



# Utility EV Programs Executive Update

Prepared For:  
SMUD Board of Directors

Prepared By:  
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Chair, EV Leadership Council at Chartwell Inc  
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Sr Advisor, KPMG  
Chair, TxETRA

Nov 11, 2025



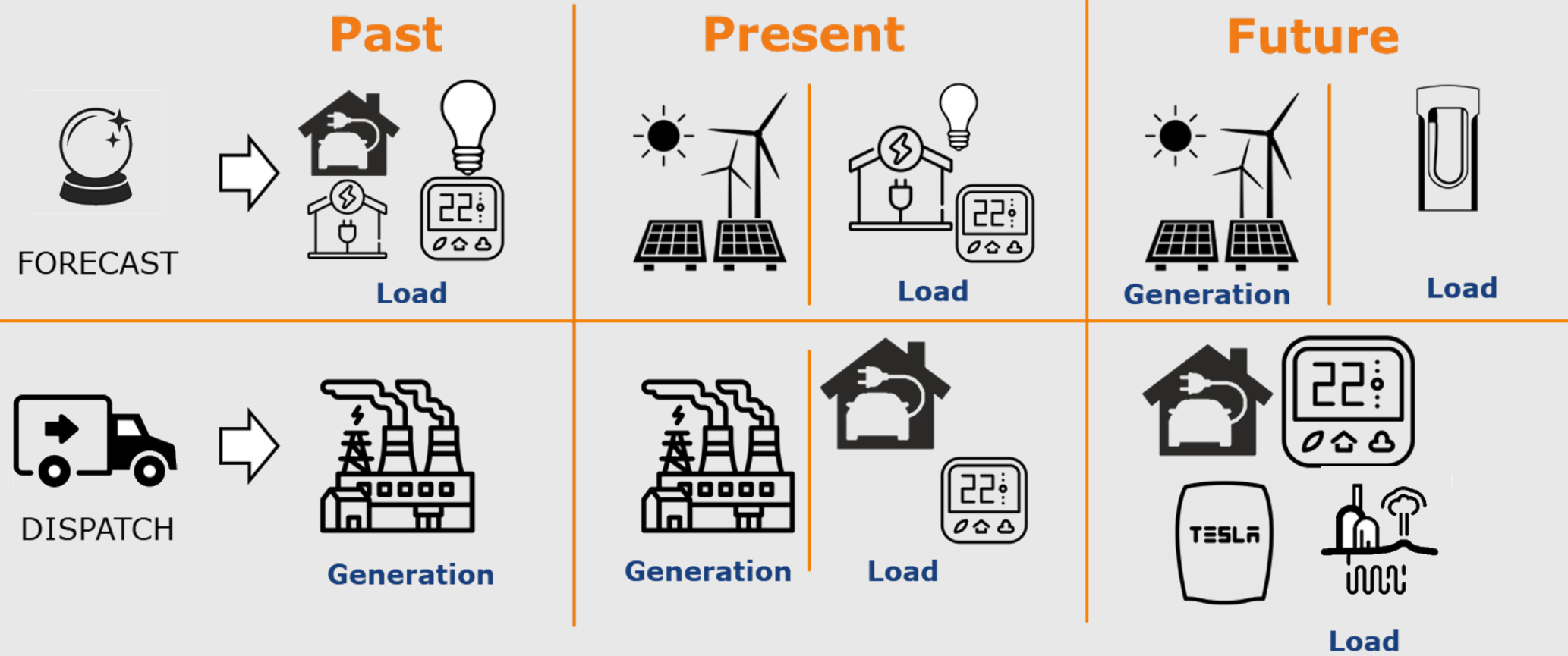
# Agenda

- The “EVolving” Utility Landscape
- How High-Impact Utilities Organize (Austin Energy case-study)
- Public EV Charging
  - Landscape & Utility Roles
  - Driving & Measuring Success (Orange & Rockland case-study)
- Understanding your Customer (PSEG-LI case-study)
- Utility/Community Benefits



Austin Energy's StEVie the EV loving Trex

# THE GRID: PAST, PRESENT, AND FUTURE



# TOP REASONS WHY AMERICANS AREN'T BUYING EVS

**CONCERNED ABOUT LACK OF CHARGING STATIONS/HOME CHARGING**

**77%**

**CONCERNED ABOUT DRIVING RANGE**

**73%**

**CONCERNED ABOUT OVERALL COST**

**70%**

**CONCERNED ABOUT ENVIRONMENTAL IMPACT**

**60%**

SOURCE: YAHOO FINANCE-IPSOS POLL OF 1,025 US ADULTS CONDUCTED  
SEPTEMBER 29 - OCTOBER 1 2023

**yahoo!**  
finance

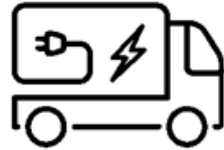
# How are Innovative Utilities Addressing Barriers?

## EV Leadership Council – EV Lanes

**Trusted Advisor**



**Fleet Electrification**



**Infrastructure**



**Grid Integration**



**Regulatory/Policy**



**Marketing/Outreach**



**Multifamily**



**Stakeholder Mgmt**



**Grant Funds**



**Equity/Inclusion**



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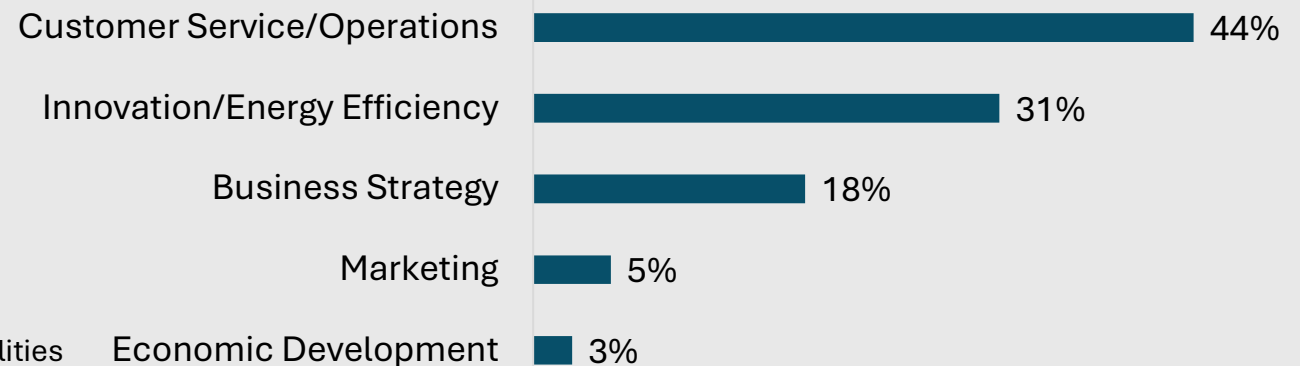
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# EV Organizational Structure

	FTEs fully dedicated to team	Full-time contractors	FTEs <u>not fully dedicated</u> but contributing to team
Average	9	2	7
Average for Small and Mid-Size Utilities (<1M customers)	5	2	3
Average for Large Utilities (>1M customers)	12	2	11

Source: 2025 Electric Vehicle Benchmark Survey, n=41 utilities

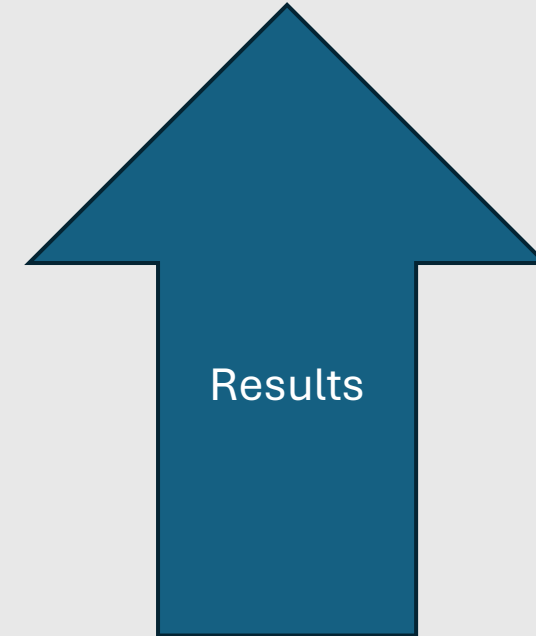
Within what organization at your utility does the EV team reside?



