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INTRODUCTION

This Electric Vehicle Infrastructure Deployment Plan (Plan) is Florida's framework for implementing the National Electric Vehicle Infrastructure Program (NEVI) to invest funding for EV infrastructure improvements to address charging gaps identified in the market. The framework described in this five-year 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 electric vehicle (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 VW 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.

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. The EVMP provided an important foundation for the development of this Plan.

#### **EVMP Objectives**

SUPPORT both short-range and long-range EV travel the expansion of EV use in the State

ADEQUATELY SERVE evacuation routes in the State

The EVMP was developed through extensive public outreach, 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 residents<sup>1</sup> and over 122 million annual visitors<sup>2</sup>. Figure 1 displays Florida's projected population and visitor growth.

## Florida Population and Visitor Growth (2019-2030)

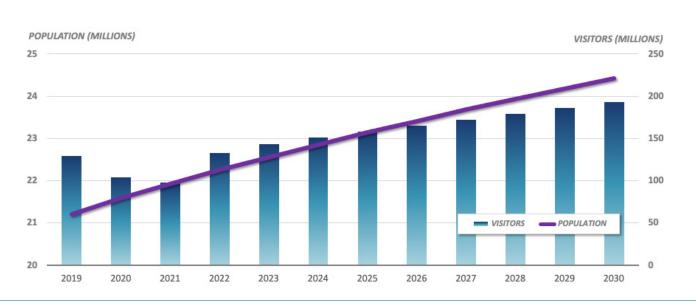


Figure 1: Florida Population and Visitor Growth<sup>3</sup>

Although Florida consumes around eight billion gallons of gasoline annually<sup>4</sup>, it also claims the **second-highest number of EV sales in the nation**<sup>5</sup> and offers **more than 1,300 publicly available DCFC ports** and 900 publicly available Level 2 chargers<sup>6</sup>. The State EV market has experienced growth in EV sales and installation of new chargers. Since 2020, the number of available DCFCs increased by 55 percent, which offers a ratio of 49 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 recent Round 6 AFC nomination cycle (submitted May 2022). **This will allow the State to utilize funds from the NEVI program on EV charging gaps identified in the market over the next five years.** 

Figure 2 shows the existing DCFCs within one mile of a designated or proposed AFC. To meet the NEVI requirements for buildout, EV charging stations must be located within one travel mile of the designated AFC, are more more than 50 miles apart, and have at least four DCFC ports that can provide 150 kW of power simultaneously. Corridors with EV charging stations that meet all the requirements are labeled "corridor-ready" and the corridors that that do not meet this criteria have been designated "corridor-pending".

In addition to the NEVI requirements for buildout, states must also comply with the Justice40 initiative. The Justice40 initiative in Executive Order 14008 aims to deliver 40 percent of the overall benefits of federal investments in climate and clean energy, including sustainable transportation, to disadvantaged communities. Figure 2 shows the disadvantaged communities in Florida as provided from the Justice40 mapping tool. These areas include individuals with disabilities, are rural, or are characterized as being underserved.

