

Transportation Electrification Working Group

Jan. 6, 2022



AGENDA

1. Introductions
2. Working Group role recap
3. Charging in multifamily communities
4. Working Group survey results
5. Transportation electrification planning goals
6. VW Funding Available Now
7. Q&A: public and interested parties
8. Next Steps



Credit: NJ Spotlight News

PRESENTERS

- Marci Henson, Director of Department of Environment & Sustainability, Clark County
- Randy Schimka, S Curve Strategies
- April Bolduc, S Curve Strategies
- Greg Lovato, Administrator, NV Division of Environmental Protection



Credit: NJ Spotlight News

INTRODUCTIONS

MEMBERS

- CHISPA
- City of Boulder City
- City of Henderson
- City of Las Vegas
- Clark County
- Clark County School District
- Electrification Coalition
- 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
- Western Resources Advocates



INTERESTED PARTIES

1. Post your name and organization in the chat
2. Post questions in the chat
3. Time reserved for Q&A and discussion

The meeting is being recorded and posted on the Clark County website.



Credit: Jenny Ueberberg

WORKING GROUP ROLE RECAP

NV EMISSIONS REDUCTION GOALS

- 28% reduction by 2025
- 45% reduction by 2030
- Net-zero by 2050



Gov. Sisolak delivers remarks on the need for climate action in front of a public electric bus operated by RTC Washoe. Credit: NRDC

WORKING GROUP

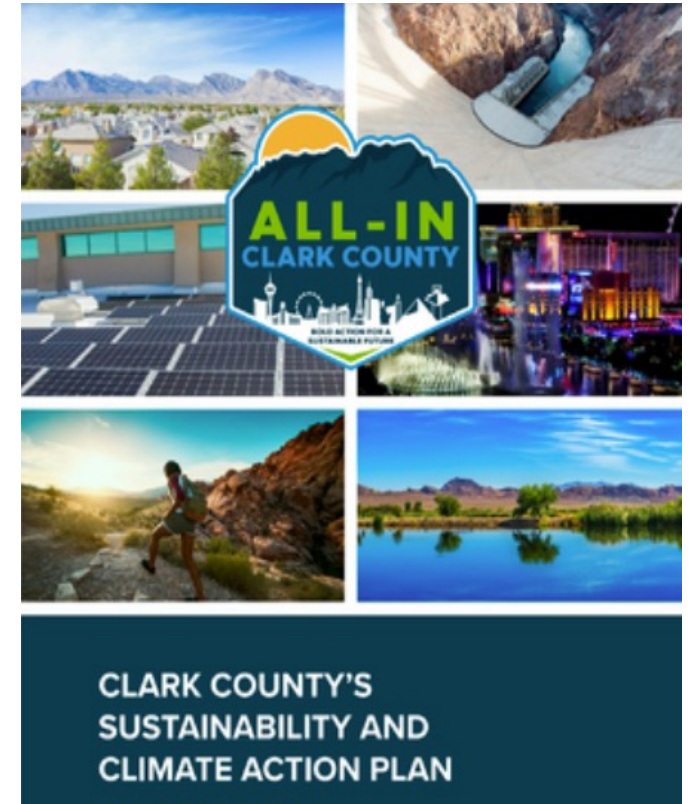
- Understand transportation electrification (TE) goals
- Discover current TE efforts
- Uncover barriers
- Provide solutions based on best practices
- Develop a model EV charging infrastructure ordinance
- Develop an equitable strategic plan that will meet goals



Credit: Michael Fousert

WORKING GROUP

- Expected Outcome
 - Develop a Regional Transportation Electrification Strategy
 - as part of the All-In Clark County Sustainability & Climate Initiative
 - Phase 1: 2022 – light-duty
 - Phase 2: 2023 – medium- and heavy-duty