Source: Chartwell Inc. 2025 Electric Vehicle Benchmark Survey, n=39 utilities

# Team Organizational Maturity

- ✓ Centralized
- ✓ Assembly-line
- ✓ Ad-hoc
- ✓ None

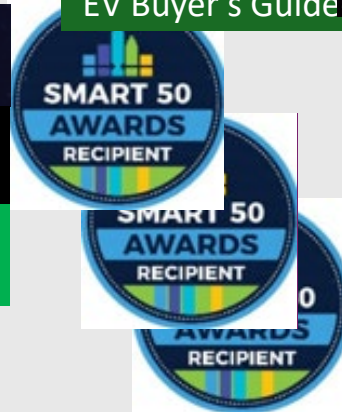




# Austin Energy Electric Vehicles & Emerging Technologies Team



Electric Drive



EVs for Schools



EV Engagement



EDTA EVisionary  
City of the Year 2020



Plug-in America  
EV Utility of the Year

# eMobility Team Functions (Austin Energy Case-Study)

## Core Functions

“Go-to” / Quarterback

EV Strategy

EVSE Operations

Project Management (EVSE & Fleets)

Outreach / Equity

EV Product Development

## Named Points of Contact:

Executive Sponsors

Marketing / PIO / Social Media

Legal

Rates

Key Accounts

Billing / Meter Shop

Finance/Accounting/Grants Admin

Rebates Administration

Call Center (Utility and 311)

Fleet

Power System Delivery



# Utility Partnerships in Cultivating an EV Ecosystem

Critical to the success of the Austin Energy EV program is the wonderful partnerships with stakeholders to include:

## Government

- Austin Transportation Dept
- Office of Sustainability
- City Fleet Mobility Services
- City of Austin Equity Office
- Housing Authority of Austin
- Travis County
- Congressman Lloyd Doggett's Office
- Austin Bergstrom International Airport
- CapMetro
- Texas Commission on Environmental Quality
- US Department of Energy

## Education

- Austin Independent School District
- AISD Environmental Stewardship Action
- Pflugerville Independent School District
- Del Valle ISD
- EcoRise
- Huston-Tillotson University
- University of Texas LBJ School of Public Affairs
- E4 Youth
- Latinas
- Bike Texas
- Austin Community College

## Community & Engagement

- TX Electric Transportation Alliance
- Austin Forum on Technology & Society
- Foundation Communities
- Chestnut Neighborhood Revitalization Corp
- Austin Pathways/Smart Mobility Ambassadors
- American Public Power Association
- TX Public Power Association
- Zpryme
- TX Energy Poverty Research Institute
- Electrify Expo @COTA
- Austin Auto Dealership Association
- CleanTX
- Local E-Bike retailers



# Agenda

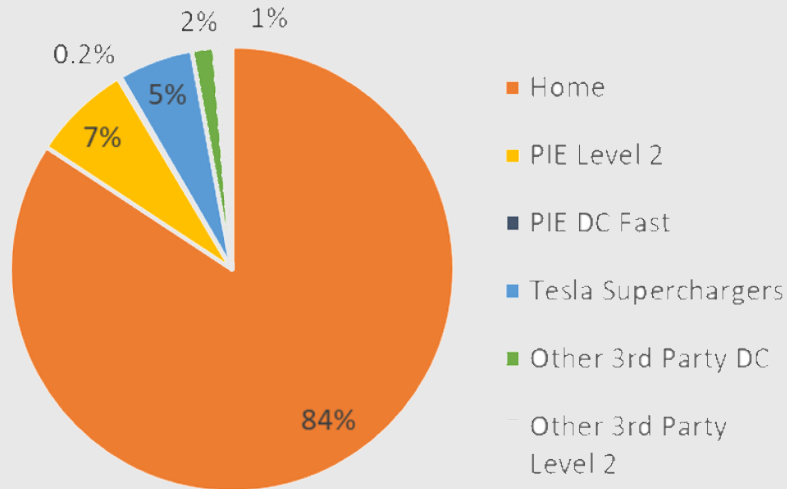
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Austin Energy's StEVie the EV loving Trex



# EV Charging: Majority Happens at Home



Austin's EV Charging Landscape in 2020

## Key Factors

**Cost:** Home charging is significantly cheaper per kilowatt-hour (kWh), especially for DC fast charging.

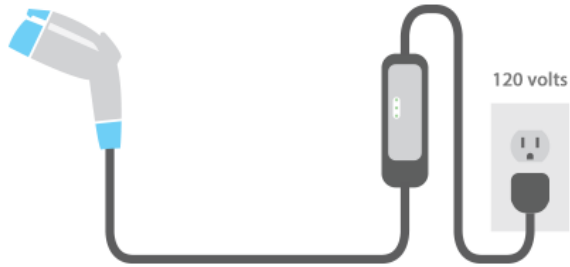
**Convenience:** Charging at home allows drivers to start each day with a full battery

**Infrastructure:** While public charging infrastructure is growing, it has not kept pace with the rapid increase in EV adoption.

