Purpose of EV Ready Code

**Market projections** show that by 2030, nearly 30% of registered vehicles in Orlando will be powered by electric – manufacturers have shifted and demand is rising.

Preparing a parking site for future installation of EVSE (Electric Vehicle Supply Equipment) **saves significant amounts of money** compared to retrofitting the property later.

**Over 80% of charging** occurs at home or work.

**Zero tailpipe** emissions improve air quality and public health. City Council has adopted goals to reach **90% GHG emission reductions by 2040**.
Why is electric vehicles and mobility good for our community?

Public Health: Vehicles contributing 85% of carbon monoxide (CO) emissions and 73% of nitrogen oxides (NOx) in Orange County.

Environment: City goal: 90% GHG reduction by 2040. Gas and diesel account for 20% of the City’s GHG emissions.

Equity: Ensuring health and economic benefits accrue to those most impacted by transportation pollution historically. To reach our climate goals, we need everyone, particularly diverse communities!

Economics: Total cost of ownership now favors electric vehicles. Upfront costs and operating costs.
Trajectory for electric vehicle (EV) adoption and charging demand...

- By 2025, EV adoption is projected to more than double in the Orlando metro area.

- By 2030, EV adoption is projected to reach 10-30% of registered vehicles, and by 2050, nearly 70%.

Source: FDAC

Source: National Renewable Energy Lab
Since then, the market has rapidly accelerated towards EV adoption with big commitments.
History of rapid technology diffusion in the US

Figure ES-1. Diffusion of various technologies in U.S. households

Data Sources: Du Boff 1964 in Devine 1983 for electric motors; Ritchie and Roser 2018 for all others
As you know, electric mobility isn’t just personal cars...
EV Charging Speeds

**AC Level 1**
- **VOLTAGE:** 120V 1-Phase AC
- **AMPS:** 12-16 Amps
- **CHARGING LOADS:** 1.4 to 1.9 kW
- **CHARGE TIME FOR VEHICLE:** 3-5 Miles of Range Per Hour

**AC Level 2**
- **VOLTAGE:** 208V or 240 V 1-Phase AC
- **AMPS:** 12-80 Amps (Typ. 32 Amps)
- **CHARGING LOADS:** 2.5 to 19.2 kW (Typ. 6.6 kW)
- **CHARGE TIME FOR VEHICLE:** 10-20 Miles of Range Per Hour

**DC Fast Charge**
- **VOLTAGE:** 208V or 480V 3-Phase AC
- **AMPS:** <200 Amps (Typ. 60 Amps)
- **CHARGING LOADS:** <150 kW (Typ. 50 kW)
- **CHARGE TIME FOR VEHICLE:** 80% Charge in <30 Minutes
EV Charging Speeds – Poll: what type do EV owners rely on most?

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EV Charging Speeds – Poll: what type do EV owners rely on most?

We are creating an e-mobility ecosystem and preparing for a rapid and massive transformation ahead.
Expansion of public charging stations
Starting April 2021, the City of Orlando and OUC will be enabling 100+ new Level 2 EV charging stations throughout City parks, Rec centers, parking garages, and more.
EV Recharge Mobility Hubs
OUC EV Programs

- **OUCharge-It**: EV charging station “as-a-service”
- **OUC EV Rebate**: $200 rebate for purchasing a new EV or PHEV
- **OUC Test Drive**: $50 VISA giftcard for test driving an EV
- **Electrified Dealership**: Promotes dealerships meeting EV criteria; Financial incentives for sales reps
- **Ride and Drive**: Test drive variety of EVs without the sales pressure
Last year, we shared how cities across the US are preparing with EV Readiness codes... and heard Orlando is in...
Florida “Right to charge” legislation for condo owners

• As of 2019, Condo associations in Florida may not prevent an owner from installing an EV charging station

• Owners may install an EV charging station at their own cost, and within their designated parking space

Sources: Statute language, map link
EV Ready (Level 1) required for all Single-Family Homes

- Florida Building Code requires 120V outlet for every vehicle in the parking garage.
- Level 1 EV Ready – 3-5 miles per hour of charging
- Provides opportunity for EV’s to “trickle charge” their vehicles
Three tiers of EV Readiness

**EV Capable:** Install electrical panel capacity with a dedicated branch circuit and a continuous raceway from the panel to the future EV parking spot.

