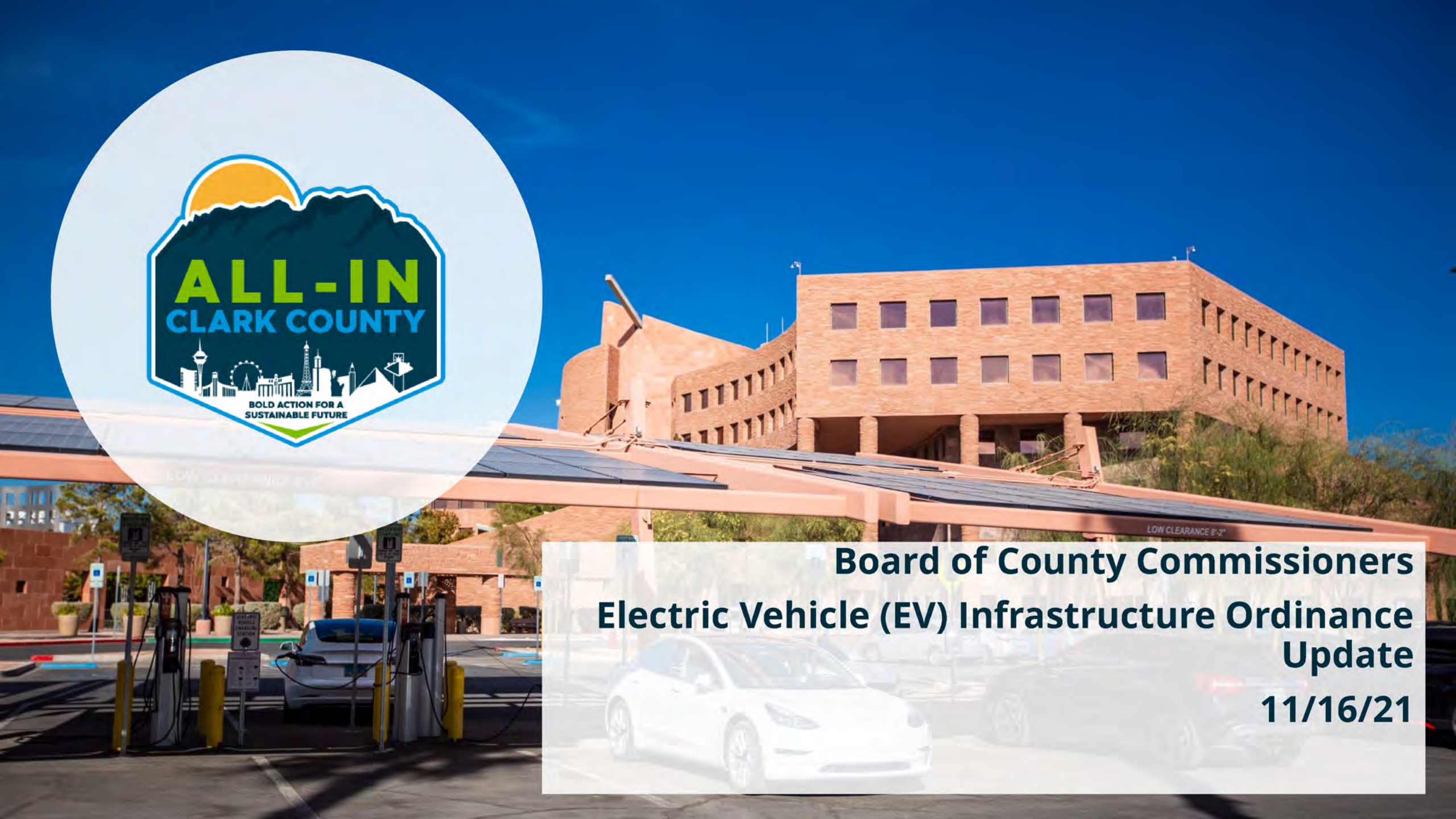


Board of County Commissioners

Electric Vehicle (EV) Infrastructure Ordinance Update

11/16/21

CLARK COUNTY DEPARTMENT OF ENVIRONMENT & SUSTAINABILITY

- Air Pollution Control Agency
- Endangered Species Act Compliance
- Sustainability and Climate Action