# **“Right-Sizing” vs. “Faster is Better”**

# “Right-Sizing” vs. “Faster is Better”

## Level 1 Charging



120 volts

1 kW

3-4 miles  
of range  
per hour

## Level 2 Charging



240 volts

6.6 kW

20-26 miles  
of range  
per hour

## DC Fast Charging

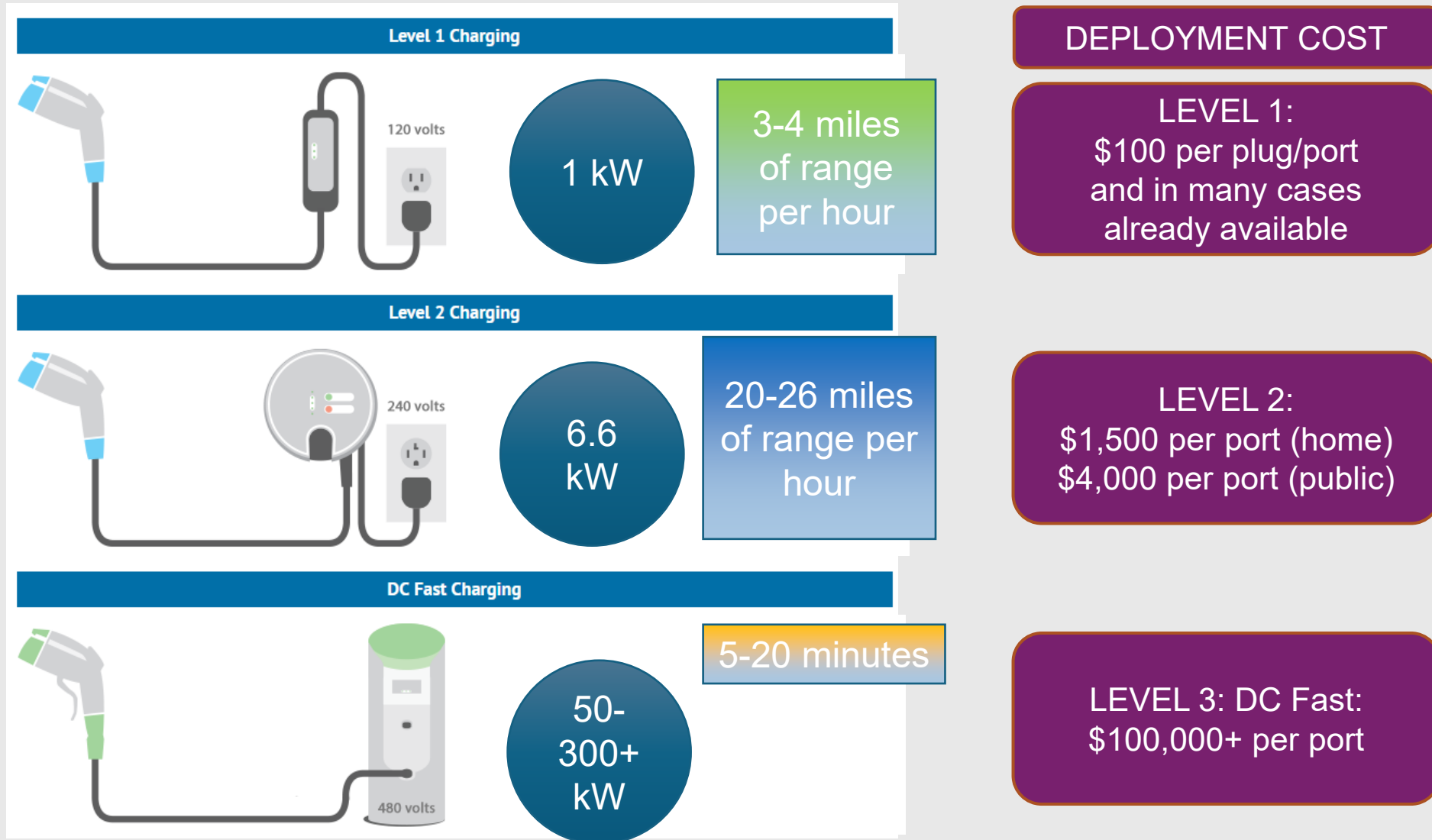


480 volts

50-  
300+  
kW

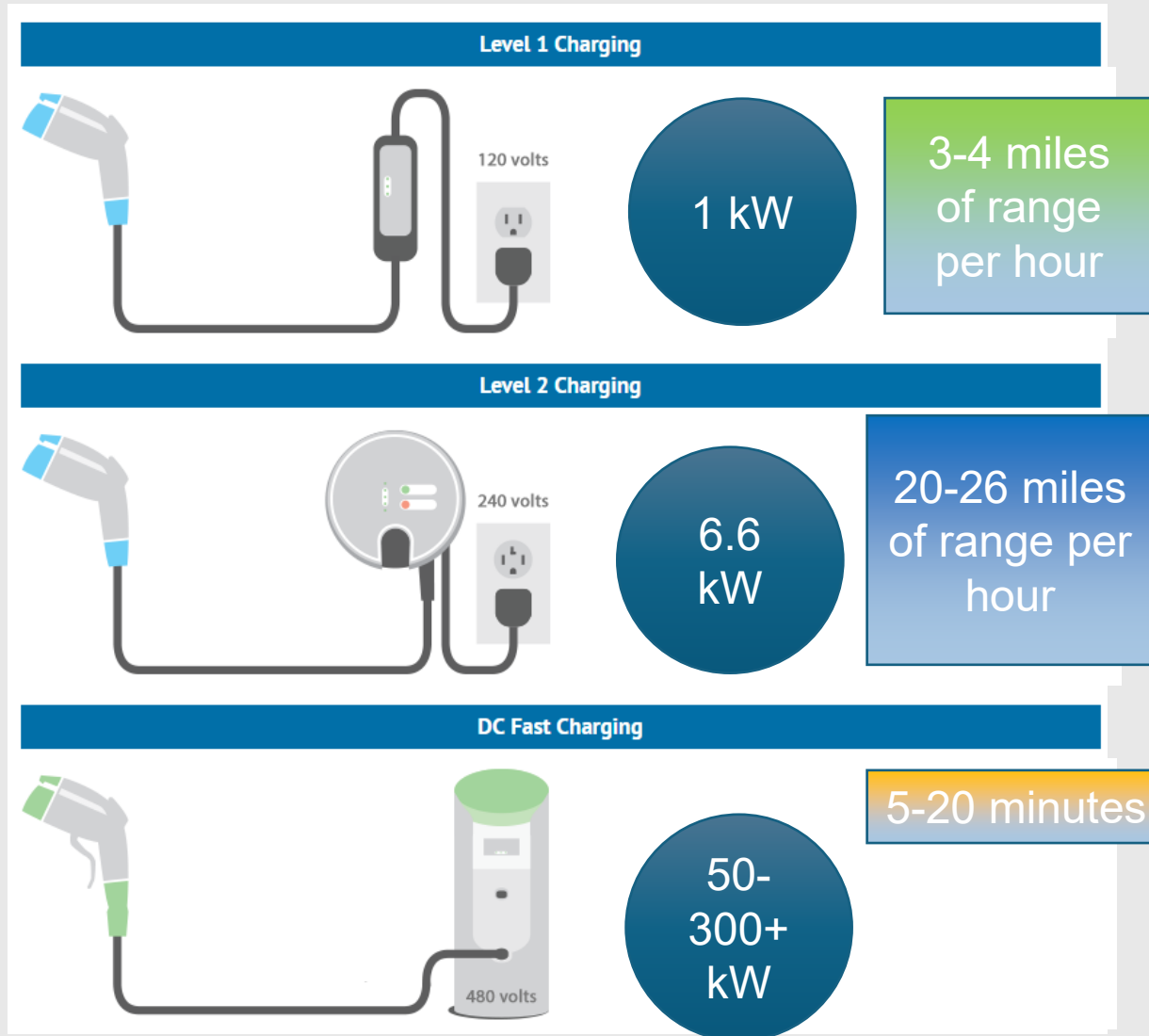
5-20 minutes

# “Right-Sizing” vs. “Faster is Better”





# “Right-Sizing” vs. “Faster is Better”



## DEPLOYMENT COST

LEVEL 1:  
\$100 per plug/port  
and in many cases  
already available

## OPERATIONS COST

A wall outlet

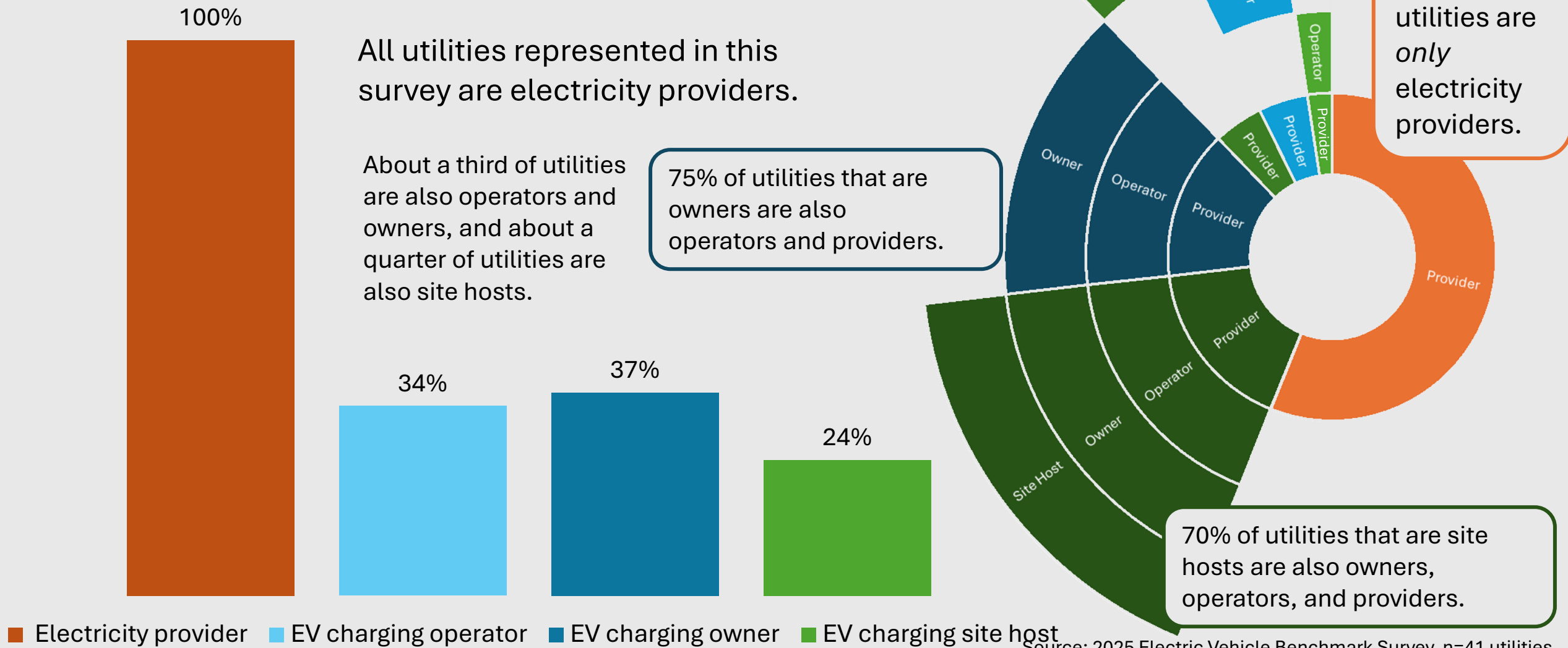
LEVEL 2:  
\$1,500 per port (home)  
\$4,000 per port (public)

No demand charge for  
residential, limited for  
commercial

LEVEL 3: DC Fast:  
\$100,000+ per port

Significant demand  
charges, maintenance,  
and repair

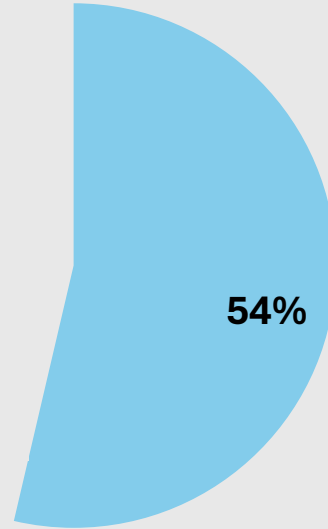
# Range of General Roles Utilities Play in Charging Station Infrastructure



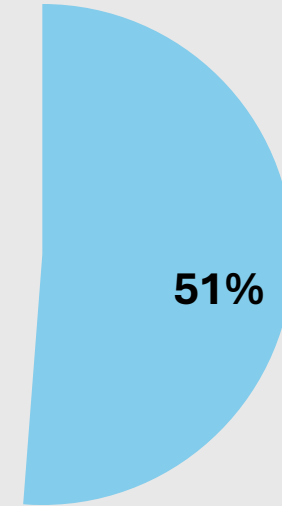
Source: 2025 Electric Vehicle Benchmark Survey, n=41 utilities

# Specific Roles Utilities Play in Charging Infrastructure

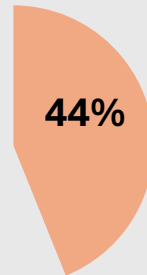
54% of utilities provide electric service to the meter **AND incentives to the provider of EV charging infrastructure.**



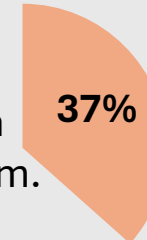
51% of utilities provide electric service up to the meter **AND EV advisory services to 3<sup>rd</sup> party charging providers.**



44% of utilities **own and operate** EV charging infrastructure.



