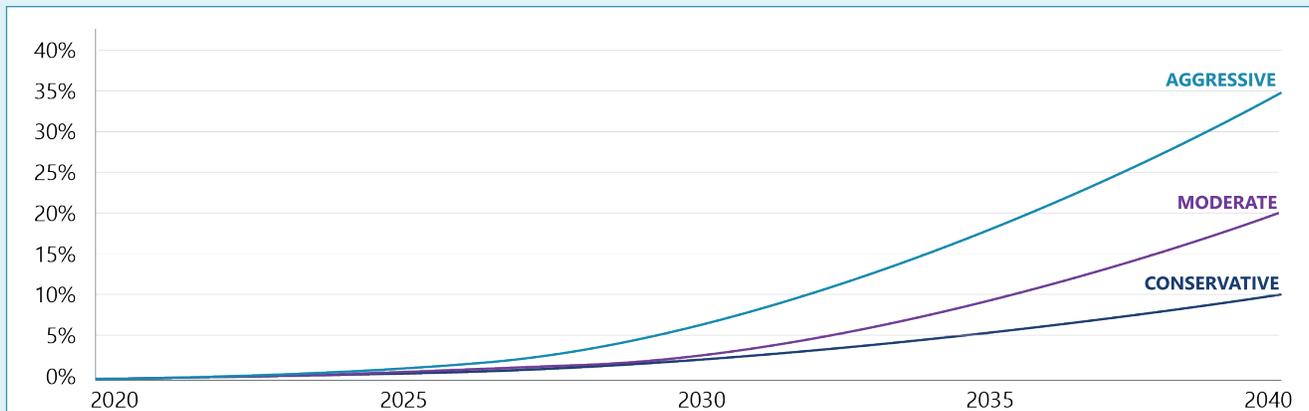


Figure 8: Projected Passenger and Light Duty EV Adoption in Florida

Source: Florida's EVMP

Electric Vehicle Freight and Supply Chain Considerations

Fleet conversion is an ongoing activity in Florida with fleet managers working through where and how to charge their vehicles. Florida's local governments and private industry have invested in EV conversions with many local plans and funding avenues available to expand the charging network, furthering accessibility and adoption of alternative fuel vehicles. The following provides considerations when working through this process and making these decisions. Light-duty fleet owners may benefit from off-peak charging using the DCFC infrastructure.

For private light-duty fleets:

(rental cars and delivery vans)

The majority of vehicles will be light-duty, but some may be medium-duty vehicles; the charging infrastructure for each is the same.

Primary charging demands will be met with on-premises (i.e., depot, yard) Level 2 chargers.

Secondary charging demands may be met using off-site publicly accessible DCFCs as needed.

For private heavy duty fleets:

(commercial trucks)

Heavy-duty fleet vehicles currently use heavy-duty EV charging equipment which operate at greater than 150 kW.

Heavy-duty vehicles will have their own dedicated EV charging network and may use Extreme Fast Charging soon (1 megawatt).

Light-duty and medium-duty chargers will not be compatible with heavy-duty EV charging infrastructure.

The heavy-duty EV charging infrastructure network will be primarily located along the SHS, at truck stops, intermodal hubs, and distribution centers.

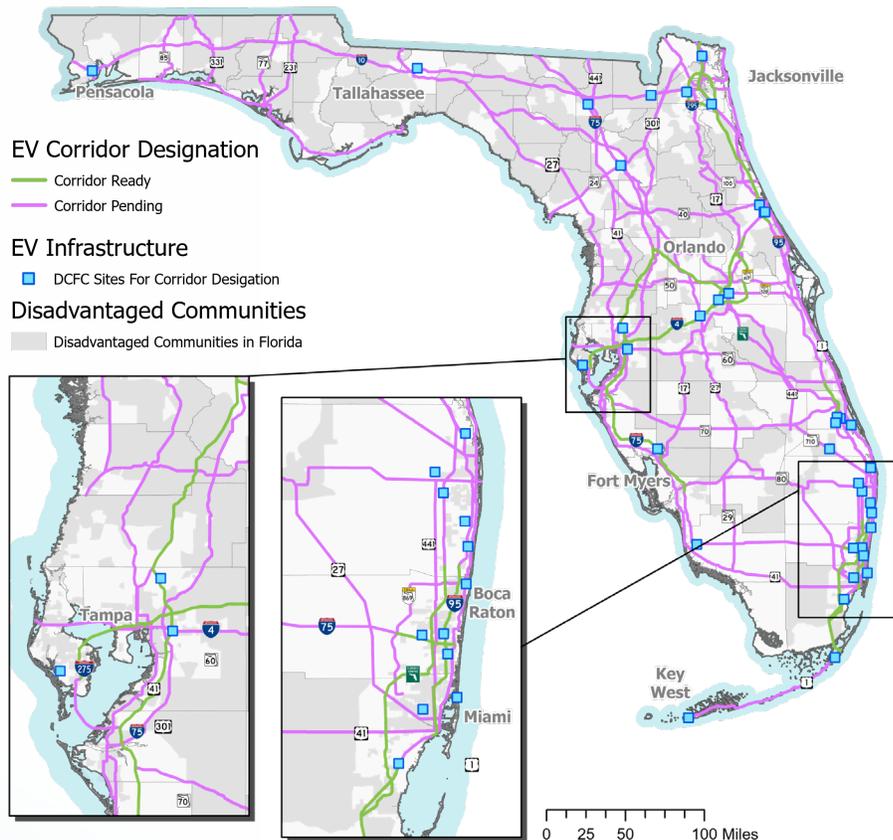
Public Transportation Considerations

Transit agencies throughout Florida have been proactive in executing fleet conversions to EV, including Pinellas Suncoast Transit Authority as well as Leon County Star Metro. Transit vehicles serve transportation disadvantaged during emergency evacuations, which could include the use of the DCFC network. Considerations for EV include:

- ✓ Heavy-duty equipment for transit bus charging typically ranges between 150 kW and 350 kW.
- ✓ A 100-bus depot requires approximately 5 megawatt of power to support 30 to 35 150 kW chargers.
- ✓ Charging is primarily conducted within the bus depot, but in-route charging is extending operations.
- ✓ When in-route charging is not feasible, multiple buses may need to cover longer routes traditionally served by one bus using another fuel source.
- ✓ Battery size and charging strategy are critical to ensure maximum in-route time.
- ✓ Transit fleet fuel sources have evolved from petroleum (diesel) to natural gas and now electricity, requiring substantial investment to deliver fuel to vehicles.
- ✓ School bus electrification, with fixed distance routes, should be included as the larger EV asset strategy.

AFC Networks

In a continued effort to expand the EV infrastructure network, the State expanded the alternative fuel corridor network as part of the Round 6 AFC nomination cycle. Figure 9 summarizes the designated AFC network for EV. Status changes from "corridor-pending" to "corridor-ready" are also included and reflect AFC Round 6 compliant stations added along the National Highway System.



