

Los Alamos County Fleet Conversion Plan and Community-Wide EV Charging Plan

December 2025





ATTACHMENT A

Agenda

1. Project Purpose
2. Fleet Conversion Plan
3. Community-Wide EV Charging Plan
4. Summary



ATTACHMENT A

Project Purpose

1. Reduce greenhouse gas (GHG) emissions from the County fleet
2. Expand EV charging infrastructure
3. Engage County partners and community members



Climate Action Plan – Key Findings

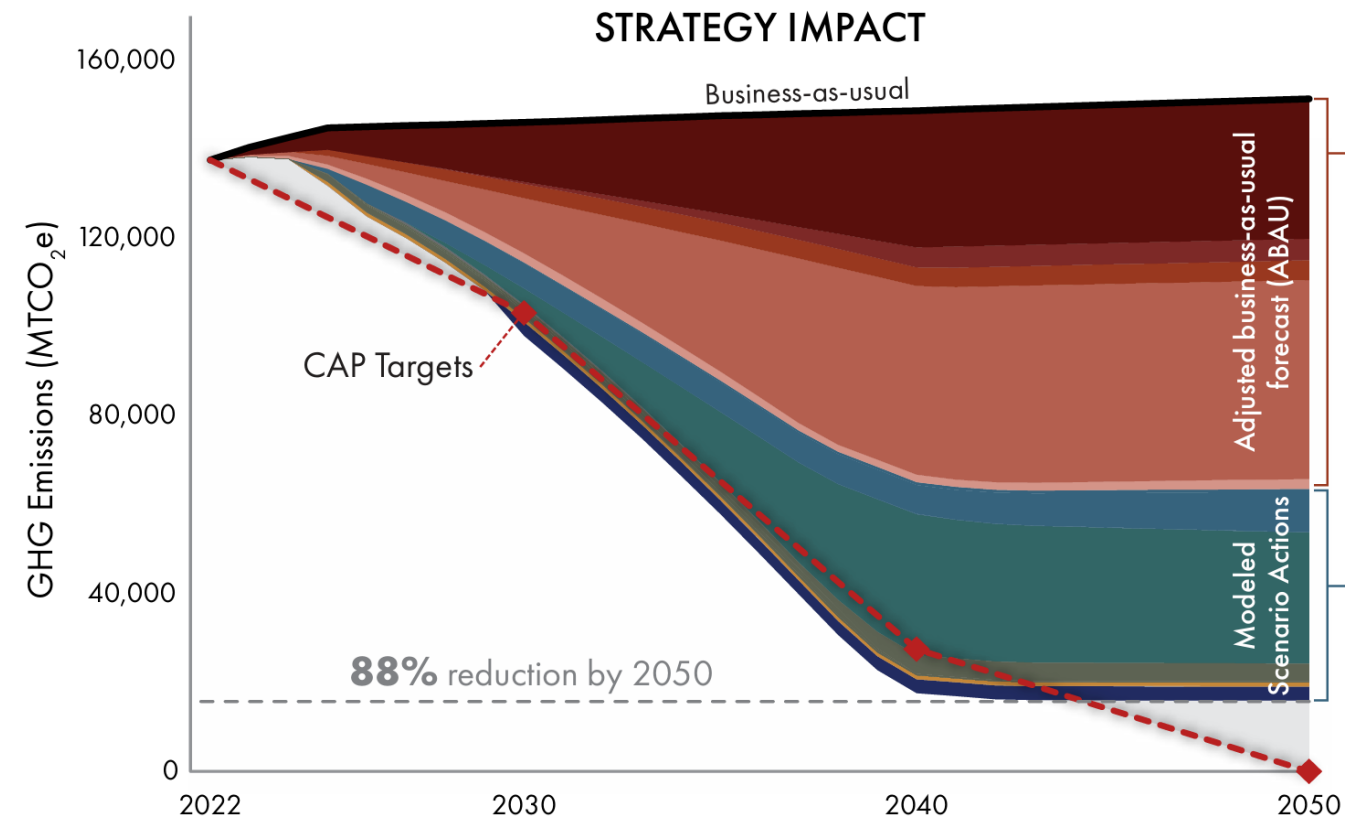
Purpose: Guide GHG reductions and strengthen climate resilience.

Community Priorities: Clean energy, sustainable buildings, sustainable mobility, and resource conservation.

Main Emission Sources: Transportation, natural gas, electricity; County operations ≈ 11%.

Targets: 30% by 2030, 80% by 2040, Carbon neutral by 2050.

Equity Focus: Ensure vulnerable groups benefit most and face fewer burdens.





County Fleet Conversion Plan

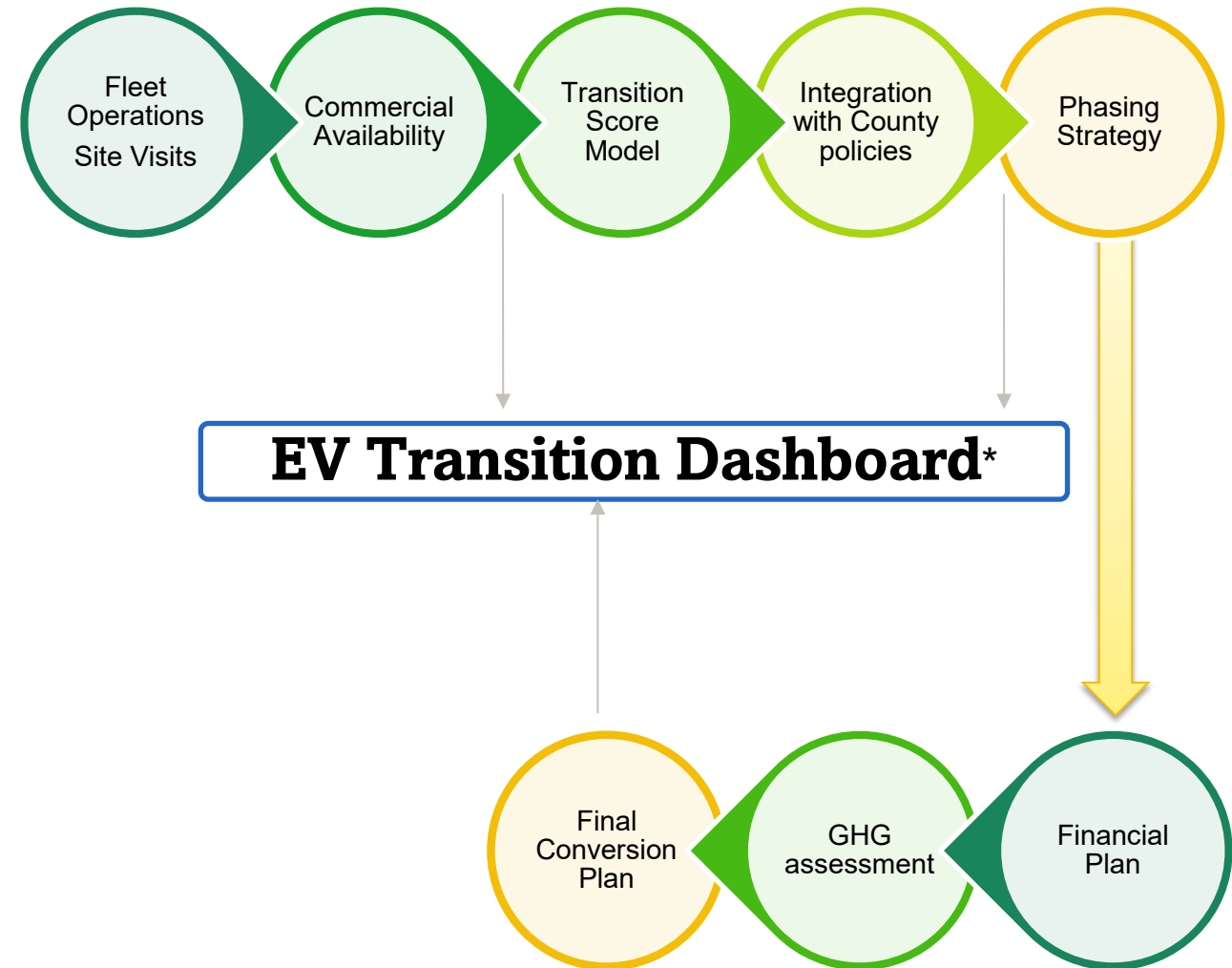




County Fleet Conversion Plan

- Existing conditions
 - EV transition dashboard
- Vehicle replacement strategy
- Facility infrastructure phasing strategy
 - Dashboard supported
- Greenhouse gas emissions
- Total cost of ownership
- **Task deliverable:** County Fleet Conversion Plan