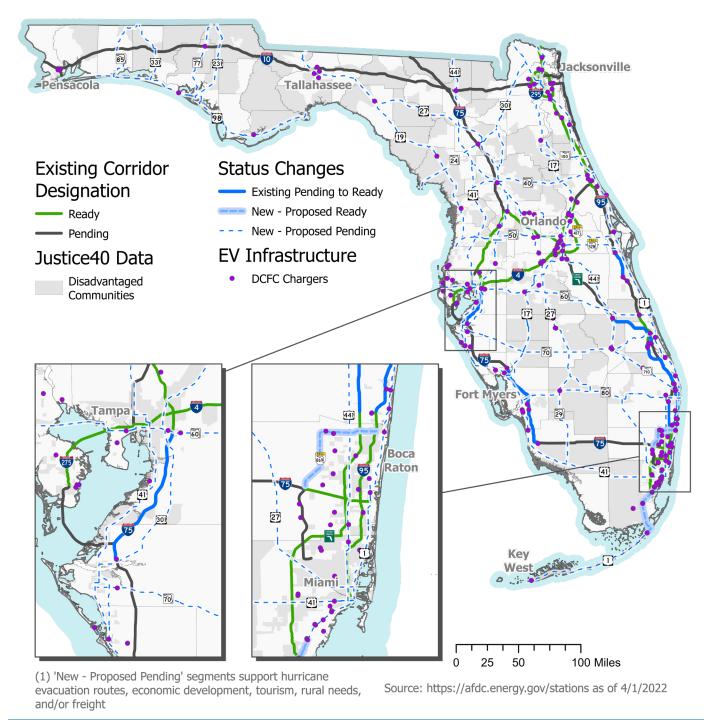


Figure 2: Florida's DCFC Locations within one-mile of a Proposed or Existing AFC

# 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. To ensure the Plan addresses the specific needs for a certain geography or demographic, procurement strategies include "zones" as described in Section 5, 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 rural roadways within disadvantaged communities as well as those with low population densities.
- 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 less 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.

Recognizing there may be a need for flexibility in NEVI funds implementation, initially this Plan will focus on planning and procurement in the first year. As installation ramps up in year two, planning efforts will shift to conduct performance evaluation. 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 as needed over the next five years to monitor the EV infrastructure deployment progress.

IMPLEMENTATION STRATEGY	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Planning and Procurement					
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 build out 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:

Procure, install, and set the stage 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 procurement process in collaboration with partners.



#### **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 charging infrastructure along evacuation corridors will be addressed through inclusion of backup systems. 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 5, Implementation.



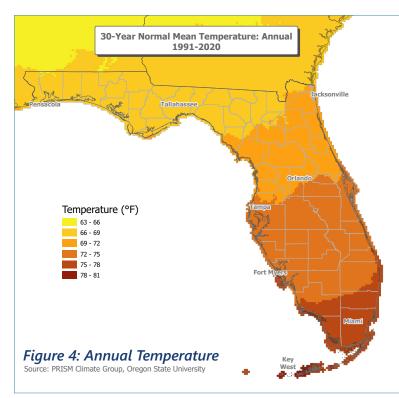
Successful EVIDP implementation requires an assessment of the State's physical features as well as the existing market for EVs and their infrastructure. This section of the Plan outlines the States geography, terrain, climate, and land use and travel patterns along with an analysis of the current EV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

#### **Current State EV Infrastructure Needs**

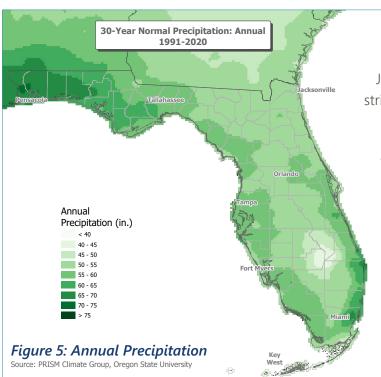
The EVMP provided an overview of EV ownership and market adoption by vehicle type. Florida is second in the nation in terms of both EV adoption rate and availability of DCFCs (1,300). Ownership and adoption rates are the highest in the major urban areas of Jacksonville, Orlando, Tampa, and Miami. Although 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% of vehicles by 2030 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 (70.7 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 lighting 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<sup>7</sup>. During Hurricane Irma in 2017, 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 7 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

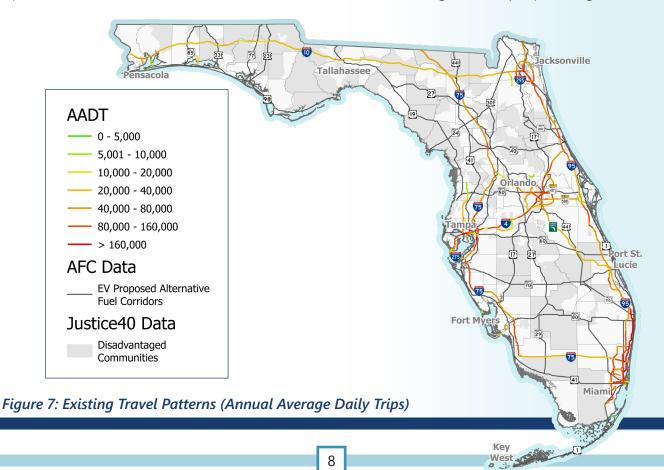
**POPULATION GROWTH** IS CONCENTRATED IN 10 COUNTIES.