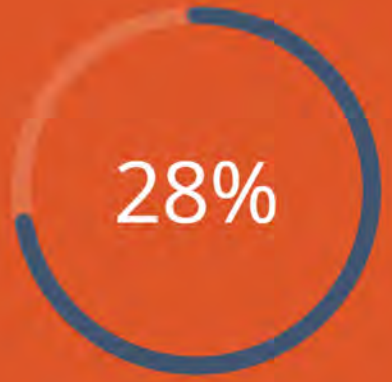
Marci Henson, Director

BACKGROUND

All-In Clark County

- Clark County's action to address climate change and create a more sustainable future for all
- Reduce Clark County's contribution to climate change
- Prepare residents and businesses for climate change impacts

Nevada's Greenhouse Gas Emission Reduction Goals



28% reduction by 2025*

45% reduction by 2030*

Net-zero by 2050*

**Compared to 2005. 2005 is used globally as the benchmark for greenhouse gas emission reduction targets because it is the year the original Kyoto Protocol went into effect.*

Planning Process

Regional Greenhouse Gas Emissions Inventory

To assess regional sources of greenhouse gas (GHG) emissions contributing to climate change.

+

Climate Vulnerability Assessment

To confirm climate hazards and the areas and systems most vulnerable to these hazards and identify solutions to enhance our community's overall resilience.

=

Community Sustainability & Climate Action Plan

To grow climate literacy in the community and work together to develop a plan of action to ensure a sustainable and resilient future for all.

ALL-IN PLANNING PROCESS

Community Emissions

Greenhouse gas (GHG) emissions trap heat in the atmosphere to maintain temperatures that sustain life. When there are too many GHGs, normal climate patterns are disrupted.

50%

BUILDINGS & ENERGY
15,088,500 $MTCO_2e$

36%

TRANSPORTATION
10,879,800 $MTCO_2e^*$

12%

SOLID WASTE
3,675,790 $MTCO_2e$

2%

WATER & WASTEWATER
718,750 $MTCO_2e$

On Road Emissions

- 22% of all GHGs
- 7% of particulate matter 2.5
- 39% of nitrogen oxides
- 21% of volatile organic chemicals

Six Key Areas

Clean & Reliable Energy

Connected & Equitable Mobility

Diverse & Circular Economy

Sustainable Water Systems

Resilient & Healthy Community

Smart Buildings & Development

Staff Workshop

What We Learned:

- There is no lead authority for transportation electrification
- Energy load and delivery planning for transportation electrification is lagging
- Costs at the parcel level can be easily calculated, but total energy infrastructure costs upstream are not well understood nor easily calculated
- There are current constraints (PUC regulations) on how those costs can be covered that heavily impact costs to the developer
- NVE plans that will invest in EV infrastructure and help meet the need
- Desire for consistency among all local governments that might require EV infrastructure
  - NVE – utility planning and energy service delivery
  - Developers – keep requirements as uniform as possible

TRANSPORTATION ELECTRIFICATION WORKING GROUP AND REGIONAL STRATEGY

COORDINATED & REGIONAL EFFORT

- Hired a transportation electrification consultant
- Established the All-In Clark County Transportation Electrification Working Group (TEWG)
- Expected Outcome:
  - All-In Clark County Regional Electrification Strategy December 2022