CHARGING EVs AT MULTIFAMILY COMMUNITIES

MULTIFAMILY CHARGING

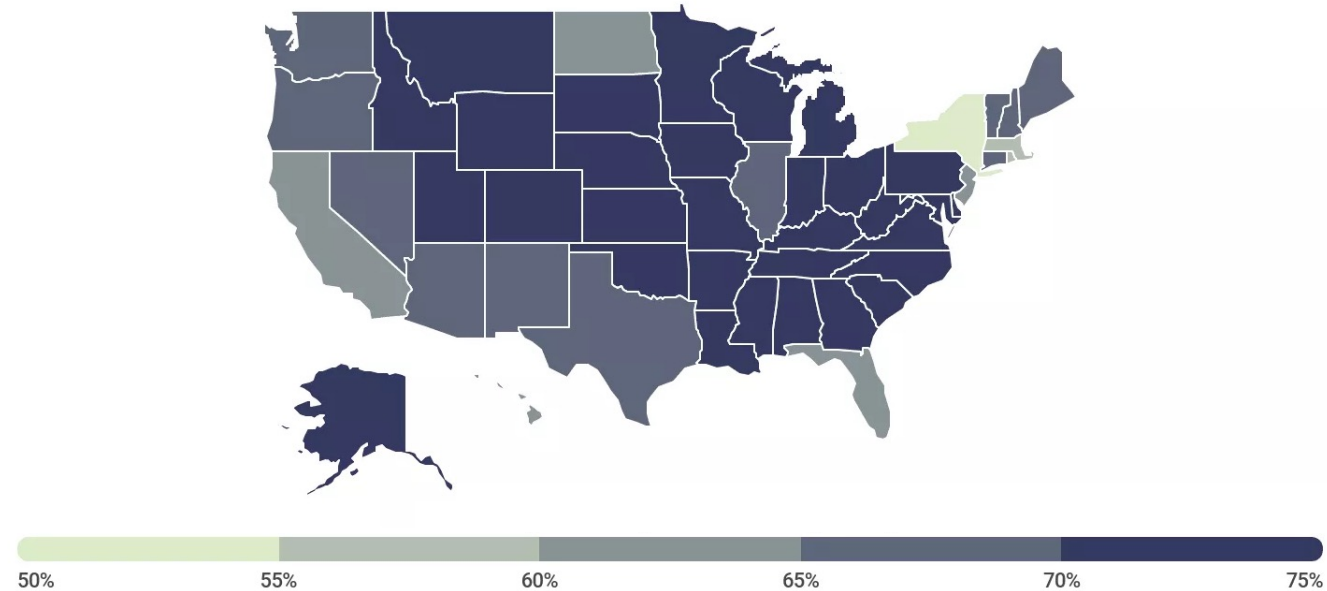
- Basics
- Charging
- Billing Options
- Design Considerations



Wall chargers in an apartment parking garage

MULTIFAMILY BASICS

- Multiple housing units contained within one building or multiple buildings within a complex or community:
 - Apartments, condos, duplexes, townhomes, mobile homes
- 30-35% of housing
- Residents buy fewer EVs than single family homes
- Charging installations are more complex
- HOA or property owner permission required (takes longer)
- There can be infrastructure issues (\$\$)



*Percentage of single-family housing units in states across U.S.
Source: U.S. Census Bureau's American Community Survey*

MULTIFAMILY CHARGING

- Electrical infrastructure can be close to “full”
 - Factors: Age, electric service size, dwelling unit loading
 - Electric room and panel can have little capacity
 - Physical electric room expansion space
- Parking Layout
 - Assigned, deeded, shared
 - Open asphalt parking lot, concrete parking structures
- Longer distances increase cost
 - Conduit, trenching, wire size / length
- Energy management systems
 - Hardware / software solutions
 - Share resources / prevent overloads



Additional metering capacity for EV charging was added to this high-rise condo community, but most electrical rooms don't have this growing capacity.

Discussion: Other considerations?

MULTIFAMILY BILLING OPTIONS

- Billing solutions can range from simple to complex
 - A flat monthly rate for charging can be included in HOA fees or rent
 - A separate utility meter can be installed per dedicated charger
 - Shared stations can bill via credit card by Vendor (revenue share with site host)
- Who pays for the electricity?
 - HOA or property manager usually pays electric bill for shared stations
 - Homeowner / tenant usually pays electric bill for dedicated stations
- Use cases for residents paying for charging



Billing solution option of RFID card

Discussion: Have you seen other billing models? Other considerations?

MULTIFAMILY DESIGN CONSIDERATIONS

- Determine
 - Number of current and future EVs to charge (survey)
 - Existing electrical / physical capacity by location / electric room
 - Overall electric service size and expansion capabilities (with utility)
- Evaluate
 - Site restrictions / constraints for parking and charging
 - Potential charging solutions given site constraints
 - Payment / reimbursement details for equipment and energy
- Design
 - Initial shorter-term charging solution for the site (minimize costs)
 - A future long-term solution that builds on the original solution when more charging is needed
- Permit, construct, energize, and charge cars!
 - Market new amenity to future residents



Lyric Apartments in Las Vegas offer EV charging to residents

WORKING GROUP SURVEY RESULTS

20 Respondents

City of Henderson

City of Las Vegas

City of Mesquite NV

City of Reno

Clark County

Clark County School District

Electrification Coalition

Governor's Office of Energy

MGM Resorts International

Nevada Division of Environmental Protection

Nevada Resort Association

NV Energy

Pinyon Public Affairs

Public Utilities Commission of Nevada

Regional Transportation Commission of Southern Nevada

Renewable Envoy

Rowe Law Group

Southern Nevada Homebuilders Association

Southern Nevada Water Authority

Washoe County Air Quality Management Division

Thank you!