(1) Designated segments support hurricane evacuation routes, economic development, tourism, rural needs, and/or freight as of 6/19/2023

Source: [https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+\(EV-Round+6\)](https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+(EV-Round+6))
 Source: https://services.arcgis.com/xO1kZaI0eWDREZv/arcgis/rest/services/DOT_Disadvantage_Census_Tracts/FeatureServer

Figure 9: 2023 AFC Designations

Table 1: Existing DCFC Sites Used for AFC Corridor Designation (as of 6/19/23)

#	ID	Address	Route	EV Network	Total DCFC Ports
1	121843	6235 North Davis Highway, Pensacola, FL 32504	I-110	Electrify America	4
2	127227	1400 Village Square Boulevard, Tallahassee, FL 32312	I-10	Electrify America	4
3	147515	3200 NW 79th St., Miami, FL 33147	US-1	Electrify America	6
4	164343	Love’s Travel Shop 45000 US-27, Davenport, FL 33897	US-27	Electrify America	4
5	167164	8001 S. Orange Blossom Trail, Orlando, FL 32809	US-441	Electrify America	6
6	167236	10300 Southside Blvd, Jacksonville, FL 32256	US-1	Electrify America	4
7	167712	3970 SW Archer Road, Gainesville, FL 32608	SR-24	Electrify America	4
8	167950	94 Florida’s Turnpike, Lake Worth, FL 33467	SR-91	FPLEV	4
9	167984	144 Florida’s Turnpike, Port St. Lucie, FL 34984	SR-91	FPLEV	6
10	168208	2500 W Broward Blvd, Fort Lauderdale, FL 33312	I-95	Electrify America	10
11	168488	375 Kings Hwy, Port Charlotte, FL 33983	I-75	Electrify America	6
12	170034	101499 Overseas Hwy, Key Largo, FL 33037	US-1	Electrify America	4
13	170302	1521 W Granada Blvd, Ormond Beach, FL 32174	SR-40	Electrify America	6
14	170312	1675 NW St Lucie West Blvd, Port St Lucie, FL 34986	I-95	Electrify America	6
15	170319	9885 Collier Blvd, Naples, FL 34114	I-75	Electrify America	4
16	170325	3200 Flagler Avenue, Key West, FL 33040	US-1	Electrify America	4
17	170667	18001 Highwoods Preserve Parkway, Tampa, FL 33647	I-75	Electrify America	8
18	186257	3200 Old Boynton Beach Rd, Boynton Beach, FL 33436	I-95	Electrify America	4
19	187156	8888 SW 136th St, Miami, FL 33176	US-1	Electrify America	4
20	192238	3800 Oakwood Blvd, Hollywood, FL 33020	I-95	eVgo Network	8
21	193153	10287 Okeechobee Blvd, Royal Palm Beach, FL 33411	SR-91	Electrify America	4
22	205237	3221 W US Highway 90, Lake City, FL 32024	I-75	FPLEV	6
23	205238	53 Daydream Ave, Yulee, FL 32097	I-95	FPLEV	6
24	205241	2198 Gatlin Blvd, Port St. Lucie, FL 34953	I-95	FPLEV	6
25	205242	15935 SW Warfield Blvd, Indiantown, FL 34956	SR-710	FPLEV	4
26	205243	1880 Checkered Blvd, Daytona, FL 32114	I-95	FPLEV	6
27	206454	1200 S Federal Hwy, Deerfield Beach, FL 33441	US-1	Electrify America	4
28	206455	1200 Linton Blvd, Delray Beach, FL 33444	I-95	Electrify America	4
29	221458	11701 Lake Victoria Gardens Ave, Palm Bch Gardens, FL 33410	I-95	Electrify America	8
30	222230	8000 West Broward Blvd, Plantation, FL 33388	I-595	Electrify America	6
31	228435	1700 W International Speedway Blvd, Daytona Bch, FL 32114	I-95	eVgo Network	8
32	228637	7953 Normandy Blvd, Jacksonville, FL 32221	I-295	eVgo Network	7
33	240737	101 Brandon Town Center Dr, Brandon, FL 33511	SR-60	eVgo Network	6
34	256192	9700 Collins Ave, Bal Harbor, FL 33154	US-1	Electrify America	8
35	260586	6901 22nd Ave N, Peterburg, FL 33710	I-275	Electrify America	6
36	261416	8200 Vineland Ave, Orlando, FL 32821	I-4	Electrify America	6
37	261479	9200 FL-228, Macclenny, FL 32063	I-10	FPLEV	4
38	262608	3174 NW Federal Hwy, Jensen Beach, FL 34957	US-1	Electrify America	6

Known Risks and Challenges

Large scale deployments of technology infrastructure have a variety of inherent risks. The nationwide expansion of charging infrastructure may impact availability of Build America Buy America materials and skilled labor. Emerging and evolving technology could pose challenges to a consistent consumer experience across the network. Incorporation of long-term operations and maintenance considerations furthers the risk to overall Program schedule and cost. These risks will be monitored and managed throughout Plan implementation.

The following outlines the known risks and challenges associated with the deployment of this Plan.

Technology

- Rapid technological change of EV charging infrastructure and EV technology.
- Availability of components, including microchips, conduit, fiber optic communication cable, and transformers.
- Consolidation of equipment and service providers creating lack of interoperability with ownership change.
- Ever evolving cybersecurity threats and standardization for consumer, grid, and network protection.

Schedule

- EV charging infrastructure availability and supply chain issues and Build America Buy America requirements.
- Utility infrastructure readiness (transformer locations) and alignment with planned upgrades.
- Non-uniform permitting requirements among municipalities.
- End of term funding and ongoing maintenance and operations.
- Contractor resource availability of skilled and trained labor.

Cost

- State financial obligations for long-term operations and maintenance funding.
- Cost escalations due to large scale deployment resulting in material availability shortages.
- Lack of qualified contractors to perform EV charging equipment installation resulting in less competition.



8

EV CHARGING INFRASTRUCTURE DEPLOYMENT

Florida will receive approximately \$198 million in NEVI formula funds through FFY 26. These funds will be used to grow the network of EV chargers by installing, maintaining, and operating DCFC sites for the duration of the five-year Program. Working in tandem with our industry partners to fill in the gaps and identify innovative solutions that support charging in rural, disadvantaged, and under served areas, Florida's goal is for the market to continue to self-support after the Program ends.

Early investment of NEVI funds will focus on the installation of sites with subsequent funding supporting the operations and maintenance over the term of this Plan. Strategies for deployment are addressed in Section 9, Implementation.

Funding considerations include the use of performance-based payments established on site revenue models. This model may include variable payments based on site utilization (charging sessions), with lower utilized sites receiving higher operational funding, to a limiting amount. This will encourage competition and participation by the industry to install and maintain EV charging infrastructure in locations that may not initially warrant investment.

Funding Sources

The required non-Federal match for NEVI formula funds is 20 percent. Private-sector matching funds will be used as a prioritization criterion during the competitive contracting process.

Additional formula funds that may be applied to continue the EV charging network build out include:



National Highway Performance Program



Surface Transportation Block Grant Program



Congestion Mitigation & Air Quality Improvement Program



Carbon Reduction Program

Completing the EV Charging Network

Florida will continue to work towards buildout of the EV network across the State over the life of the Program and monitor corridor upgrades annually as private and public investments continue to occur.