ATTACHMENT A

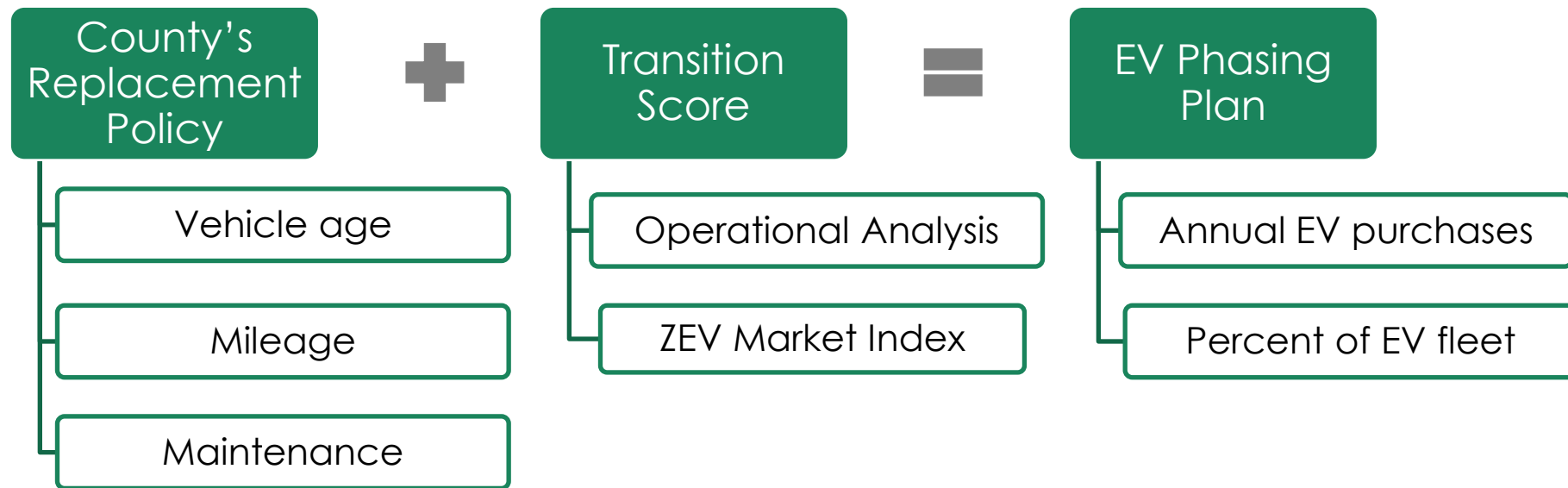


*Interactive PowerBI tool for County use



Classification Approach

- Data collection focused on understanding the fleet, assessing facilities, and detailed understanding of each vehicle's operational needs
- Stantec's Transition Score Model was carefully integrated with the County's replacement policy to avoid early vehicle retirement or buying vehicles that can't satisfy the user's needs.





Key Assumptions

Fleet Count: 229 vehicles

Exceptions: 33 specialized vehicles (14%)
e.g., firefighting, bomb response, etc.

Transition Scores Approach: based on vehicles
best suited for early electrification.



Two Implementation Strategies:

EV Policy

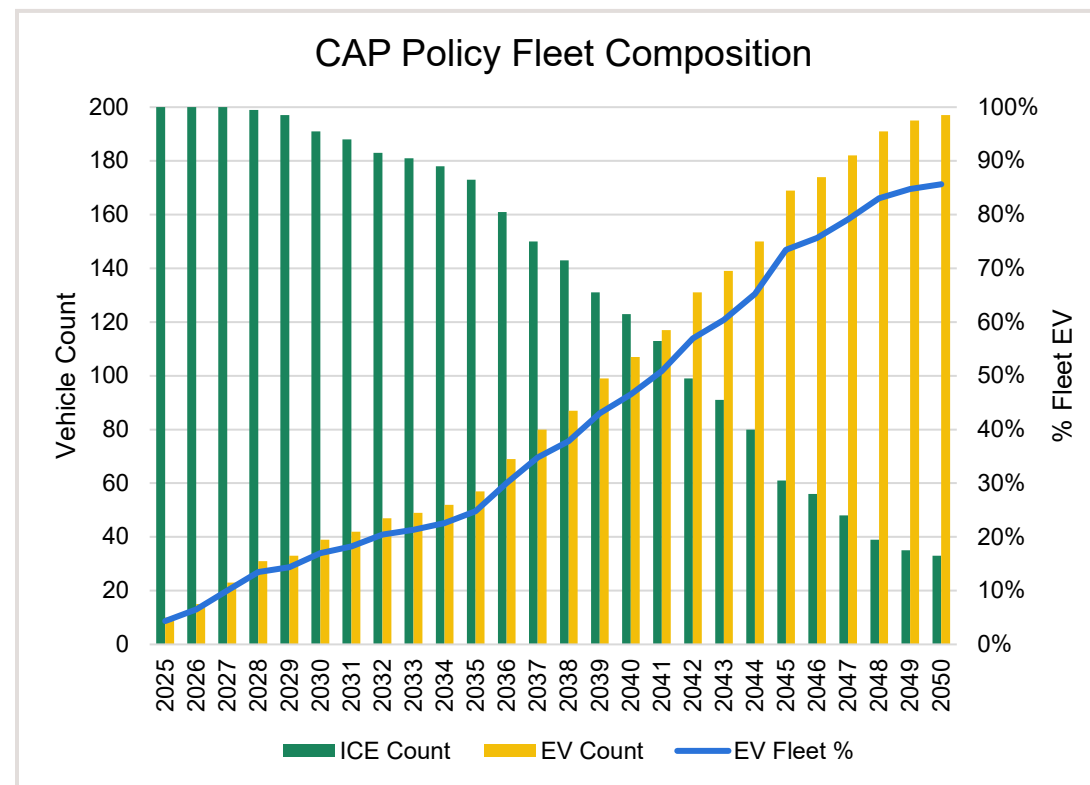
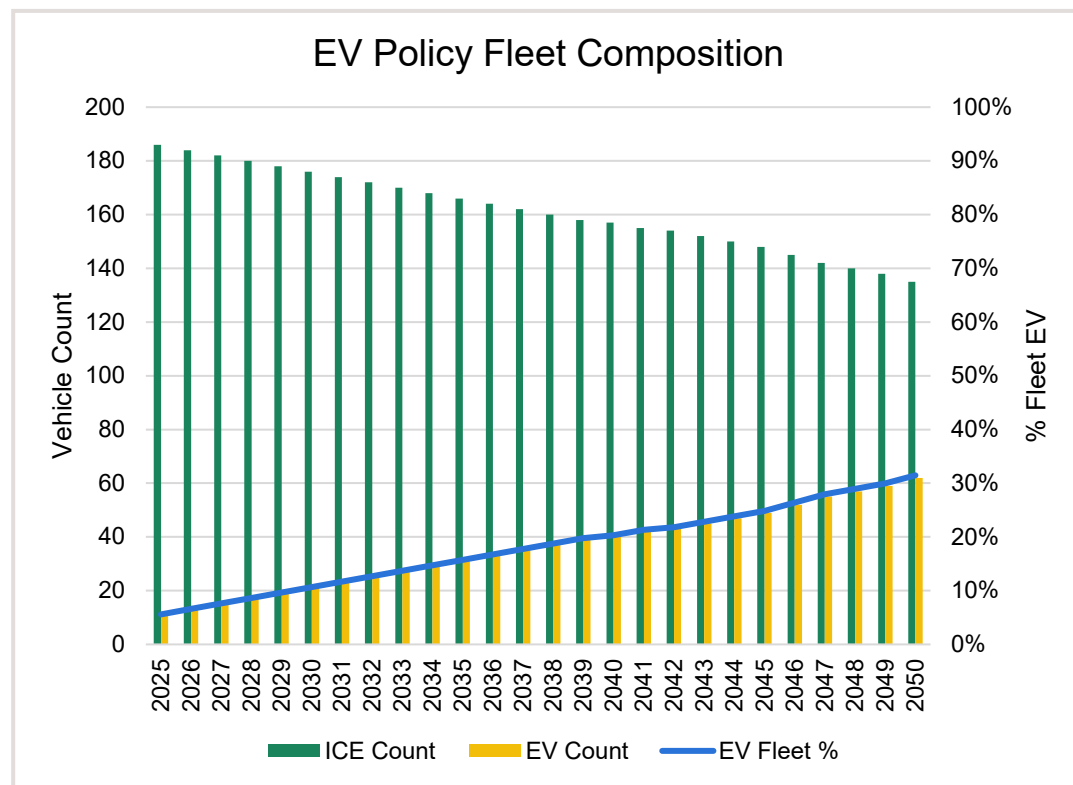
- County's current policy
- Two EV transitions per year
- Max of **31% EV** fleet by **2050**