Survey respondents up to Jan. 4.

SURVEY OBJECTIVES



Determine the region's current state

Understand current TE efforts
Learn about future TE plans



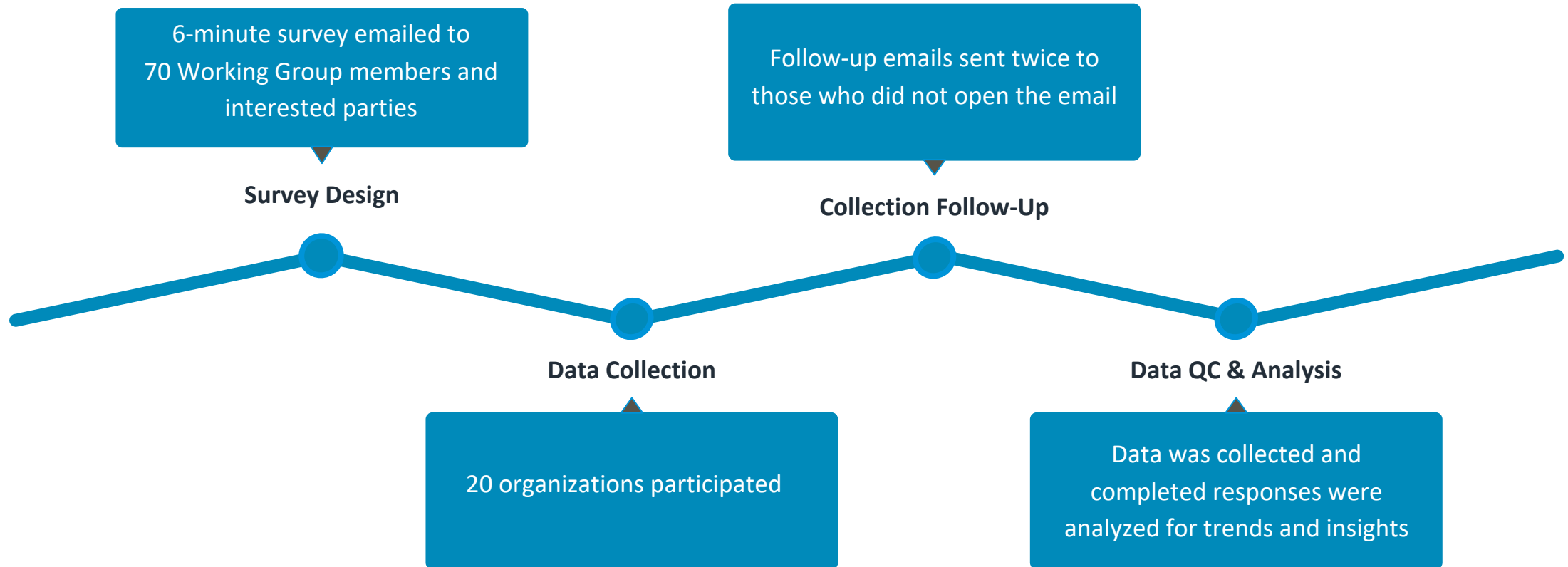
Capture Working Group insights

