

# Broward MPO Electric Vehicle Master Plan

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## Strategic Vision and Priorities

The *Broward Metropolitan Planning Organization (MPO) Electric Vehicle (EV) Master Plan* establishes the vision and priorities for the MPO to support the growing need for access to EV charging in Broward County. The County's unique EV needs are:

- The number of EVs in the County are projected to increase by 546% and account for 32% of all vehicles on the road by 2030.<sup>1</sup>
- While most charging will occur at home, 12% of charging needs will be met with public charging stations.<sup>1</sup>
- Demand for public charging stations will grow exponentially as the number of EVs on the road rise significantly.<sup>1</sup>
- Currently, the county has a 57% shortfall, which is the estimated public charging needed today.<sup>1</sup>
- To keep pace and meet the demand between now (2024) and 2030, there will need to be over 1,200 public EV charging ports built annually. Currently, there are 932 public EV charging ports in Broward County.<sup>1</sup>

To help close these gaps and meet the projected EV charging needs in Broward County, the MPO is uniquely positioned to pursue grant funding and adopt policies that support local decision-making about public EV charging.

The plan is organized with the following sections:

- + **Strategic Vision and Priorities.** Establishes the Broward MPO areas of focus and priority for public EV charging.
- + **EV Charging in Broward County Today.** Provides an overview of the current EV market in Florida, how much public EV charging infrastructure is here today, and what the gaps and barriers are to access public EV charging.
- + **EV Charging in Broward County by 2030.** Describes how the EV market will evolve in Broward County from now to 2030 and what that will mean in terms of demand for public EV charging.
- + **Broward MPO EV Infrastructure and Grant Strategy.** Summarizes the \$20 million EV charging grant strategy that can build 10% of the needed public charging in 2024.
- + **Broward MPO Policy Priorities.** Documents the policy focus areas to support the MPO and local governments with decision-making about public EV charging.
- + **Appendix A.** AFC Grant Strategy Proposed EV Charging Station Location Summaries.
- + **Appendix B.** SFRTA Station Prioritization Summary
- + **Appendix C.** AFC Grant Strategy Opinion of Probable Cost.
- + **Appendix D.** Existing Conditions and Needs Assessment Memo.










## Strategic Vision

The Broward MPO’s vision for EV use is for it to be a ubiquitous and regular part of the County’s multimodal transportation system. Expanding access to EV charging will save time and money, improve the convenience of getting around Broward County, create jobs, and make the County’s transportation system more resilient. Riding and driving electric vehicles and devices will be an affordable, regular, safe, and convenient way to travel to daily destinations. Lastly, the Broward MPO’s vision and goals are in alignment with federal and state (Florida Department of Transportation) EV goals.

## Goals

The Broward MPO’s EV goals describe the desired outcomes and areas of focus for investment and policy.

 <p><b>Convenient</b></p>	<p>Ensuring public EV charging is convenient to access will support the adoption of electric vehicles. An ample amount of public EV charging stations mitigates range anxiety and perceived charging infrastructure gaps, which are major inhibitors to EV adoption. The concentration of EV infrastructure along major corridors through Broward County will allow the most people to benefit from the public EV charging network.</p>
 <p><b>Prosperous</b></p>	<p>Building public EV charging stations will help create jobs in Broward County so that it’s easier for EV owners to travel to and from the County. Supporting EV businesses not only will help the County expand its green economy but also be recognized as an environmentally conscious leader. Additionally, the establishment and support of charging stations will benefit businesses close to those hubs by attracting customers and visitors to shopping, education, and cultural destinations.</p>
 <p><b>Diverse</b></p>	<p>Broward County’s transportation future is multimodal and electrified. Electric vehicles and devices will support personal travel, business operations, and tourism. Access to charging will support regional travel, local trips, support a variety of vehicles and devices, and support seamless connections with multimodal services like transit.</p>
 <p><b>Equitable</b></p>	<p>Investments and decision to prepare for and respond to Broward County’s EV transportation future will strive to ensure that all areas, residents, and visitors have access to EV charging. These decisions will foster a future transportation landscape where every community in Broward County can thrive sustainability and economically.</p>
 <p><b>Resilient</b></p>	<p>Broward County’s electrified transportation system will be prepared to accommodate a variety of vehicles and devices. Additionally, EV infrastructure will be developed to handle variations in climate and energy demands. The result is an adaptable transportation system that keeps people and goods moving, particularly in times of emergency and peak travel times.</p>
 <p><b>Ambitious</b></p>	<p>Broward County is committed to being a leader in preparing for and responding to the rapidly evolving EV transportation future. Other communities will look to Broward County as a source of leadership and inspiration to modernize their transportation system.</p>
 <p><b>Safe</b></p>	<p>The installation, operation, and charging of EVs in Broward County will adhere to public safety best practices. The Broward MPO will support adopting standards to create safe charging and site conditions, as well as invest in emergency response for battery and electrical fires related to EV vehicles and charging infrastructure.</p>

## EV Terms and Definitions

This section provides a description of the basic terms and concepts used in this plan. They are terms typically used in the EV industry.

**Electric Vehicle (EV).** An EV is a vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source. For this plan, the two types of EVs considered are BEVs and PHEVs.

**Battery Electric Vehicle (BEV).** A BEV only uses electricity to operate and has zero tailpipe emissions.

**Plug-In Hybrid Electric Vehicle (PHEV).** PHEVs use batteries to power an electric motor, as well as another fuel, such as gasoline, to power an internal combustion engine. PHEVs have some tailpipe emissions, depending on how often the vehicle is operated in all-electric mode.

**Hybrid Electric Vehicle (Hybrid).** A hybrid is powered by an internal combustion engine and one or more electric motors, which use energy stored in batteries. Hybrids cannot be plugged into to charge the battery. Instead, the battery is charged through regenerative braking and by the internal combustion engine.

**Range Anxiety.** Range anxiety is a fear that a BEV won't have enough energy to reach its destination. This fear can include fear of running out of battery charge or not being able to find a charging station. Drivers may also worry about how long charging will take and how much it will slow them down.

**Level 1 Charger.** Chargers with a power supply of 1 to 1.8 kW. These chargers are typically what is used at home and can use a standard outlet. Typically, a full charge will take over eight hours.

**Level 2 Charger.** Chargers with a power level between 3.3 and 19.2kW. These chargers are typically used for shorter-range travel and the most common public charger. Typically, a full charge will take over two hours.

**Justice40.** Justice40 is a federal government designation for US census tracts used to prioritize climate and infrastructure investments for disinvested and overburdened communities. Justice40 census tracts were used for this plan to identify where EV charging investments can be made to close access to EV charging gaps.

**Direct Current Fast Charger (DCFC).** Chargers with a power level of 50kW to 350kW. These chargers are typically used for longer-range travel and have faster charge times (typically about 30 minutes for a full charge).

**EV Charging Station (charging station).** An EV charging station is a site with one or more chargers (or EVSEs). Each charger at a site can have one or two ports. If a charger has two ports, two vehicles can use the charger at the same time.

**EV Charger (charger).** An EV charger is the device that connects an EV to a power source to recharge its batteries. The technical term that is often used is Electric Vehicle Supply Equipment, or EVSE. A charger can have one or two ports. If a charger has one port, it can charge one vehicle at a time. If a charger has two ports, it can charge two vehicles at the same time.