Figure 6: Top Ten Counties for **Projected Population Growth** 

Source: Bureau of Economic and Business Research (BEBR)

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. As noted in the Introduction, Florida is anticipated to welcome over 122 million visitors this year (2022). Additionally, nearly 90 percent of the State's commuters travel by car8. Figure 8 shows Florida's Annual Average Daily Trips across the Strategic Intermodal System (SIS) overlaid on top of Justice40 areas that identify communities that are marginalized, underserved, and overburdened by pollution. The SIS provides interregional travel and is comprised of corridors and hubs that serve as the backbone for moving Florida's people and goods.



#### **Current Market Conditions**

The global market for EVs has been growing with significant increases in EV sales. Automobile manufacturers are increasing production with many expecting that upwards of 50 percent of global sales will be electric by 2030. It is projected that by 2025, there will be 81 models available to consumers. As of July 2020, Florida had a 0.41 percent adoption rate based on analysis of registered vehicles. Figure 9 illustrates the projected adoption of EV in Florida.

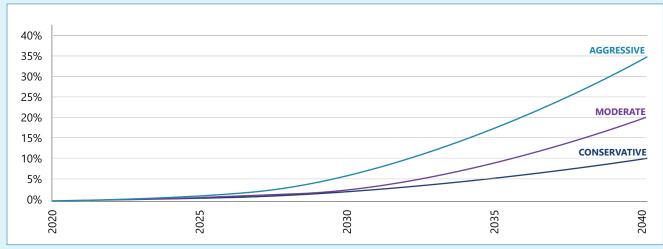


Figure 8: Projected EV Adoption in Florida

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 kilowatts (kW).

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

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, likely at truck stops, rest areas, intermodal hubs, and distribution centers.

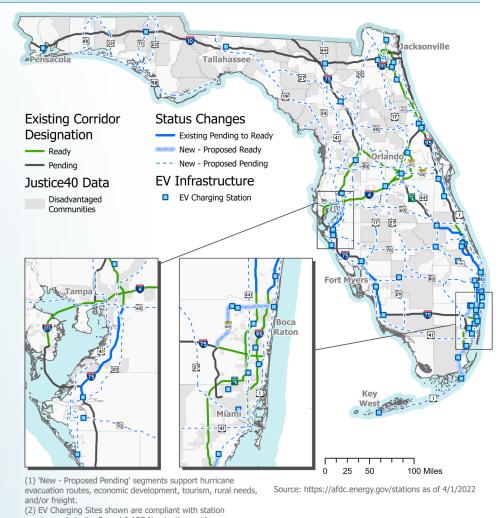
#### **Public Transportation Considerations**

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 MW 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.

#### **AFC Networks**

*In a continued effort* to expand the EV infrastructure network, the State submitted new proposed alternative fuel corridors as part of the Round 6 AFC nomination cycle. Figure 10 summarizes the existing designated AFC network for EV along with the proposed new corridors. Status changes from "corridor-pending" to "corridor-ready" are also included and reflect new AFC Round 6 compliant stations added along the National Highway System (NHS).



requirements in the Round 6 AFC Nomination guidance

Figure 9: Proposed Round 6 (2022) AFC Designations

#### **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 Buy-American 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 the five-year Plan.

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 Buy America requirements.
- Utility infrastructure readiness (transformer locations) and alignment with planned upgrades.
- Non-uniform permitting requirements among municipalities.
- End of term funding and on-going maintenance and operations.
- Contractor resource availability of skilled 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.



# 4

# EV CHARGING INFRASTRUCTURE DEPLOYMENT

Florida will receive approximately \$198 million in NEVI formula funds through the Federal fiscal year 2026. 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 areas, Florida's goal is for the market to continue to self-support after the program ends. Should new or continuing Federal funding become available to support EV charging infrastructure after the five-year period, it would likely be utilized towards operations and maintenance to ensure the success of the network.

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 6, Implementation.

Funding considerations include the use of performance-based payments established on site revenue models. This model may include a scalable payment 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. Florida anticipates using a soft match from FDOT's toll credit balance. The use of private-sector matching funds may be used as a prioritization criterion during the competitive contracting process. In this case, preference would be given to higher percentages of matching funding proposed by project applicants.