CAP Policy

- Aligns with the Climate Action Plan (CAP)
- Aims for **carbon neutrality by 2050**
- Max of **86% EV** fleet by 2050 (due to exceptions)



Fleet Composition through 2050



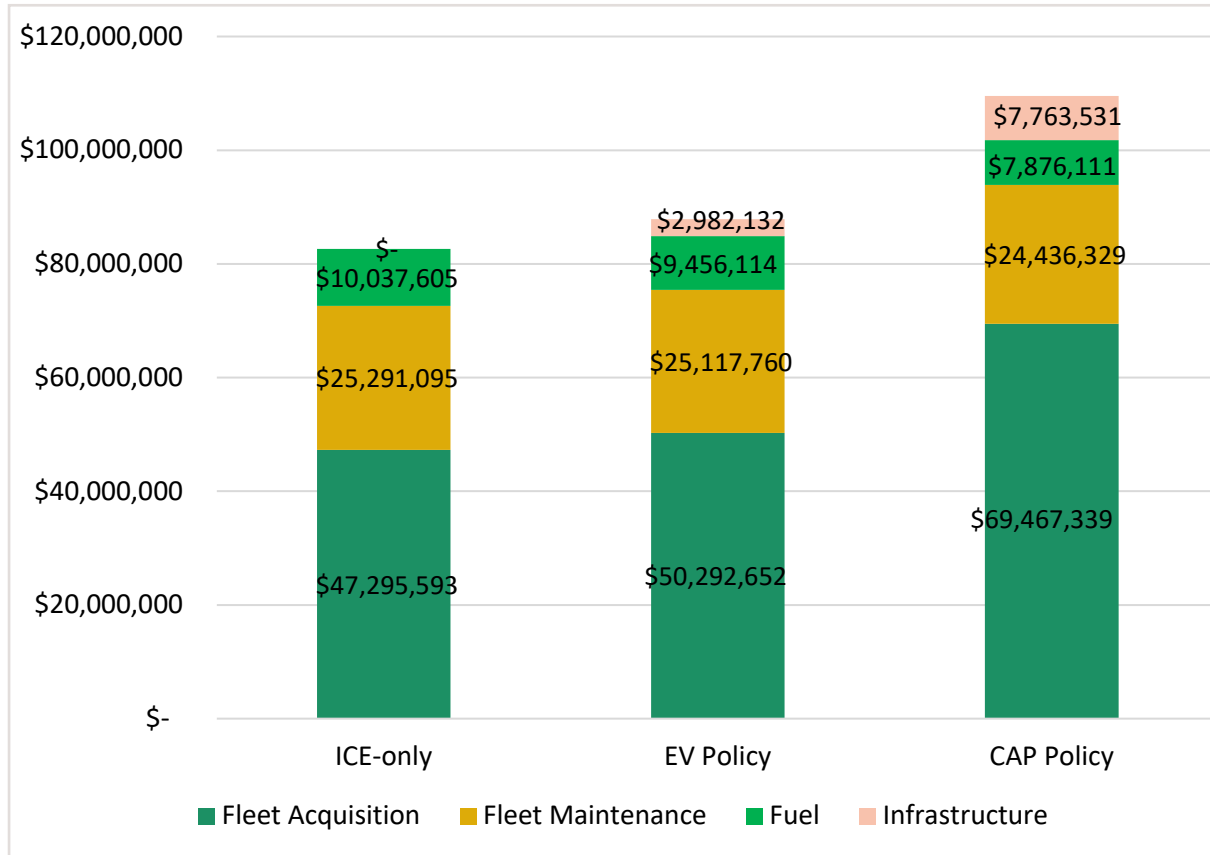


Proposed Charging Equipment Phasing

	CAP Policy Infrastructure Cost	Phase	Proposed Charging Infrastructure Location
2026	\$1,252,213	Phase 1	PCS1-PCS5
2027	\$539,284		LA Senior Center-Eco Station-LA Wastewater Treatment Facility
2028	\$564,090		Ice Rink-Fuller Lodge
2030	\$24,806		Golf Course
2034	\$1,106,849		PCS5
2035	\$655,148		PCS1-PCS3-Fire Station #4
2036	\$502,243	Phase 2	Eco Station-Municipal Building
2037	\$96,806		Justice Center
2039	\$24,806		Fuller Lodge
2040	\$85,565		LA Wastewater Treatment Facility
2041	\$49,613		LA Senior Center
2042	\$195,936		Eco Station
2043	\$1,101,197	Phase 3	PCS1
2045	\$281,501		LA Wastewater Treatment Facility-PCS3
2047	\$1,112,343		PCS5
2049	\$171,130		Golf Course-LA Airport



Financial Evaluation



The CAP Policy scenario is about 25% (~\$21.7M) higher than the EV Policy.

The Total Cost of Ownership considers:

- Vehicle purchase price
- County's utilization levels (mileage/yr)
- Fuel and kWh cost with trend projection
- Vehicle maintenance cost
- Facility modifications cost
- Charging equipment costs
- Inflation



Greenhouse Gas Emissions

Compared to the ICE only baseline, the EV Policy scenario represents ~9.5% lower cumulative emissions over the transition period (2025 – 2050)

- A total of 3,689 metric tons of CO₂e eliminated
- Past 2050, the county fleet would be eliminating 18% of baseline yearly emissions

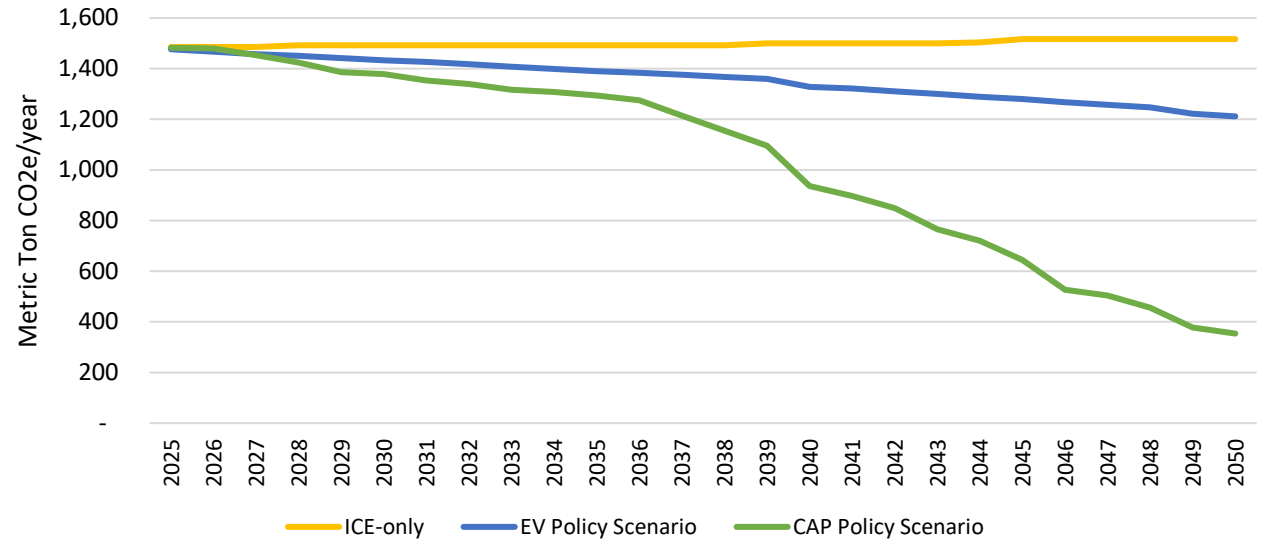
The CAP Policy scenario achieves ~30% lower cumulative emissions over the transition period

- A total of 11,993 metric tons of CO₂e eliminated
- Past 2050, 76% reductions of baseline yearly emissions