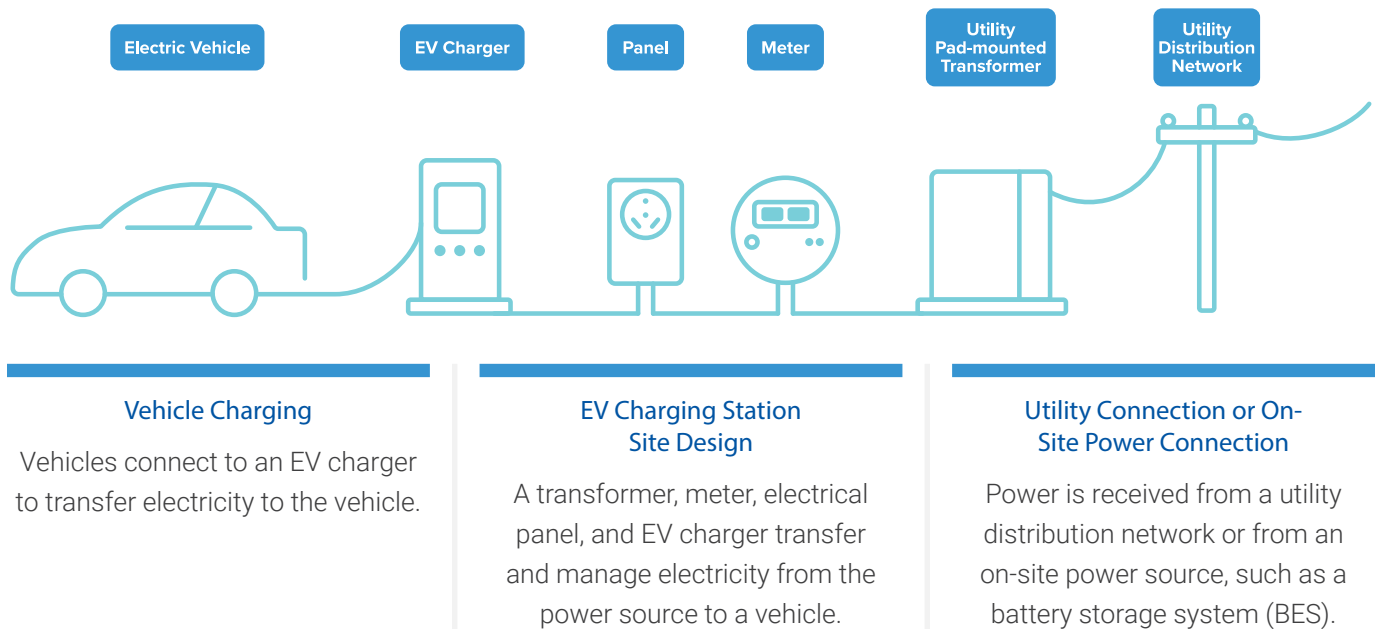
**EV Charging Port (port).** An EV port is the receptacle on a charger that connects to a vehicle's connector to provide power for charging. For this plan's projections, the number of public EV charging ports are estimated. Ports are a better measure of charging need than charging stations because they represent the number of vehicles that can be charged. Every port represents one vehicle that can be charged.

**Alternative Fuel Corridors (AFC).** Federally designated national network of electric vehicle charging and hydrogen, propane, and natural gas fueling infrastructure along the national highway system.

## EV Charging Concepts

### How does electricity get to a vehicle?

Unlike gasoline or diesel-powered vehicles, EVs can access electricity at a variety of locations to charge. Charging can take place at home, at work, or at other public destinations such as shopping centers, libraries, or parks. The diagram below summarizes how electricity gets from the electric grid managed by utility companies) or from an on-site energy source (such as a battery) to a vehicle.



### EV Charging Stations vs EV Chargers vs EV Ports

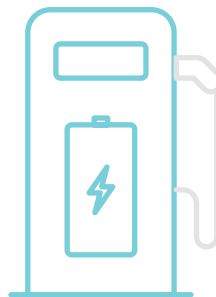
EV charging stations, chargers, and ports can often get used interchangeably in conversations about access to EV charging. For this plan, there are important distinctions. The diagram below summarizes the key distinctions between these terms.

#### EV Charging Station



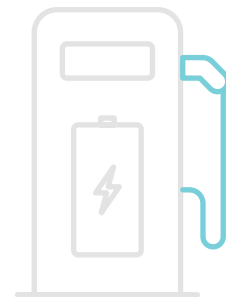
The location where one or more EV chargers are located.

#### EV Charger



The EV charger supplies the electricity to a vehicle.

#### EV Port



The EV port is the plug and cord that connects the EV charger to a vehicle. A charger can have one or two ports.

## EV Public Charging in Broward County Today

Broward County has one of the highest adoption rates of electric vehicles in Florida.

Broward County has the second most EVs in Florida, behind only Miami-Dade County, and the third highest adoption rate, behind Miami-Dade and Palm Beach Counties. Combined Miami-Dade, Broward, and Palm Beach County have 37% of all EVs registered in Florida.

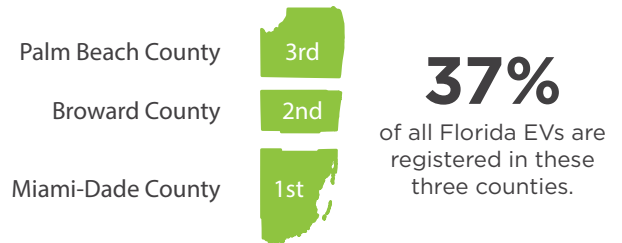


Figure 1: Florida County Rank of Registered EVs

Source: Florida Highway Safety and Motor Vehicles 2023

EVs account for 2% of all registered vehicles in Broward County.

In the County today, there are 27,969 battery electric vehicles registered, in addition to 33,780 plug-in hybrid vehicles registered. Combined, they account for 2% of all the vehicles registered in the County as a whole, with EVs registered in every zip code in Broward County. The highest concentrations of EV registration within the County are in Parkland, Davie, and western areas of Weston, Pembroke Pines, and Miramar.

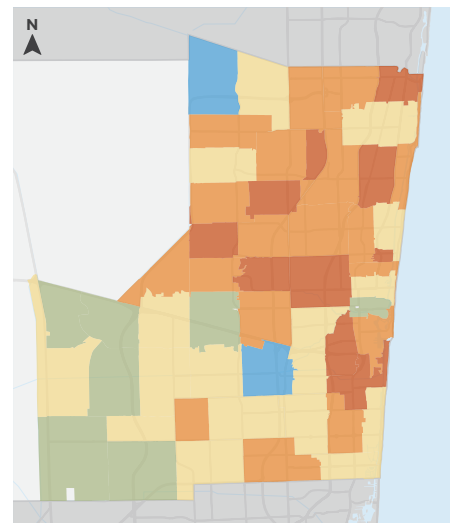


Figure 2: Broward County EV Registration by Zip Code

Source: Florida Highway Safety and Motor Vehicles 2023

Over the past 10 years, EV sales have increased in Florida by 3,006%.

Florida is the second largest EV market behind California and is continuing to grow. Broward County is a major contributor to Florida's large EV adoption numbers. 75% of the EV sales over the past 10 years have occurred in just the past three years.

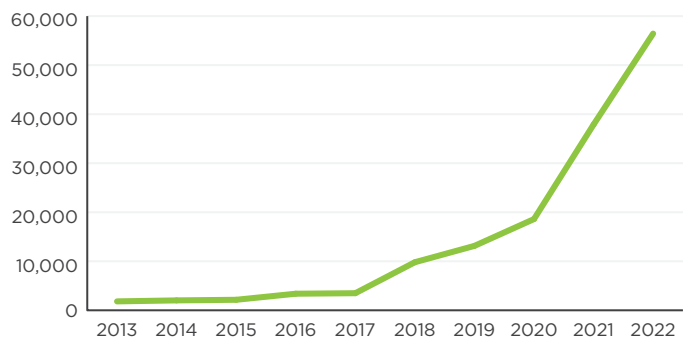


Figure 3: Florida Annual EV Sales 2013 to 2022

Source: Alliance for Automotive Innovation 2023



Broward County has experienced regular growth in public charging stations over the past 13 years.

As of October 2023, there are 320 public EV charging stations in Broward County. 68% of these stations have been built in the last three years.

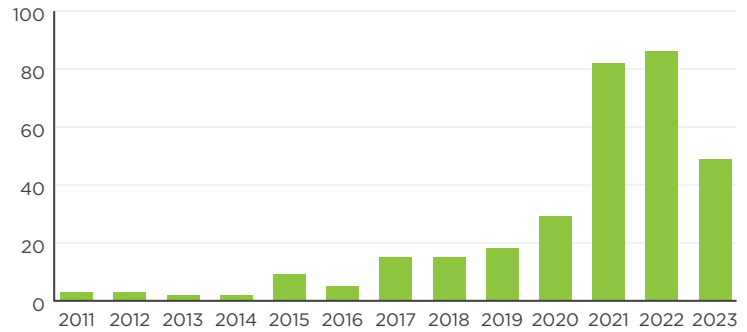


Figure 4: Growth in Broward County Public EV Charging Stations by Year

Source: US Department of Energy 2023

Public charging is dominated by a few providers.

ChargePoint operates 51% of the public charging stations in Broward County. The other major providers are Blink and Tesla. Combined, these three providers operate 89% of the public charging stations in Broward County.

