Discussion Objectives

1. Discuss the need for electric vehicle (EV) infrastructure ordinance
2. Share key components and options for potential EV infrastructure requirements
3. Receive stakeholder input to share with the Board of County Commissioners

Credit: NJ Spotlight News
BACKGROUND
EV infrastructure ordinance would require new buildings to include the electrical equipment necessary to install, or enable, the installation of EV charging stations.
Clark County Goals:
• Improve air quality
• Improve public health
• Reduce GHG emissions

Needed Actions:
• Reduce car dependency
• Increase mobility options
• Electrify transportation
• EVs are increasing in market share
• Every major manufacturer is shifting their production to EVs
• Clean Cars Nevada
• Charging is a barrier
• EV infrastructure upfront is cheaper
Where Are EVs Taking Off?

While California remains the country’s largest EV market in terms of cars on the road, it is no longer the fastest-growing. More states are encouraging EV driving by offering incentives such as tax credits, HOV lane access, utility rebates and special rate plans for EV charging.

Top 10 States

1. California
2. Georgia
3. Washington
4. Florida
5. Texas
6. New York
7. Michigan
8. Illinois
9. Oregon
10. New Jersey

Top 10 Metro Areas

1. Los Angeles
2. Bay Area
3. New York Metro
4. Atlanta
5. San Diego
6. Seattle
7. Chicago
8. Washington, D.C.
9. Detroit
10. Portland

EV Growth

1. Utah
2. Nevada
3. North Carolina
4. Colorado
5. Kansas
6. New Hampshire
7. Pennsylvania
8. Virginia
9. Florida
10. Arizona

Source: Compiled by ChargePoint with data provided by IHS Markit through Q3 2016. Growth figures represent growth over Q3 2015.
Why Now

- Remove barriers to electrification
- Proactively position Clark County for the future
- Avoid building retrofit costs later
  - $ Electrical system redo
  - $ Demo and rebuild
  - $ Soft costs-permits, inspections, approvals
In a poll conducted in October 2019, which surveyed 1,510 drivers in the U.S., 74 percent of all respondents agreed that electric cars are the future.

61 percent of respondents cited more charging infrastructure as the biggest factor holding back their purchase.

- Green Car Reports (2019)
“Installing EV capable parking spaces in stand-alone retrofits is typically 4 to 6 times more expensive compared to installing EV capable parking spaces during new construction.

If EV capable parking spaces are installed during new construction, $2,040 - $4,635 per parking space is saved over the retrofit scenario.”

Energy Solutions (2019)
80% of EV drivers charge their cars at home

- Single family
- Multi-family
  - Expected increase in multi-family building
  - Equity & Environmental Justice
  - Allows these residents to go All-In on Sustainability and Climate Action

- Non-residential/commercial
1. "EV-Capable"
   Electrical panel capacity + branch circuit + raceway
   Atlanta, GA: 20% is EV-Capable (Ordinance)

2. "EV-Ready"
   EV-Capable + 240-volt outlet
   Denver, Boulder: (1) EV-Ready Space per dwelling for SFU

3. "EV-Installed"
   Install a minimum number of Level 2 charging stations
   Denver: 5% EV-Installed for MFU & Commercial

Source: SWEEP et al May 2020
• Scope – to what does the ordinance apply?
  ➢ SFR
  ➢ Multi-family – with X or more units
  ➢ Commercial – with X or more parking spaces

• Requirements
  ➢ SFR – EV-Ready space per dwelling unit
  ➢ Multi-family - Mix of EV-Installed, EV-Ready and EV-Capable spots at a certain % of dwelling units/parking spots
  ➢ Commercial – Mix of EV-Installed, EV-Ready and EV-Capable spots at a certain % of parking spots
### Examples