37% of utilities offer a **"make ready"** program.



Source: 2025 Electric Vehicle Benchmark Survey, n=41 utilities

# How are Utilities Driving a Positive Customer Experience?

## Customer Expectations

- Convenient
- Affordable
- Available/Working



Austin Energy DC Fast on Electric Drive

## Rebate/Incentive Terms (T&Cs)

- Consistent Signage
- Branding
- Enforcement
- Operational commitment
- Accepted Payment methods

## Own & Operate

- Pricing (volume, time, & fixed)
- Service Levels (SLAs)
- Siting (multiple use-cases)
- Aggregators



# Highlight: EV Council Response 11/5/2025

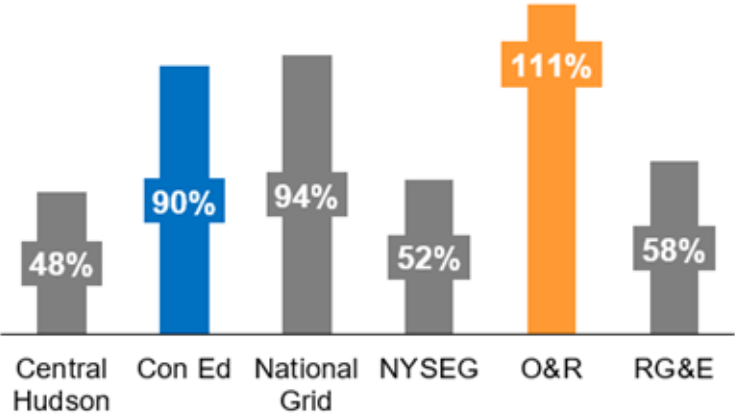
“One thing that we recognized that was if we wanted the general public to use these chargers with **ease of use**, we made it a requirement that any public EV charging getting incentives from our EV Make Ready Program must offer at least one payment option besides the Mobile App. We call it the **Universal Forms of Payment** and this includes credit card readers, tap-to-pay, QR Code (to payment site, not to download app), or calling a toll-free number to activate a charge over the phone”. -PSEG-LI

# DPS E-Mobility Dashboard

O&R leads DPS metrics for L2 PowerReady, DCFC PowerReady and Residential Managed Charging.

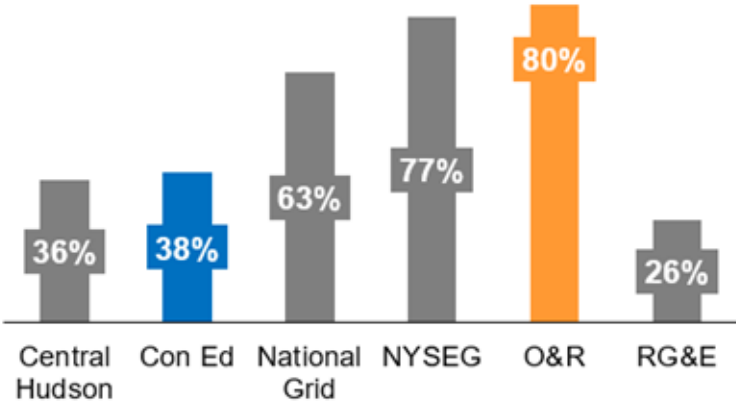
## L2 PowerReady (as of July 2025)

Completed + Contracted **1,712 Plugs**  
Program Total **1,546 Plugs**  
% Subscribed **111%**



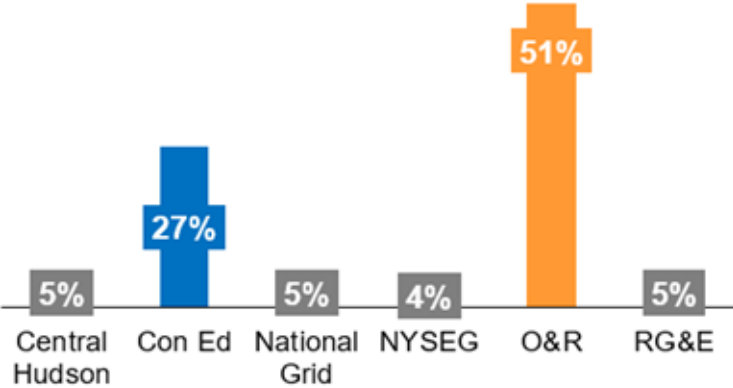
## DCFC PowerReady (as of July 2025)

Completed + Contracted **270 Plugs**  
Program Total **340 Plugs**  
% Subscribed **80%**



## SmartCharge New York (as of June 2025)

Participants **5,311**  
EVs on the Road **10,422**  
% Enrollment **51%**



# EV Charger Interconnection

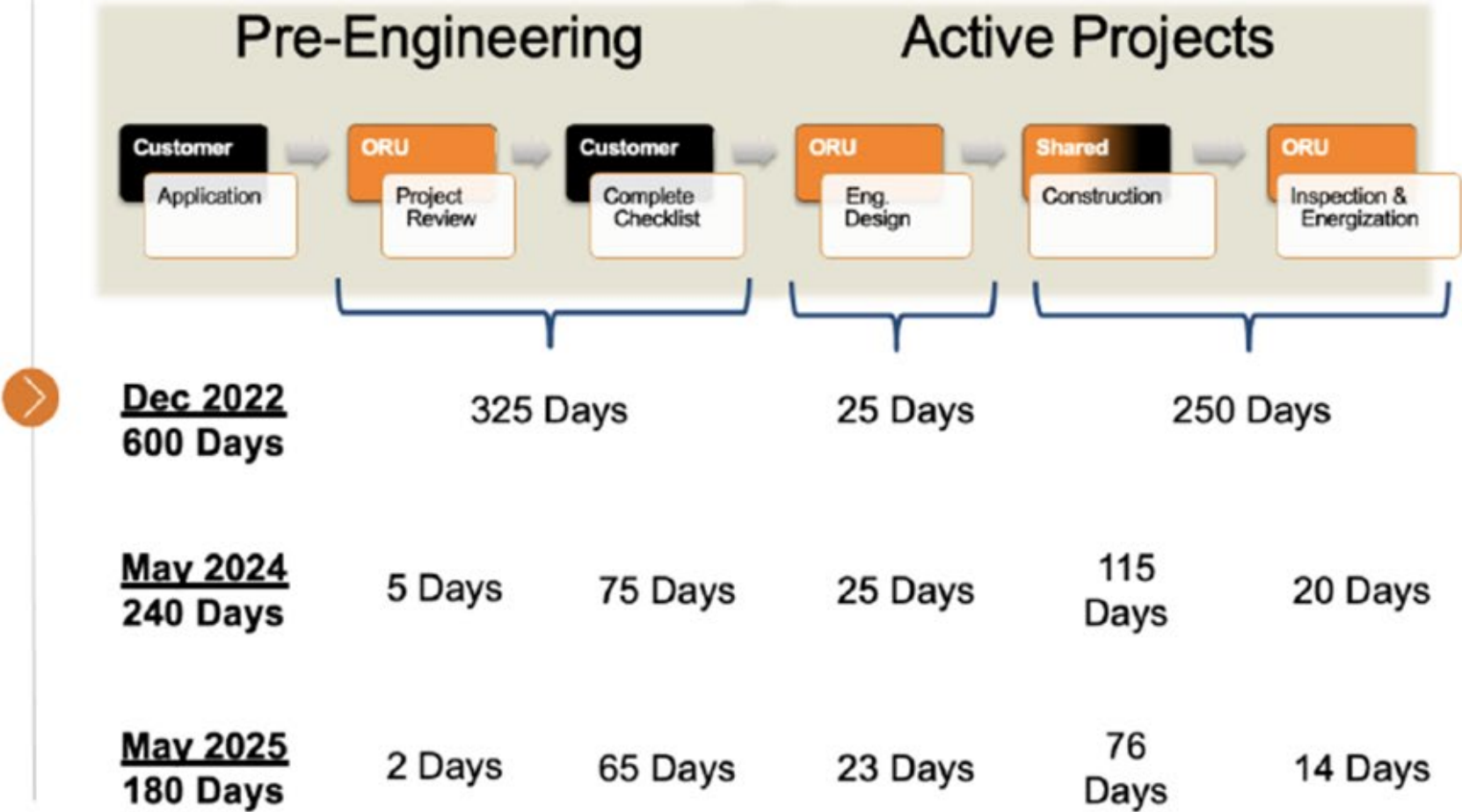
Interconnection timelines decrease from 650 business days in 2022 to 180 business days in 2025.