Increases of Capacity/Redundancy Along the Designated AFC

Several strategies will be implemented under the NEVI Program to continue to build out EV infrastructure along the AFC network. While NEVI guidance states to prioritize investments along the Interstates, intersections with State roads are also prime candidates for charging locations. Candidate sites will be determined through the ongoing public and partner engagement to identify innovative solutions that support EV charging in rural, disadvantaged, and under served areas, identify gaps where there is a benefit to the site owner, alignment with State priorities, and the need is not addressed elsewhere. Florida's Phase 1 focus for buildout will be along the Interstate system.

As EV adoption continues, sites can be prepared for future expansion beyond the current 150 kW criteria by installing additional conduit, providing adequate space for EV charging equipment, and addressing needs to support future growth. Stations can be upgraded to meet future demand without incurring substantial additional costs. Provisioning the electrical capacity for upgrades during the initial charger construction can help support future demand changes, resulting in drastically lower upgrade time and cost. Future-proofing can also be achieved by installing a high-powered charging station and then metering output power until full capacity is necessary. For example, a host site may install a 350 kW charger but limit its output to 150 kW until fast charging demand increases. When more power is needed, minor component exchange/additions allow the station to produce more power.

As part of the deployment strategy, FDOT is coordinating with utility companies to communicate Plan implementation progress to support the existing and planned distribution and transformer capacity with electric utility providers along the designated AFCs. The Homeland Infrastructure Foundation-Level Data maps provide electric company substation data, and is used as a baseline for evaluation. The substation characteristics that are considered include the distance from the corridor, the voltage provided, and any existing transmission lines in the vicinity of the corridor.

State, Regional, and Local Policy

Pursuant to Chapters 361 and 366, F.S., Florida is classified as a "traditionally regulated" State with public electric utilities serving designated service territories under the jurisdiction of the FPSC. The FPSC exercises its regulatory authority through rate setting, oversight of bulk power grid planning, safety inspections, and ensuring the availability of reliable service. To ensure future power demand and new government mandates are planned for and considered, a 10-year site plan for each utility is generated and reviewed annually. This provides an opportunity for the State to collaborate with FPSC to plan for future electricity needs for EV infrastructure demand.

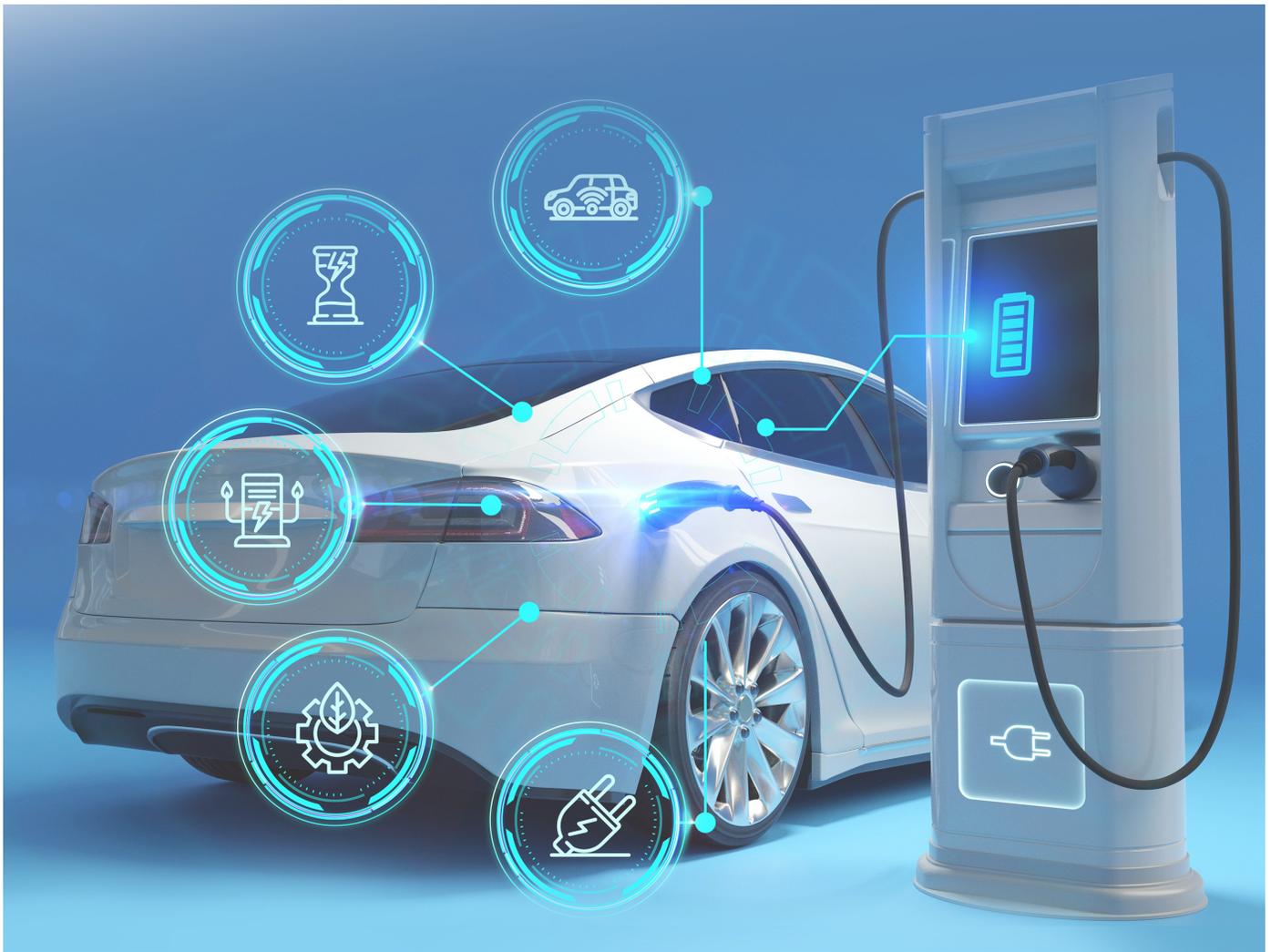
The FPSC regulates the four investor-owned electric utilities in the State: Duke Energy Florida, Florida Power & Light, Florida Public Utilities Company, and Tampa Electric Company as shown in Figure 10. Rates are set based upon the cost of service and providers are permitted to recover the capital investment, operating costs, and a reasonable return on their investment within their rates. Together, these four investor-owned utilities serve approximately 75 percent of the State's population. The FPSC does not regulate the rates and service quality of municipal or rural cooperative electric utilities.

A rural electric cooperative utility is a joint venture organized to supply electric energy to a specified area. Such ventures are generally exempt from the Federal income tax laws. The rates and revenues of rural

electric cooperative utilities are regulated by their elected cooperative officers. Most cooperatives have been financed by the Rural Electrification Association. While 16 electric cooperatives (Figure 11) serve approximately 10 percent of Florida’s population, their service territory covers more than 60 percent of Florida’s landmass.

A municipal electric utility is an electric utility system owned or operated by a municipality engaged in serving residential, commercial, or industrial customers, usually within the boundaries of the municipality. Municipally owned utility rates and revenues are regulated by their local governing body. There are 33 municipal electric utilities in the State as shown in Figure 12, that serve about 15 percent of the State’s population.