Confirm where to focus light-duty TE efforts

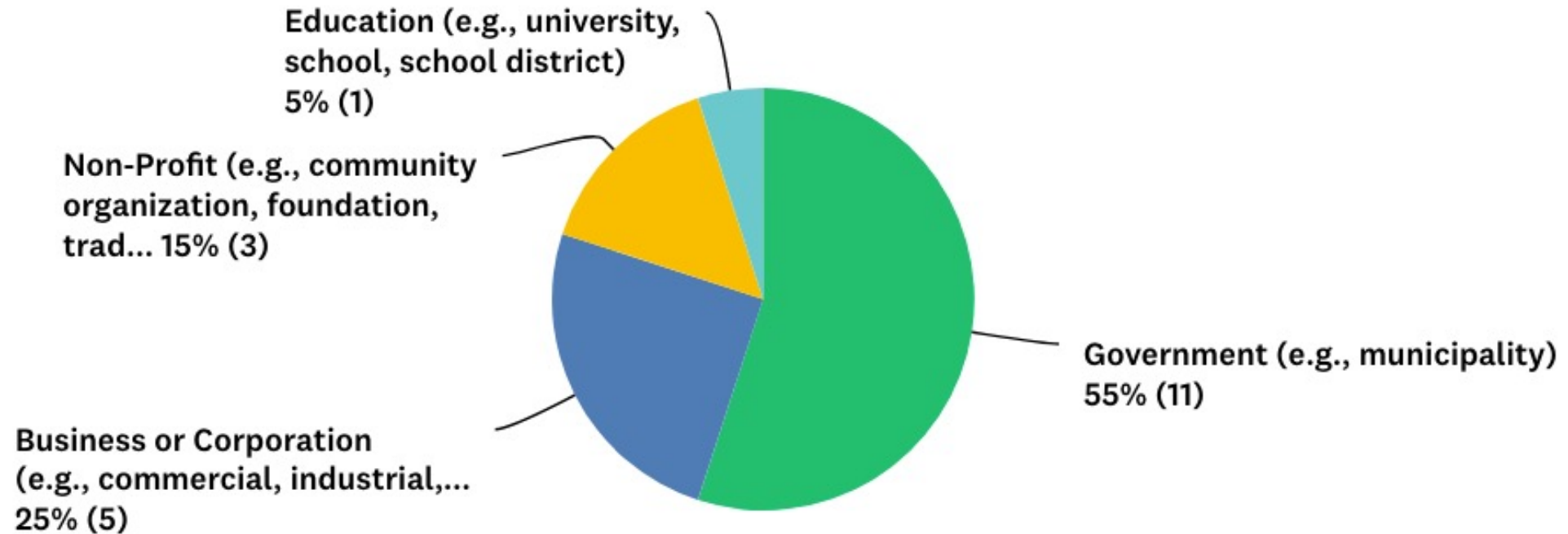


Use feedback to inform the strategy

METHODOLOGY

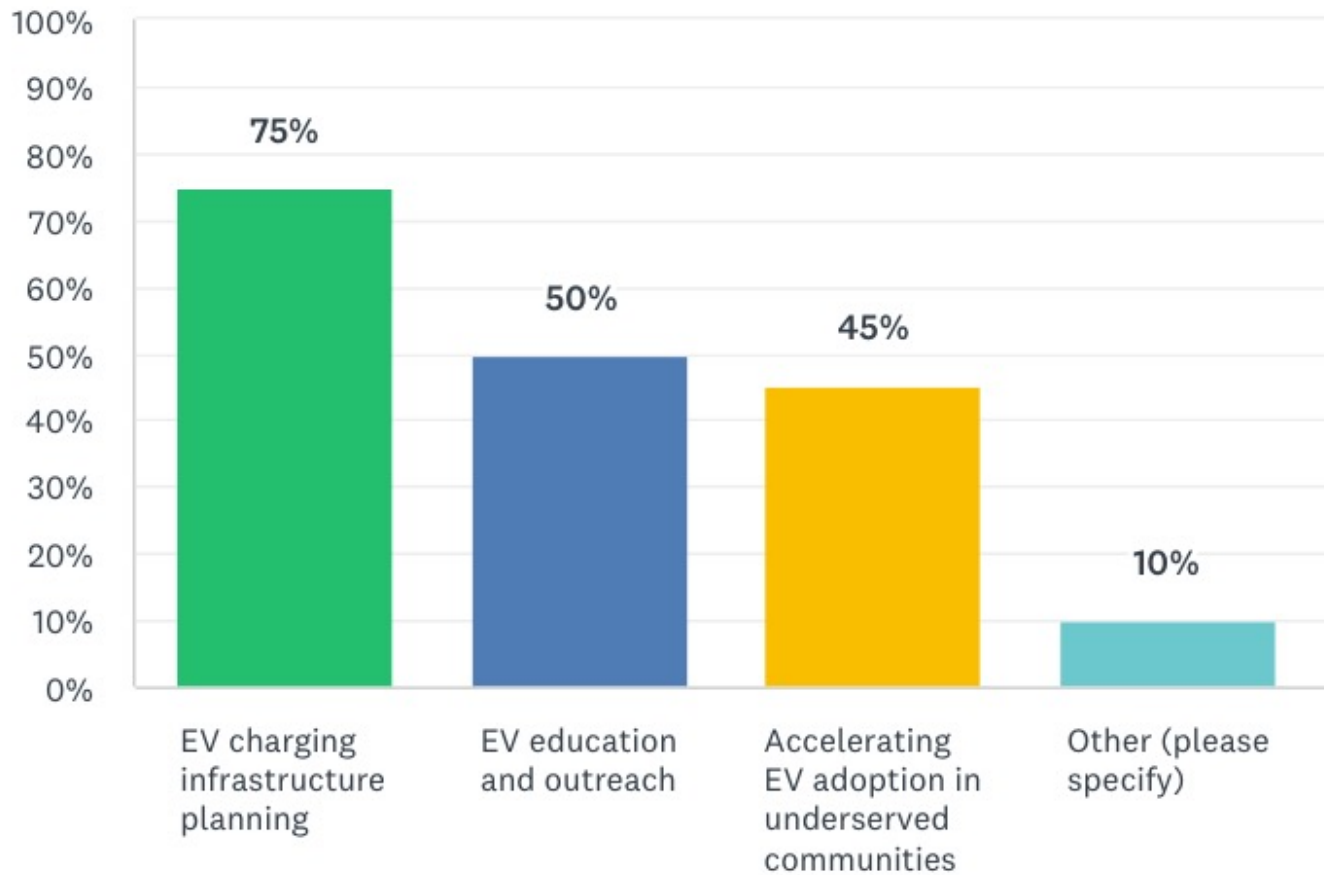


Organization Type

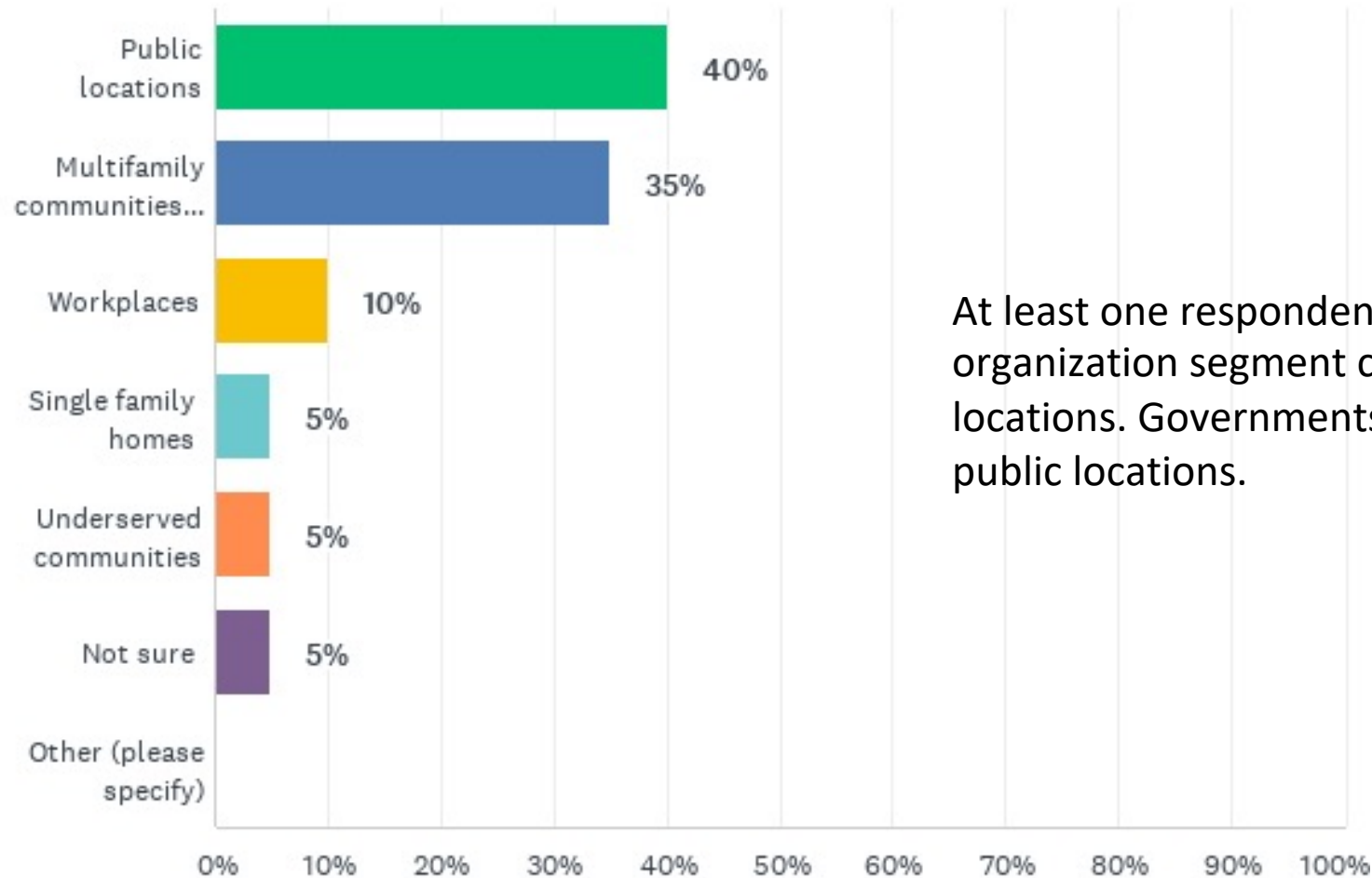


The highest survey response came from government organizations.

Which initiative do you feel your organization can help make the biggest impact in accelerating light-duty EV adoption? (Check all that apply.)