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



& Air Quality
Improvement Program



Carbon Reduction Program

## **Upgrades of "Corridor-Pending" Designations to "Corridor-Ready" Designations**

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

#### **Increases of Capacity/Redundancy along the Existing 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 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 primary 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 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 350 and 355, F.S., Florida is classified as a "traditionally regulated" state with public electric utilities serving designated service territories under the jurisdiction of the Florida Public Service Commission (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 11. 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 five 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

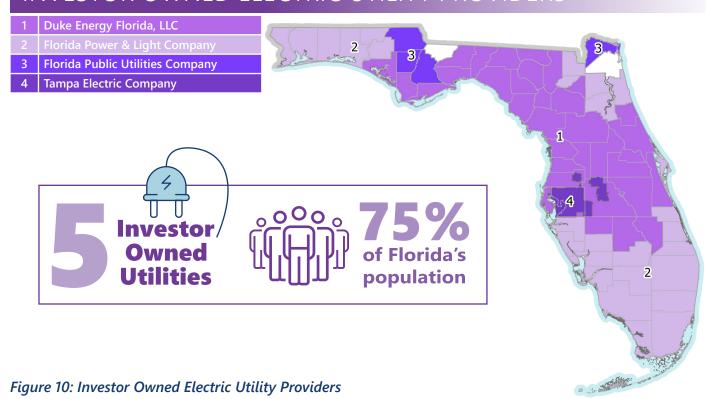
electric cooperative utilities are regulated by their elected cooperative officers. Most cooperatives have been financed by the Rural Electrification Association. While 15 electric cooperatives (Figure 12) serve approximately 10 percent of Florida's population, their service territory covers more than 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 13, 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 Utilities<sup>9</sup>, 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



#### COOPERATIVE ELECTRIC UTILITY PROVIDERS

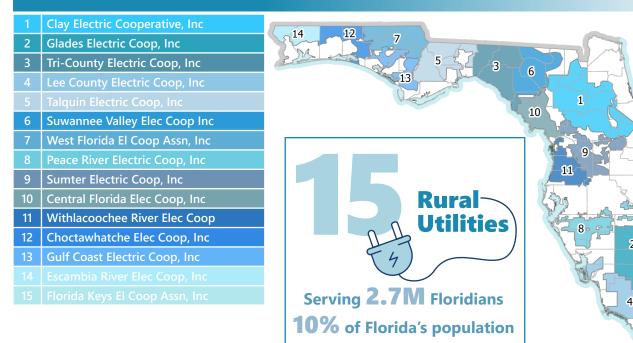
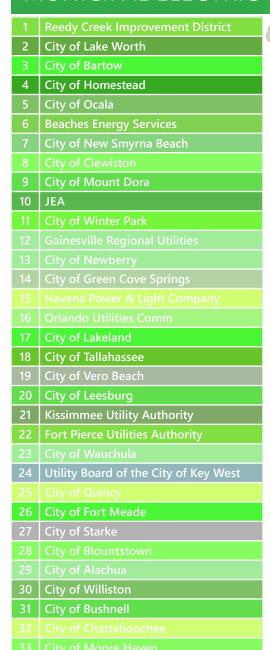


Figure 11: Cooperative Electric Utility Providers

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#### MUNICIPAL ELECTRIC UTILITY PROVIDERS



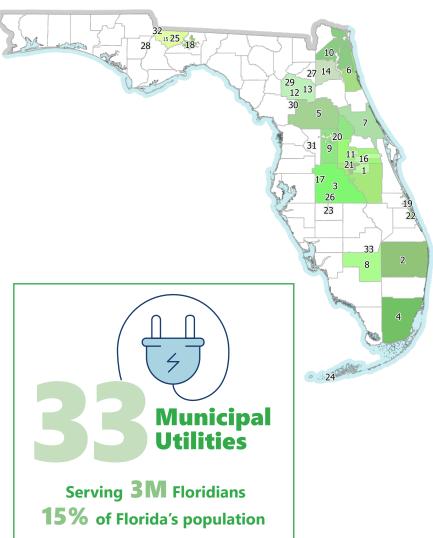


Figure 12: Municipal Electric Utility Providers



In 2012, the Florida Legislature created an exemption for EV charging. Section 366.94(4) 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 627.6535, 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.