Through coordination and development of multiple efforts leading to this Plan, electric utilities agree that EV ownership is going to continue to rapidly increase in the coming years. In the FPSC’s Review of the 2021 Ten-Year Site Plans of Florida’s Electric Utilities¹⁹, reporting electric utilities estimate growth could approach nearly 700,000 EVs and 29,000 DCFC within the State by the end of 2030. Despite this relatively rapid growth rate, Florida’s electric utilities estimate an impact of less than 1.5 percent on net energy for load by 2030. Florida’s electric utilities are well equipped for this increase in energy use. At a minimum, Florida electric utilities must maintain a 15 percent reserve margin, and Florida’s three largest electric utilities have a 20 percent reserve margin.



INVESTOR OWNED ELECTRIC UTILITY PROVIDERS

1	Duke Energy Florida, LLC
2	Florida Power & Light Company
3	Florida Public Utilities Company
4	Tampa Electric Company

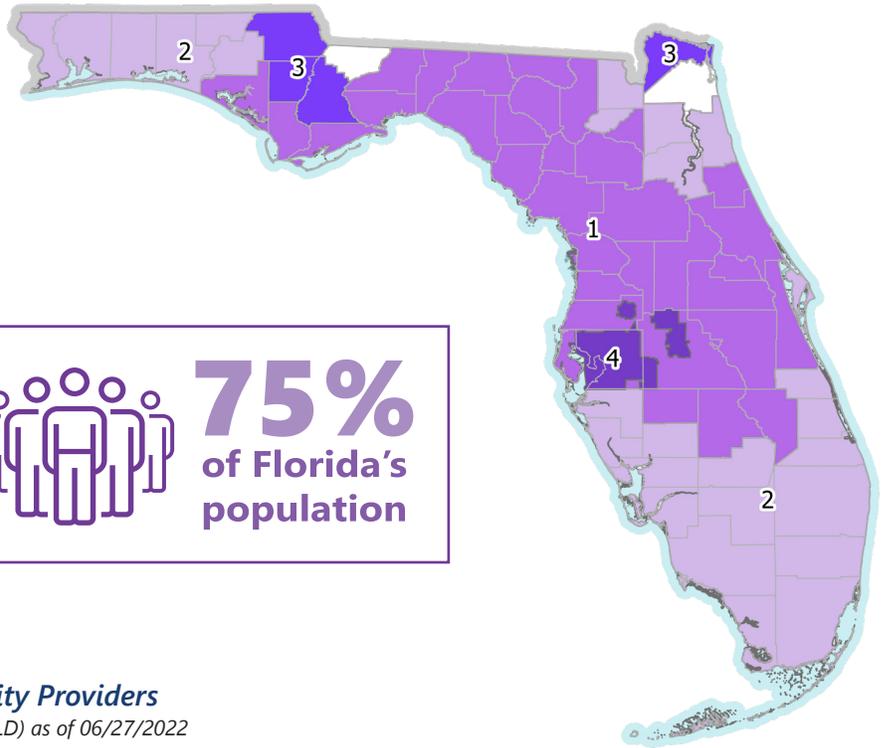


Figure 10: Investor Owned Electric Utility Providers

Homeland Infrastructure - Foundation Level Data (HIFLD) as of 06/27/2022

COOPERATIVE ELECTRIC UTILITY PROVIDERS

1	Clay Electric Cooperative, Inc
2	Glades Electric Coop, Inc
3	Tri-County Electric Coop, Inc
4	Lee County Electric Coop, Inc
5	Talquin Electric Coop, Inc
6	Suwannee Valley Elec Coop Inc
7	West Florida El Coop Assn, Inc
8	Peace River Electric Coop, Inc
9	Sumter Electric Coop, Inc
10	Central Florida Elec Coop, Inc
11	Withlacoochee River Elec Coop
12	Choctawhatche Elec Coop, Inc
13	Gulf Coast Electric Coop, Inc
14	Escambia River Elec Coop, Inc
15	Florida Keys El Coop Assn, Inc
16	Okefenokee Rural Electric Membership Corporation

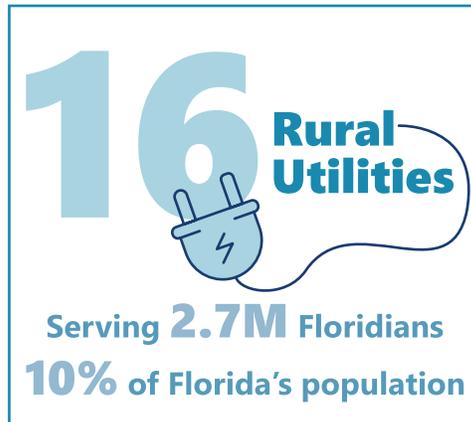
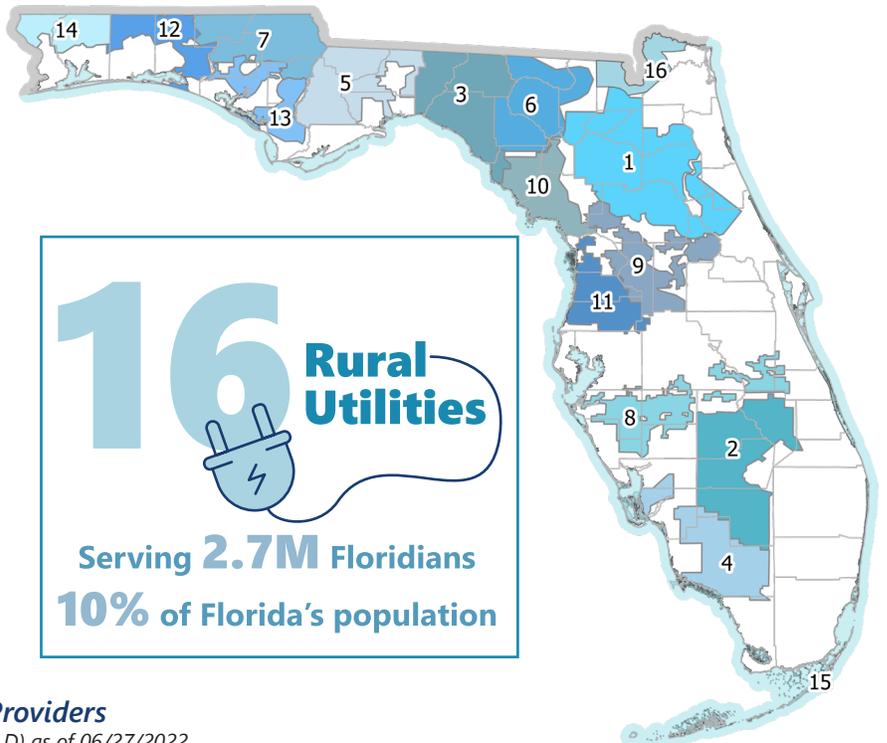
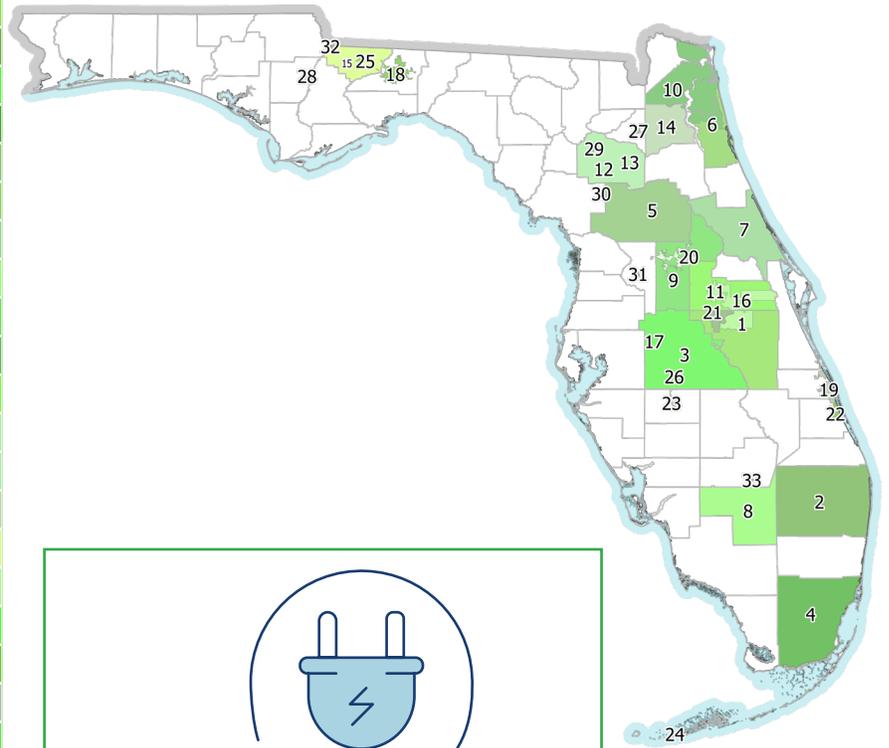