Increased Customer Communication



Improved Process Handoffs



2025 E-Mobility KPIs Dashboard		2022	2023	2024	2025
Safety	Injuries & Motor Vehicle Collisions	0	1	0	0
	Data Security Incidents	0	0	0	0
	E-Mobility Job Briefings	18 at 100%	23 at 100%	181 at 100%	100%
	Overdue Trainings	0	0	0	0
Operational Excellence	Total E-Mobility Spend	\$3.7 M	\$5.3 M	\$13.8 M	\$10 M
	Filings & Reports COTA	16 at 100%	28 at 100%	171 at 99%	100%
	EV Plugs Energized	125	278	775	1,294
	Enrollments in Managed Charing	150	2,144	5,325	6,049
	All OE KPIs	3/3	10/13	20/27	25/31
Customer Service	Customer Satisfaction	-	75%	85%	75%
	Clean Energy ATIPs	2/2	2/2	2/2	2/2
	Applications Processed in BDs	248 in 9.2	2,406 in 3.7	3,859 in 4.5	5 BDs
	Sending Payments	42 in 23	3,120 in 25	9,855 in 22	30 BDs
	Inquiry Responses in BDs	2,426 in 3	5,482 in 3	7,844 in 2.1	3 BDs
	Events & Campaigns	62	55	57	72
	All CS KPIs	2/2	10/11	19/19	39/39

## Highlight: EV Council Response 11/6/2025:

“...we incentivize between 20-60% of total cost to install chargers, with a guiding principle of pay a little as possible to get the job done (to save rate payer money).” -O&R Utilities



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# Customer Journey Mapping (CJM)

The TE Team worked with Customer Intelligence who has extensive knowledge on CJM. This effort allowed the TE team to understand the following:

- Deepen understanding of customer needs
- Guide improvement efforts
- Improve customer satisfaction
- Enable future state evolution

We developed customer personas that helped us put these customers in their shoes and understand what their goals, concerns, and interests were so that we can shape how we help them. The following slides include some of the personas developed.

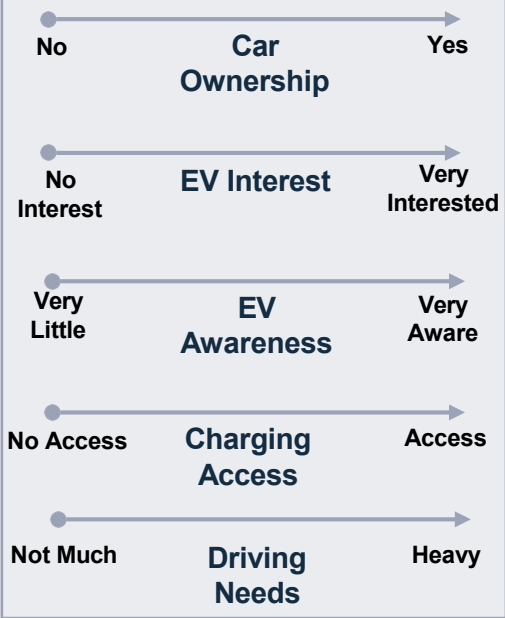
# Customer Persona #0 (A) — Local Charging Developer/Installer

Developer/Installer

Danny



## Customer Bio



## About Me:

### Key Characteristics

- **EV Charging Station Developer/Installer** who help customers develop/install EV charging projects
- A local developer/installer on Long Island
- May have previously participated in PSEG-LI’s EE programs and interested in getting into the EV space

### Main Goals/Needs:

- Wants to understand PSEG-LI’s program offerings in detail so that they can educate customers and maximize savings
- Learn about application and enrollment process to provide seamless experience to customers
- Stay up-to-date with PSEG-LI’s program offerings
- Become an expert on EV and incentive programs to support customer decisions

### Main Frustrations/Concerns:

- Application form is difficult to fill out
- Application process is unclear and takes too long
- Unable to reach a representative who knows about EV Program application guidelines
- Ensure they are kept up with the latest program details

## My Interests

- Expand business offerings
- Easy-to-follow website with useful information, checklists, toolkits and guides on application/enrollment process
- POC at PSEG-LI who can provide program information and help answer questions
- Provides information and transparency around review and approval process, utility service upgrade requirements, timelines and costs
- Provides checklists, toolkits and guides on the process

**PSEG-LI Relationship:**

- **Customer:** NA
- **Expectations:** Frequent and timely
- **Reaction to Issues:** impatient
- **myAccount:** NA

**Communication:**

- **Communication Needs:** once a week
- **Preferred Communication:**

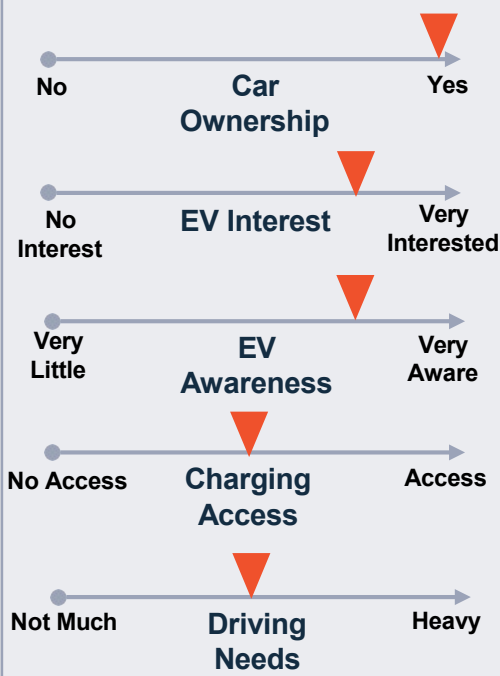
# Customer Persona #1 – Ben wants to buy an EV

Residential - Single-family

Ben



### Customer Bio



### About Me:

#### Key Characteristics

- **Residential customer**; lives in single-family home
- Heard about benefits of EVs and want to understand if EV is right for him
- Look into home and public charging options

#### Main Goals/Needs:

- Want a vehicle and charging station that can meet his driving needs and can charge easily at home
- Learn more about the different types of EVs and charging stations, pricing, specifications and available incentives
- Know what incentives are available and how to apply
- Learn about how to maximize bill savings and other benefits of EVs

#### Main Frustrations/Concerns:

- Worry about new technology and its uncertainty
- Have range anxiety for longer road trips
- Available incentives are not easy to understand and apply for
- Not sure how much it will cost to charge their EV and which rate is right for his charging needs
- Not sure how to go about installing an EV charger at home

### My Interests

- Get my family from A to B safely
- Available EV models, price, range and where to purchase, and types and price range of EV chargers, charging time, rates, and charging cost
- Available incentives and easy-to-understand step-by-step how to apply (tax credit, charger rebate, etc.)
- Who and how to install a charger at home
- Available public charging stations and tips & tricks
- Easy tools to help identify the right EV, EV charger and electric rate to enroll

PSEG-LI Relationship:	Communication:
<ul style="list-style-type: none"><li>• <b>Customer:</b> 10+ years</li><li>• <b>Expectations:</b> Quick &amp; easy customer service</li><li>• <b>Reaction to Issues:</b> impatient</li><li>• <b>myAccount:</b> Yes (no paper bill)</li></ul>	<ul style="list-style-type: none"><li>• <b>Communication Needs:</b> periodically</li><li>• <b>Preferred Communication:</b></li></ul> <div></div>