**EV Ready:** Install electrical panel capacity and raceway with conduit to terminate in a junction box or 240-volt charging outlet (typical clothing dryer outlet).

**EVSE Installed:** Install a minimum number of EV charging stations (min. 32A)
Avoided costs – new construction vs. retrofits

Costs to make parking EV ready during construction are typically small, but can be very expensive for building owners and tenants to install EV charging later – EV readiness typically saves around 75% compared to retrofit costs.

0.13%-0.17% of project costs in one study of new construction multi-family and commercial projects

Case study of a multi-family or commercial parking lot with 10 spaces, 2 of which would be EV-ready
We have engaged stakeholders, drafted code, negotiated requirements:

Stakeholder outreach: Apr ‘20-Jan ‘21
- BOMA, GOBA, NAIOP, AAGO, FHBA
- NAACP, Sierra Club, League of Women Voters, Clean Cities Coalition

Multiple surveys:
- Proposal in general (18)
- Proposed language (5-17)
- Proposal revisions (2)

Iterative feedback process:
- Revisions, clarifications, and facts shared
Certified Affordable Multi-family Housing
Real Orlando Example – illustrates EV Readiness Impact

- Project Size: 116 units
- Parking spaces constructed: 191 spaces
- Total Development Costs: $23.5MM
- Hard Costs: $15.2MM
Certified Affordable Multi-family Housing
Real Orlando Example – illustrates EV Readiness Impact

Project Size: 116 units
Parking spaces constructed: 191 spaces
  • 20% EV Capable = 38 spaces x $400/space = $15,200
  • 2% EVSE installed = 3 spaces x $2,000/space = $6,000

Total Development Costs: $23.5MM
Hard Costs: $15.2MM
  • EV Readiness = 0.0009% (less than 1/10th of 1%)
EV READINESS: TOTAL DEV. COST IMPACT:
REAL ORLANDO EXAMPLE PROJECT

Total Development Costs 99.91%

- EV Capable (20% spaces) 0.06%
- EV Installed (2% spaces) 0.03%
- Other 0.09%
AAA: EV drivers save over $1,000 per year in fuel and maintenance costs. SWEEPS: EV capable cost ranges from $200-$810 per space depending on circumstances. Other: Chargers range from $600-$3,000 per space.
AAA: EV drivers save over $1,000 per year in fuel and maintenance costs.

SWEEPS: EV capable retrofit cost ranges from $1,010-$5,420 per space.

### Consumer Savings with EV Readiness

(assumes all EV Capable spaces converted to Installed)

- **Worst case**: $410,000 (TDC Cost Increase), $91,960 (Adding Chargers), $48,780 (Avoided Retro-fit Costs), $-45,600 (Driver Savings 22% Installed)
- **Best case**: $473,480 (TDC Cost Increase), $410,000 (Adding Chargers), $44,000 (Avoided Retro-fit Costs), $-11,200 (Driver Savings 22% Installed)
Electric Vehicles will demand charging infrastructure...

Residential EV Charging Demand Met by 2030 (20% Capable, 2% Ready)

- EV Capable: 4,752
- EV Installed: 477
- Residential EVSE spaces created by ordinance: 49,410
- Residential EVSE spaces needed: 11%

Commercial: Workplace and Public Charging Demand Met by 2030 (10% Capable, 2% Ready)

- EV Capable: 4,480
- EVSE installed: 420
- Commercial EV spaces created by ordinance: 5,620
- Commercial EVSE spaces needed: 5,620
Citywide Multi-family EV Readiness

- 2,640 new multi-family parking spaces constructed annually
- 23,760 new multi-family parking spaces from 2022 to 2030!
Citywide Multi-family EV Readiness

By 2030...
23,760 new multi-family parking spaces built
4,752 EV Capable spaces
477 EVSE Installed spaces

Avoided Retrofit Cost, $3,862,242
Driver Savings, $26,233,020

WORST CASE
Installing Chargers, $(14,309,400)
TDC Cost Increase, $(5,294,478)

BEST CASE
Driver Savings, $26,233,020
Avoided retrofit Cost, $21,981,402
Installing Chargers, $(2,861,880)
TDC Cost Increase, $(1,240,148)

EV READINESS - ECONOMIC IMPACT IN MULTI-FAMILY EST. $10MM-44MM SAVED
We have taken extensive feedback from stakeholders, and have incorporated suggestions where we could.

