



March 28th, 2022 Meeting

Backup Materials

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Accelerating Electric Vehicle Adoption in South Florida



March 28, 2022

City of Fort Lauderdale

Alisha Lopez, Clean Cities Coordinator



CLEAN CITIES COALITION NETWORK



Mission & Organization



- The Southeast Florida Clean Cities Coalition's mission is to reduce South Florida's dependence on imported oil and improve the environment by creating a sustainable alternative fuel market through the support and promotion of clean fuels.
- The South Florida Regional Planning Council, a regional governmental agency established in 1974, has proudly hosted the Coalition since 1994.
- The Coalition region covers Palm Beach, Broward, Miami-Dade, and Monroe Counties.
- Please visit us at:

www.sfregionalcouncil.org/cleancities

SEFLCCC – Team



Alisha Lopez
Coordinator



Board of Directors

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ChargePoint

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Create an Overarching Transportation Electrification Plan

- Transportation electrification plans provide a framework and roadmap for community-wide EV adoption.
- Transportation electrification plans articulate priorities, align strategies, and build capacity, all of which can be leveraged to pursue federal and state grants and rebates to support the shift to EVs.
- Transitioning city fleet vehicles and supporting the broader community-wide shift to EVs requires coordination across a multitude of departments.
- Departments to consider: Sustainability, Budget & Finance, Transportation, Economic Development, and Communications.



Establish EV Fleet Goals

- Local leaders can establish goals to electrify their fleets to save taxpayer dollars while reducing pollution and providing healthier outcomes for their citizens and the environment.
- Transportation electrification plans articulate priorities, align strategies, and build capacity, all of which can be leveraged to pursue federal and state grants and rebates to support the shift to EVs.
- Procurement Goals: Articulate what the municipality is trying to accomplish by transitioning to electric vehicles (EV). List out any metrics of success, such as economic, environmental, public health, climate change, or public relations.
- Consult with your Local Utility.



Other Considerations:

Maintenance and Safety

- PHEVs and HEVs have maintenance requirements like conventional vehicles.
- EVs typically need less maintenance:
 - Battery, motor require little to no maintenance.
 - Fewer fluids to change.
 - Brake wear is reduced due to regenerative braking.
 - Fewer moving parts.
- Electric-drive vehicles must meet the same safety standards as conventional vehicles.



Promote EV Charging Access & Infrastructure

- Local governments can install and own EV charging equipment and adopt policies to encourage private investment in fleet, workplace, and public charging infrastructure.
- Determine the amount of charging needed from the Alternative Fuels Data Center, U.S. Department of Energy.
- Some cities install charging stations to support their fleets' electrification and do not designate them for public use. This ensures the stations are always available for their use.
- Cities can spur EV adoption in the community by providing public access to EV charging stations. There are examples of both free and pay-to-charge systems.
- Permit Curbside Charger Installation in Public Right of Way.
- A challenge for some businesses and residences is the lack of off-street parking at which to install charging stations. Some cities have addressed this issue by permitting installation of curbside EV chargers.



Infrastructure: Electric Vehicle Charging Infrastructure

Type of Charger	Current Type	Input Voltage (V)	Typical Charging Time	Primary Use
Level 1	Alternating Current (AC)	120 V	2–5 miles of range per hour of charging	Residential
Level 2	AC	208 V or 240 V	10–30 miles of range per hour of charging	Residential Commercial
DC Fast	Direct Current (DC)	208 V or 480 V	100–200 miles of range per 30 minutes of charging	Commercial
Wireless	AC	Varies	10–20 miles of range per hour of charging	Commercial



Infrastructure: Charging in Public

- Increases vehicle range, especially for consumers in dense urban areas.
- Ideal public charging locations include:
 - Workplaces or office buildings
 - Shopping centers
 - City parking lots
 - Airports
 - Hotels
 - Parks



Electric Vehicle Readiness Policy

- Develop an Electric Vehicle Readiness Code
- The code is intended to provide electric vehicle charging abilities distributed throughout the city to serve public mobility needs, prepare for emerging electric vehicle technologies, improve air quality, and achieve city sustainability goals, including climate change mitigation.
- Local Examples: City of Miami, City of Boca Raton, City of Miami Beach
- “WHEREAS, by requiring a portion of newly constructed off-street parking spaces to provide this charging infrastructure, it will facilitate an increase in electric and plug-in hybrid vehicle ownership;” – City of Miami
- “WHEREAS, the Mayor and City Commission desire to encourage electric vehicle use, in order to reduce greenhouse gas emissions, by requiring off-street parking facilities to provide electric vehicle parking spaces and charging stations” – City of Miami Beach