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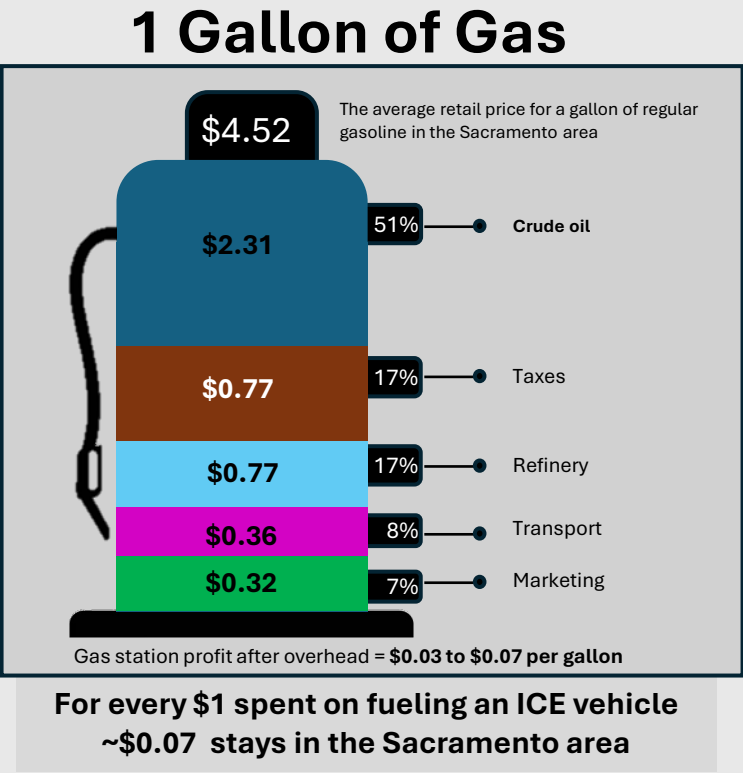
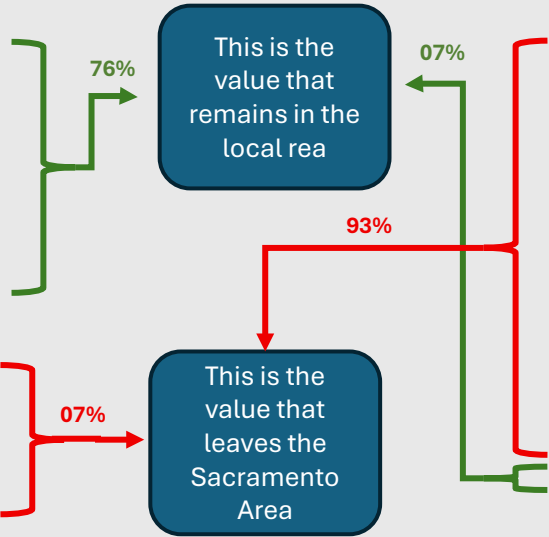
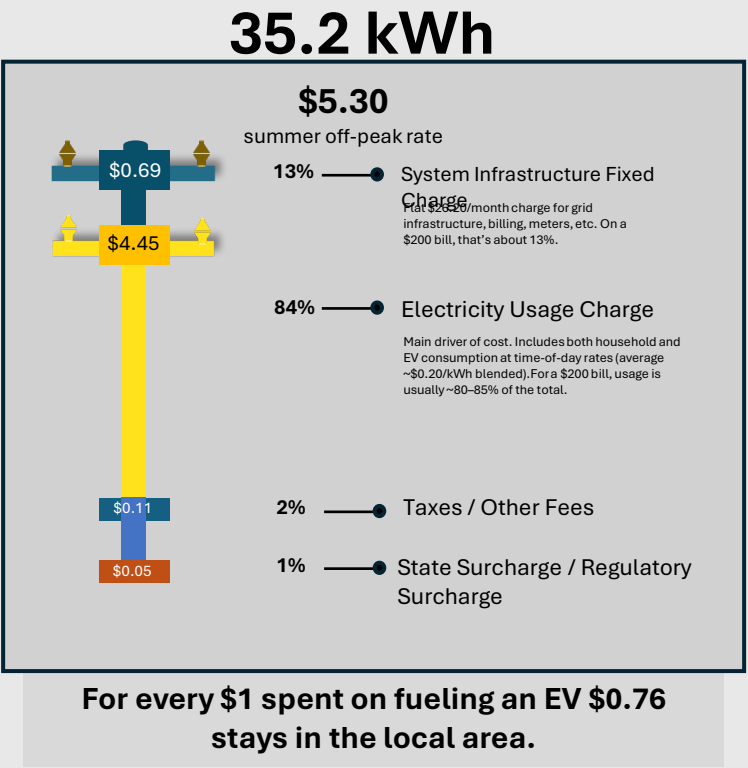
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# Community Impact



**The Value of EVs extend beyond environmental benefits. EVs can be an economic engine for a community**

# ICE vs EV – Who Drives More Benefits?

Factor	Gasoline Car	Electric Car	Winner
Miles per \$1	~6.6 miles	~19.2 miles	EV (3x)
Local Economic retention	~10%-15% stays local	~90%-100% stays local	EV ( $\approx 10x$ )
CO2 Emissions	~4.3 lbs.	~2.2lbs	EV (.5 emissions)
Health Impact	High (Tailpipe pollution)	Very Low	EV

For each \$1 spent fueling, Evs return ~3× the transportation service, ~10× the local economic value, and ~2× the climate/health benefit compared to gasoline vehicles.



Matilda “Tilly”

Thank You!

Karl Popham  
Chair, EV Leadership Council at  
Chartwell Inc  
Founder, Mobility+Energy LLC

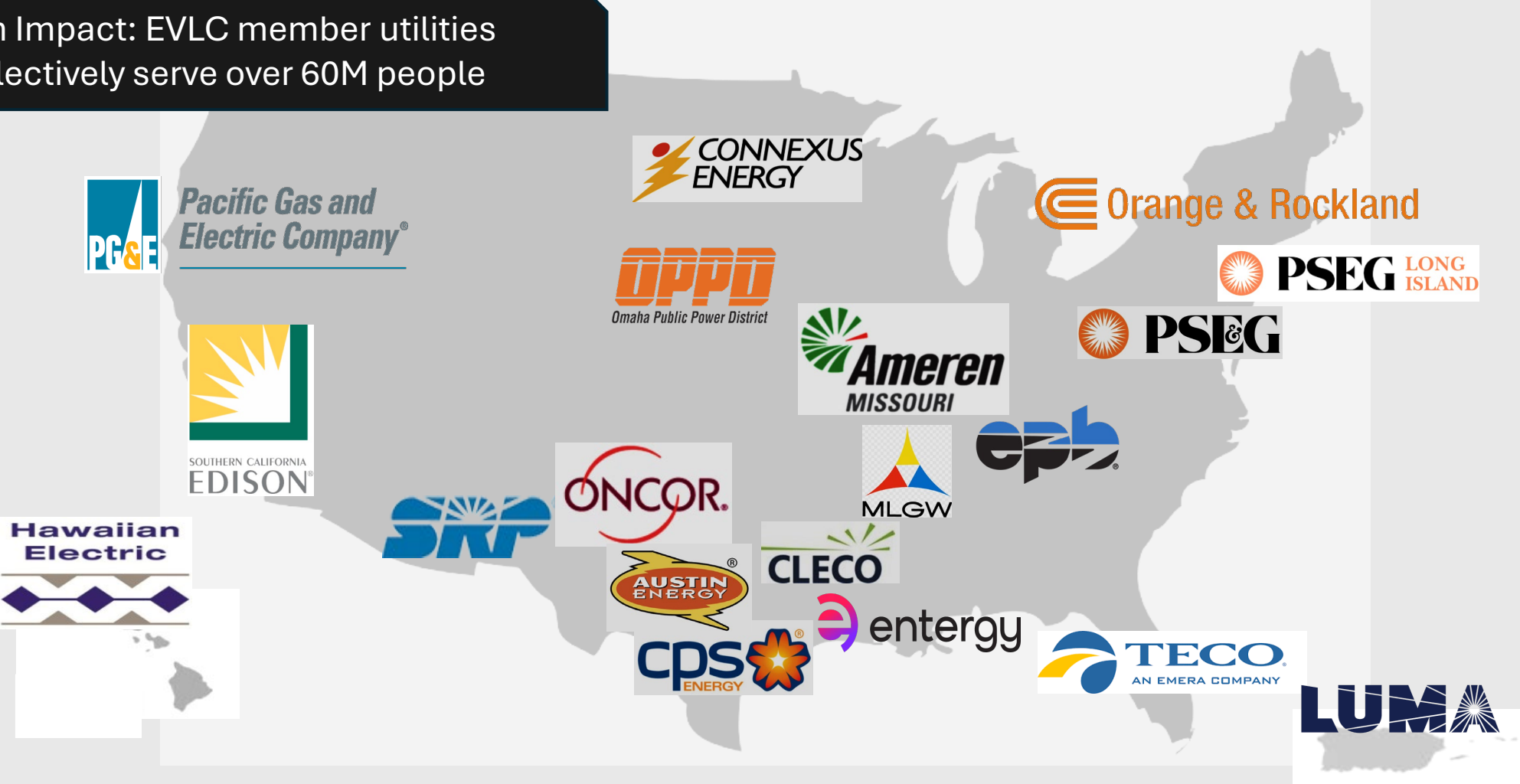
Andrew Higgins  
Sr Advisor, KPMG  
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Nov 11, 2025