# 5

## **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. In less than a year, publicly available DCFC has grown from 870 ports to over 1,300 ports. This Plan will focus on maximizing U.S. made EV equipment and Buy America requirements. To enhance the efficiency in implementation of the program, evaluation is underway to group deployment sites in a manner that drives competition while fostering innovation from the contracting industry.

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

State Highway System roadway intersections that had high potential to fill the gaps in the DCFC network. This gap analysis was updated with NEVI criteria 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 less 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 14 summarizes the results of the updated gap analysis and potential early site upgrades. 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 and Justice40



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 five years. Florida is committed to leading the nation in providing a statewide network of convenient, equitable, affordable, reliable, and accessible EV charging infrastructure.



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.

## 3) ACTION

#### Plan for procurement of EV charging infrastructure

- » Develop and advertise a request for information (RFI) to solicit input from the industry.
- » Prepare procurement documents, including minimum technical requirements and criteria for operations and maintenance, meeting all State and Federal requirements.

# 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 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 procurement 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 procurement 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 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.



### 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, and site readiness. These considerations include:
  - a. Completion of Interstate build out followed by AFC network.
  - b. Rural, disadvantaged, and underserved areas.
  - c. Interchange/intersections with SHS and NHS that support the overall EV network.
  - d. Existing charging locations for upgrades to NEVI requirements.
  - e. Utility readiness and alignment with utility expansion plans.
  - f. Hurricane evacuation routes and AFC connectors to Interstates.
  - 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.



### 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 contractor/vendor.
- » Monitor contract requirements, including performance measures, 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 to the public.

# a ACTION

Deploy a competitive procurement process that supports performance-based management and continuous innovation

- » Conduct industry forums to garner interest and assess the availability and ability to compete and deliver. Publish advance procurement schedules to align resources.
- » Tailor procurements to align with funding availability and site scheduling considerations as described in Implementation Action 2, Strategy 1.
- » Ensure procurement is transparent and competitive, to the extent allowed by Federal and State regulations.
- » Evaluate "zone-based" procurement that provides flexibility and encourages innovation by the contracting industry. Use of geographic boundaries can facilitate efficiency.
- » Consider proposal scoring criteria that emphasizes long-term performance such as increased uptime per port and extended warranty beyond the five-year Plan.





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. While mobile charging is not eligible for NEVI funding under current guidance, Florida's unique circumstances to prepare for major storms, like hurricanes, require innovative solutions 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 may seek an exception to use NEVI funding for this effort.

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



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

- » Assess the need for mobile charging, considering 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, which may include procurement.
- » Strategically implement mobile charging solutions to meet emergency and evacuation needs, which may include procurement of equipment or vendors, 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.
- » Develop standard operating criteria for the maintenance and repair of charging sites before, during, and after major storm events.

# 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 Justice40 Initiative in Executive Order 14008 and the NEVI guidance. A Justice40 mapping tool has been made available to support work efforts needing to comply with this initiative and will be integrated into the FDOT Sociocultural Data Report and Area of Interest Tool. Approximately 48 percent of Florida's EV AFCs lie within disadvantaged communities. Engagement efforts with rural, underserved, and disadvantaged communities are discussed in Section 7, Stakeholder Engagement.

## EV charging station locations, as recommended in this Plan, will address the following attributes consistent with the Justice40 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 for a grant award 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 Plan<sup>10</sup> "Equity Goal" along with the objectives and strategies of the Equity Action Plan<sup>11</sup>.

# STAKEHOLDER 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. The PPEP is committed to the inclusion of equitable engagement of rural, underserved, and disadvantaged communities and will serve as a living document throughout the five-year life of the Plan. Building upon the engagement activities of the EVMP, FDOT gathered input from a broad range of partners and the public through various events. Multiple opportunities for input, including a formal survey at in-person regional listening sessions and virtual meetings were conducted. For a full description of the engagement activities that occurred during the development of this Plan, refer to the PPEP in Appendix B.

Activities conducted to date are summarized below.