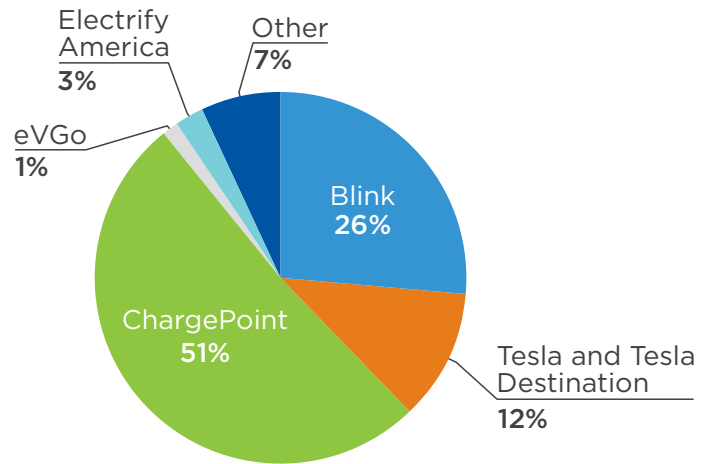


Figure 5: Broward County Total Charging Stations by Network Provider

Source: US Department of Energy 2023

The majority of public charging ports in Broward County are Level 2.

The 320 public charging stations in Broward County have a total of 932 charging ports. Of these 932 charging ports, 22% are DCFC and the 78% are Level 2.

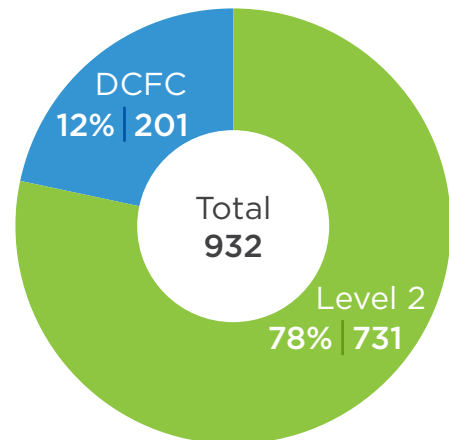
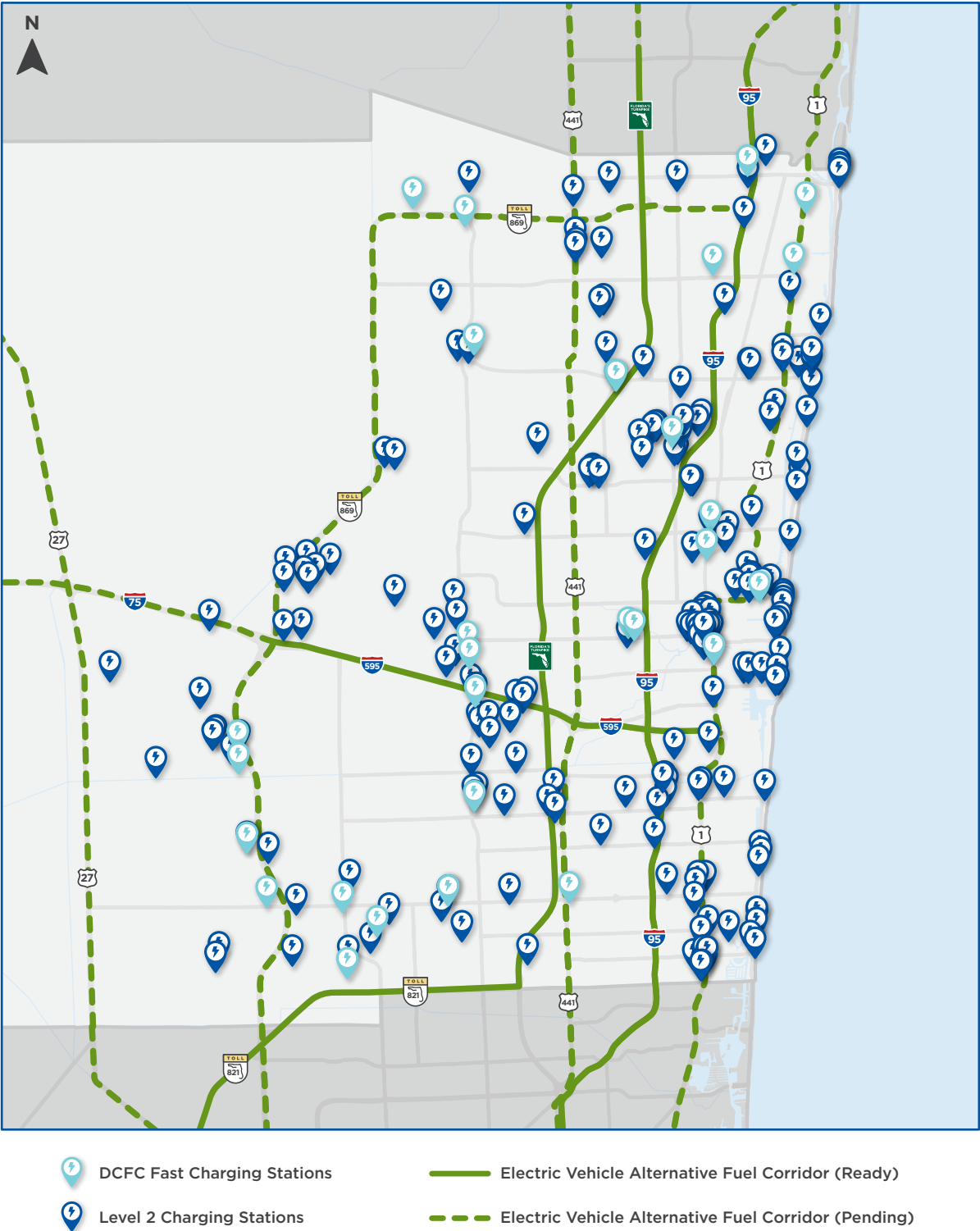


Figure 6: Share of Public EV Charging Ports by Level of Charger in Broward County

Source: US Department of Energy 2023

Figure 7: Broward County Existing Charging Stations



## EV Charging Needs in Broward County by 2030

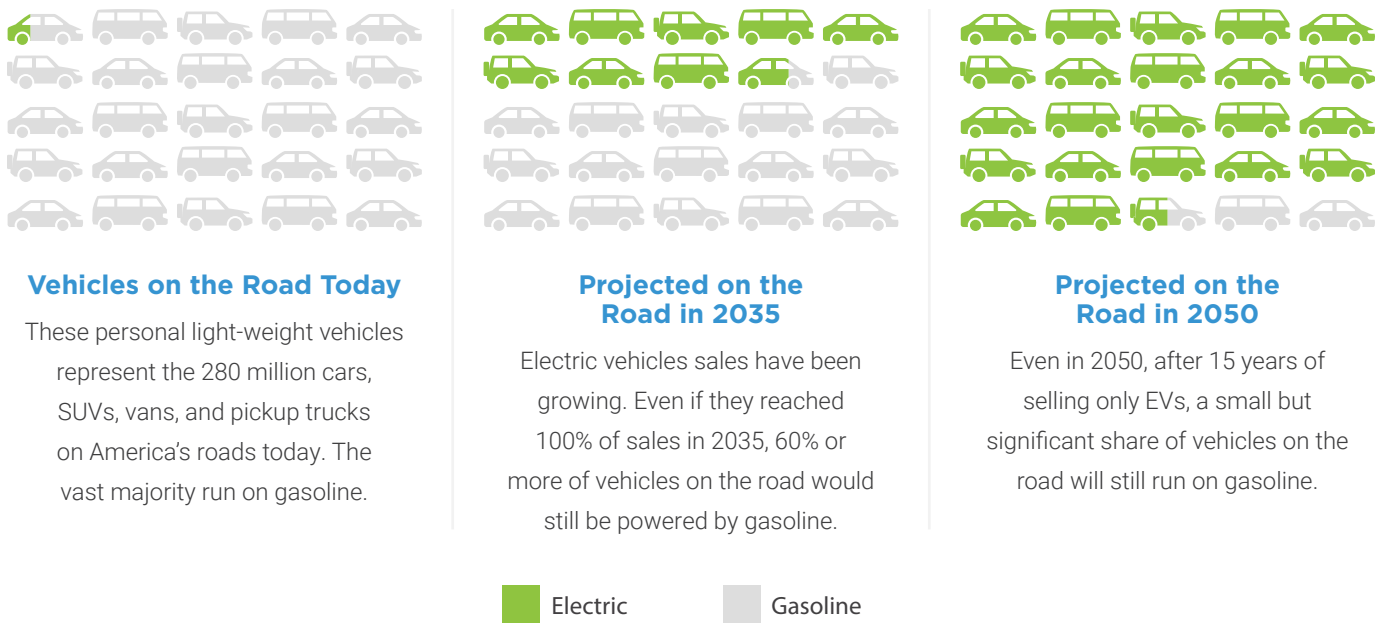
The transition to EVs will take time.