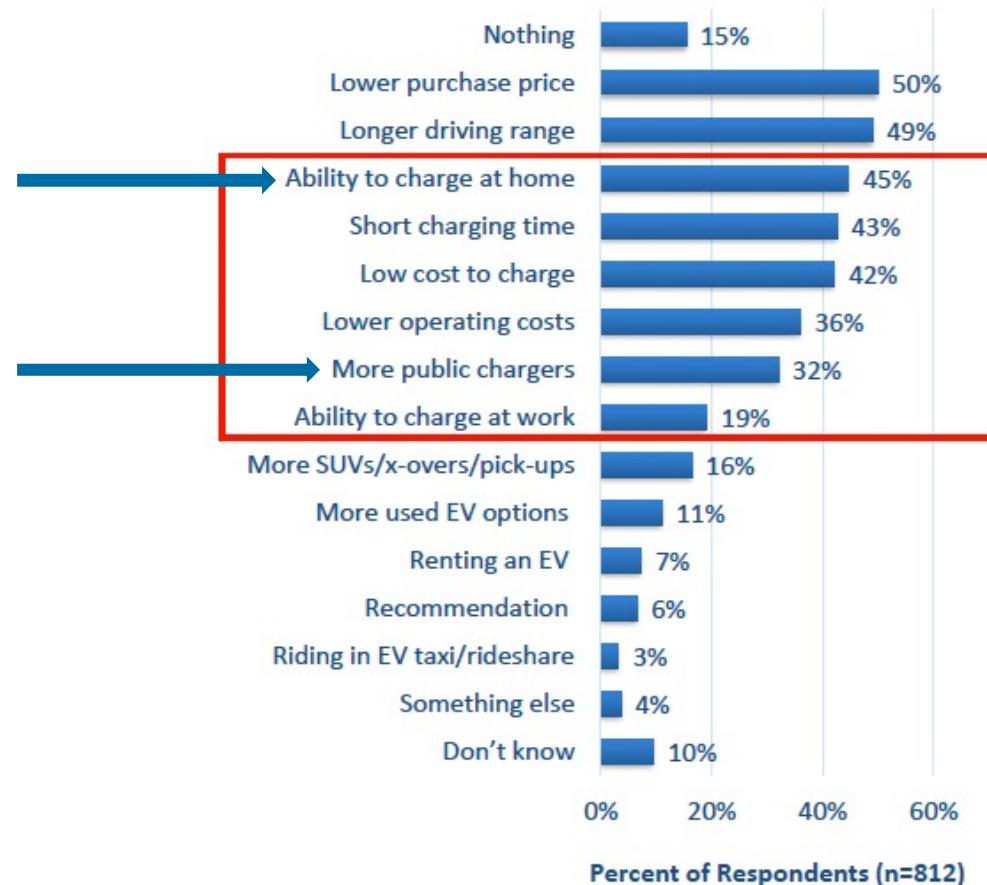
In your opinion, where should the region focus its light-duty EV charging installation efforts over the next five years? (Choose one.)



At least one respondent from each organization segment chose multifamily locations. Governments mostly favored public locations.

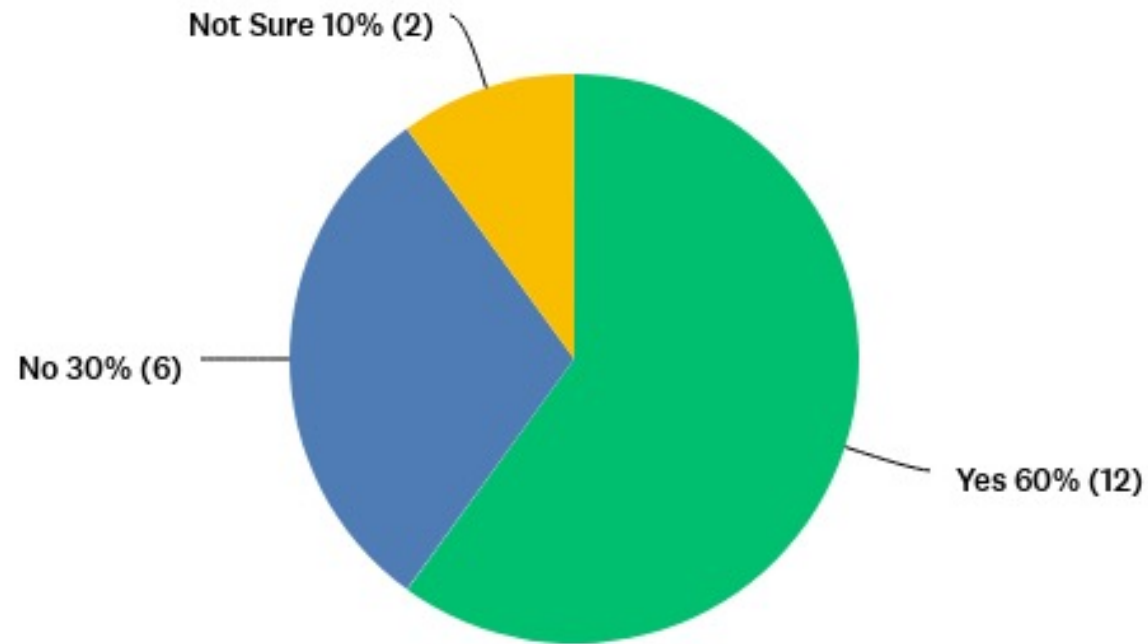
Discussion: NV Energy survey to 812 residents asked their biggest barrier to EV adoption. Charging at home (45%) was a larger barrier than needing more public chargers (32%).