MEMBERS

- CHISPA
- City of Boulder City
- City of Henderson
- City of Las Vegas
- City of North Las Vegas
- Clark County
- Clark County School District
- NAIOP
- NV State Apartment Association
- NV Energy
- NV Resort Association
- Ovation Development
- Regional Transportation Commission
- Southern NV Water Authority
- Southern NV Home Builders Association
- NV Division of Environmental Protection
- NV Climate Initiative
- NV Governor's Office of Energy
- NV Department of Transportation
- Southwest Energy Efficiency Project
- The Electrification Coalition
- Western Resources Advocates

MONTHLY MEETINGS

- ✓ Every meeting includes an educational component to increase our community's understanding and EV infrastructure
- ✓ Vet the outcomes of the consultant's work
- ✓ Facilitate member questions and input and encourage public engagement

Registration	Date	Time	Video	Presentation
Meeting #1	12/09/2021	2-4 pm	Meeting #1	Meeting #1
Meeting #2	01/06/2022	2-4 pm	Meeting #2	Meeting #2
Meeting #3	02/07/2022	2-4 pm	Meeting #3	Meeting #3
Meeting #4	03/10/2022	2-4 pm*	In-person	Meeting #4
Meeting #5	04/07/2022	2-4 pm	Meeting #5	Meeting #5
Meeting #6	05/05/2022	2-4 pm	Virtual	
Meeting #7	06/02/2022	2-4 pm*	In-person	
Meeting #8	07/07/2022	2-4 pm	Virtual	
Meeting #9	08/04/2022	2-4 pm	Virtual	
Meeting #10	09/08/2022	2-4 pm	Virtual	
Meeting #11	10/06/2022	2-4 pm*	In-person	
Meeting #12	11/09/2022	2-4 pm	Virtual	
Meeting #13	12/01/2022	2-4 pm	Virtual	

OUTCOMES

- ✓ Project EV demand and the charging infrastructure to support it
  - ➢ Consider multifamily, single family, public charging, workplace, and underserved communities
- ✓ Recommendations requested
  - ➢ Regional EV infrastructure development needs
  - ➢ Regional EV charging infrastructure installation planning
  - ➢ Model EV charging infrastructure ordinance, costs and how costs are distributed
  - ➢ Strategies for funding
  - ➢ Input to the Nevada Public Utilities Commission
  - ➢ Economic and workforce development opportunities
  - ➢ Where EV goals will be housed by government collaborators and transformed into actionable policies and programs

PROJECTED CLARK COUNTY EV ADOPTION NEEDS

- 92,000 ZEVs by 2025
- 285,000 by 2030
- 2 million by 2050

Year	Percent Of Light-Duty Sales	Annual New ZEV Vehicles***	Cumulative ZEV Vehicles
2019	2.3%*	2,219	2,219
2021	4.6%	7,154	13,088**
2025	25%	24,676	92,174
2030	50%	50,181	285,107
2035	86%	87,183	629,631
2040	100%	104,759	1,105,074
2045	100%	108,725	1,587,407
2050	100%	112,691	2,069,741

*2019 https://evadoption.com/ev-market-share/ev-market-share-state/
**2021 DMV ZEV registrations
*** Adjusted for Clark County share of Nevada Sales and projected forward with anticipated population growth