Figure 11: Cooperative Electric Utility Providers

Homeland Infrastructure - Foundation Level Data (HIFLD) as of 06/27/2022

MUNICIPAL ELECTRIC UTILITY PROVIDERS

1	Reedy Creek Improvement District
2	City of Lake Worth
3	City of Bartow
4	City of Homestead
5	City of Ocala
6	Beaches Energy Services
7	City of New Smyrna Beach
8	City of Clewiston
9	City of Mount Dora
10	Jacksonville Electric Authority (JEA)
11	City of Winter Park
12	Gainesville Regional Utilities
13	City of Newberry
14	City of Green Cove Springs
15	Havana Power & Light Company
16	Orlando Utilities Comm
17	City of Lakeland
18	City of Tallahassee
19	City of Vero Beach
20	City of Leesburg
21	Kissimmee Utility Authority
22	Fort Pierce Utilities Authority
23	City of Wauchula
24	Utility Board of the City of Key West
25	City of Quincy
26	City of Fort Meade
27	City of Starke
28	City of Blountstown
29	City of Alachua
30	City of Williston
31	City of Bushnell
32	City of Chattahoochee
33	City of Moore Haven



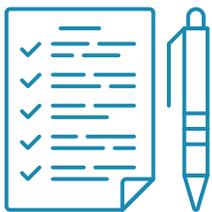


Municipal Utilities

Serving **3M** Floridians
15% of Florida's population

Figure 12: Municipal Electric Utility Providers

Homeland Infrastructure - Foundation Level Data (HIFLD) as of 06/27/2022



In 2012, the Florida Legislature created an exemption for EV charging. Section 366.94(1) F.S., states that *"The provision of electric vehicle charging to the public by a non-utility is not the retail sale of electricity for the purposes of this chapter. The rates, terms, and conditions of electric vehicle charging services by a non-utility are not subject to the regulation under this chapter."* As such, the process for the installation and provision of EV charging by a non-utility is not subject to regulation by the FPSC. Additionally, Section 627.06535, F.S., states that insurance companies may not impose surcharges on EVs based on factors such as new technology, passenger payload, or weight-to-horsepower ratio.

9

IMPLEMENTATION

Effective implementation of this Plan is key to successful attainment of the identified goals. This Plan will carry forward Florida's current momentum of DCFC installation, which set the stage for the network build out. **Since 2021, publicly available DCFC has grown from 870 ports to over 1,800 ports.** This Plan will focus on maximizing U.S. made EV equipment and Build America Buy America requirements. To enhance the efficiency in implementation of the Program, evaluation is underway to deploy sites in a manner that drives competition while fostering innovation from the contracting industry. Implementation will be done in phases to align with the annual allocation of NEVI funds following the annual approval of this updated Plan. This Plan is focused on the Phase 1 deployment for the Program which has prioritized EV infrastructure charging along the Interstate system.

The EVMP identified initial investment areas for DCFCs in the State through a gap analysis. Multiple factors were combined to find the areas around the SHS roadway intersections that had high potential to fill the gaps in the DCFC network. This gap analysis was updated with NEVI criteria for Phase 1 deployment to inform Plan development and to ultimately meet the NEVI Program goals:

- » DCFC sites have at least four charging ports with 150 kW per port concurrently;
- » DCFC sites are within the one-mile driveshed of an interchange; and
- » DCFC sites are no more than 50 miles apart.

Existing DCFC sites with less than four ports or less than 150 kW were identified as potential locations for early upgrades in the Program. Figure 13 summarizes the results of the Phase1 gap analysis.

This Plan will fill these gaps through the efficient deployment of DCFCs as outlined in the following by the defined Implementation Strategies, Actions, and Activities to build out the AFC network.