According to the USDOT, even with 100% of new car sales being EVs by 2035, 60% of vehicles on the road would still be fossil fuel powered. The EV scenarios for Broward County were developed with the assumption that even with rapid EV sales growth, most vehicles on the road in the medium term will still be fossil fuel powered.

The growth scenario for Broward County incorporated this assumption. The growth rate is a moderate growth scenario developed by the Edison Electric Institute, which considered car manufacturer forecasts and other global and US economic factors. While moderate, the growth rate still projects a 1,000% increase in EV sales by 2030. By 2030, the Broward County EV growth scenario assumes that 32% of vehicles on the road will be EVs.

Additionally, the Broward County growth scenario uses modeling tools and data inputs from the US Department of Energy (DOE) and the Florida Department of Highway Safety and Motor Vehicles. Based on the tools and inputs, it is estimated that the majority of EV charging will take place at home. 17% of the projected EV charging will take place at public non-work charging ports. 1% of the charging needs will take place at public DCFC ports. The projected numbers for EVs on the road and demand for public EV charging in Broward County out to 2030 are developed with these assumptions.

Figure 8: US Projected EVs on the Road 2023 to 2050



Source: The US National Blueprint for Transportation Decarbonization. 2023.

The number of EVs in Broward County is projected to increase by 546% and account for 32% of all vehicles on the road in the County by 2030.

This projection is a “middle of the road” projection based upon the previous rate of EV adoption and predictions by the US Department of Transportation, Department of Energy, and Florida Department of Transportation. EV growth is projected to increase exponentially to 2030.

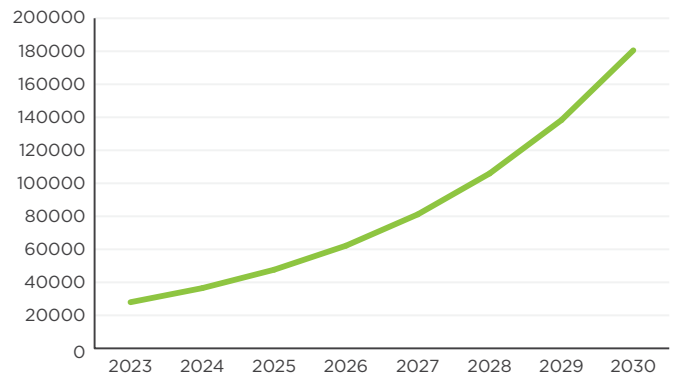


Figure 9: Projected EVs Registered in Broward County 2023 to 2030

Source: Florida Highway Safety and Motor Vehicles 2023; US Department of Energy

Today there is a significant gap in the estimated number of public EV charging ports needed to meet demand.

Existing charging ports only meet 43% of the forecasted need for public charging ports today. Currently, Broward County DCFC ports exceed the projected need for fast charging, with the most significant gap in public charging associated with Level 2 charging. This trend is the result of most charging demand associated with short charging sessions for daily trips. Long-distance travel and charging demand is a small percentage of the daily trips in Broward County.

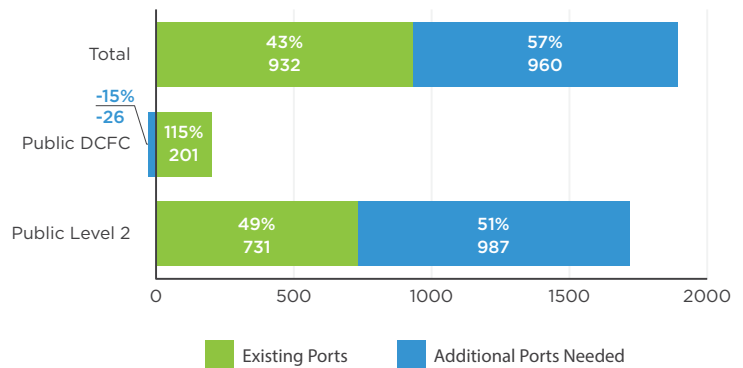


Figure 10: Broward County Projected Public EV Charging Ports Needed Today

Source: Florida Highway Safety and Motor Vehicles 2023; US Department of Energy

Demand for public charging will grow exponentially as the number of EVs on the road increases.

Broward County is projected to need 11,217 total public charging ports by 2030 at the current rate of EV adoption. Most of the public charging will be Level 2 ports. In 2030, DCFC ports are projected to represent 4% of all public charging ports in Broward County.

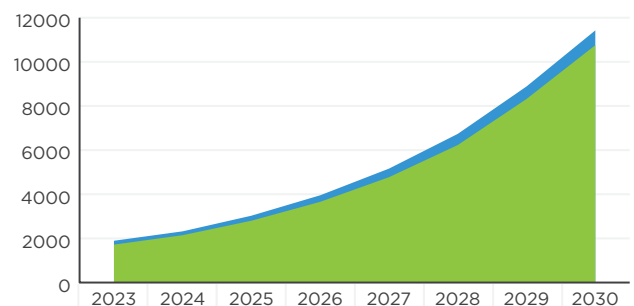


Figure 11: Broward County Projected Public EV Charging Ports Needed 2023 to 2030

Source: Florida Highway Safety and Motor Vehicles 2023; US Department of Energy

Increasing access to home charging will help reduce the demand for public charging, as well as lower peak electrical grid demand during daytime hours.

Today, 49% of households in Broward County are single-family homes. Access to home charging is easy in this context. The biggest variable to public charging demand is increasing access to home charging at multifamily buildings. The chart to the right illustrates how increasing home access by 12%, by example at multifamily buildings, public charging demand can be decreased by 16%. Financial incentives and regulatory requirements for development projects can help close this home access gap for people living in multifamily buildings.

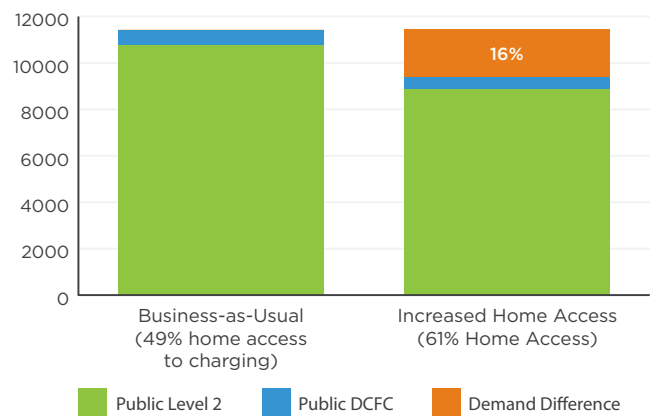


Figure 12: Broward County Public EV Charging Demand Scenario Comparison

Source: Florida Highway Safety and Motor Vehicles 2023; US Department of Energy

Investments in public EV charging will create jobs.

Through 2030, construction of the projected new public EV charging ports will create 4,159 jobs. This projected trend equates to an average of 594 jobs created per year.

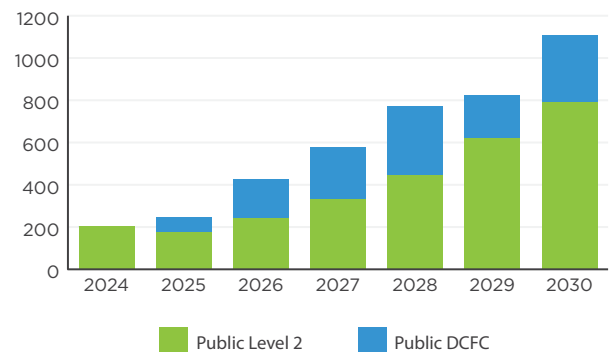


Figure 13: Broward County Projected Job Creation Related to EV Charging Station Construction

Source: US Department of Energy

Investments in public EV charging will create jobs.

Today, 37% of the Broward County population lives in a federally-designated Justice40 census tract. 31% of the ports in Broward County are in Justice40 census tracts. Public funding, including federal or other grants for EV infrastructure, can be used to close this 6% gap in access to EV charging.