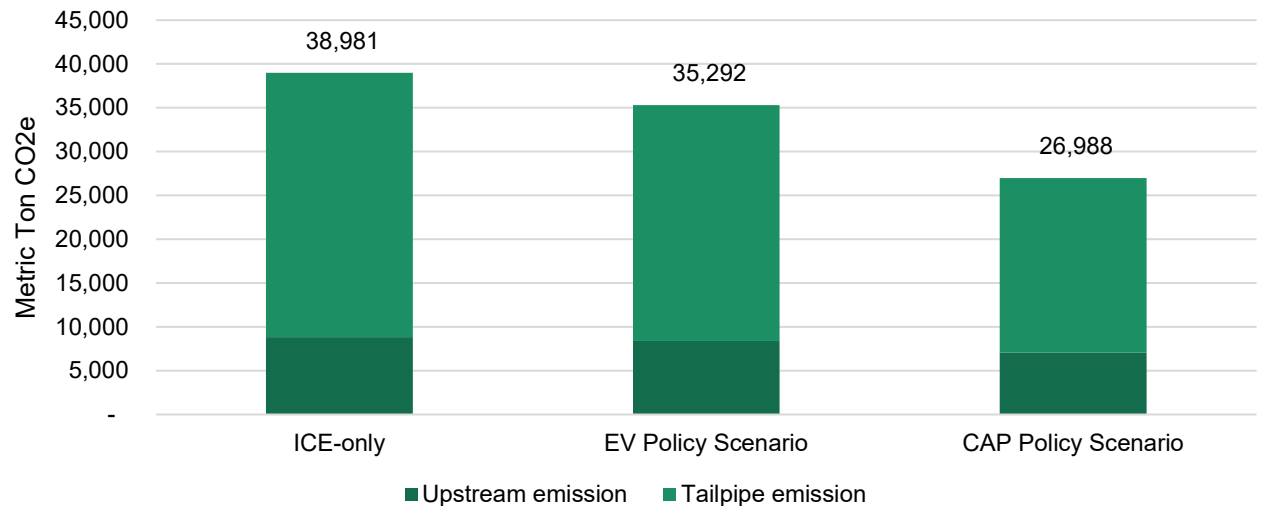
Grid Mix:

- Incorporates the anticipated 50% solar contribution to the grid from the Foxtail Flats
- Assumes full carbon-neutral grid mix past 2040

Annual Fleet Emissions (CO₂e)



Cumulative Emissions (2025-2050)





Putting Things on Perspective

The total 11,993 metric tons of CO₂e that the CAP Policy can eliminate between 2025-2050 represents:

Replacing the **Fossil Fuel** fleet with **ZEVs** is equivalent to:



Eliminating **1,349,499** gallons of gasoline being consumed



Recycling **4,238 tons** of waste annual rather than landfilling



Reducing the need to plant **198,305 seedlings** of trees to capture carbon emissions



Eliminating the energy use from **1,611 homes** for one year

This is equivalent to greenhouse gas emissions avoided by:

4,238

tons of waste recycled instead of landfilled ?



605

garbage trucks of waste recycled instead of landfilled ?



1,019,482

trash bags of waste recycled instead of landfilled ?



3.6

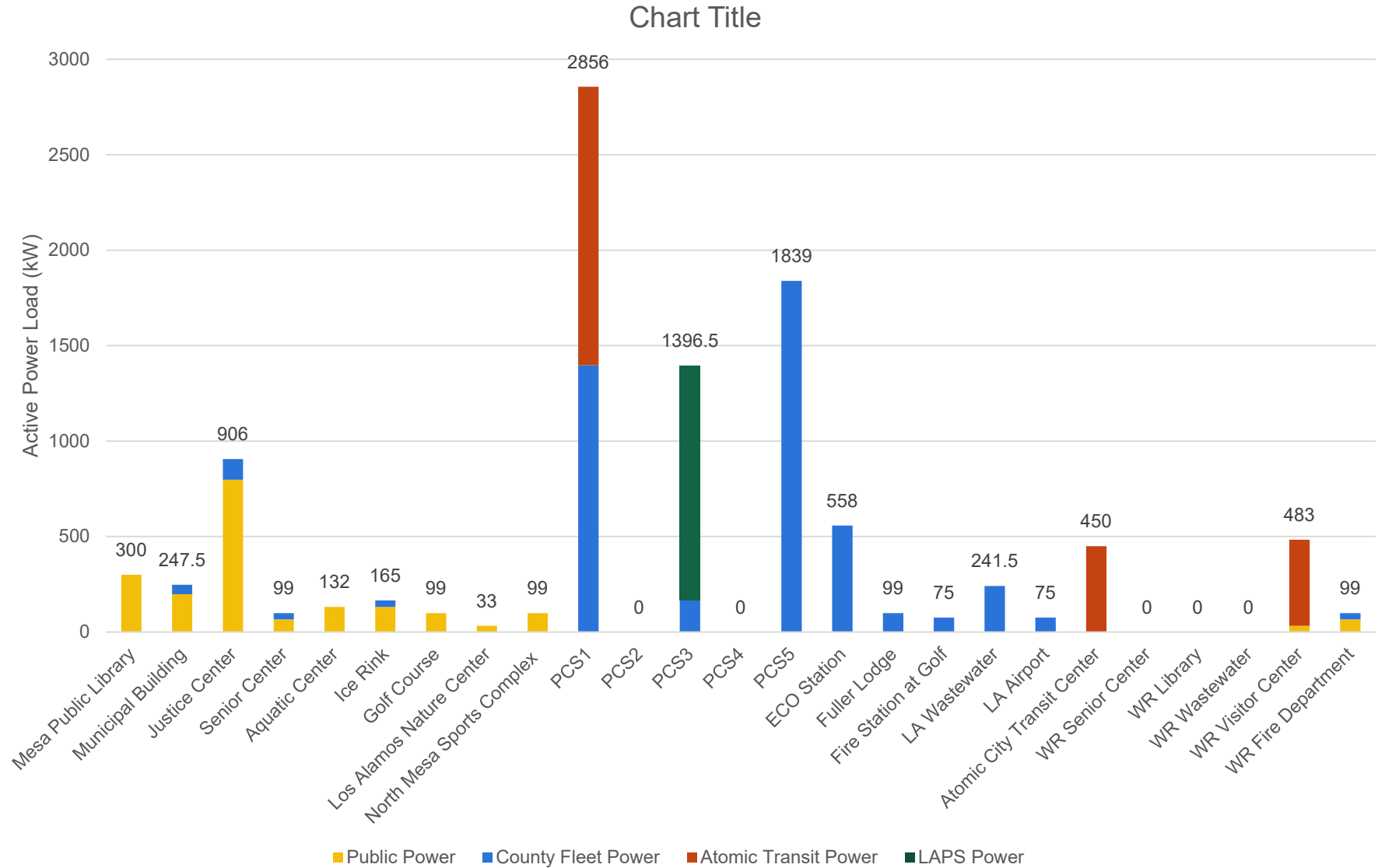
wind turbines running for a year ?





Projected Power Load

- Does not consider existing site capacity
- Projected load is in addition to existing or soon to be installed chargers



*Note: PSC2, Atomic City Transit Center, and White Rock Visitor Center considers load of Atomic Transit. Both the Transit and Visitor Center are anticipated to have on-route charging to support Atomic City Transit routes.

**Note: LAPS doesn't have current plans for their fleet electrification. Stantec projected a potential load based solely on total vehicle count and commercially available battery sizes for school buses and support vehicles.



Supporting Components of the Transition Plan

Workforce
Development

Safety
Considerations

Funding
Opportunities



Takeaways

The Fleet Conversion Plan based on the CAP Policy phasing strategy supports Los Alamos County's Climate Action Plan and explores alignment with 100% carbon neutrality goals by 2050.

The complementary phased charging infrastructure plan, workforce training, and strong funding strategies will be paramount for a successful implementation.

Overall, the CAP Policy positions Los Alamos County to achieve meaningful emissions reductions while supporting each department's operational requirements.

Importantly it will be critical to implement proactive funding-seeking strategies to maintain fiscal responsibility during this plan's implementation.

EV Policy

9.5% GHG reduction*

Max 31% Fleet Conversion

CAP Policy

30% GHG reduction*

86% Fleet Conversion

25% more cost than EV Policy



Community- Wide EV Charging Plan





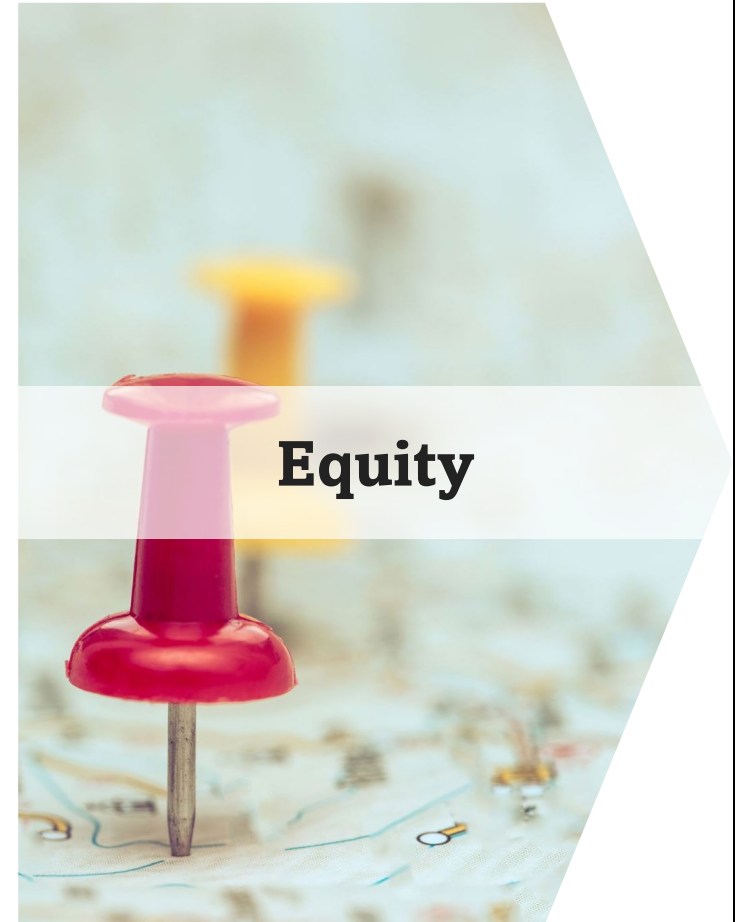
What are we looking for in an ideal charging network?