# Backup Slides

# EV Leadership Council Member Network

High Impact: EVLC member utilities collectively serve over 60M people





# Multifamily

- Represents approximately 35% of Sacramento housing
- Market Segmentation is Key
  - Apartment managed (amenity)
  - HOA (assigning cost to EV owner)
  - Luxury, Student, Affordable
- EVSE More cost effective during constructions vs retrofit



# Tiers of EV Readiness

## • Adoption of the 2024 International Energy Conservation Code + Local Amendments

### Definitions

**EV-Capable** - Capacity and conduit

**EV-Ready** - Capacity, conduit, wiring and outlet

**EVSE** - Capacity, conduit, wiring and charging station

Term	Code Definition <sup>1</sup>	Guide Sheet Interpretation
<b>EV Capable Space</b>	A designated automobile parking space that is provided with electrical infrastructure such as, but not limited to, raceways, cables, electrical capacity, a panelboard or other electrical distribution equipment space necessary for the future installation of Electric Vehicle Supply Equipment (EVSE).	An EV capable space requires, at minimum, load sizing of 6.2 kVA <sup>2</sup> of electrical capacity per space, breaker space in a panel, raceway (can be empty) and a raceway termination. The breaker space and raceway termination are required to be marked as "For future EVSE."
<b>EV Ready Space</b>	An automobile parking space that is provided with a branch circuit and an outlet, junction box or receptacle that will support an installed EVSE.	An EV ready space requires, at minimum, load sizing of 6.2 kVA <sup>2</sup> of electrical capacity per space, breaker marked as "For EVSE" in a panel, raceway with wiring and a receptacle or charger.
<b>EVSE Space</b>	An automobile parking space that is provided with a dedicated EVSE connection.	An EV ready space requires, at minimum, load sizing of 6.2 kVA <sup>2</sup> of electrical capacity per space, breaker marked as "For EVSE" in a panel, raceway with wiring and EV charger.

<sup>1</sup>2024 IECC RE101 for one- and two-family dwellings and townhouses.

<sup>2</sup>If an energy management system (EMS) is utilized, load sizing of 2.1 kVA of electrical capacity per space can be used.



# Multifamily Requirements

- Mid/High-Rise Requirements
- Five stories or more



## 2024 CITY OF AUSTIN ENERGY CODE



EV-capable and EV-ready quantities required determined by building occupancy type(s)



Requirement Type	EV Capable	EV Ready
<b>Panelboard/ Switchboard</b>	Designed and installed to accommodate EV load. Could include upsizing panels, additional panels and/or efficient placement of circuits in panels. Reserved space in panels labeled "For future electric vehicle supply equipment."	Same as EV capable
<b>Conduit/ Raceway</b>	Sized for calculated EV charging load of not less than 3.3 kVA <sup>1</sup> per space.	Same as EV capable
<b>Electrical Enclosure</b>	Located within three (3) feet of the EV capable space. Labeled "For electric vehicle supply equipment."	Located within three (3) feet of the EV ready space. Labeled "For electric vehicle supply equipment."
<b>Transformer (utility side)</b>	No requirement	Sized to accommodate calculated EV charging load.
<b>Wiring</b>	No requirement	Sized for calculated EV charging load of not less than 7.2 kVA per space with no EMS or 3.3 kVA with an EMS.
<b>Breaker/Circuit</b>	No installation requirement, however, spare electrical capacity for a two-pole circuit breaker or set of fuses.	Installation of branch circuit serving each EV ready space.
<b>Installed EVSE</b>	No requirement, however, EV capable required quantity may be reduced by the number of spaces served by installed EVSE.	
<b>Energy Management Systems (EMS)<sup>1</sup></b>	No requirement, however, it is recommended for multifamily sites to consider this option to reduce overall electrical site load.	

<sup>1</sup>Many dual port electric vehicle charging stations utilize EMS. These stations double the number of EV readiness spaces while keeping the overall electrical demand within a building's existing capacity. The capacity of the electrical distribution system and each branch circuit serving multiple EV readiness spaces with a dual port system is reduced from 7.2 kVA to 3.3 kVA per space.



# Going Beyond Code



## KEY FACTS:

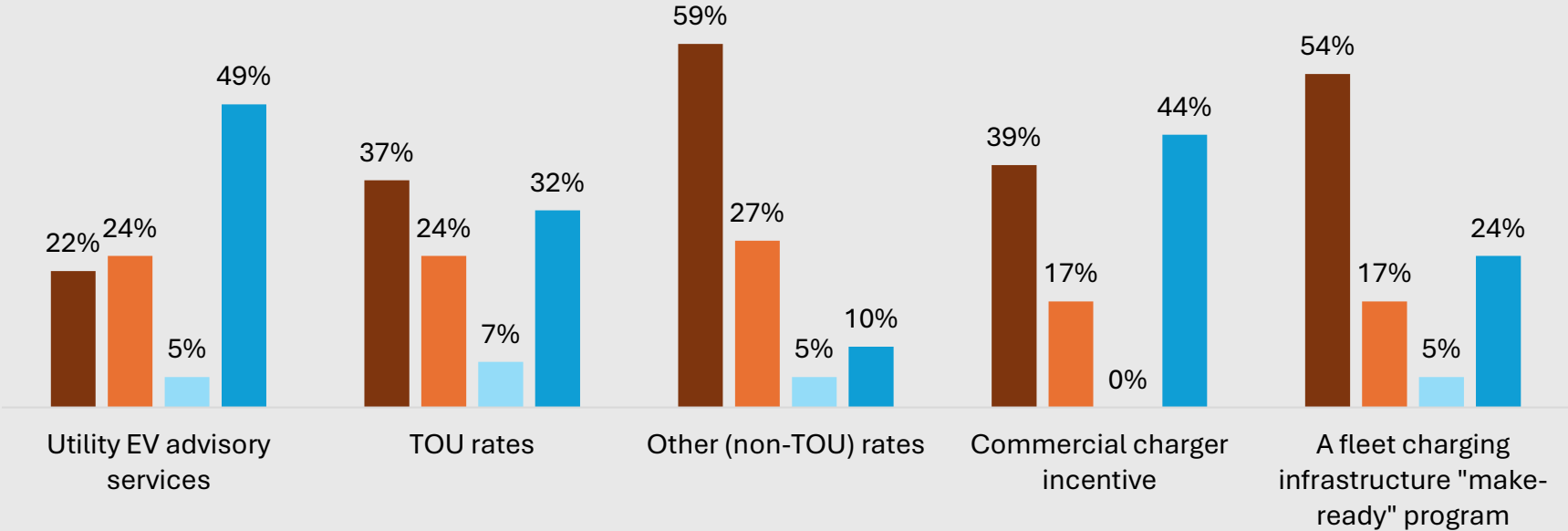
- » All 277 resident parking spaces ready for EV charging stations
- » 17% of condo pre-sales requested EV charging
- » Austin Energy rebate offsets a portion of costs for condo owners
- » Industry-wide, EV drivers do more than 80% of their charging at home
- » EVs growth rate in Austin is nearly 200% over the last few years

The parking garage was divided into zones for EV charging infrastructure. A centrally located junction box provides service to each zone. An additional 150 kVA transformer supplements the excess capacity of the building transformers to provide a total service capacity of 300 kVA dedicated to EV charging.