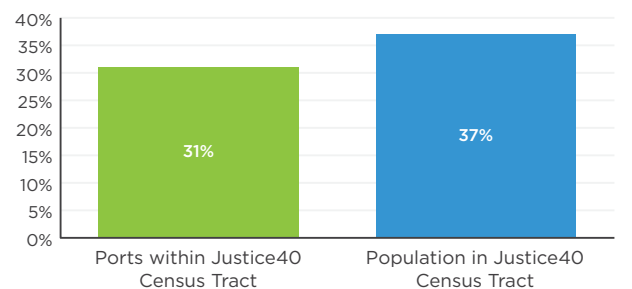


Figure 14: Broward County Public EV Charging Ports in Justice40 Census Tract Comparison

Source: US Department of Energy

## Broward MPO Grant Strategy

The Broward MPO grant strategy is a multimodal strategy to align investment in EV charging with local needs, regional travel patterns, and access to transit. Part one of the grant strategy is focused on location of EV stations along Alternative Fuel Corridors (AFC). The AFC grant strategy is primarily aligned with the FHWA Charging and Fueling Infrastructure (CFI grant program).

Part two of the grant strategy is focused on increasing fast charging and commuter charging at Tri-Rail stations along the I-95 corridor, which is currently a "Ready" designated AFC. This strategy is referred to as the South Florida Regional Transportation Authority (SFRTA) grant strategy in this plan. The grant strategies can be implemented independently using different grant programs or be combined into a single grant application, such as a CFI grant application.

To implement both grant strategies would cost \$20,437,258. Combined, they would create access to 193 ports and create 187 jobs. 55% of the ports would be located in Justice40 census tracts.

For context, in 2023 there are 932 public charging ports in Broward County with a projected need of 1,893 public charging ports. This means that there is a gap of 961 ports. The AFC and SFRTA grant strategies would close 20% of today's public charging port gap.

Below are tables and charts that summarize the combined impact and benefit of these grant strategies. Sections that describe each strategy in more detail are on the subsequent pages.

Table 1: Broward MPO EV Grant Strategy Cost Summary

Grant Strategy	Cost
AFC Grant Strategy	\$11,578,907
SFRTA Grant Strategy	\$8,858,351
<b>Total</b>	<b>\$20,437,258</b>

Table 2: Broward MPO EV Grant Strategy Job Creation Summary

Grant Strategy	Number of Jobs
AFC Grant Strategy	96
SFRTA Grant Strategy	91
<b>Total</b>	<b>187</b>

Figure 15: Broward MPO Grant Strategy Impact on Projected Public EV Charging Needs Today

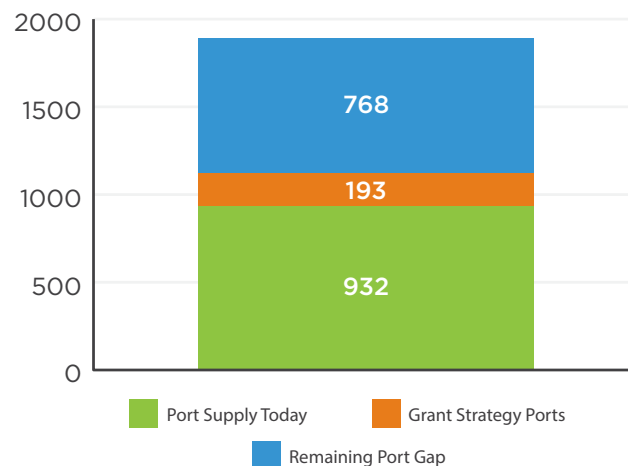
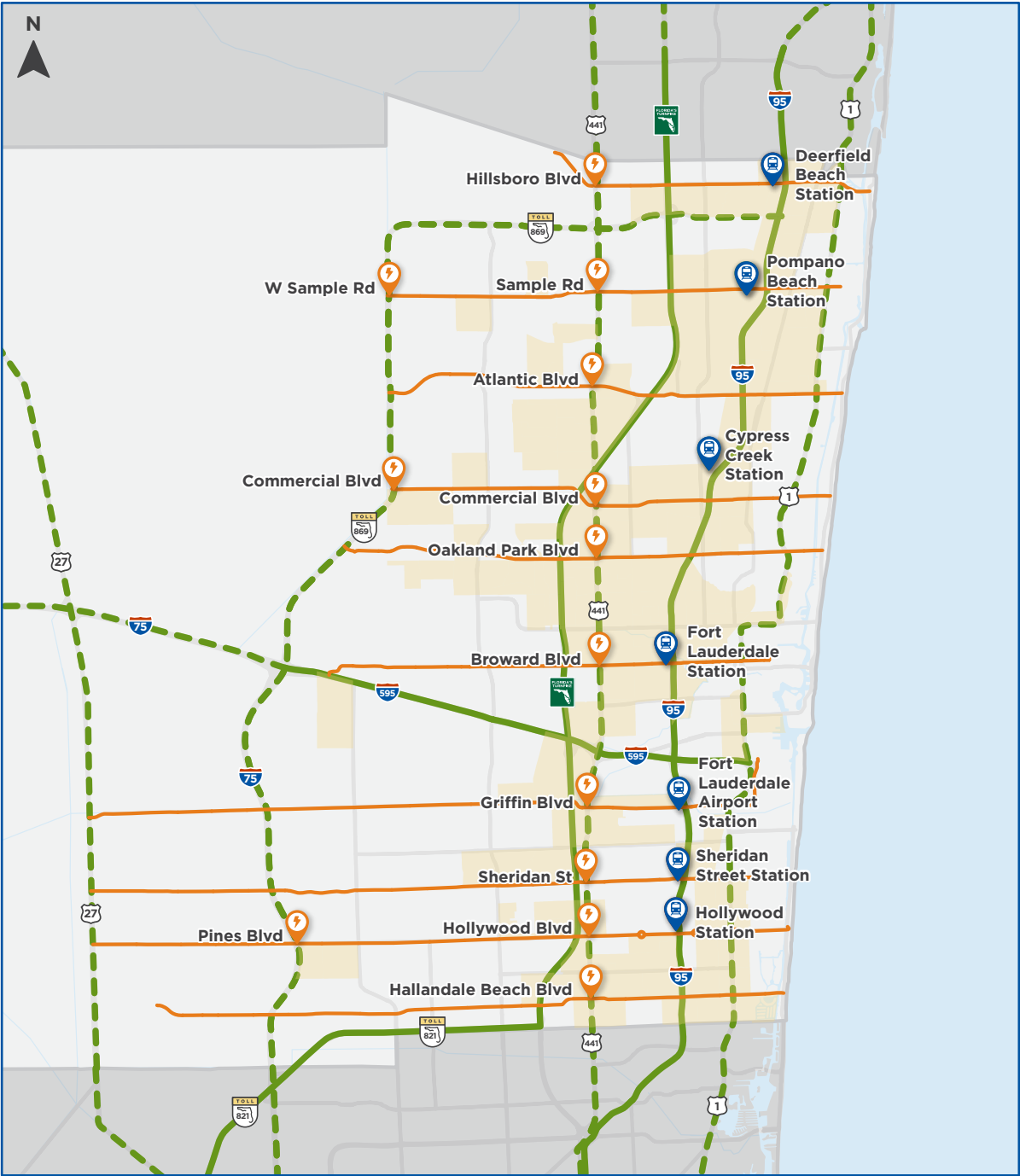








Figure 16: Broward MPO Grant Strategy Map



-  AFC Grant Strategy Proposed Public EV Charging Stations
  -  SFRTA Grant Strategy Proposed Public EV Charging Stations
  -  Federal Justice40 Census Tracts
-  Electric Vehicle Alternative Fuel Corridor (Ready)
  -  Electric Vehicle Alternative Fuel Corridor (Pending)
  -  Priority East/West Corridor

## AFC Grant Strategy

The AFC grant strategy closes local gaps in access to EV charging and aligns with federal goals associated with the Charging and Fueling Infrastructure Discretionary Grant Program (CFI program). The CFI program is a competitive grant program created by the Bipartisan Infrastructure Law. The program provides \$2.5 billion over five years to build alternative fueling infrastructure, including EV charging infrastructure.

The Broward MPO AFC grant strategy includes 13 stations along pending AFC corridors in Broward County. The "Pending" corridors are US 441, Sawgrass Expressway, and I-75. Each station will have the following:

- 2 150kW DCFC ports, which can support people traveling longer distances.
- 4 19kW Level 2 ports, which will expand neighborhood access to charging for local trips.
- 1 Ebike rack with charging outlets for 5 ebikes, expanding charging access for e-bikes or other micromobility devices.

One station on each of the pending AFC corridors (I-75, Sawgrass Expressway, and US 441) will have four 150kW NEVI-compliant ports. Providing the four DCFC ports at these stations will allow these AFC corridors to be designated as "Ready."

Currently, there are charging access gaps along the US 441 corridor through Broward County. This middle part of the county is also where many of the Justice40 designated census tracts are in the county. The proposed station locations, particularly along the 441 corridor, are proposed within one mile of the intersections of 441 with major east/west roadways in the County. The locations will support north/south travel as well as east/west travel in the County.