#### **State Agency Coordination**

In a continuation of our long-standing relationships with Federal, State, and local government agencies, over 20 meetings occurred during the development of this Plan including with FDEP, Florida Department of Agriculture and Consumer Services, Office of Energy, and FPSC. One of the biggest takeaways with FDEP was hearing lessons learned from the VW settlement 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.

#### Statewide Stakeholder Group

Nearly 125 attendees participated in two statewide virtual meetings that supported the development of this Plan. The single largest takeaway from this outreach included the "smart hub" concept which has been included as a strategy for deployment. These are locations that may occur in places such as the intersection of two interchanges. These locations would provide more than the required four chargers to service high demand as people move into, out of, and around the state.

#### **Regional Listening Sessions**

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 single most question received during these events was the mechanism to engage partners and members of the public to advance of funding under the new NEVI program.

#### **One-on-One Partner and Industry Meetings**

Twenty-six one-on-one meetings were held with partner and industry representatives, which generated a range of comments and questions. These meetings were conducted to solicit feedback on ways the State can leverage existing efforts and draft procurement documents to maximize the efficiency and effectiveness of the Plan.

#### **Public Comment and Future Updates**

The Plan will be posted for public comment with key feedback incorporated into the final document that will be submitted for review and approval no later than August 1, 2022. Note that the PPEP will continue to be utilized and updated over the course of the five-year deployment timeline of the NEVI program.



### CONTRACTING

As noted in the strategies presented in Section 5, implementation and five-year operations and maintenance of this Plan will be contracted through competitive solicitation processes. This process will use standard FDOT procedures for qualification and price-based selection in accordance with 23 Code of Federal Regulations (CFR) 635 and/or 23 CFR 636. Before the competitive procurement of projects funded through the NEVI program begins, an industry-wide RFI will be distributed seeking input on the process and criteria. The RFI will clarify the roles and responsibilities, especially those unique to Florida, that should be considered for inclusion in the contractual documents. The RFI responses will support the development of the contractual documents.

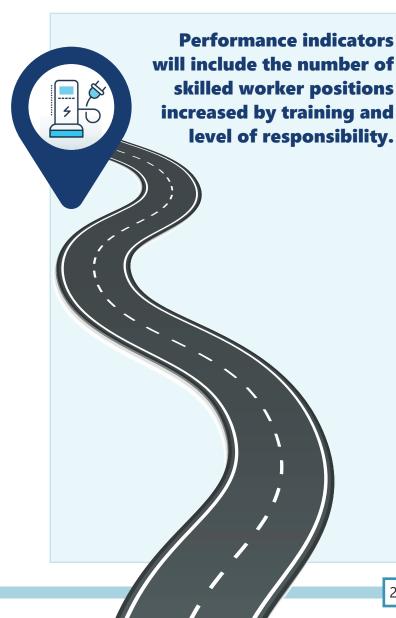
# Performance indicators will include schedule and budget versus estimates

- » Site criteria, including Americans with Disabilities Act (ADA) and amenities.
- » Minimum technical requirements in accordance with NEVI guidance.
- » Operation and maintenance, including frequency and minimum reliability measures.
- » Disadvantaged and Small Business Enterprise utilization.
- » Workforce development and community engagement.
- » Minimum performance measures.
- » Data and reporting requirements.
- » Warranty requirements and handover clause.

The contracts may include provisions for payment to achieve efficient delivery of EV charging infrastructure and reliable operational performance. Payment for various phases will be outlined in a Schedule of Values and will include provisions for construction and maintenance timelines as well as minimum performance criteria. Operations and maintenance payments to the contractor/vendor will be structured to encourage increased private competition for EV infrastructure in rural and disadvantaged areas. Increased competition in lower utilized areas helps to ensure a comprehensive network of EV charging locations across Florida.

# LABOR AND WORKFORCE

During procurement, FDOT may use a contract service procurement bid that includes an "adjusted score" (weights may be specified per element below) to address labor and workforce development considerations. Although labor and workforce will be developed by the contractor, the State will consider including language in the contracts 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.



# 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 (120/208/240VAC).

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

The contractor 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.