Barriers to EV Adoption: Residential



Source: NV Energy presented survey results at Dec. 9 TEWG meeting.

Does your organization currently have any plans or programs in place to increase the adoption of light-duty EVs?



Respondents' current TE efforts include policy, stakeholder engagement, fleet electrification, EV programs and online tools, education and outreach, and infrastructure planning.

Respondents' current TE efforts



Policy

- Clean Cars Nevada rulemaking for light duty vehicles placing regulations on Model Year 2025 vehicles for sale in calendar year 2024
- Developed a policy team to advocate for EV adoption
- Participate in PUCN proceedings



EV Programs

- EV time-of-use rate
- Commercial charging rider for DC fast chargers



Stakeholder Engagement

- Leading the TEWG to develop a regional strategy on light-duty EV adoption
- Working with public and private entities to assess growing EV demand
- Dealer partnership program
- GOE partnership



Education & Outreach

- Hosts educational EV events and test drives
- Lower income EV incentive in 2022
- Online EV calculator



Fleet Electrification

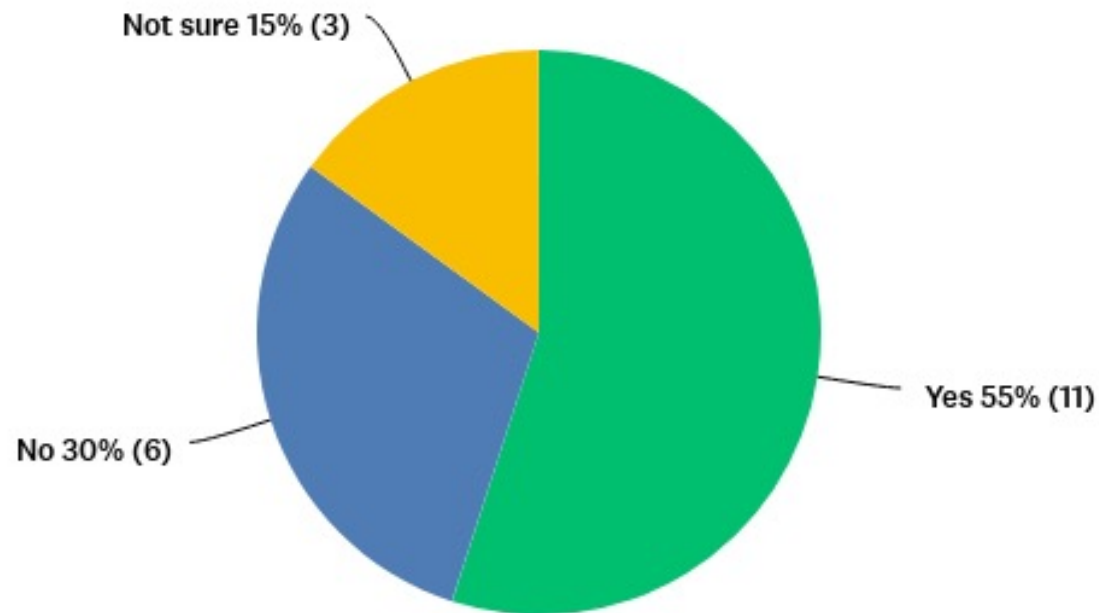
- Online tool to help fleets determine costs and electrify
- Created online portal for cities to have equal access to competitively bid EVs
- Offers technical advisory services
- Adopted Ozone Advanced Plan



Infrastructure Planning

- Electrification of school buses
- Completing plan to install public EV charging stations (Level 2 and DC fast charging)
- Electrify city fleet
- Drive infrastructure efforts through planning policies

Is your organization developing any future plans or programs to increase the adoption of light-duty EVs?



Respondents from government organizations had the most TE efforts underway.

Three of the 11 government organizations have no current or future TE plans.