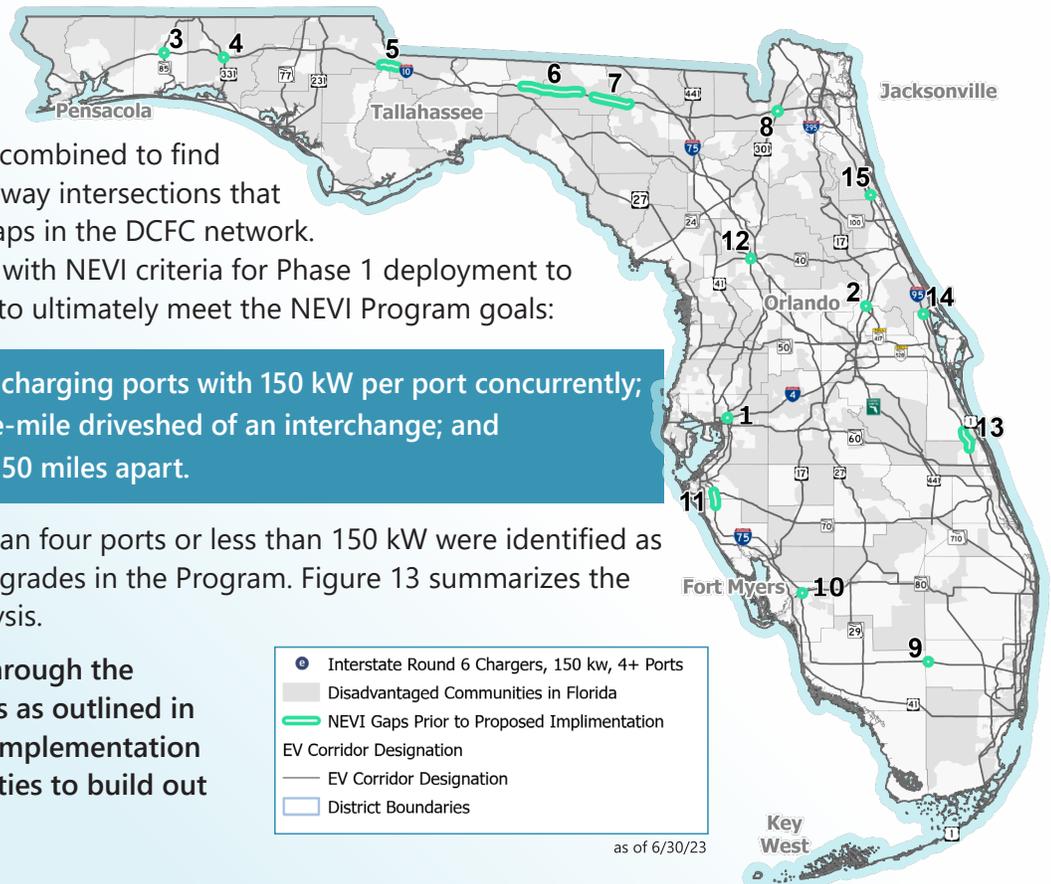


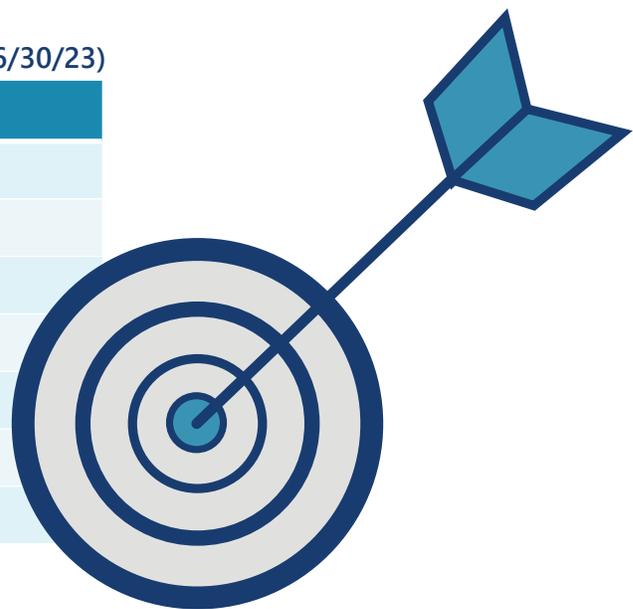
Figure 13: NEVI Corridor Gaps

Table 2: Phase 1 Gap Segments (as of 6/30/23)

Gap	Corridor	Start-Mile Post	End-Mile Post	Number of Sites Required	District
Location 1	Interstate 4 (SR 400)	7	7	1	D7
Location 2	Interstate 4 (SR 400)	104	104	1	D5
Location 3	Interstate 10 (SR 8)	56	56	1	D3
Location 4	Interstate 10 (SR 8)	85	85	1	D3
Segment 5	Interstate 10 (SR 8)	158	166	1	D3
Segment 6	Interstate 10 (SR 8)	225	251	1	D2 or D3
Segment 7	Interstate 10 (SR 8)	258	275	1	D2
Location 8	Interstate 10 (SR 8)	343	343	1	D2
Location 9	Interstate 75 (SR 93)	49	49	1	D4
Segment 10	Interstate 75 (SR 93)	141	141	1	D1
Segment 11	Interstate 75 (SR 93)	210	217	1	D1
Location 12	Interstate 75 (SR 93)	352	352	1	D5
Segment 13	Interstate 95 (SR 9)	156	166	1	D4 or D5
Location 14	Interstate 95 (SR 9)	231	231	1	D5
Location 15	Interstate 95 (SR 9)	298	298	1	D2 or D5 (higher proportion in D2)

Table 3: Phase 1 Sites Needed by FDOT District (as of 6/30/23)

District	Number of Sites
D1	2 sites
D2	4 sites (2 gaps shared with D3 and D5)
D3	4 sites (1 gap shared with D2)
D4	2 sites (1 gap shared with D5)
D5	5 sites (2 gaps shared with D2 and D4)
D6	None
D7	1 site



GOAL
Strategy
Action
Activity

*This Plan is organized into three main implementation strategies. Each implementation strategy includes supporting actions and defined activities for accomplishing the State’s overall goal to build out a robust EV infrastructure network that is designated “corridor-ready” over the next four years. **Florida is committed to leading the nation in providing a statewide network of convenient, equitable, affordable, reliable, and accessible EV charging infrastructure.** Refer to Section 13, Program Evaluation, for associated Plan performance measures.*



Planning

FDOT's role is to facilitate the inclusion of and the ability to incorporate electrified mobility into State transportation infrastructure. The following planning actions and associated activities will develop a future-proof network that is resilient, equitable, accessible, and reliable.

The planning implementation strategy focuses on developing the data-driven, statewide criteria, and evaluation of success with performance analytics as leading indicators informing the need to evolve with market trends. The goal of the planning implementation strategy is to continuously measure, collaborate, and update over the duration of the five-year Plan to provide efficiency and effectiveness in delivery of the EV charging infrastructure.

1

ACTION

Collect, maintain, and leverage information and data, including performance measures, to inform decision-making

- » Establish initial conditions and continually measure the performance of factors contributing to the success of this Plan.
- » Monitor trends and conditions impacting future deployments, including adoption rates, weather patterns, land use, and roadway improvements.
- » Update AFC nominations as necessary and track the progress of this Plan.

2

ACTION

Collaborate with partners to support the development and operations of the EV charging infrastructure network

- » Continue stakeholder engagement with electric utilities, EV infrastructure providers, site hosts, trade associations, environmental groups, and other interested parties.
- » Partner with skilled resources and talent providing agencies, including universities, technical colleges, CareerSource Florida, and others, to plan for training and workforce development.



ACTION

Plan for aquisition of EV charging infrastructure

- ✓ *A RFI to solicit feedback and recommendations from the industry was released on June 6th 2022, and closed on June 28th 2022.*
- ✓ *FDOT is working with FHWA to finalize the Phase 1 RFA package.*

4

ACTION

Monitor potential risks that can delay efficient and effective deployment

- » Monitor nationwide availability of and inflation impacts on EV infrastructure components and consider waivers, such as Build America Buy America, to facilitate material acquisition.
- » Utilize existing programs such as FDOT's On-the-Job Training services to strengthen the available workforce programs for EV infrastructure construction.
- » Perform analyses to "right size" contracts while still ensuring adequate competition.
- » Develop an approach to environmental and other required documents.



Installation and Operations

FDOT's role is to facilitate the acquisition of resources to install, operate, and maintain the EV charging infrastructure to build out the Interstate and AFC network. The following contracting actions and associated activities will be used to develop RFA documents that are logically sequenced with respect to deployment readiness, transparent to the industry, and result in equitable participation and training of workers.

The installation and operations implementation strategy focuses on further developing the contractual requirements which clearly define the Program goals, objectives, and performance expectations. This implementation strategy builds on the efforts of the planning implementation strategy and furthers collaborative engagement with partners. The goal of the installation and operations implementation strategy is to provide a detailed schedule of activities that maximizes the deployment effectiveness of this Plan while maximizing value to the State. The implementation requirements will follow Federal guidelines for minimum standards.