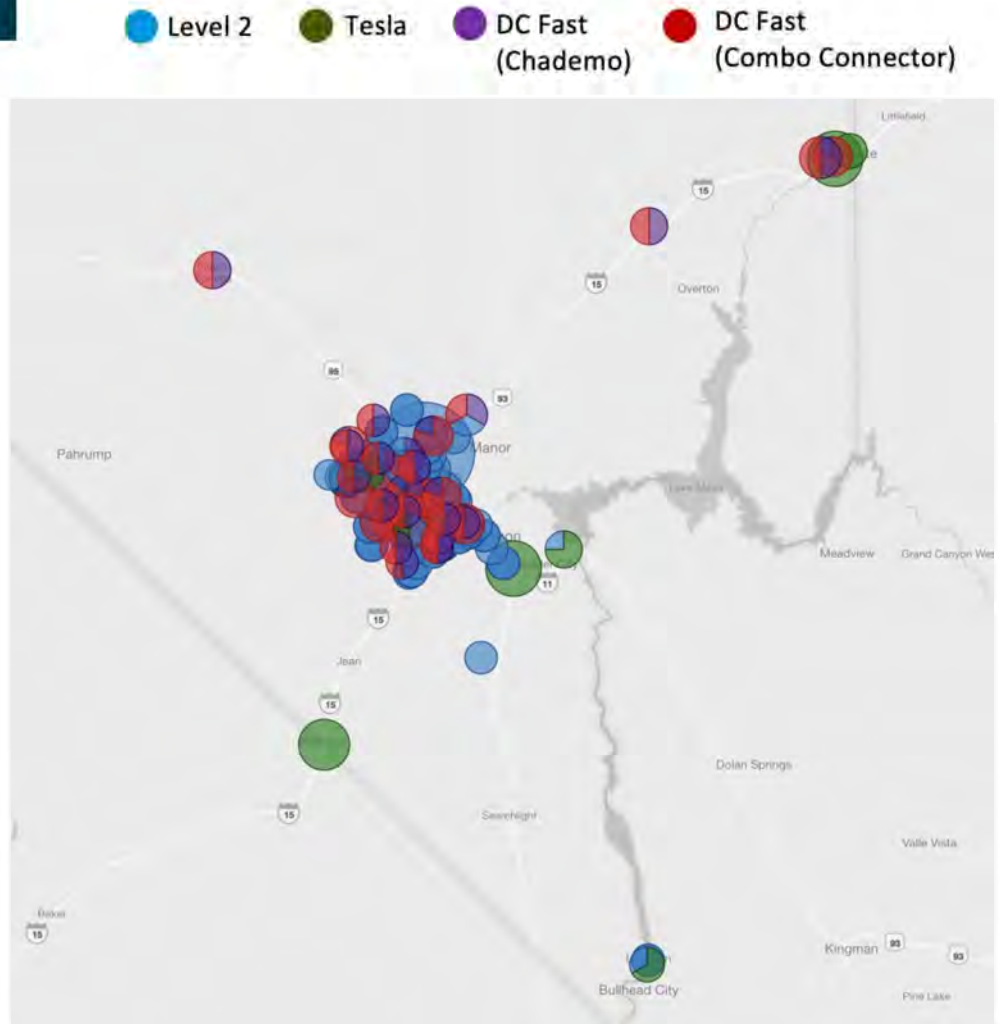
Source: KLA

A quarter of all light-duty vehicle sales should be ZEVs by the end of 2025.

50% should be ZEVs by 2030.