<table>
<thead>
<tr>
<th>Feedback we’ve received</th>
<th>How we’ve responded</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Only the few EV owners would benefit&quot;</td>
<td>State of Florida, &quot;legislature finds that the use of electric vehicles conserves and protects the state's environmental resources, provides significant economic savings to drivers, and serves an important public interest. 718.113(8)</td>
</tr>
<tr>
<td>“Florida Building Code, has already addressed EV Readiness in [single-family] homes by requiring a dedicated 20amp 120V branch circuit in [the] garage”</td>
<td>Eliminated single-family requirement. Level 1 is perceived by EV drivers as inadequate, but single-family homes typically face lower barriers to installing Level 2 EVSE than multifamily and other commercial.</td>
</tr>
<tr>
<td>&quot;Typically, 240V chargers are hard-wired in parking areas, not plugged in to receptacles.&quot;</td>
<td>Eliminated the requirement for “EV Ready,” which includes wiring and receptacles.</td>
</tr>
<tr>
<td>&quot;No voltage or equipment are specified...EVSE Installed infrastructure could be level 1 charging&quot;</td>
<td>Added specifications for EVSE Installed (7.2kW, 240A), and EV Capable (40A dedicated per two spaces).</td>
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We have taken extensive feedback from stakeholders, and have incorporated suggestions where we could

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<td>&quot;Oversizing electrical service for unused EV capable spaces wastes materials and energy.&quot;</td>
<td>Mitigated 50% of electrical service by allowing 40A per two spaces which also provides flexibility to load-share between multiple spaces. Downside is that when EV spaces are full, power delivery is slower.</td>
</tr>
<tr>
<td>&quot;all quantities seem excessive since EV adoption is currently only about 2%.</td>
<td>EVSE Installed requirement (2%) reflect today’s demand. Future demand is reflected in the low-cost EV Capable requirement (10-20%).</td>
</tr>
<tr>
<td>“This [is] in anticipation of a possible market deficit, rather than to address an existing need”</td>
<td>Manufacturers are investing billions into EVs, rapidly increasing models available, decreasing the EV price tag, and committing to 100% electric (e.g. GM by 2035).</td>
</tr>
<tr>
<td>&quot;No public charging infrastructure is being created&quot;</td>
<td>State Highway System EVSE masterplan due by July 1, 2021; City installing 100 public stations 2021; OUC installing DC Fast charging hub downtown</td>
</tr>
</tbody>
</table>
Why implement an EV readiness ordinance? Orlando area developments that offer EV charging for their tenants

“We have had a number of potential tenants ask if we will have charging stations available in the community. I have developed several apartment communities in Orlando, and the stations were utilized regularly and considered an important part of each project.” - Orlando multi-family developer
Our proposed code places us amongst leaders in Florida and in the Southeast...

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single Family</strong></td>
<td>EV capable</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Multi-family and Commercial</strong></td>
<td>20% EV capable</td>
<td>10% EV-Ready (&lt;2022)</td>
<td>2% EVSE-installed; EV capable elements</td>
<td>15% EV capable; 3% EV ready; 2% EVSE installed</td>
<td><strong>MF and Hotels:</strong> 20% Capable; 2% Installed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20% EV-Ready (&gt;2022)</td>
<td></td>
<td></td>
<td><strong>Affordable (MF) housing:</strong> 20% Capable; <strong>Commercial (non-res):</strong> 10% Capable; 2% Installed</td>
</tr>
</tbody>
</table>
61.363: **Number of spaces**

The parking requirements of this Part are intended to provide **minimum standards**. Parking maximums: EVSE Installed parking spaces shall be **exempt from calculation of any parking maximums**.

EV Readiness minimum **parking requirements by use type**:

<table>
<thead>
<tr>
<th>Type</th>
<th>EV Capable (40A min. per two spaces)</th>
<th>EVSE Installed*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family, Duplex, Townhouse</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Certified Affordable Multi-family Housing</td>
<td>20%</td>
<td>—</td>
</tr>
<tr>
<td>Multifamily, Hotel, all parking structures</td>
<td>20%</td>
<td>2% (requirement begins at 50 spaces)</td>
</tr>
<tr>
<td>Non-residential (offices, retail, public, recreational and institutional uses)</td>
<td>10%</td>
<td>2% (threshold begins at 250 spaces)</td>
</tr>
<tr>
<td>Industrial (employee parking only)</td>
<td>10%</td>
<td>2%</td>
</tr>
</tbody>
</table>

*Additional EVSE installed space required every additional 50 spaces: Example (Multifamily), 50-99 spaces requires 1 EVSE space, 100-149 spaces requires 2 EVSE installed, 150-199 spaces requires 3 EVSE installed and so forth.
What is not required?