1 ACTION **Coordinate with stakeholders to identify needs and gaps within the overall EV network**

- » Develop a defined approach to site deployments that considers the stakeholder needs, infrastructure requirements, open and publicly accessible locations, and site readiness. These considerations include:
 - a. Initial focus on Interstate build out followed by build out of the non-Interstate AFC network consistent with Federal guidelines for minimum standards.
 - b. Rural, disadvantaged, and underserved areas.
 - c. Hurricane evacuation routes and AFC connectors to Interstates.
 - d. Interchange/intersections with SHS and National Highway System that support the overall EV network.
 - e. Existing charging locations for upgrades to NEVI requirements.
 - f. Utility readiness and alignment with utility expansion plans.
 - g. "Smart hub" locations with regional charging nuclei around the State that includes provisions for future expansion of charging infrastructure.
 - h. Coordination with neighboring state deployments.
 - i. Safety considerations and access to amenities and other services.
- » Ensure stations are future-proofed, including providing for access to necessary equipment for maintenance and repairs.
- » Identify and develop "smart hubs", which include charging locations with more than four ports as well as additional amenities, to fill the gaps in high-traffic areas.

2 ACTION **Focus operations and maintenance on station uptime and reliability through performance reporting**

- » Develop operation and maintenance requirements for the five years covered by NEVI funding, to be provided by the Subrecipient.
- » Monitor contract requirements, including performance measures, disadvantaged and small business enterprise utilization, incidents and maintenance inspections, software and hardware updates, and cybersecurity and safety events.
- » Develop an asset information and tracking mechanism, which may include Geographic Information System, for Program element and product performance evaluation.
- » Require a real-time operation data feed for the station and charger operations for use by a third-party application and further information dissemination through appropriate public facing dashboards.

3 ACTION **Deploy a competitive, market-driven RFA process supporting performance-based management and continuous innovation**

- » Conduct industry forums to garner interest and assess the availability and ability to compete and deliver. Publish advance RFA schedules to align resources.
- » Tailor RFAs to align with funding availability and site scheduling considerations as described in Implementation Action 2, Strategy 1.
- » Ensure timely, transparent, and competitive selection of electric vehicle infrastructure services. The selection approach is a competitive RFA with near term implementation expected.
- » Allow flexibility in the competitive selection process for Applicants to propose sites based on market and community needs.
- » Establish a market-based competitive selection process that accommodates diverse implementation strategies from a wide variety of Applicants. Use of diverse strategies can facilitate market sensitive charging infrastructure design creating the best value for the State's residents.
- » Develop scoring criteria that emphasizes best value to the State, which may include long-term performance, system reliability and operability, warranties, redundancies, adaptability for future needs, and diversity in solutions and Subrecipients.





Emergency Preparedness and Resiliency

Providing access to reliable DCFCs during emergency hurricane events for the safety of Florida’s residents and visitors is the paramount goal for the State. Florida’s unique circumstances to prepare for natural disasters require innovative solutions, like mobile charging, to ensure Florida’s residents and visitors can safely evacuate prior to and return home after a storm. Additionally, assistance for stranded motorists and management of traffic flow during events ensures that FDOT can continue to meet its Federally required safety and travel-time reliability performance targets. FDOT will continue to investigate and assess mobile charging options.

In addition to considering evacuation needs when determining DCFC locations, the following actions may be used to achieve this implementation strategy.

1 ACTION

Deploy a program and contract mechanism to allow for the availability and funding for mobile charging

- ✓ *Assessment of mobile charging infrastructure has been initiated. This evaluates the overall need and placement to consider stranded motorists, major events, emergencies, storms, power outages, and other risks.*
- » Identify potential opportunities to provide mobile charging, including the use of FDOT Road Ranger Service Patrol vehicles.
- » Strategically implement mobile charging solutions to meet anticipated emergency and evacuation needs.
- » Strategically implement mobile charging solutions to meet emergency and evacuation needs, which may include a competitive selection process of equipment or Subrecipients, partner agreements, or other mechanisms.

2 ACTION

Build a network with redundancy and resiliency that supports uninterrupted availability and accessibility

- » Identify solutions for hardening of stations to withstand storms and ensure operator safety, such as auto station shut-off, waterproofing, elevated foundations, and structures.
- » Include energy storage capacity, solar power generation, generator hookup points, and battery storage in station design criteria for select stations in critical evacuation areas.
- ✓ *Standard operating procedures have been developed for the Program as part of a Program Management Plan.*

10 EQUITY CONSIDERATIONS

*This Plan was developed to facilitate the advancement of clean transportation deployment and access to high-demand corridors. This Plan also integrates consideration of EV deployment that achieves at least 40 percent distribution of benefits to disadvantaged communities that include individuals with disabilities, are rural, or are characterized as being underserved as outlined by the NEVI Final Rule. A Climate and Economic Justice mapping tool has been made available to support work efforts needing to comply with the Final Rule and will be integrated into the FDOT Sociocultural Data Report and Area of Interest Tool. **Approximately 50 percent of Florida's EV AFCs lie within disadvantaged communities.** By 2030, it is estimated that Florida's population will be comprised of 23 percent minorities, one in four residents will be 65 years or older, and 90 percent of the population growth will be due to migration. Given Florida's unique stakeholders, FDOT will coordinate with rural and disadvantaged communities to determine specific needs as related to this Plan. Engagement efforts with rural, underserved, and disadvantaged communities are discussed in Section 3, Public Engagement.*

EV charging station locations, as recommended in this Plan, will address the following attributes consistent with the Climate and Economic Justice mapping and guidelines:

- » Decrease the transportation energy cost burden by enabling reliable access to affordable charging.
- » Lessen environmental exposures to transportation emissions by reducing traditional emissions from petroleum-fueled vehicles through increased EV adoption.
- » Increase parity in clean energy technology access and adoption.
- » Increase access to low-cost capital to increase equitable adoption by allowing suppliers to undertake sites in areas where EV growth is expected, instead of only where EV usage is already abundant.
- » Increase the clean energy job pipeline, job training, and enterprise creation in disadvantaged communities – incentivize contractors' selection to hire and train residents and help advance minority-owned, women-owned, veteran-owned, and small businesses in alternative fuel specialization.
- » Increase energy resilience by advancing EV as another alternative fuel source that is non-reliant on other countries.
- » Increase equitable access to the electric grid by opening EV charging stations to all EV users.
- » Integrate consistency with the U.S. Department of Transportation's 2022-26 Strategic Plan²⁰ "Equity Goal" along with the objectives and strategies of the Equity Action Plan²¹.

11

LABOR AND WORKFORCE CONSIDERATIONS

A skilled and trained workforce is vital to successful implementation of the Program. FDOT will work with its stakeholders to understand the unique needs the charging station development process to ensure any workforce requirements match the charging installation, maintenance, and operation needs. Although labor and workforce will be developed by the Subrecipient, the State will consider including language in the RFA to support workforce development and equal opportunities. The elements below may be included as grading criteria for labor services to develop an equitable workforce consideration for the acquisition, installation, operation, and maintenance of the DCFCs.



Performance indicators will include the number of skilled worker positions increased by training and level of responsibility.

Employ a workforce that comprises residents that are geographically approximate to the location of the charging station site(s).

Hire at least one pre-apprentice or apprentice that may include any of the following labor services: installation, operation, or maintenance.