<table>
<thead>
<tr>
<th>Municipality</th>
<th>State</th>
<th>Year</th>
<th>Location</th>
<th>Single-family</th>
<th>Multi-family</th>
<th>Commercial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denver</td>
<td>CO</td>
<td>2019</td>
<td>IBC / IRC</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>5% EV-Installed, 15% EV-Ready, 80% EV-Capable</td>
<td>5% EV-Installed, 10% EV-Ready, 10% EV-Capable</td>
</tr>
<tr>
<td>Boulder</td>
<td>CO</td>
<td>2019</td>
<td>IBC / IRC</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>5% EV-Installed, 10% EV-Ready, 40% EV-Capable (25+ spaces)</td>
<td>5% EV-Installed, 10% EV-Ready, 10% EV-Capable (25+ spaces)</td>
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<tr>
<td>Avon</td>
<td>CO</td>
<td>2021</td>
<td>Ordinance</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>5% EV-Installed, 10% EV-Ready, 15% EV-Capable (7+ spaces)</td>
<td>5% EV-Installed, 10% EV-Ready, 15% EV-Capable (10+ spaces)</td>
</tr>
<tr>
<td>Fort Collins</td>
<td>CO</td>
<td>2019</td>
<td>IBC / IRC</td>
<td>1 EV-Capable Space per dwelling Unit</td>
<td>10% EV-Capable</td>
<td></td>
</tr>
<tr>
<td>Madison</td>
<td>WI</td>
<td>2021</td>
<td>Ordinance</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>2% EV-Installed, 10% EV-Ready (increases by 10% every 5 years)</td>
<td>1% EV-Installed (increases by 1% every 5 years), 10% EV-Ready (increases by 10% every 5 years)</td>
</tr>
<tr>
<td>San Jose</td>
<td>CA</td>
<td>2019</td>
<td>Ordinance</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>10% EV-Installed, 20% EV-Ready, 70% EV-Capable</td>
<td>10% EV-Installed, 40% EV-Capable</td>
</tr>
<tr>
<td>St Louis</td>
<td>MO</td>
<td>2021</td>
<td>Ordinance</td>
<td>1 EV-Ready Space per dwelling Unit</td>
<td>2% EV-Installed, 5% EV-Ready (increases to 10% in 2025)</td>
<td>2% EV-Installed, 5% EV-Ready</td>
</tr>
<tr>
<td>2024 IBC (proposed)</td>
<td>International</td>
<td>2021</td>
<td>IBC / IRC</td>
<td>-</td>
<td>2% EV-Installed, 18% EV-Ready</td>
<td>2% EV-Installed, 8% EV-Capable</td>
</tr>
</tbody>
</table>

Source: SWEEP 2021: Electric Charging In Nevada
Advantages of EV Ready

- Requires minimum number of EV-Installed parking spots at build
- Requires EV-Ready ready parking spots in a % of total parking spaces
- Allows future owners, landlords or tenants to easily install charging stations when needed
For Drafting Purposes – Base Proposal

- Specify charging service Level 2 where necessary – allows cars to fully charge in 4-7 hours
- Review model ordinances and incorporate the best provisions
- SFR: 1 EV-ready space per dwelling unit
- Multi-Family:
  - Applies to buildings with 10 or more units
  - 2 EV-installed spaces
  - Not less than 20% of the total parking spaces will be EV-Capable
- Commercial:
  - Applies to properties with 25 or more parking spaces
  - 2 EV-Installed spaces
  - 20% of total spaces EV-Capable
For Drafting Purposes – Stretch Proposal

• Specify charging service Level 2 where necessary – allows cars to fully charge in 4-7 hours

• Review model ordinances and incorporate the best provisions

• SFR: 1 EV-ready space per dwelling unit

• Multi-Family:
  ➢ Applies to buildings with 10 or more units
  ➢ 5% of total spaces EV-Installed
  ➢ 25% of total spaces EV-Ready
  ➢ 70% of total spaces EV-Capable

• Commercial:
  ➢ Applies to properties with 25 or more parking spaces
  ➢ 2 EV-Installed spaces
  ➢ 30% of total spaces EV-Capable
NEXT STEPS
• Present stakeholder feedback to the Board of County Commissioners and receive staff direction
Thank You!