Because the proposed stations are along AFCs, they are eligible for the CFI Community and Corridor grant program categories. A summary of the AFC grant strategy is provided below, with an accompanying map on the next page.

Table 3: AFC Grant Strategy Summary<sup>1</sup>

Grant Strategy	
Cost per Station	\$890,685
Number of Stations	13
Number of Ports	84
Number of Ebike Outlets	65
Total Cost	\$11,578,907

Table 4: AFC Grant Strategy Station Summary

Port Type	Number of Ports	Cost per Port	Total Cost
DCFC Ports (150kw)	2	\$296,489.67	\$592,979.34
Level 2 Ports (19kw)	4	\$32,716.10	\$130,864.41
EBike Charging Rack	5	\$6,000.00	\$30,000.00
Total	6	\$125,640.63	\$753,843.75

1. At three stations (one along I-75, one along Sawgrass Expressway, and one along US 441), there will be four 150kW NEVI-compliant ports. This deviation from the AFC grant strategy standard of two 150kW DCFC ports is to meet the requirements to designate the corridors as "Ready."



Figure 17: AFC Grant Strategy Map

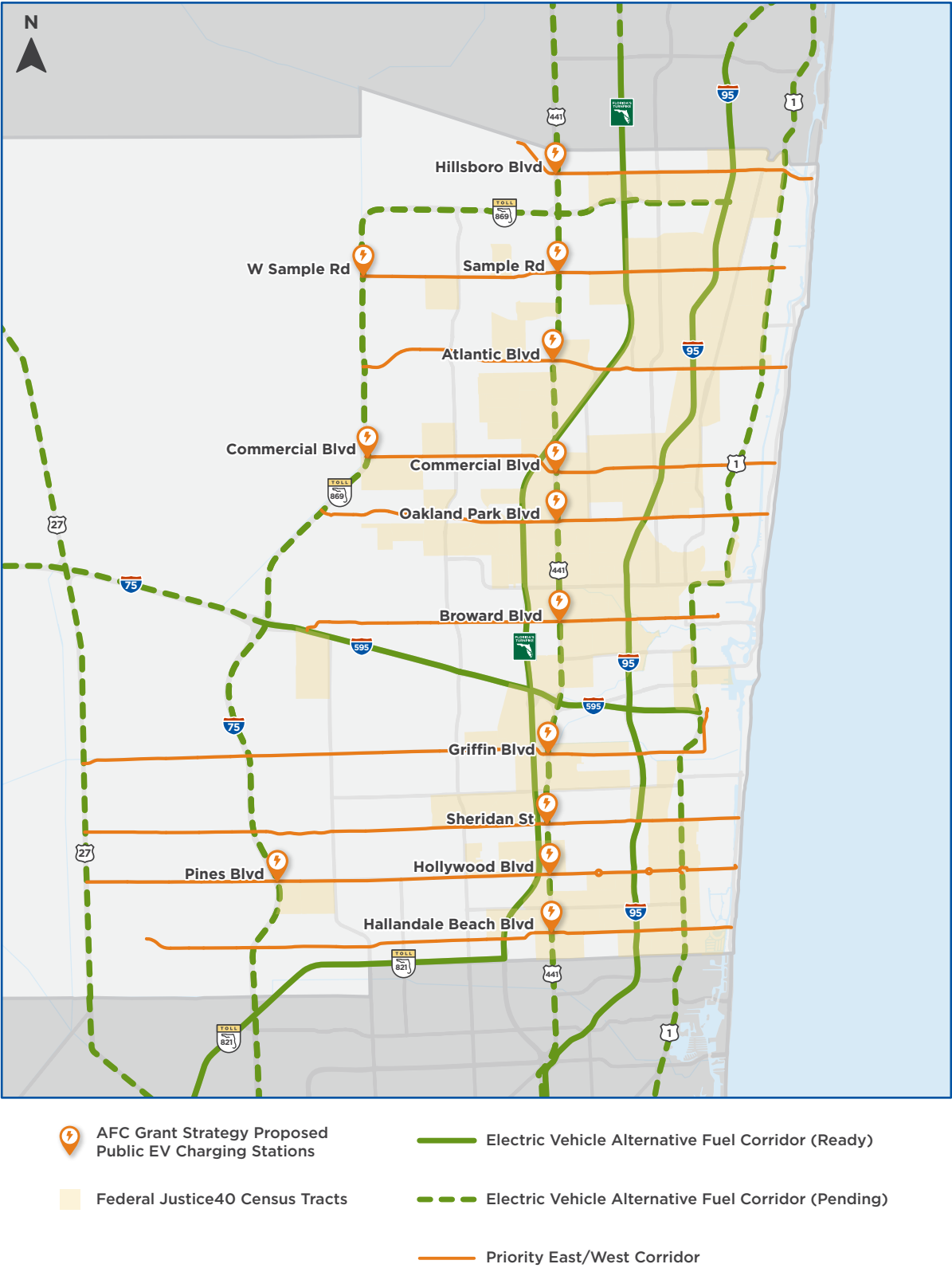
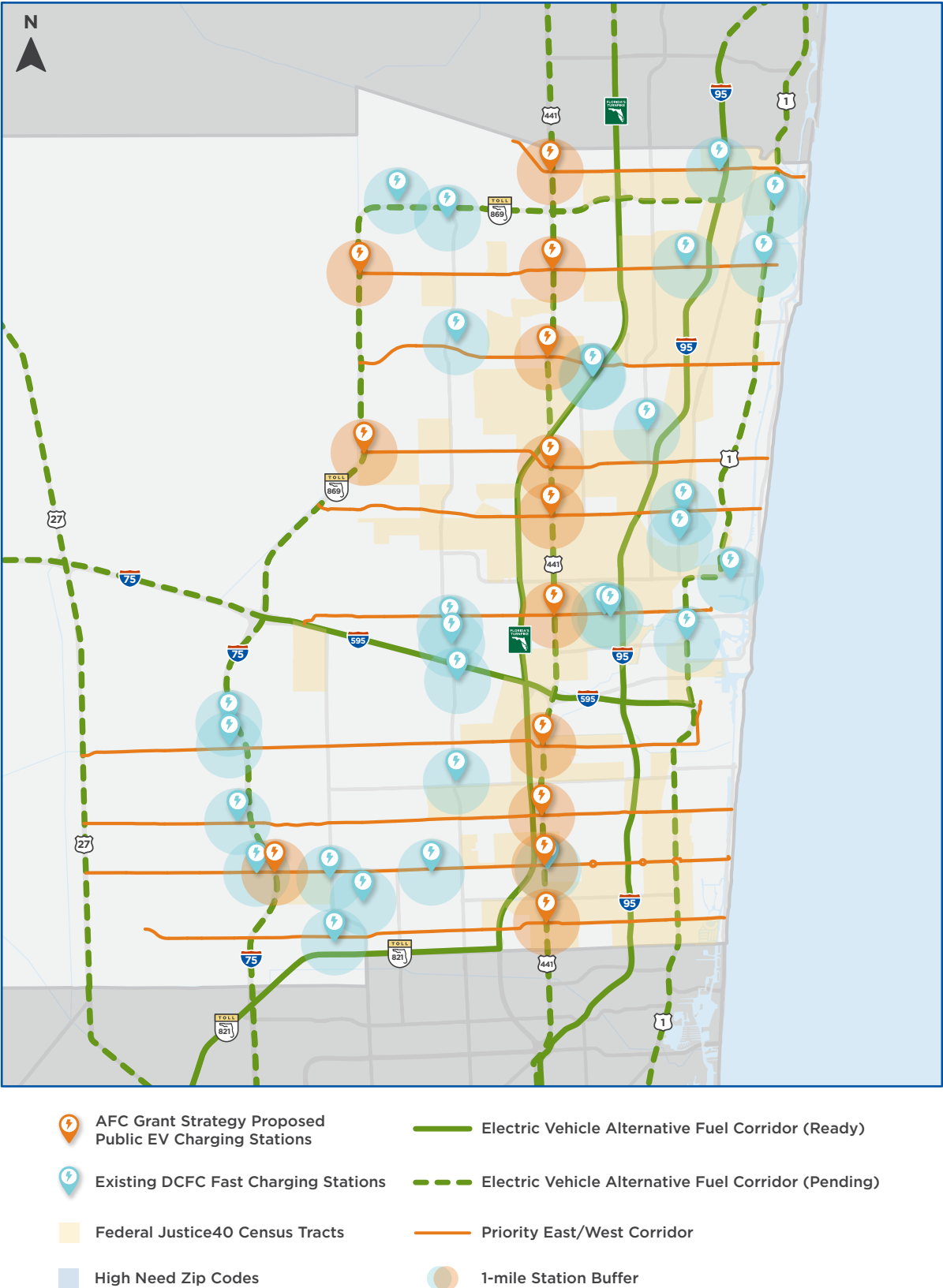


Figure 18: Existing DCFC Gaps in Broward County



### SFRTA Grant Strategy

The SFRTA grant strategy expands access to charging along the I-95 corridor, provides access to EV charging for commuters using Tri-Rail, and increases access to fast charging for ride-hail drivers providing first/last mile trips to and from Tri-Rail stations. The SFRTA strategy can be implemented by SFRTA and other regional partners with existing capital and operations funding or implemented with CFI or other grant programs.