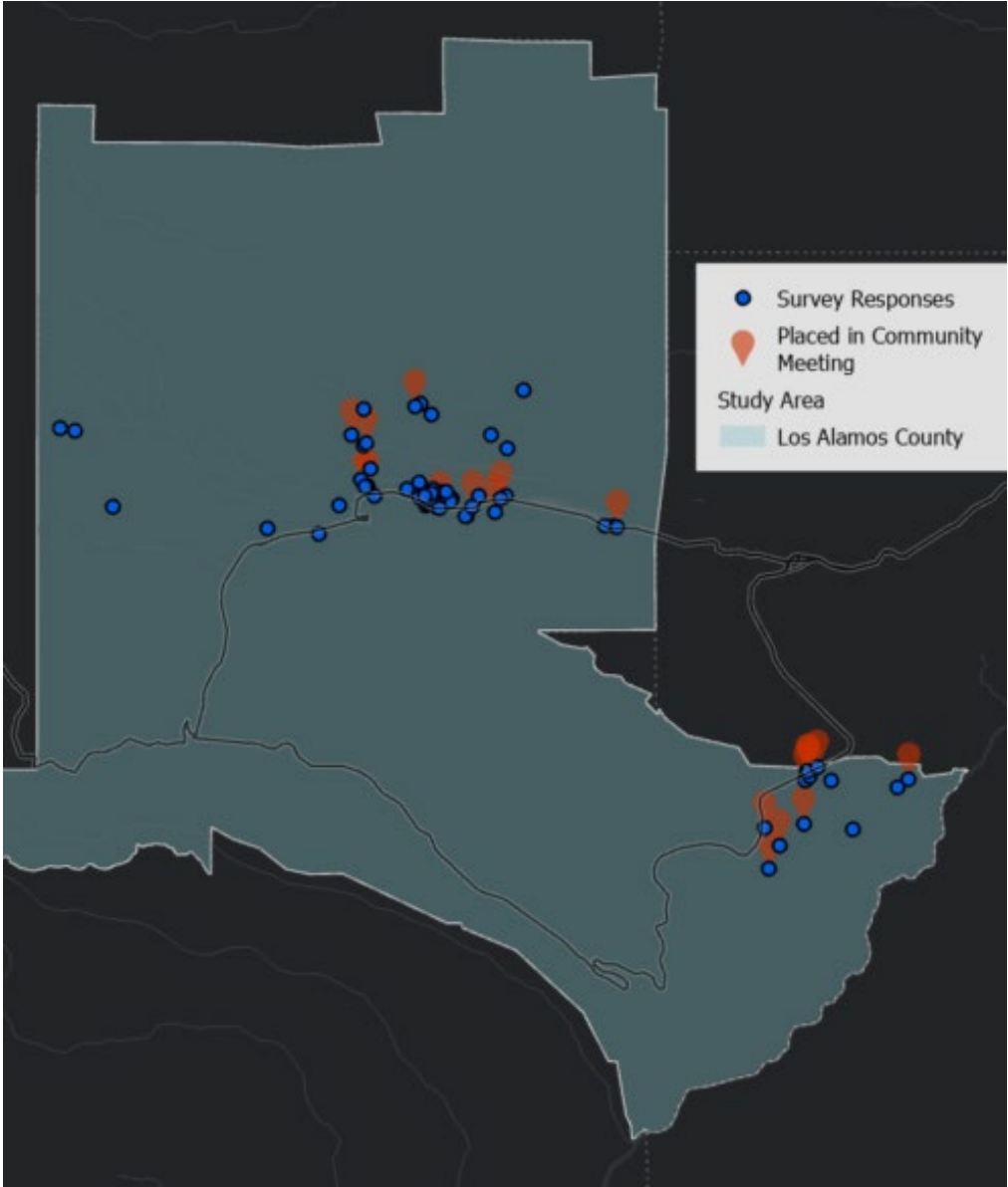
Demand



Suitability



Equity



Very helpful Somewhat helpful Not very helpful Not helpful at all

At home in a (private) garage, driveway or parking space I own

At home in a shared parking space

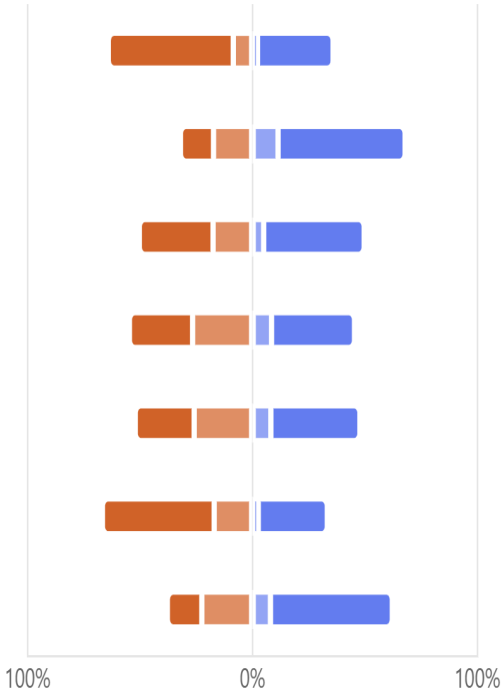
At work or school

At shopping, dining, and entertainment destinations

Parks and recreation destinations

At fast charging stations along highway corridors

Somewhere else

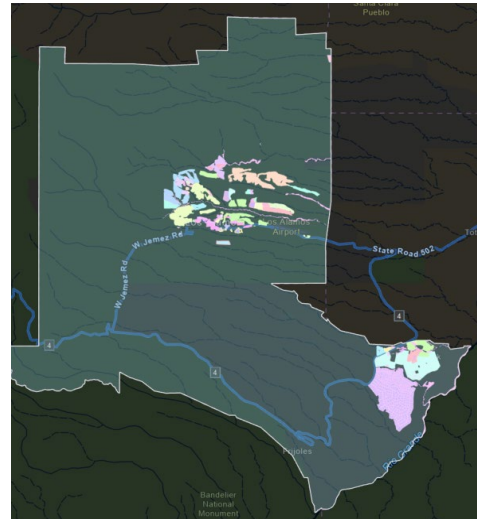
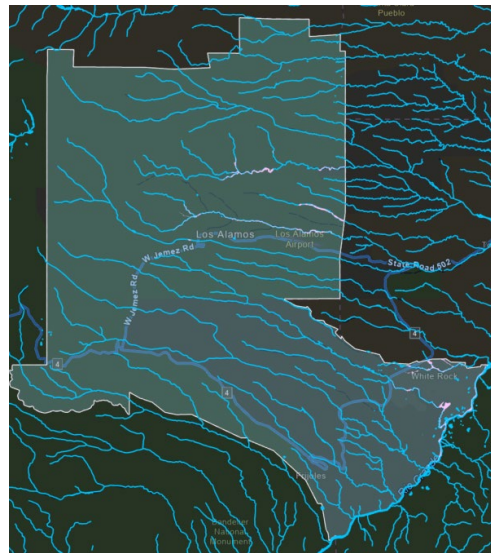


* ATTACHMENT A

*Note the total sample size collected was 99 locations (79 survey responses, 20 placed in community meeting).

