Journey into Electric Vehicles and EV Charging Infrastructure
SUSTAINABILITY MANAGEMENT PLAN

- 10-year Plan
  - City Operations (23 projects)
    - Focus areas: (Energy, Fleet, Water, Waste, Land Use & Transportation, Outreach, Finance)
    - 24% ROI over 10 years (over $4 million)
  - 2013 & 2017 Greenhouse Gas Emission Inventory (City Operations & Community-Wide)
Electric Vehicle Fleet

• 51 Electric Vehicles (16 Extended Range Chevy Bolts)
• FY 2021 goal: 78 Electric Vehicles (60% of Administrative Fleet).
• Departments with EV’s: Public Works, Code Enforcement/Development Services, Parking, Procurement/Finance, Automotive, Historical Resources, Fire Dept.
• EV’s replaced vehicles that were not Emergency/Rescue-Recon
• 12 GEM Electric Vehicles (Neighborhood Safety Aide & Special Activities Service Vehicle)

www.coralgables.com/electricvehicles
Current Electric Vehicle Charging Infrastructure

- Currently: (16 Stations): (12) Level II & (4) Level III (Total: 22 charging ports)
- Public: (5) level II Dual Port Stations: (2) Parking Garage #2, (1) Garage #4 and (2) Garage #6, (2) Level III stations at City Hall (405 Biltmore Way)
- 10,700 Charging Sessions; Saved 12,000 gallons of fuel; Avoided 28,000 lbs of GHG
- Private: (1) Private Level III and (6) Level II at Public Works Department; (1) Level III Youth Center; (1) Level II Trolley/Admin Office
- Future Implementation: 11 Charging Stations; 21 Charging Ports
- Zoning Code Update (March 2019): (20 or more off-street spaces): Requires 2%: EV parking with charging stations. 3%: “EV Ready” (infrastructure installed except EV Station. 15%: “EV Capable” conduit run with capacity in electrical panels.
PROCUREMENT

- Nissan Leaf (2016) were priced at $32K on the State Contract.
- Used MEARS lease program to help take advantage of additional tax incentives to bring the cost lower.
- Additional dealer incentives from Nissan lowered the cost to $18K.
- Nissan also provided two FREE fast charging stations.
- Chevy Bolts purchased off the State Contract and leased for one year to receive $3,000 of tax incentive.
- Purchased through vehicle replacement program. ($3.2 million)
- Charging Stations: purchased through operations funds.
- EVGO Level III Stations: Provided space and they operate and maintain.
- EV’s will be rotated every 6 yrs. to retain maximum value with battery warranty.
BEST PRACTICES

Charging Stations
• Placement of charging stations and their type, Level 2 or 3, is critical to the success of your EV fleet.
• Consider inexpensive “standard” level 2 chargers for secure government parking areas that are not available to the general public.
• Consider purchasing dual port level 2 charging stations that can charge 2 cars simultaneously. Place them between two parking spaces where cars park overnight.
• Level 3 chargers should be used in outlying areas furthest away from the home base.
• Survey areas to ensure that the chargers are not placed in flood areas.
• Consult with cities/county in your area before developing your infrastructure plan!

EV Fleet
• How many average daily miles are driven? Min of 20% range available at the end of the route/workday. Is the vehicle used for multiple shifts?
• Is the vehicle deemed mission essential after a hurricane?
• Estimate a 30% reduction in battery capacity over the battery’s warranty.
• Constant fast charging will accelerate the reduction of battery capacity.
• Ancillary devices that must be installed on the car that would require battery power?
ALTERNATIVE TRANSPORTATION

• Multimodal transportation plan
• Free Trolley Service (Over 1.2 million riders per year).
• Bicycle/Pedestrian Master Plan
  • Expanding bike infrastructure (10 to 34 miles)
• Provide free bike racks to businesses
• Freebie Service (Year 1: 60,000 riders)
• Spin and Bird Scooters (1st in Florida)
• Since FY16: 1.2 miles of sidewalk extensions. 232 crosswalks.

www.coralgables.com/bike
Thank you

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