The SFRTA grant strategy would create public EV charging at all nine Tri-Rail stations. Each station will have the following:

- + 4 150kW NEVI-compliant DCFC ports, which will provide fast charging for regional travelers and ride-hail drivers.
- + Level 2 chargers in the commuter parking areas, with the number of Level 2 chargers adjusted at each station based on ridership levels.
- + Bike racks with charging outlets for e-bikes or other micromobility devices, with the number of racks at each station based on ridership levels.

The DCFC ports should be in a highly visible area of the station, such as at the kiss-and-ride areas of the stations. The purpose of these fast-charging ports is to provide fast charging for people traveling longer distances along the I-95 corridor and ride-hail drivers provide first/last mile trips to and from stations.

The Level 2 chargers should be in parking areas (garages or lots) designated for commuters. The assumption is that commuters can park for the day and have their vehicles charging while at work. The number of chargers at each station is calculated by multiplying the daily boarding at each station by 2%. Currently, 2% of vehicles registered in Broward County are EVs, so the assumption is that approximately 2% of commuters will be driving EVs to Tri-Rail commuter stations.

Additionally, bike racks with outlets for charging ebikes or other micromobility devices are included at each station. The racks will provide a place to lock these devices while using Tri-Rail or charge the devices before leaving a station. The number of bike racks with outlets is calculated by multiplying the daily boarding at each station by 2%. The 2% factor provides equal charging and parking opportunities for people commuting by driving or riding.

A summary of the SFRTA strategy is provided below and on the next page, along with an accompanying map. More detailed information about the SFRTA grant strategy and the prioritization results for each station can be found in Appendix B.

Table 5: SFRTA Grant Strategy Summary

SFRTA Grant Strategy	
Number of Stations	7
Number of Ports	109
Number of Ebike outlets	81
Total Cost	\$ 8,858,350.88

Figure 19: SFRTA Grant Strategy Map

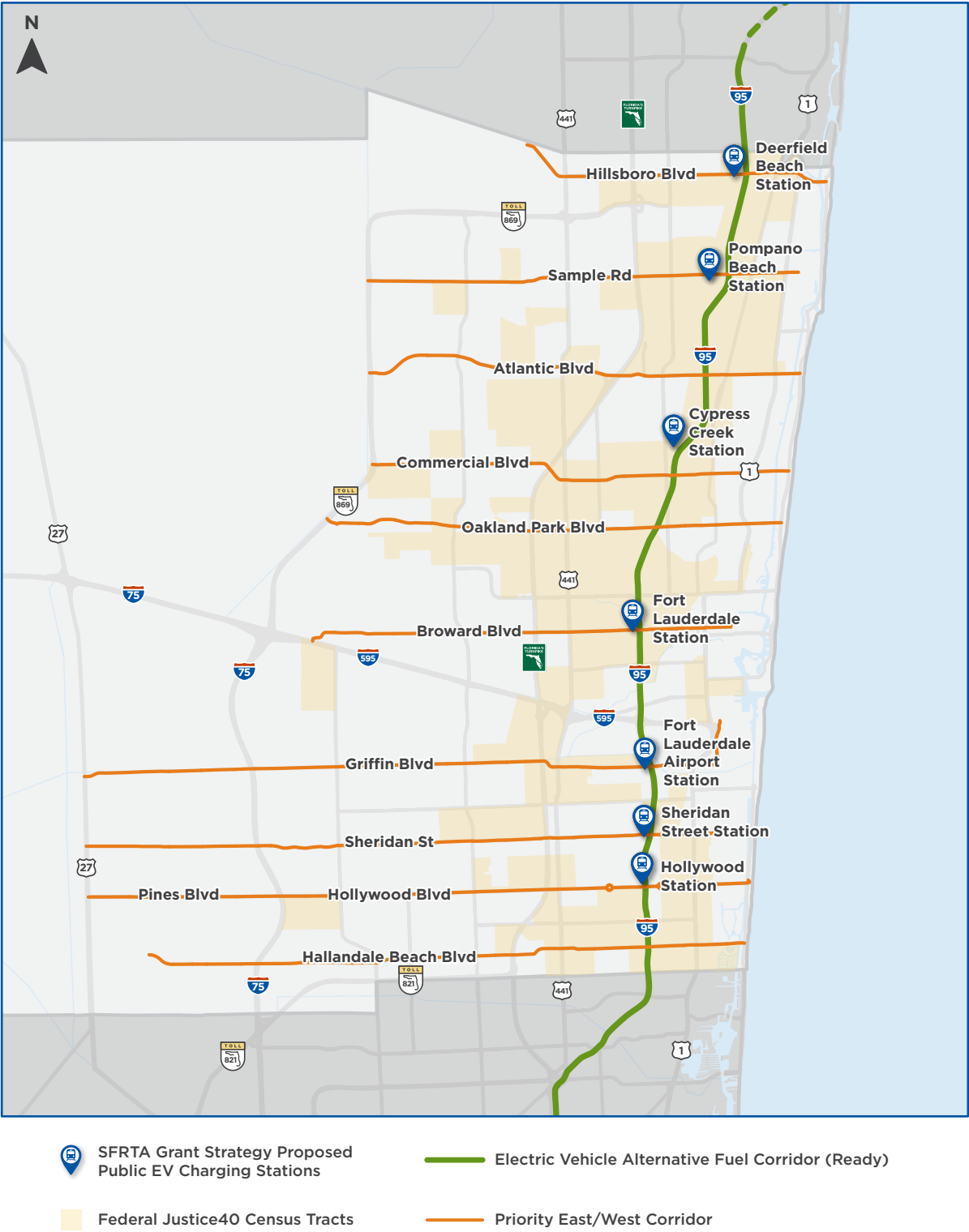


Table 6: SFRTA Grant Strategy Station Summary

Station Data		Number of Ports			Total Cost
SFRTA Station	2% EV	DCFC	Level 2	EBikes	
Deerfield	10	4	10	10	\$1,209,012.74
Pompano	12	4	12	12	\$1,283,529.29
Cypress Creek	13	4	13	13	\$1,325,647.34
Fort Lauderdale	13	4	13	13	\$1,299,728.54
Fort Lauderdale Airport	16	4	16	16	\$1,396,924.04
Hollywood	11	4	11	11	\$1,260,850.34
Sheridan Street	6	4	6	6	\$1,082,658.59
<b>Total</b>		<b>28</b>	<b>81</b>	<b>81</b>	<b>\$8,858,350.88</b>

Table 7: SFRTA Grant Strategy - Cost Per Port

Port Type	Cost per Port
DCFC Ports (150kw)	\$222,876.86
Level 2 Ports (19kw)	\$26,398.50
EBike Charging Rack	\$6,000.00

## Broward MPO Grant Strategy Emissions Reduction

The Broward MPO grant strategy has the potential to reduce emissions related to air pollution and greenhouse gases. The calculations were generated using the AFLEET Charging and Fueling Infrastructure (CFI) Emissions Tool.

The AFLEET Charging and Fueling Infrastructure (CFI) Emissions Tool estimates well-to-wheel greenhouse gas emissions and vehicle operation air pollutant emissions for proposals to the Federal Highway Administration’s (FHWA) Charging and Fueling Infrastructure Discretionary Grant Program (CFI Program). The CFI Program covers electric vehicle charging, as well as hydrogen, propane, and natural gas fueling infrastructure.