• **Project types:** Change of Use, Substantial Improvements, Existing Buildings

• **Location:** EV Capable, EV Ready and EVSE space locations are not specified, approved through the Master Plan process

• **Parking Max:** EVSE installed spaces excluded from parking maximums.

• **Management requirements:** EVSE installed spaces can be reserved (employees, tenants) or public (customers, visitors, shared by tenants), networked (charged for use) or have no POS (fleet charging)
We may hear opposition to any form of regulation, but we are well prepared to move forward.
Thank you!
BEGIN DRAFT LANGUAGE:

3G: Electric Vehicle (EV) Readiness minimum requirements

61.360: **Purpose**

- 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.
- Electric vehicles emit zero tailpipe emissions and are powered on less than half the emissions, on average, than an internal combustion vehicle on a per mile basis.
- Electric vehicle adoption aligns with the Mayor’s goals to reduce greenhouse gas emissions by 90% by 2040, a goal set forth in the City of Orlando’s Community Sustainability Action Plan.

61.361: **When EV Readiness parking requirements apply**

- The requirements of this Part shall apply to new structures development or substantial enlargement to existing of structures.
### Developer survey responses – Purpose & When It Applies

<table>
<thead>
<tr>
<th>Statement</th>
<th>Notes</th>
</tr>
</thead>
</table>
| "only the few EV owners would benefit"                                  | "FL Statute (366.94(1), "The provision of electric vehicle charging to the public by a nonutility is not the retail sale of electricity..."

| "no public charging infrastructure is being created"                    | "Main barrier to EV adoption is cost of the EV, not access to charging stations."

| "Private development should not bear the responsibility for providing and maintaining EV infrastructure" | Consumer Reports: survey indicated lack of access to public charging (48%) home charging (28%) as significant barriers to adoption. Total cost of ownership Price tag upfront: 2025 parody (Li-battery costs down 87% from 2010-2019) O&M: 60% less per mile to power an EV in Florida (DOE)

| State: FDOT must create a master plan for the development EVSE along the State Highway System by July 1, 2021 (339.287 and 338.236) City of Orlando installing 100 publicly accessible stations this year OUC installing DC Fast charging hub downtown | "Private development is not and does not seek to become a public fueling station." |

"The (FL) Legislature finds that the use of electric vehicles conserves and protects the state’s environmental resources, provides significant economic savings to drivers, and serves an important public interest. (718.113(8).)"
61.362: **General requirements**

EV Readiness requirements are categorized in **three** levels as follows:

- **EV Capable:** These parking spaces prepare for future EVSE installation by providing dedicated electrical capacity **in the service panel (40amp minimum breaker per for every space or station two EV Capable two spaces)** and conduit **(size)** to the EV Capable space, but it does not require wiring nor a receptacle.
- **EV Ready:** These spaces add the requirement for raceway and a 240V receptacle. The spaces are ready to install EVSE without needing any additional infrastructure or electrical improvements in the future. EVSE can simply be plugged in at the owner’s discretion. Once installed, these spaces are considered EVSE installed and must meet the standards identified in this section.
- **EVSE Installed:** These 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**. Electric vehicle supply equipment (EVSE) should be installed per the requirements of the National Electrical Code (NFPA 70) as adopted and amended by the State of Florida for enforcement by the City.
"Typically, 240V chargers are hard-wired in parking areas, not plugged in to receptacles."

"EV Ready receptacles will create a confusing, attractive nuisance…"

"Installing excess capacity or unused infrastructure creates wasted energy and resources, contrary to the City’s sustainability objectives."

"Dedicated electrical capacity is not defined… conduit requirements are not clear”

"No voltage or equipment are specified... EVSE Installed infrastructure could simply be level 1 charging"

"Oversizing electrical service for unused EV capable …. Spaces wastes materials and energy."

"Before definitions can be finalized, proper engineering analysis should be performed to evaluate the impact of charger sizing, conduit location and termination requirements, type and size of receptacles, ground fault protection for EV Ready circuits, required charging rate, and costs for installation during construction or after."