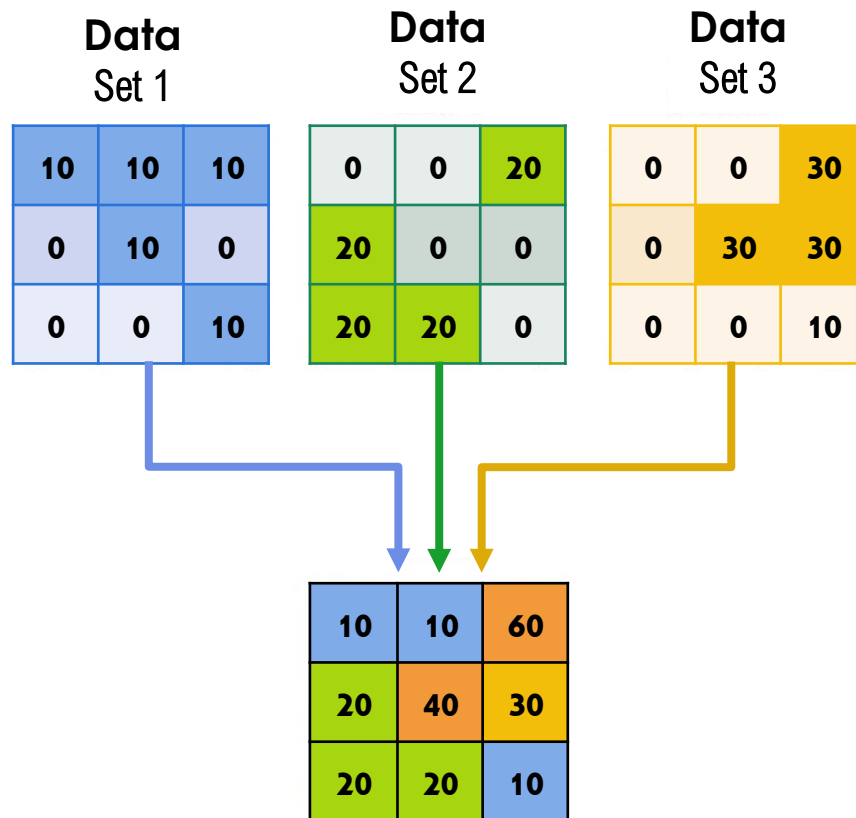
Modeling Site Suitability





Some areas are excluded:

- Areas with high flood risk
- Exempt Federal Land
- Private Residences (for shared chargers)



- We find optimal charging locations by merging all the input data sets
- Different scenarios weigh each data layer differently



Each **data set** is weighted differently depending on the **scenario** being evaluated:

- Mixed-Use Zoning
- Single-Family Zoning
- Multi-Family Zoning
- Commercial Zoning
- Topography and Flood Risk
- EV Travel
- Recreational Land
- Parking Lots
- Private Land
- Public Land
- Community Feedback Locations
- Downtown Cores
- Circuit and Feeder Locations

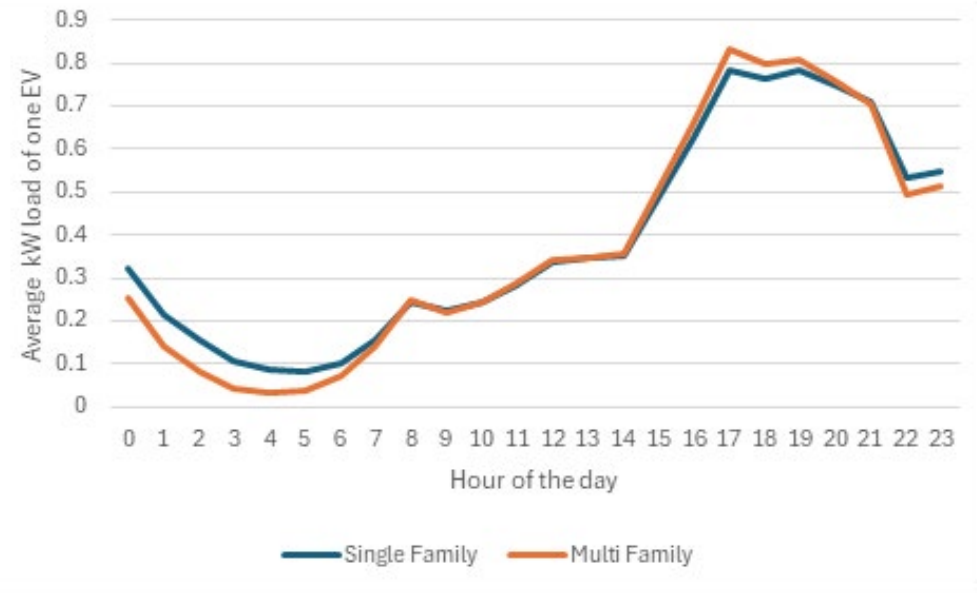
Scenario 1: Home Charging
Scenario 2: County-Owned Charging
Scenario 3: Shared Level 2 Charging
Scenario 4: Fast Charging



Site Suitability Results

Using Stantec's suitability approach, and in close coordination with the County, the following results are presented for each scenario:

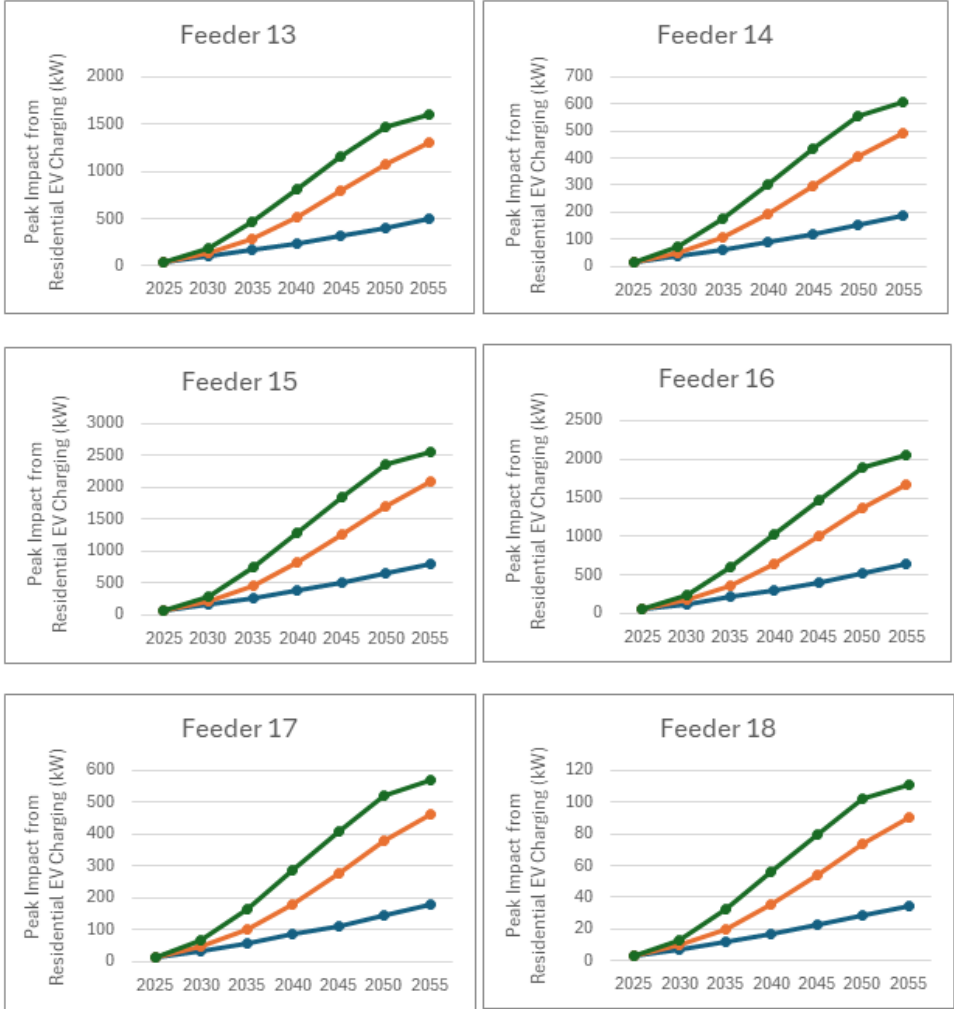
- Specific locations where chargers will be installed
- Forecast County's future power capacity requirements



- At-Home Charging use is forecasted based on population density
- Areas with more people are assumed to have more EVs