Table 8: AFC Grant Strategy Emissions Reductions

AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed	Fuel Unit
Level 2 EVSE	233.9	2,849.8	44.7	6.1	3.2	257.0	1.1	312,000	kWh
DCFC EVSE	671.7	8,184.0	128.2	17.5	9.2	738.1	3.1	896,000	kWh
Fueling Infrastructure Total	905.6	11,033.8	172.9	23.6	12.4	995.1	4.1		

Table 9: SFRTA Grant Strategy Emissions Reductions

AFV Fueling Infrastructure	GHGs (short tons)	CO (lb)	NOx (lb)	PM10 (lb)	PM2.5 (lb)	VOC (lb)	SOx (lb)	Fuel Dispensed	Fuel Unit
Level 2 EVSE	364.3	4,439.1	69.6	9.5	5.0	400.4	1.7	486,000	kWh
DCFC EVSE	587.7	7,161.0	112.2	15.3	8.0	645.8	2.7	784,000	kWh
Fueling Infrastructure Total	952.1	11,600.1	181.8	24.8	13.0	1,046.2	4.4		

## Broward MPO EV Policy Priorities

This section summarizes the EV policy priorities for the Broward MPO. These policies can be used to guide decision-making about federal and state funds for EV infrastructure or used by the MPO to guide local-partner decision-making. The overall goal with these policies is to ensure everyone that lives, works, and visits Broward County has easy, convenient, and equitable access to EV charging.

### Climate Change and Resiliency

South Florida's unique geography makes it vulnerable to severe weather and the impacts of climate change. Ensuring the safe and reliable operation of electric vehicle infrastructure is critical for the future of Broward County. Electric vehicles will play an increasingly larger role in Broward County's transportation future. It is critically important to ensure reliability and resiliency of the charging network within the County.

This plan supports the MPO's commitment to climate change and resiliency across its various initiatives including:

- + MPO long-range plans including *Commitment 2045 Metropolitan Transportation Plan* and the *Route to 2050 Metropolitan Transportation Plan*, which is currently being developed.
- + Regional partner studies including the *Regional Climate Action Plan*, *2015 Compact Unified Sea Level Rise Projection*, and the *South Florida Climate Change Vulnerability Assessment and Adaptation Pilot Project*.

Specifically, this plan supports the Broward MPO and regional partner climate change and resiliency goals in the following ways:

- + Expands access to public EV charging, particularly in vulnerable population areas where access to home charging or public charging may be limited.
- + Expands access to public EV charging along major corridors, including designated evacuation corridors.
- + Enhances access to transit by focusing on public charging at Tri-Rail stations.
- + Increases access to public EV charging within one mile of I-95, US 441, Sawgrass Expressway, I-75 and I-595.
- + Prioritizes public investment in public EV charging stations west of I-95.



## Metropolitan Transportation Plan (MTP)

The Broward MPO is required by the federal government to create and maintain the MTP, which guides the administration of federal and state transportation funds for Broward County. This plan supports both the currently adopted *Commitment 2045 Metropolitan Transportation Plan* and the *Route to 2050 Metropolitan Transportation Plan*, which is currently being developed.

The *Route to 2050 MTP* has identified Safety, Resiliency, Emerging Technologies, and Housing as the local priority emphasis areas. These emphasis areas will be used to identify and prioritize projects.

This plan supports all four of these emphasis areas in the following ways:

- + **Safety.** The transportation system in Broward County is increasingly multimodal and electrified. In addition to electric vehicles, micromobility devices like ebikes, scooters, and eskateboards are increasingly how a wide range of ages travel to daily destinations. The expectation is that people should be able to travel safely to destinations, including public places to charge their vehicles and devices. Navigating and using public charging should also be safe and reliable. This means that the installation, operation, and use of public charging stations should be safe, and supported by emergency response services trained and equipped to address battery and electrical fires related to vehicles and charging infrastructure.
- + **Resiliency.** The EV strategy for this plan reduces green house gas emissions, which are a key factor contributing to climate change. This plan also outlines a strategy to expand a more strategic charging network, which can increase access to public charging during emergencies and natural disasters.
- + **Emerging Technologies.** In the future, electricity will be the primary source of energy to power Broward County's transportation system. The plan outlines a strategy to support this transition to an electrified transportation system. In addition to supporting access to charging for personal vehicles, it also provides a strategy to support micromobility charging and access to transit, which is increasingly using electrified trains, buses, and paratransit vehicles.
- + **Housing.** In Broward County, 51% of households live in multifamily buildings. The share of multifamily housing is likely to increase in Broward County, as land use policy shifts to more dense housing development along transit corridors and at transit stations. Today, access to home charging in multifamily buildings is limited and one of the biggest barriers to EV ownership. This plan supports the adoption of local regulations that require EV ready parking spaces and other strategies to increase access to home charging in multifamily buildings.



The logo for 'Route to 2050' features a stylized blue icon on the left consisting of two parallel lines that curve inward and then outward, resembling a road or a signal. To the right of this icon, the word 'ROUTE' is written in a large, blue, sans-serif font. To the right of 'ROUTE', the word 'TO' is written in a smaller, blue, sans-serif font, positioned between two horizontal lines. To the right of 'TO', the year '2050' is written in a very large, bold, blue, sans-serif font.



### Equity and Investment in Broward County Public Charging

The federal government has created a geographic transportation equity policy called Justice40. Census tracts historically impacted by negative transportation impacts, such as air quality, or social and economic disadvantages, such as lack of access to a vehicle at home, have been identified by the federal government. These census tracts are designated as Justice40 census tracts and used to prioritize federal transportation investments.

In Broward County, 37% of the population lives in a Justice40 census tract. 31% of the existing charging infrastructure in Broward County is in Justice40 census tracts. To ensure a proportional percentage of new public charging is in Justice40 census tracts, 3,938 charging ports would need to be constructed within Justice40 census tracts by 2030. Additionally, the development of these 3,938 ports would create 1,619 jobs over the next seven years to 2030.

This plan’s policies, grant strategies, and analysis use the Justice40 census tracts to identify needs and prioritize investments in Justice40 census tracts or non-census tracts adjacent to Justice40 census tracts. The goals are to increase access to job opportunities and public EV charging access in Justice40 census tracts.

Figure 20: Jobs Created in Justice40 Census Tracts

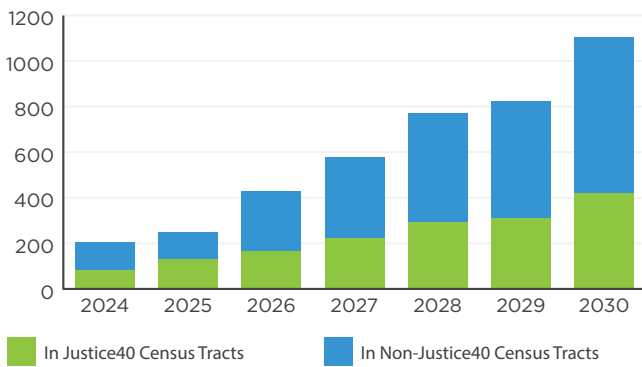
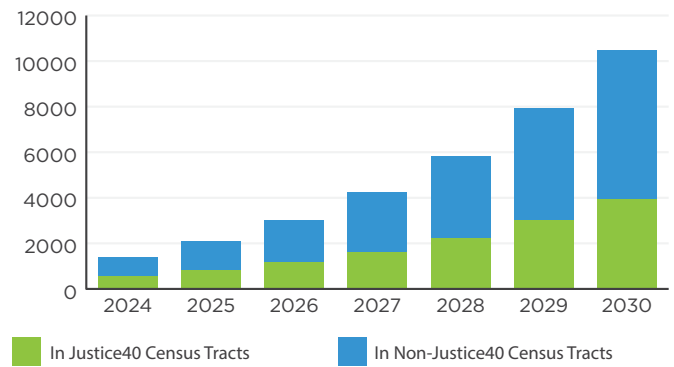


Figure 21: Projected Ports Needed in Justice40 Census Tracts



### Public Charging Priority Areas

For this plan, a scoring system was developed to identify and prioritize where public charging is needed most. The scoring system considers supply factors such as where existing public charging is located, demand factors such as population and employment density, and equity factors like Justice40 census tracts. More detailed information about the priority areas can be found in Appendix C.

The table below summarizes the composite scoring and how zip codes are designated on a scale from high priority to low priority. A map of the results can be found on the next page. The results of this analysis can be used to prioritize and identify public EV charging projects funded or supported by the Broward MPO.

Table 10: Broward MPO Public EV Charging Priority Matrix

<b>Demand</b>	High = 3	6+	5	4
	Medium = 1	5	4	3
	Low = 1	4	3	2
	Equity + 1	Low = 3	Medium = 2	High = 1
<b>Supply</b>				

Figure 22: Broward MPO Public Charging Priority Areas by Zip Code