Proposal revision: "EV Ready" reduced to “EV Capable,” eliminating this issue.

Proposal revision: Specifications include: 

EV Capable: 40A dedicated panel space per two spaces – this reduces potential transformer upgrades. EVSE

EVSE installed: 32A 7.2W charging station

FL statute 366.94(3): “officer shall charge the operator ...noncriminal traffic infraction”
### Draft language

61.363: **Number of spaces**
The parking requirements of this Part are intended to provide _minimum standards._ Parking maximums: EVSE Installed parking spaces shall be _exempt from calculation of any parking maximums._

EV Readiness minimum parking requirements by use type:

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*Additional EVSE installed space required every additional 50 spaces: Example (Multifamily), 50-99 spaces requires 1 EVSE space, 100-149 spaces requires 2 EVSE installed, 150-199 spaces requires 3 EVSE installed and so forth.*
Developer survey responses – Number of spaces

"The National Electric Code, and therefore the Florida Building Code, has already addressed EV Readiness in homes by requiring a dedicated 20amp 120V branch circuit in a dwelling unit garage"

"EVSE parking shall be exempt from... parking maximums... creates new problems: "1) shortage of spaces 2) extra spaces at the developers cost..."

"all quantities seem excessive since EV adoption is currently only about 2%.

"This seems like way too many spaces"

"This [is] in anticipation of a possible market deficit, rather than to address an existing need"

Proposal revision: Single-family home requirements for level 2 requirements have been removed because barriers to install level 2 in SF are lower.

Clarification: EV Capable spaces are not reserved for EVs and should not constrain parking. EVSE requirement at 2% is close to existing adoption rates locally.

Projections show that this drafted code will move in a positive direction, but ultimately the market will play a critical role. When assuming all required EV Capable spaces are installed in the future, there is still a 70% shortfall in the residential sector. Market response will be critical to fill the gap.
1.364: **Location**
Placement of the EV Capable, EV Ready and EVSE installed spaces should be identified by the development team during the Master Plan approval process.

61.365: **Design**
Charging equipment must be mounted on the wall or on a structure at the end of the electric vehicle parking space provided. No charging devices may be placed within the dimensions of a space on the sides or entrance to a space. When cords and connectors are not in use, retraction devices or locations for storage shall be located sufficiently above the pedestrian surface and the parking lot as to reduce conflicts with pedestrians and vehicle maneuvering. Cords, cables, and connector equipment shall not extend across the path of travel in any sidewalk or walkway. Equipment mounted on structures such as pedestals, lighting posts, bollards, or other device shall be located in a manner that does not impede pedestrian, bicycle, or transit travel. **Alternatives may be approved by the Zoning Official.**

Depending upon location on the site, additional landscaping elements may be required.
Developer survey responses – Location and Design

"The location… should be solely at the developer's discretion."

"At a location that is economically practical for the building owner."

"single-headed charging infrastructure is more costly (per space) to install"

"The location… should be solely at the developer's discretion."

"disagree with having at least one spot located adjacent to an ADA space…should be located in an area most economically practical for the building owner."

"If the ADA designated space becomes EV designated, it will make the ADA space unusable for the majority of ADA users."

Clarification: No ADA space should become EV designated.

"What justification does the City provide to exempt the required signage for EV Chargers from sign code?"

Clarification: Sign code does not cover parking signs, similar to ADA spaces.

Clarification: EVSE installed and EV Capable space locations are at the discretion of the developer, excluding the one ADA adjacent EVSE space, allowing flexibility and optimization.

Alternative option to one ADA adjacent space: one EVSE space meets ADA spatial requirements, but remains EV designated – will avoid single headed charging station. Check on location flexibility.
61.366 **Accessibility**

A minimum of 5% of the EVSE installed spaces but not less than one (1) EVSE installed space shall be located adjacent to an ADA designated space to provide access to the charging station. It shall be designated as an EV reserved space. These EVSE accessible spaces should have all relevant parts located within accessible reach, and in a barrier-free access aisle for the user to move freely between the EVSE and the electric vehicle.

61.367 **Signage**

Spaces should be designated following MUTCD standards. Any signage to denote parking spaces is exempt from sign code.
### Developer survey responses – Accessibility and Signage

<table>
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<tr>
<th>Statement</th>
<th>Clarification</th>
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</table>
| "single-headed charging infrastructure is more costly (per space) to install" | "Clarification: No ADA space should become EV designated."
| "The location… should be solely at the developer's discretion."           |                                                                               |
| "disagree with having at least one spot located adjacent to an ADA space…should be located in an area most economically practical for the building owner." | "What justification does the City provide to exempt the required signage for EV Chargers from sign code?"