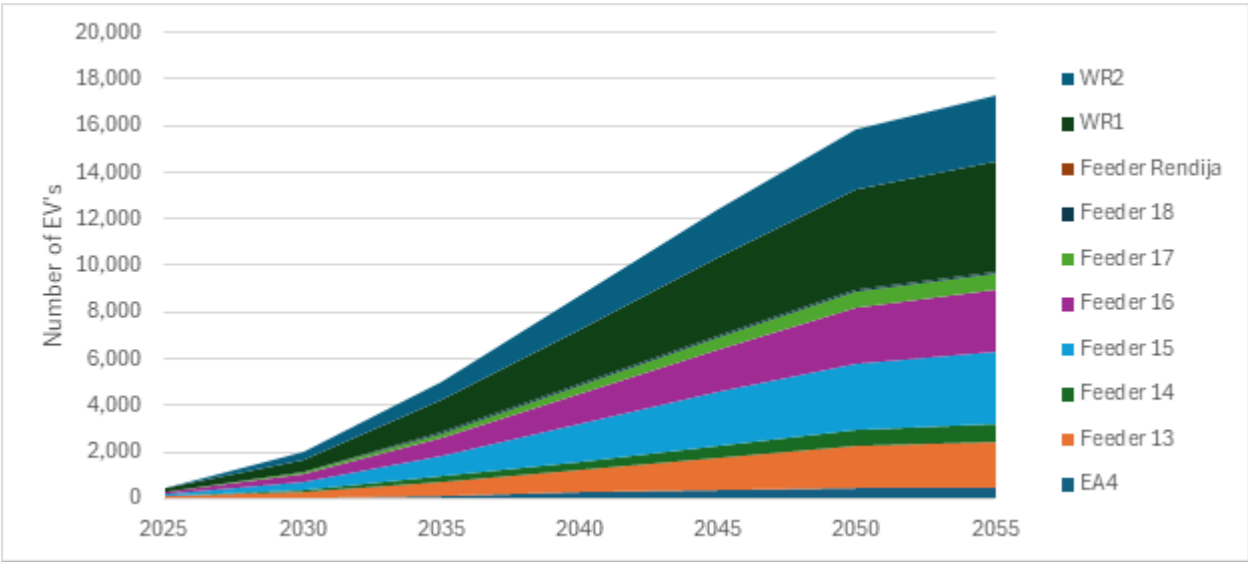


Power Load on Los Alamos Feeders over time



Scenario 1: At-Home Charging

- At-Home charging use is forecasted based on population density
- Areas with more people are assumed to have more EVs

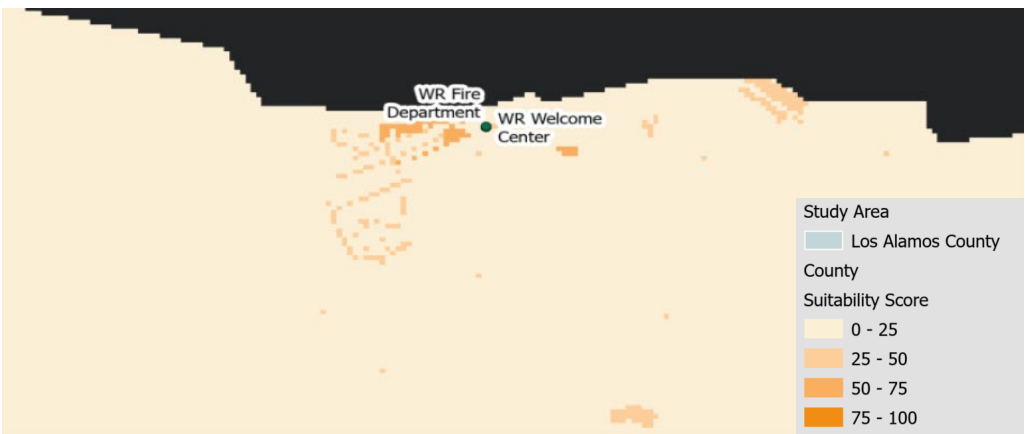




Los Alamos



White Rock

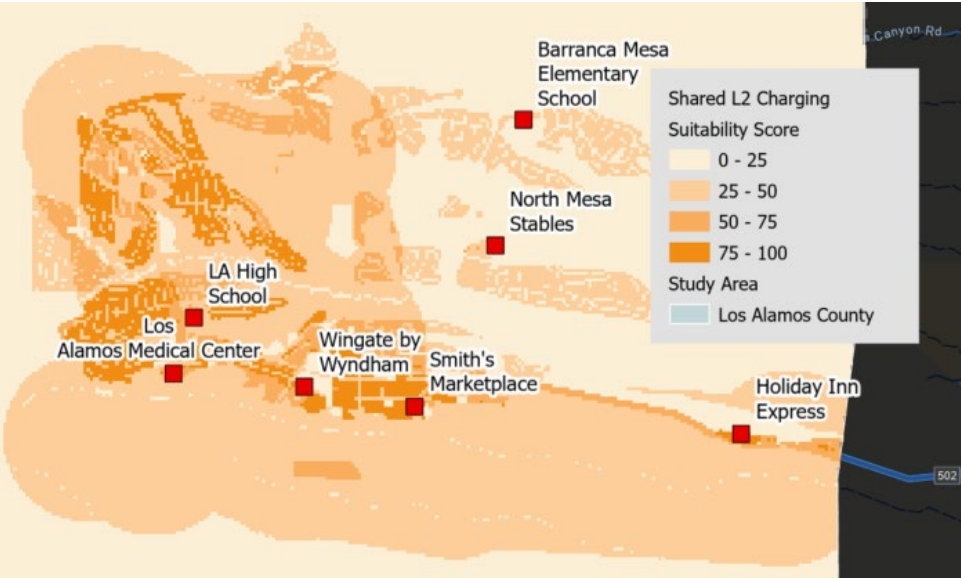


- Only County-owned land is considered
- Informed by public comment, prioritizes downtown cores

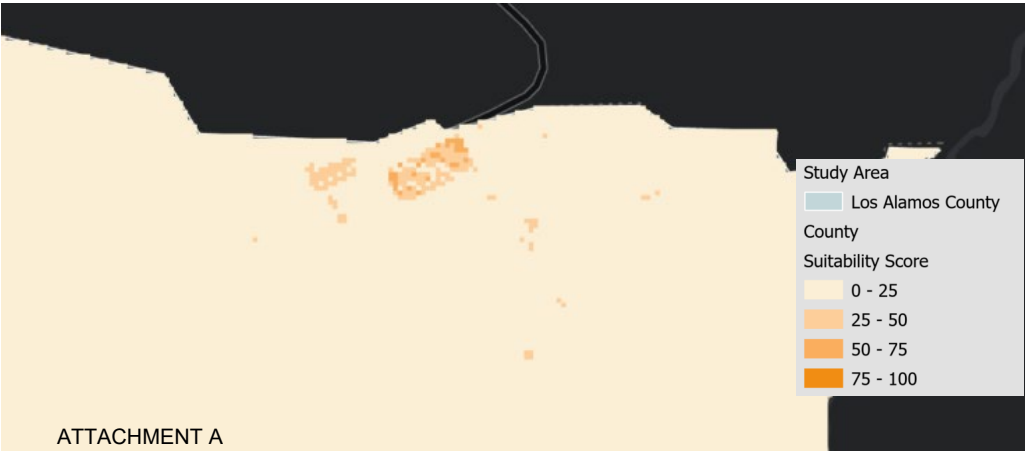
Location	L2 Chargers	L3 Chargers	Anticipated Power
Mesa Public Library		4 (In progress)	300 kW
Municipal Building	12 (In progress)		99 kW
White Rock Visitor Center	2 (Existing)		16.5 kW
White Rock Fire Department (Charging with Fleet Vehicles)	4		33 kW
Justice Center	12	8	699 kW
Senior Center	4		33 kW
Aquatic Center (Charging with Fleet Vehicles)	8		66 kW
Ice Rink (Charging with Fleet Vehicles)	8		66 kW
Golf Course	6		49.5 kW
Los Alamos Nature Center	2		16.5 kW
North Mesa Sports Complex	6		49.5 kW