Ensure charging station workers are highly trained with documented certification from an officially recognized program, such as the Electric Vehicle Infrastructure Training Program. This training is targeted at commercial/institutional Level 2 charging, DCFC – light-duty, and medium-duty passenger vehicles (120/208/240 VAC).

Specific training, either on the job or otherwise, may be delineated, and cost(s) may be encumbered as part of the application, and shall be duly committed to and noted in the application.

The Subrecipient shall prepare a monthly metric report on its workforce, including the locally hired employees to meet the elements specified. The report should include locally hired apprentice(s) working on the charging station site(s) and identify the labor service capacity (installation, operation, or maintenance) in its monthly report.

12

PHYSICAL SECURITY AND CYBERSECURITY

The State of Florida and FDOT are committed to public service, including physical security of the sites and cybersecurity, cyber resiliency, and privacy protections for all services and systems in the communities in which they serve. For EVs to succeed as a viable transportation choice, charging stations must provide reasonable assurance against physical and cyber-attacks, data breaches, and loss of privacy. The potential sources and types of threats for EV infrastructure are evolving and regularly scheduled risk assessments are prudent and necessary to provide protection. The exploitation of even a single DCFC can potentially cause issues such as relay chatter, various power quality issues, and phase instability which could potentially have cascading effects upstream. The physical and cybersecurity strategy is based on contractual criteria requiring certain site amenities and the development and submittal of a cybersecurity plan, including when software updates are to be made.

Given the industry does not yet have a clear picture of the attack surfaces, the cybersecurity plan requirements will include a full scope risk assessment to identify the comprehensive threat surface presented by and against the elements of stakeholder partners and users such as grid operators, vehicles, original equipment manufacturers, vendors, and charging network operators.

The requirements of the cybersecurity plan will:

- » Provide EV infrastructure deployed within the Florida transportation system that is:
 - Protected against physical or electronic intrusion by unauthorized persons or entities.
 - Segmented (separated) to protect against unintended damage, unauthorized access, loss of data, service availability, privacy breach, or similar threat from unprotected connections among stakeholder partners and user systems.
- » Include compliance with the Payment Card Industry requirements.
- » Document that security operations and certification is maintained for System and Organization Controls.

The cybersecurity plan will provide a document to inform risk assessments and structured processes for selecting and implementing cybersecurity controls. FDOT will include positional roles for the governance and oversight of the EV infrastructure cybersecurity plan and implementation. Its submittal, included prior to EV charging equipment installation, will include schedules for ongoing risk assessment and process review.

13

PROGRAM EVALUATIONS

FDOT will evaluate the Program to identify progress made in EV infrastructure deployment. The following metrics will be used to measure the success in achievement of this Plan's goals as well as identify opportunities to revise implementation activities to better support the deployment, environment, and long-term operations and maintenance of EV infrastructure while maximizing the use of funding. These evaluations will be conducted annually, and will be submitted to FHWA for approval by August 1st each year.

Performance evaluation will include the measure of goals expressed as the following:

Buildout the AFC Network

- » Track the net number of new DCFC ports installed.
- » Achieve completion of 100 percent AFC buildout.
- » Track the DCFC port per NEVI dollar for the overall Program.

Equity

- » Cooperatively develop with communities, quantifiable benefits to disadvantaged/underserved areas as a percentage of the overall Plan deployment.

Reliability

- » Quantify the DCFC availability of full 150 kW charging and charging duration by session.

Accessibility

- » Confirm and monitor customer satisfaction through surveys.
- » Quantify total charging duration, per port.

Resiliency

- » Calculate percentage of stations deployed with the redundancy of power supply through solar panels, battery storage, generator backup, and/or other mini-grid concept along Interstates and other evacuation routes.

EV Adoption

- » Report the number of new EV registrations over the plan period, reported annually.
- » Measure and monitor Greenhouse Gas reduction.



14

DISCRETIONARY EXCEPTIONS

There are no discretionary exceptions for this FFY 24 Plan. FDOT is evaluating the use of mobile charging options and will coordinate the potential for Program eligibility. Scenarios where two DCFC ports will be sufficient or where sites may be installed further than every 50 miles or more than one mile from the designated corridor may be determined as the Plan implementation progresses. FDOT will continue to monitor the performance of the EV AFC and make annual exception requests, as needed, once justification has been determined.



APPENDIX A

References and Acronyms

References

- 1 <https://www.census.gov/quickfacts/FL>
- 2 <https://www.visitflorida.org/resources/research/research-faq/>
- 3 Florida Economic Estimating Conference
- 4 <https://afdc.energy.gov/states/fl>
- 5 <https://afdc.energy.gov/data/10962#:~:text=This%20chart%20shows%20the%20vehicle,highest%20count%2C%20followed%20by%20Texas>
- 6 <https://afdc.energy.gov/stations/states>
- 7 https://www.fhwa.dot.gov/environment/alternative_fuel_corridors/ready/
- 8 [https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+\(EV-Round+1,2,3,4,5+and+6\)](https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+(EV-Round+1,2,3,4,5+and+6))
- 9 Florida Economic Estimating Conference
- 10 <https://www.fdot.gov/equalopportunity/titlevi.shtm>
- 11 <https://www.fdot.gov/programmanagement/lp/lap/titlevi.shtm>
- 12 https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/equalopporunity/titlevi/2022_ip_fdot-final-to-ooo-website.pdf?sfvrsn=c4d32cbc_2
- 13 https://www.ada.gov/2010ADASTandards_index.htm
- 14 https://www.ada.gov/regs2010/titleII_2010/title_ii_reg_update.pdf
- 15 https://www.ada.gov/regs2010/titleII_2010/titleII_2010_regulations.htm#a35130
- 16 https://www.ada.gov/regs2010/titleII_2010/titleII_2010_regulations.htm#subparte
- 17 [https://dbpedia.org/page/List_of_Florida_hurricanes_\(2000%E2%80%93present\)](https://dbpedia.org/page/List_of_Florida_hurricanes_(2000%E2%80%93present))
- 18 <https://www.fdot.gov/docs/default-source/planning/trends/special/acs022818.pdf>
- 19 <https://www.floridapsc.com/pscfiles/website-files/PDF/Utilities/Electricgas/TenYearSitePlans//2021/AppendixA.pdf>
- 20 https://www.transportation.gov/sites/dot.gov/files/2022-04/US_DOT_FY2022-26_Strategic_Plan.pdf
- 21 <https://www.transportation.gov/priorities/equity/equity-action-plan>

List of Acronyms

ADA

Americans with Disabilities Act

AFC

Alternative Fuel Corridor

CFR

Code of Federal Regulations

DCFC

Direct Current Fast Charger

EV

Electric Vehicle

EVMP

Electric Vehicle Master Plan

FDOT

Florida Department of Transportation

FHWA

Federal Highway Administration

FPSC

Florida Public Service Commission

F.S.

Florida Statute

FTP

Florida Transportation Plan

FFY

Federal Fiscal Year

kW

Kilowatt

NEPA

National Environmental Policy Act

NEVI

National Electric Vehicle Infrastructure

PPEP

Partner and Public Engagement Plan

RFA

Request for Application

RFI

Request for Information

SHS

State Highway System

U.S.

United States



Florida Department of Transportation

605 Suwannee Street
Tallahassee, FL 32399
Raj.Ponnaluri@dot.state.fl.us