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## **CYBERSECURITY**

The State of Florida and FDOT are committed to public service, including 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 cyber-attacks, data breaches, and loss of privacy. The potential sources and types of cybersecurity 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 cybersecurity strategy is based on contractual criteria requiring 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.

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### **CIVIL RIGHTS**

Florida is committed to compliance with State and Federal 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. 105-2A<sup>12</sup>.

FDOT will require, as part of each bid proposal, that the selected consultant, contractor, or vendor receiving a project award shall adhere to the Title VI/Nondiscrimination Assurance<sup>13</sup> 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-f<sup>14</sup>) that details the process FDOT implements statewide for the Title VI Nondiscrimination program in accordance with U.S. Department of Transportation regulations.

### Future EV Charging Station Civil Rights Policy Document Commitment

Consistent with the above referenced compliance documents, a Title VI program and nondiscrimination policy document will be prepared for Florida's EV charging station project, upon the Plan approval. The content of the policy document will include the following elements:

- » An overview of general reporting requirements (certifications and assurances).
- General reporting requirements for Florida's Plan charging station(s) including:
  - EV Charging Stations Title VI Compliance Procedures;
  - Records management;
  - EV charging station public participation;
  - EV charging station limited English proficient implementation;
  - · Monitoring; and
  - Compliance.
- » Program specific requirements for Florida's Plan include:
  - System-wide service standards and policies;
  - Demographic analysis;
  - Service monitoring; and
  - Service and fuel equity.
- Appendices
- » Figures

#### **ADA and Section 504 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 Design<sup>15</sup> and U.S. Department of Transportation under 49 CFR Part 27, §27.75(b), including the National Network, Information, Guidance, and Training on the ADA – Accessible Parking<sup>16</sup>.

#### **Public Meeting Guidelines**

FDOT will ensure compliance with Title II, Regulation Supplement<sup>17</sup> and as set forth in Subpart B – General Requirements, Section 35.130<sup>18</sup>, 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 guidelines<sup>19</sup> will be adhered to by FDOT per applicability based on content format.

# 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. It is anticipated that these evaluations will be conducted annually, as a minimum.

# 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**

» Quantify total benefits to Justice 40 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 GHG reduction.



# DISCRETIONARY EXCEPTIONS

There are no discretionary exceptions for the first year of this 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 progress. FDOT will continue to monitor the performance of the EV AFC and make annual exception requests, as needed, once justification has been determined.



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# 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://dbpedia.org/page/List\_of\_Florida\_hurricanes\_(2000%E2%80%93present)
- 8 https://www.fdot.gov/docs/default-source/planning/trends/special/acs022818.pdf
- 9 http://www.psc.state.fl.us/Files/PDF/Utilities/Electricgas/TenYearSitePlans/2020/AppendixA.pdf
- 10 https://www.transportation.gov/sites/dot.gov/files/2022-04/US\_DOT\_FY2022-26\_Strategic\_Plan.pdf
- 11 https://www.transportation.gov/priorities/equity/equity-action-plan
- 12 https://www.fdot.gov/equalopportunity/titlevi.shtm
- 13 https://www.fdot.gov/programmanagement/lp/lap/titlevi.shtm
- 14 https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/equalopporunity/titlevi/2022\_ip\_fdot-final-to-eoo-website.pdf?sfvrsn=c4d32cbc\_2
- 15 https://www.ada.gov/2010ADAstandards\_index.htm
- 16 https://www.ecfr.gov/current/title-49/subtitle-A/part-27
- 17 https://www.ada.gov/regs2010/titlell\_2010/title\_ii\_reg\_update.pdf
- 18 https://www.ada.gov/regs2010/titlell\_2010/titlell\_2010\_regulations.htm#a35130
- 19 https://www.ada.gov/regs2010/titleII\_2010/titleII\_2010\_regulations.htm#subparte

#### **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

#### FD01

Florida Department of Transportation

#### **FPSC**

Florida Public Service Commission

#### FS

Florida Statute

#### FTP

Florida Transportation Plan

#### **GHG**

Greenhouse Gas

#### kW

Kilowatt

#### MW

Megawatt

#### **NEVI**

National Electric Vehicle Infrastructure

#### RF

Request for Information

#### U.S.

**United States** 

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# **APPENDIX B**

Partner and Public Engagement Plan