**Alternative option** to one ADA adjacent space: one EVSE space meets ADA spatial requirements, but remains EV designated – will avoid single headed charging station. Check on location flexibility.

**Clarification:** Sign code does not cover parking signs, similar to ADA spaces.
AN EV READY ORLANDO

Electric vehicle (EV) readiness code requires a portfolio of parking spaces in new construction to meet current EV charging needs and prepare for future demand.

Two levels of EV Readiness proposed:

1. **EV Capacity**: Adequate supply of charging infrastructure to support the number of EVs expected to be in operation by 2030.
2. **EV Readiness**: Ensures a portfolio of parking spaces in new construction to meet current EV charging needs and prepare for future demand.

**Why EV Readiness?**

- **Technological advancements** are revolutionizing the marketplace.
- Key projections include 30% of registered light-duty vehicles to be EVs by 2030.
- The full extent of this is rarely discussed and impacts localities from a transportation perspective.

**Public Health and Environment**

- **Societal benefits** of EVs include reduced pollution, improved air quality, and a quieter environment.

**Why EV Readiness?**

- **Costs for new multi-family residential developments** in Orlando are projected to be approximately $3.5 billion over the next 10 years.
- **Electrical meters** for EV charging installations will need to be upgraded.
- **Impact** of a lack of EV charging infrastructure could result in reduced property values.

**EV Readiness Removes Cost Barriers**

- **Cost of EV ready per space**:
  - $10,000 - Critical Infrastructure
  - $15,000 - Non-Critical Infrastructure

**EV Readiness Orlando: Policy Making Process**

- **Considered for new multi-family residential developments**.
- **Stakeholders involved**:
  - Orlando City Council
  - Affordable Housing Advisory Committee
  - Roundtable: City Council and Staff

**Survey Feedback**

- **"Only the free EV owners would benefit."**
- **"Free" in this context means not paying for a private charger, not the initial installation costs.

**Revisions, Facts, and Clarifications**

- **Florida Building Code** has already addressed EV Readiness in parking family homes by requiring a dedicated 100kW service disconnect in [Florida context].

- **EV Charging**: The requirement is for wiring and connections, not for the actual charger installation.

**How does Orlando compare to other American Cities Climate and Florida cities?**

- **Orlando** vs. Florida cities (2017):
  - **EV Ready**
    - Orlando: 30% EV Capable
    - Florida: 15% EV Capable
  - **EV Capable**: Orlando: 20% EV Capable
    - Florida: 15% EV Capable

- **EPA** requirements (2017):
  - **EV Capable**: Orlando: 30% EV Capable
    - Florida: 15% EV Capable
  - **EV Ready**: Orlando: 30% EV Capable
    - Florida: 15% EV Capable

**Additional Specifications for EVSE:**

- **Cost of EVSE installation** is $10,000 per unit.
- **Gas stations** are not required to install EVSE because they operate on a different model.

**Addendum**

- **Orlando City Council** will consider the EVSE requirement in the next meeting.

- **Survey反馈**
  - **"Free" in this context means not paying for a private charger, not the initial installation costs.
  - **Stakeholders involved**:
    - Orlando City Council
    - Affordable Housing Advisory Committee
    - Roundtable: City Council and Staff
  - **Survey Feedback**
    - **"Only the free EV owners would benefit."**
    - **"Free" in this context means not paying for a private charger, not the initial installation costs.
  - **Revisions, Facts, and Clarifications**
    - **Florida Building Code** has already addressed EV Readiness in parking family homes by requiring a dedicated 100kW service disconnect in [Florida context].
  - **EV Charging**: The requirement is for wiring and connections, not for the actual charger installation.
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      - Florida: 15% EV Capable
  - **Addendum**
    - **Orlando City Council** will consider the EVSE requirement in the next meeting.
Total Number of Level 2 & Fast Charging Units per State with Share of Fast Charging Units
March 2021

Values for Each State
- Top: Total Number of Chargers
- Bottom: % Fast Chargers

Department of Energy...
Additional info from Department of Energy...

![Annual Fuel Cost Ranges for Light-Duty Vehicles by Technology Type, MY 2021](image)