Respondents' future TE efforts



Policy

- Policy planning to make EVs more affordable
- Considering adopting CA's Advanced Clean Cars 2 regulation
- Want to see offer as an option to homebuyers "if" the infrastructure is available and doesn't add cost to the house
- Working with the federal/state delegation and PUCN to ensure incentives are in place and infrastructure reimbursement plans are outlined to increase private development



Stakeholder Engagement

- The TEWG is a trigger to assist our organization in planning



EV Programs

- Additional utility EV charging infrastructure program offerings coming



Infrastructure Planning

- Working with RTC on planning



Fleet Electrification

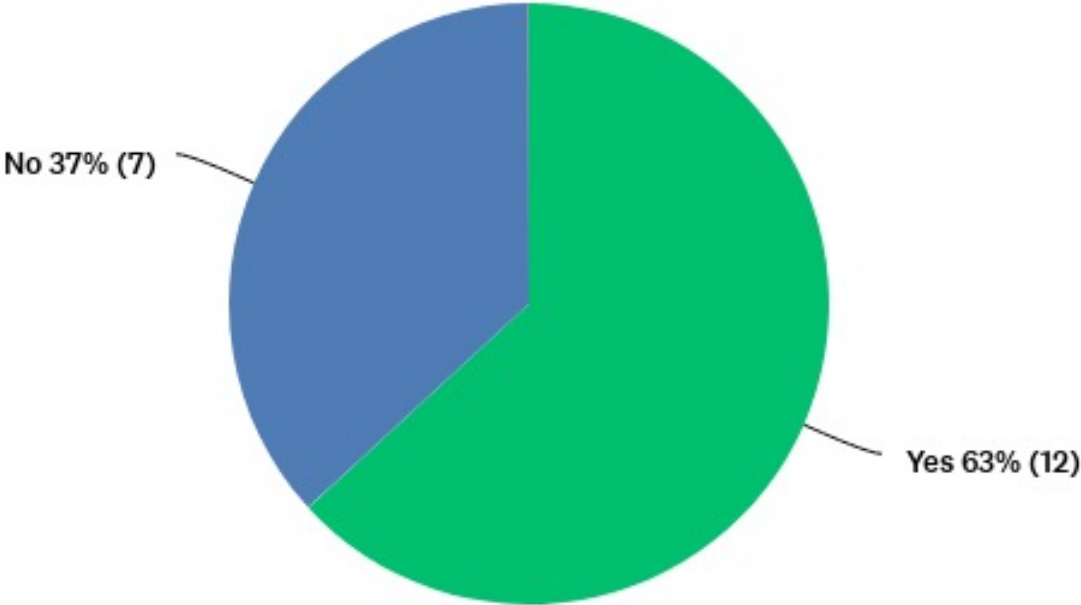
- Evaluating fleet operation impacts and will implement a fleet transition plan that includes looking at nonrevenue fleet soon
- Fleet procurement of light-duty EVs and PHEVs along with charging
- Looking to identify fleets to assist with transition to electric



Education & Outreach

- Hosts educational EV events and test drives
- Lower income EV incentive in 2022
- Online EV calculator

Does your organization own or lease any fleet vehicles?



All responding government and education organizations have fleets.
Only one responding business and no nonprofits have fleets.

SUMMARY

- The largest impact to light-duty EV adoption will be made through EV charging infrastructure planning and education and outreach
- Public and multifamily locations the most popular survey focus
- Opportunities exist to assist the 40% of respondents without TE plans in developing at least one TE goal
- Respondents' current TE implementation and planning can be leveraged as a foundation for the strategy

Discussion: What do you think about the results?

TE PLANNING GOALS

April Bolduc, President,
S Curve Strategies

STRATEGY CORNERSTONE

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 NEEDS

Year	Percent Of Light-Duty Sales	Annual New ZEV Vehicles**	Cumulative ZEV Vehicles
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

*<https://evadoption.com/ev-market-share/ev-market-share-state/>

** Adjusted for Clark County share of Nevada Sales and projected forward with anticipated population growth

2.07M ZEVs needed to be net-zero light-duty vehicle emissions by 2050.

VW EV GRANT
FUNDING
AVAILABLE NOW

Greg Lovato, Administrator,
NV Division of Environmental Protection

Q&A: PUBLIC & INTERESTED PARTIES

\$8M TO ELECTRIFY FLEET

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NEXT STEPS

April Bolduc, President,
S Curve Strategies

ACTION ITEMS

- Take the survey if you haven't
 - surveymonkey.com/r/RegionalTransportationElectrification
- Present your TE efforts at a future Working Group meeting
- Contact S Curve Strategies for educational EV topic requests for next meeting
- Visit the Clark County website for meeting presentations and recordings*
- Attend our next meeting (2-4 pm)
 - February 7
 - March 10**
 - April 7
 - May 5
 - June 2**
 - July 7
 - August 4
 - September 8
 - October 6 **
 - November 9
 - December 1

*Clark County TEWG meetings and recordings: clarkcountynv.gov/government/departments/environment_and_sustainability/sustainability/all-in_clark_county/electric_vehicles/tewg_meetings.php

**In person meetings to be held at the Clark County offices if safety permits.

Thank You!

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Randy Schimka, S Curve Strategies, rschimka@scurvestrategies.com