CURRENT CLARK COUNTY EV CHARGING

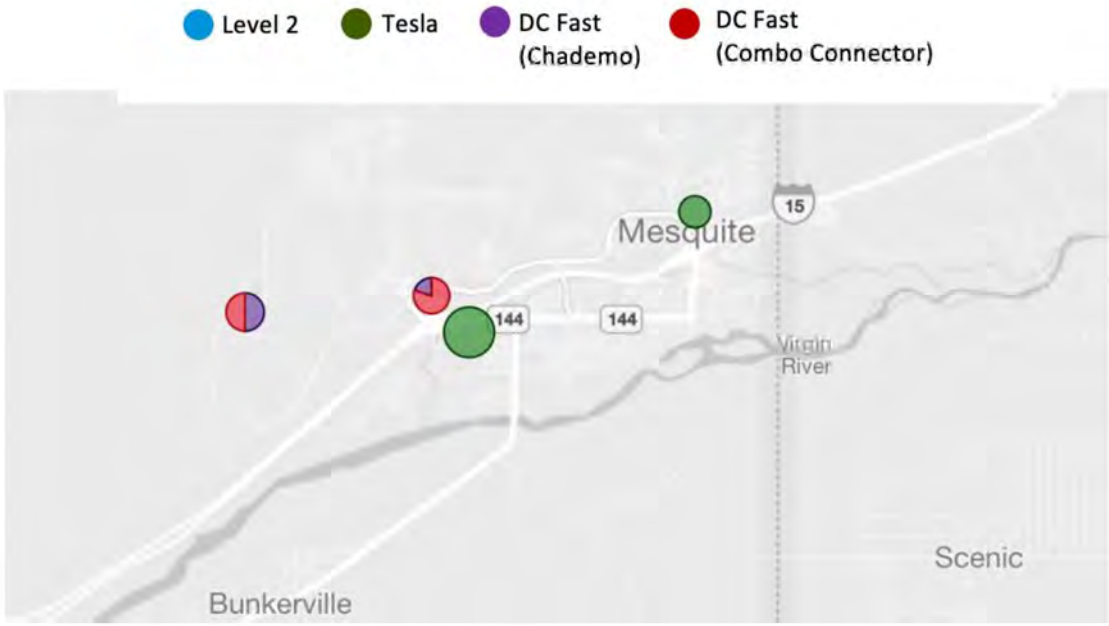
- Total 708 EV charging ports at 272 locations
- 166 DC fast chargers at 41 locations
- 542 Level 2 ports at 233 locations



Clark County public EV charging

705 CURRENT EV CHARGERS BY CITY

- Boulder City: 6 charge ports at 2 locations
- Henderson: 105 at 25 locations
- Las Vegas: 551 at 114 locations
- Mesquite: 26 at 4 locations
- North Las Vegas: 17 at 5 locations
- Unincorporated CC: Laughlin, Indian Springs, Jean, Moapa, Primm: 34 at 5 locations