Los Alamos



White Rock



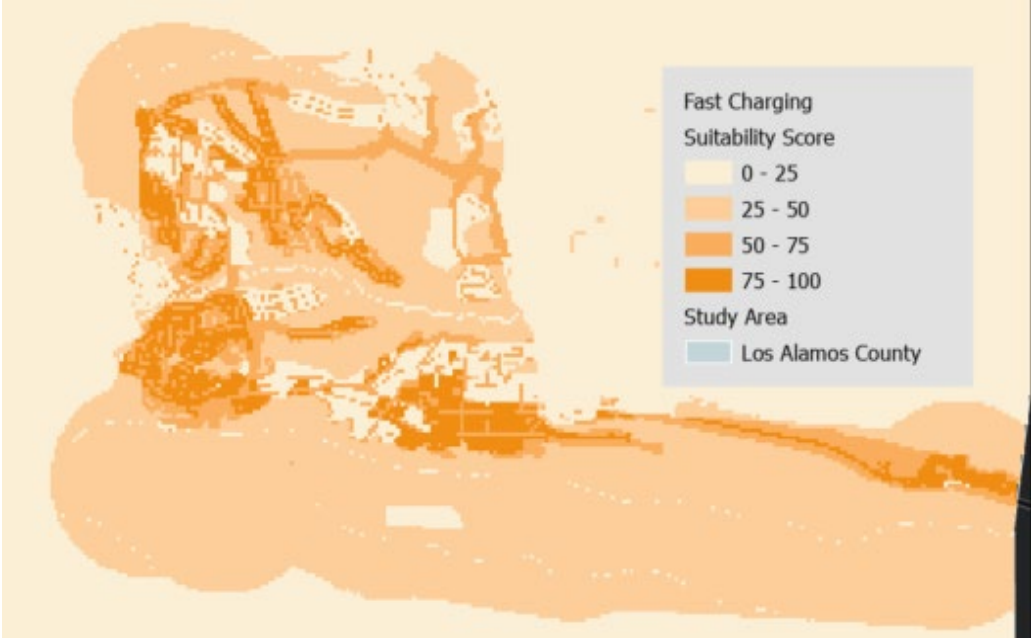
ATTACHMENT A

- Only privately-owned land is considered
- Considers all chargers are open to public use

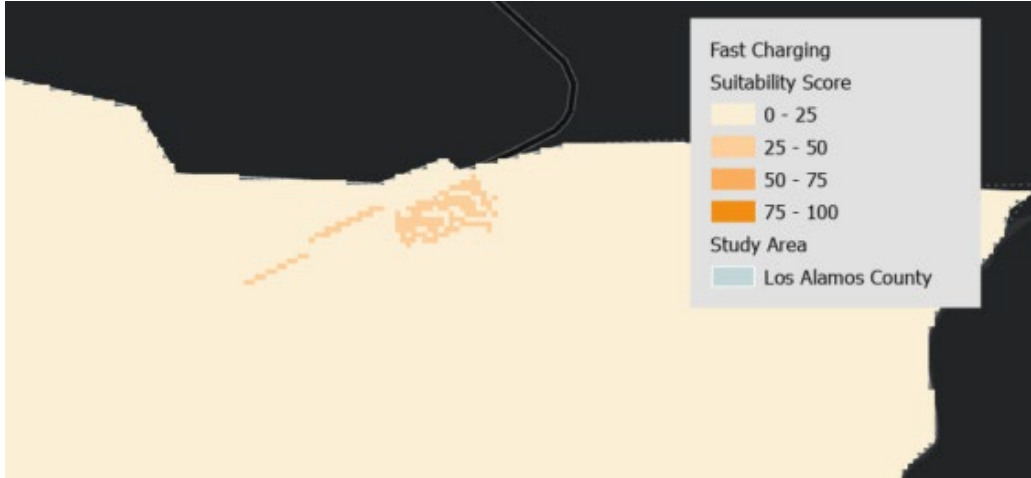
Location	L2 Chargers	L3 Chargers	Anticipated Power
Los Alamos Medical Center	16		132 kW
Los Alamos High School	10		82.5 kW
Barranca Mesa Elementary School	10		82.5 kW
Wingate by Wyndham	5		41.25 kW
Holiday Inn Express	5		41.25 kW
North Mesa Stables	4		33 kW



Los Alamos



White Rock



- Multi-family housing and commercial areas are prioritized
- Both county-owned and privately-owned land is considered
- EV Traffic Volumes and Feeder Capacity are weighted highly
- Highways score highly

Location	L2 Chargers	L3 Chargers	Anticipated Power
Smith's Marketplace		2	150 kW



Projected 2050 Power Requirements

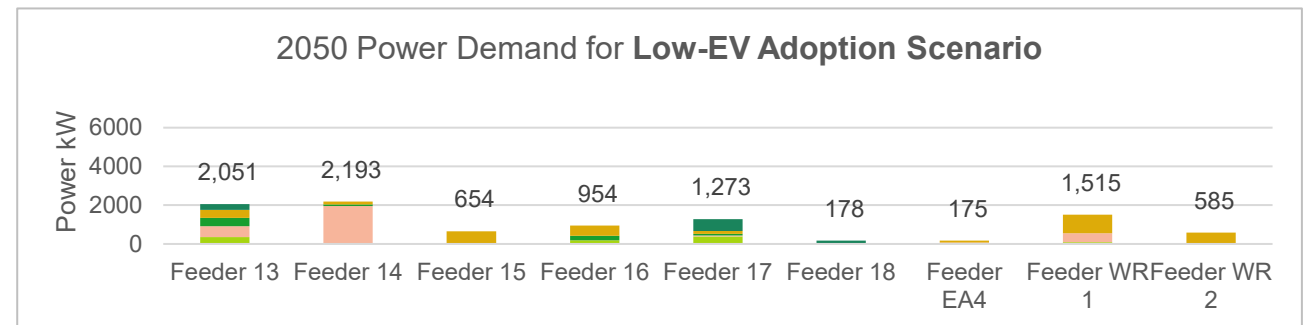
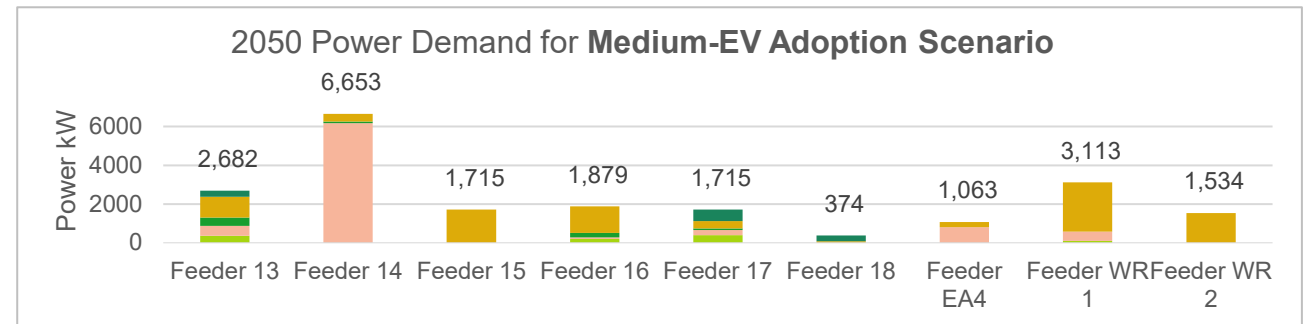
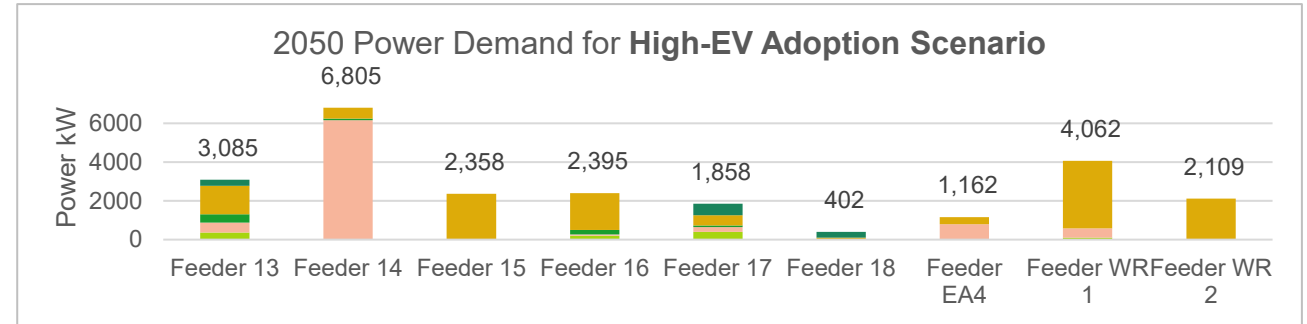
County Fleet (+Atomic + LAPS)

At-Home Charging

County-Owned Public Chargers

Shared-L2 on Private land

Fast Charging Corridor





Prioritize high-demand County sites

Build a tiered network with Level 2 + DCFC

Ensure equitable & ADA-accessible locations

Coordinate with DPU on grid capacity & managed charging

Streamline permitting and internal coordination



Engage highly suitable private sites (hotels, retail, schools)

Use public-private partnerships to expand public charging

Pursue state, federal and utility funding opportunities

Apply hybrid ownership/O&M models when beneficial

Standardize vendor agreements & performance requirements



Expand charging access in multifamily housing

Support shared/community charging where home charging is limited

Educate residents on incentives and charging options



Next Steps

- Community Meeting to Present Draft Plan on December 3
- Open Public Comment Period (December 3rd – December 17)
- Integrate public comments into final plan
- Presentation of Final Plan to County Council, BPU, and ESB



General Questions

We welcome your feedback