EV Readiness Requirements

Key Definitions

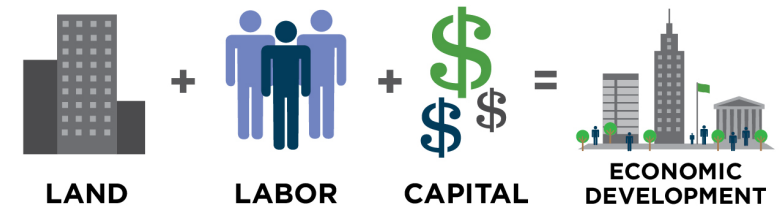
- **EV Capable:** These parking spaces prepare for future Electric Vehicle Supply Equipment (EVSE) installation by providing dedicated electrical capacity in the service panel (40amp breaker for every two EV Capable two spaces) and conduit to the EV Capable space. These spaces do not require wiring to the space or a receptacle.
- **EVSE Installed:** These parking spaces are reserved for EVs and provide drivers the opportunity to charge their electric vehicle using EV charging stations rated at a minimum of 32amp 7.2 kW. These spaces should be installed per the requirements of the National Electrical Code (NFPA 70) as adopted and amended by the State of Florida.



Promote Economic Development

There are many economic development benefits of electrifying transportation to the local economy.

- Tax dollars saved operating electric public fleets can be invested in other areas.
- Purchasing “local” electricity instead of out-of-state gas keeps transportation dollars circulating in Florida.
- Increased spending power of consumers saving \$1,000+/year on reduced fuel and maintenance costs with EVs.
- Price-stability of electricity vs gasoline/diesel for fleet fuel budgeting.
- Value of stored energy in EV batteries that can serve the grid to meet peak-demand needs and resilience during an emergency.
- Ability to pair with solar spurring on another clean energy sector and enabling the cascading economic development benefits.
- Public health dollars saved by reduced air pollution leading to reduced disease and ER visits and increased productivity.
- Climate-cost avoidance achieved by reducing transportation carbon emissions and maximized by cleaning the grid in parallel.



Expand Access & Equity

Underserved communities are often comprised of people of color and of lower-income.

- Charging Access for underserved communities.
- Outreach and educational events for underserved communities.
- Prioritize underserved communities for electrification.
- Price-stability of electricity vs gasoline/diesel for fleet fuel budgeting.
- Carshare Programs.





Other Considerations: Tools



Tools


The Alternative Fuels Data Center offers a large collection of helpful tools. These calculators, interactive maps, and data searches can assist fleets, fuel providers, and other transportation decision makers in their efforts to advance alternative fuels and energy-efficient vehicle technologies.


Calculators


 [EVI-Pro Lite](#)
Estimate a city or state's need for vehicle charging and the effect on electric load.


 [AFLEET Tool](#)
Calculate a fleet's petroleum use, cost of ownership, and emissions.

 [Vehicle Cost Calculator](#)
Compare cost of ownership and emissions for most vehicle models.  [mobile](#)



 [VICE Model](#)
Evaluate the financial case for natural gas vehicles and battery electric buses.


 [JOBS Model](#)
Estimate economic impacts of natural gas, hydrogen, or fuel cell infrastructure.


 [Heavy-Duty Vehicle Emissions](#)
Calculate the emissions of alternative fuel medium- and heavy-duty vehicles.

 [Evolution: E-Drive Vehicle Education](#)
Understand the costs and benefits of electric vehicles based on location.

Interactive Maps

 [Alternative Fueling Station Locator](#)
Locate alternative fueling stations and get maps and driving directions.  [mobile](#)


 [Alternative Fuel Corridors](#)
Find maps and station data to help with nominating alternative fuel corridors.


 [TransAtlas](#)
Analyze vehicle densities and locations of fueling stations and production facilities.


 [Biofuels Atlas](#)
Compare feedstocks and analyze biofuel production by location.



 [Coalition Locations](#)
Find Clean Cities coalitions and contact information for coordinators.


Data Searches

 [Vehicle Search](#)
Compare all classes of alternative fuel vehicles, electric vehicles, and hybrids.

 [Laws and Incentives Search](#)
Search for laws and incentives related to alternative fuels and advanced vehicles.

 [Fuel Properties Comparison](#)
Compare alternative fuel properties and characteristics.

 [Find a Car](#)
Compare fuel efficiency, costs, carbon footprints, and emissions.  [mobile](#)

 [State Information](#)
Find state information about alternative fuels and advanced vehicles.

afdc.energy.gov/tools

Thank you!



Alisha Lopez, Coordinator, Southeast Florida Clean Cities Coalition

alopez@sfrpc.com

1 Oakwood Boulevard, Suite 250

Hollywood, FL 33020

(954) 924-3653

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