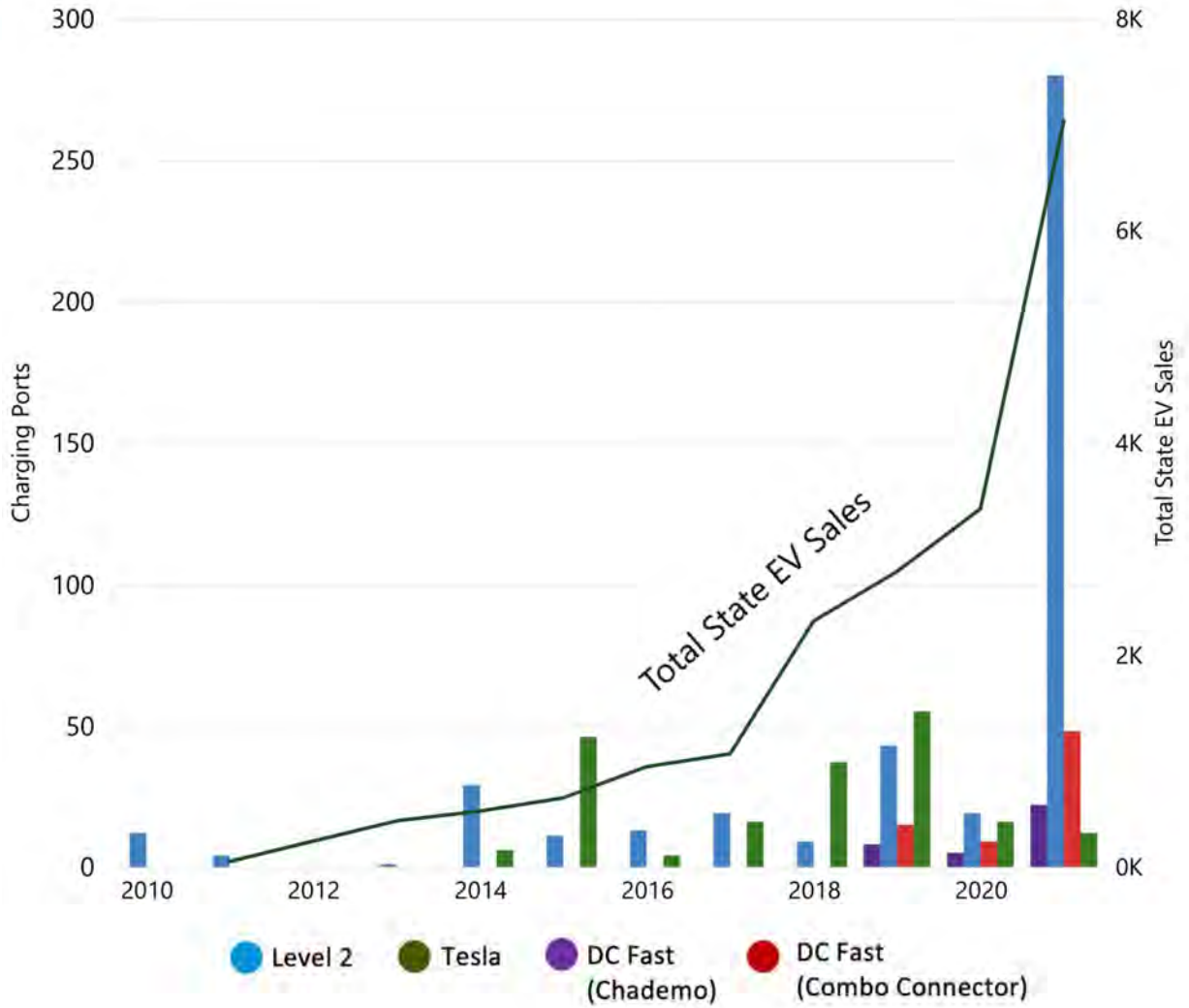
Mesquite public EV charging

99% of these 705 charging ports are public.

CLARK COUNTY CHARGING INSTALLATIONS BY YEAR

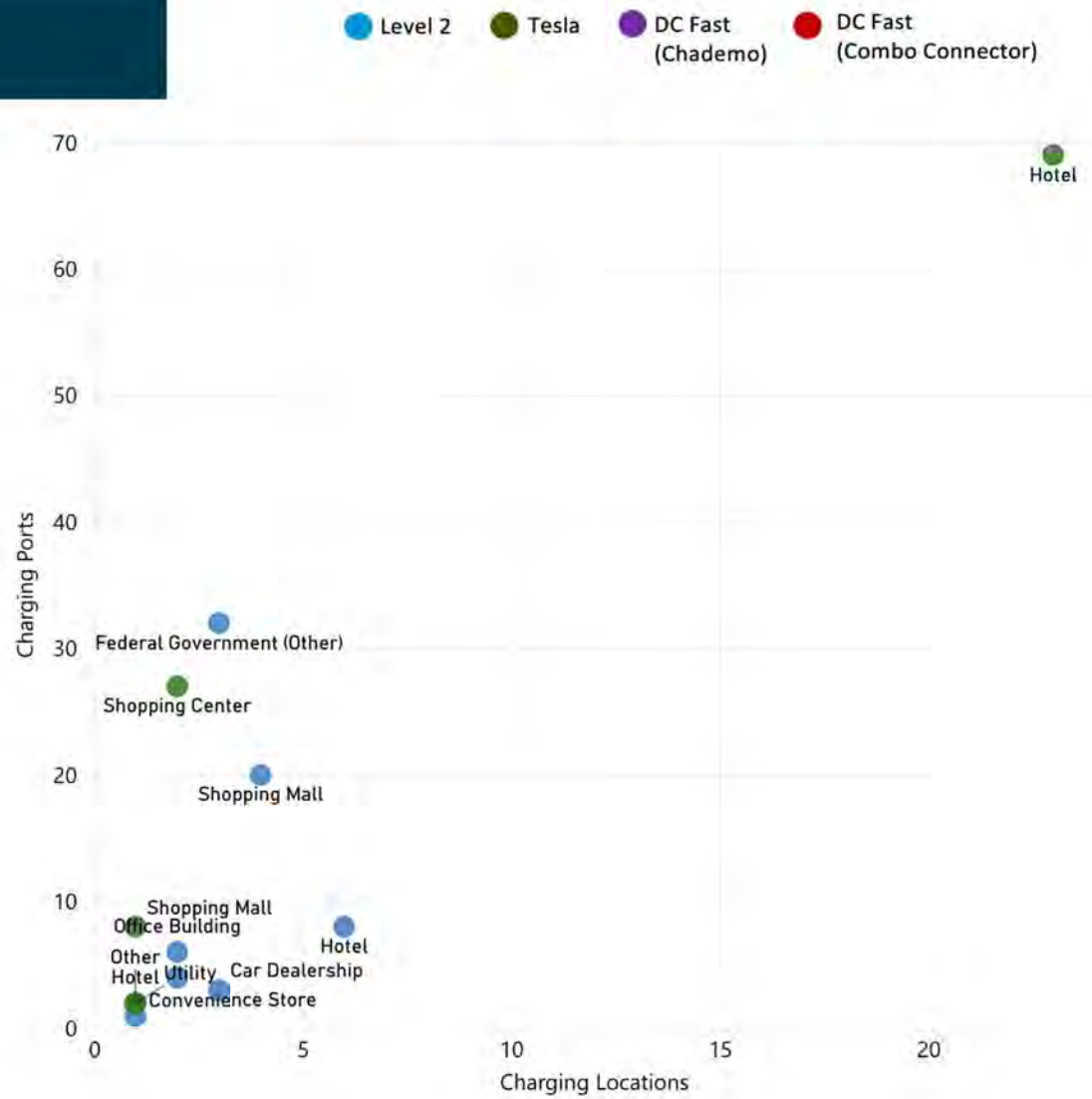
- 2021: 362 chargers installed
- 2018-2020: 216 total were installed

There is a strong correlation between public charging installations and EV sales.



CLARK COUNTY CHARGING BY FACILITY TYPE

Connector	Charging Locations	Charging Ports
CHADEMO - DC FAST		
Convenience Store	1	2
Hotel	1	2
Service/Gas Station	1	2
J1772 - LEVEL 2		
Car Dealership	3	3
Convenience Store	1	1
Federal Government (Other)	3	32
Hotel	6	8
Office Building	2	6
Other	1	2
Shopping Mall	4	20
Stand-alone Station	2	4
Utility	1	2
J1772COMBO - DC FAST		
Convenience Store	1	2
Hotel	1	2
Service/Gas Station	1	2
TESLA - DC FAST		
Convention Center	1	2
Hotel	23	69
Other Entertainment	1	2
Shopping Center	2	27
Shopping Mall	1	8



Hotels, government, and shopping center facilities have the highest number of public chargers.

PROJECTED CLARK COUNTY EV CHARGING NEEDS

Considerations to add to this US DOE tool data:

- Multifamily communities
- Underserved communities
- Single-family homes
- Transportation network companies (I.e., taxi, rideshare)

Year	Workplace L2	Public L2	Public DC Fast
2021	-	542	166
2025	4,440	2,723	752
2030	13,734	8,422	2,326
2035	30,329	18,599	5,138
2040	53,231	32,644	9,017
2045	76,465	46,892	12,953
2050	99,699	61,140	16,889

*Estimated with US Department of Energy EVPro-Lite Tool https://afdc.energy.gov/evi-pro-lite

NEXT STEPS

Moving All-In and Transportation Electrification Forward

- How do we position *all* of Clark County to **seize funding opportunities**

- We intend to provide EV infrastructure opportunities with **Regional Impact** for scale and the most meaningful results

- How do we **work together** and take advantage of infrastructure initiatives to pursue all the actions we want?

Thank You

Marci Henson

702.455.3118

mhenson@clarkcountynv.gov