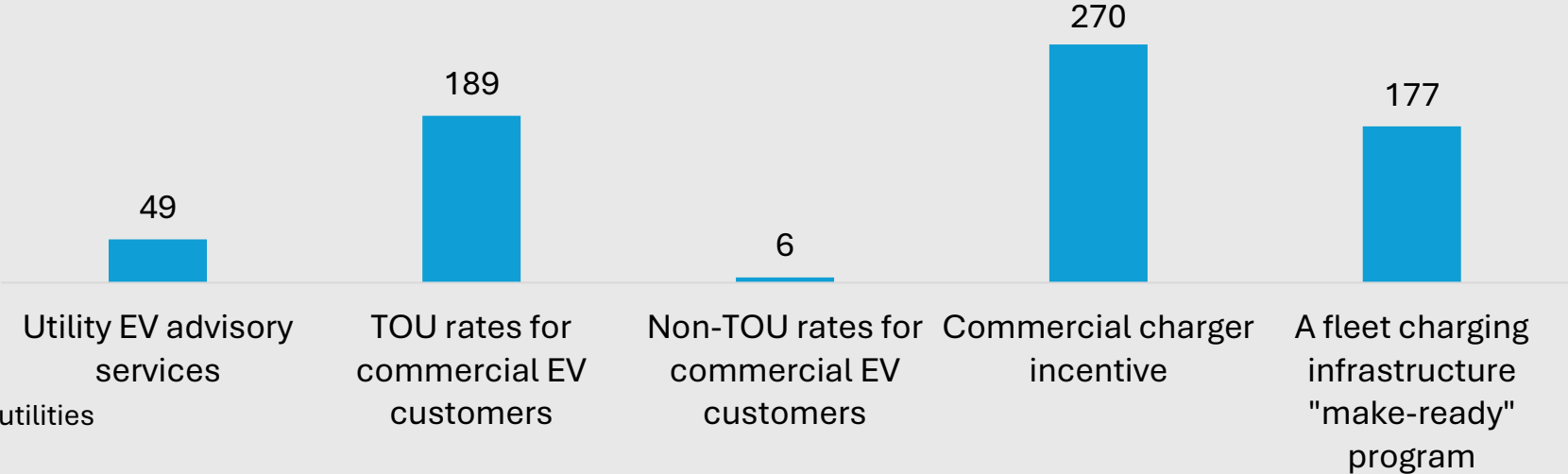


# Status of Commercial EV Programs at Your Utility

- Not Offering or Considering
- Considering offering within the next 2 years
- Testing or piloting
- Offering

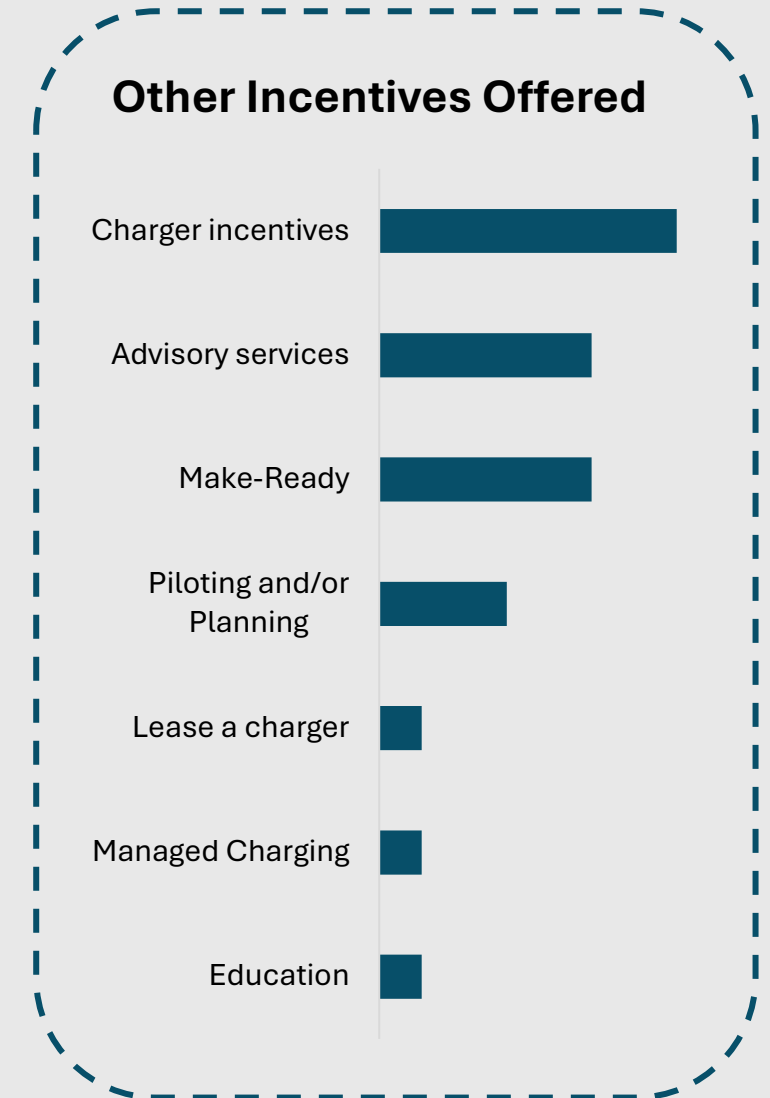
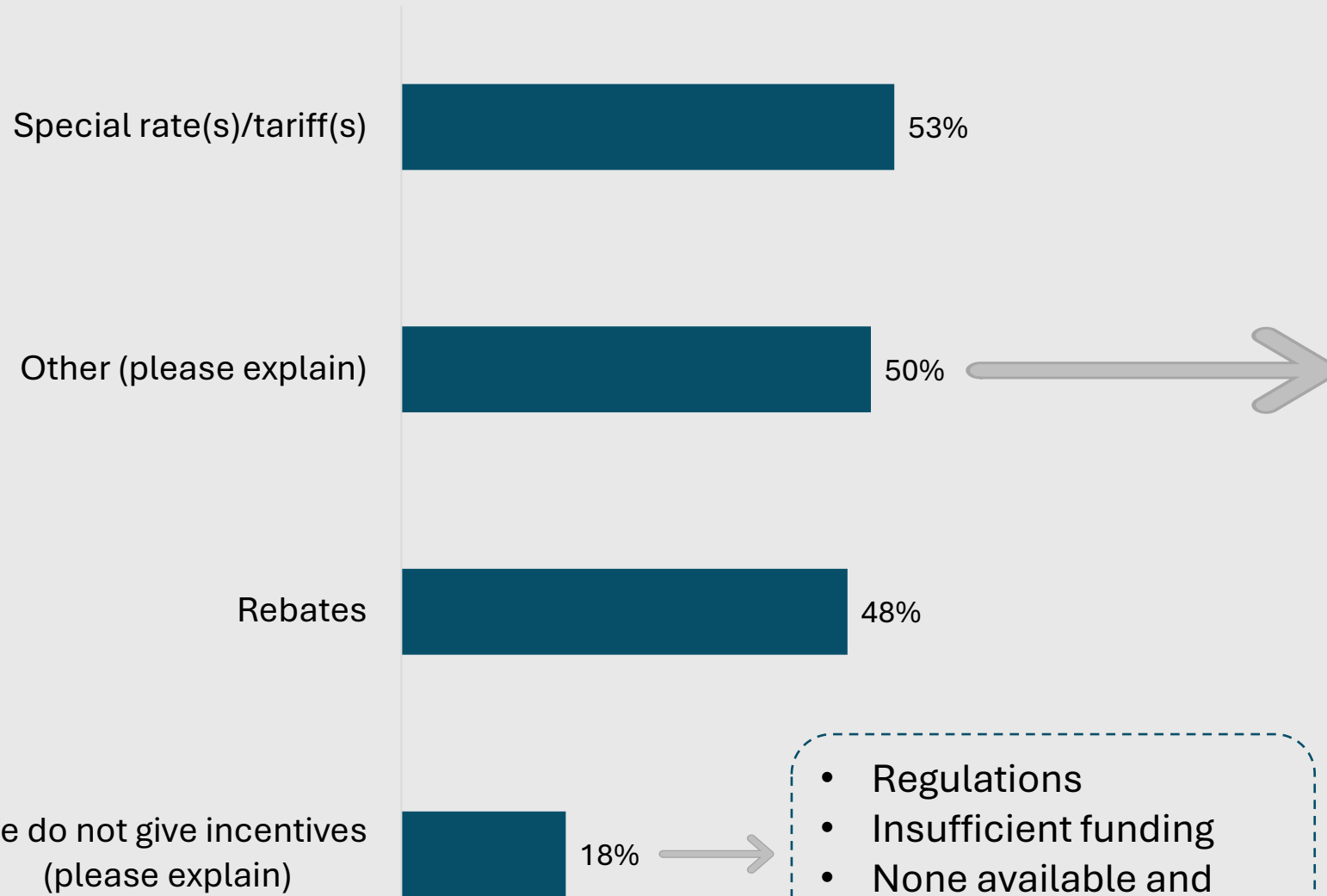


## Average Count of Commerical Customers per Program Piloted or Offered



Source: 2025 Electric Vehicle Benchmark Survey, n=41 utilities

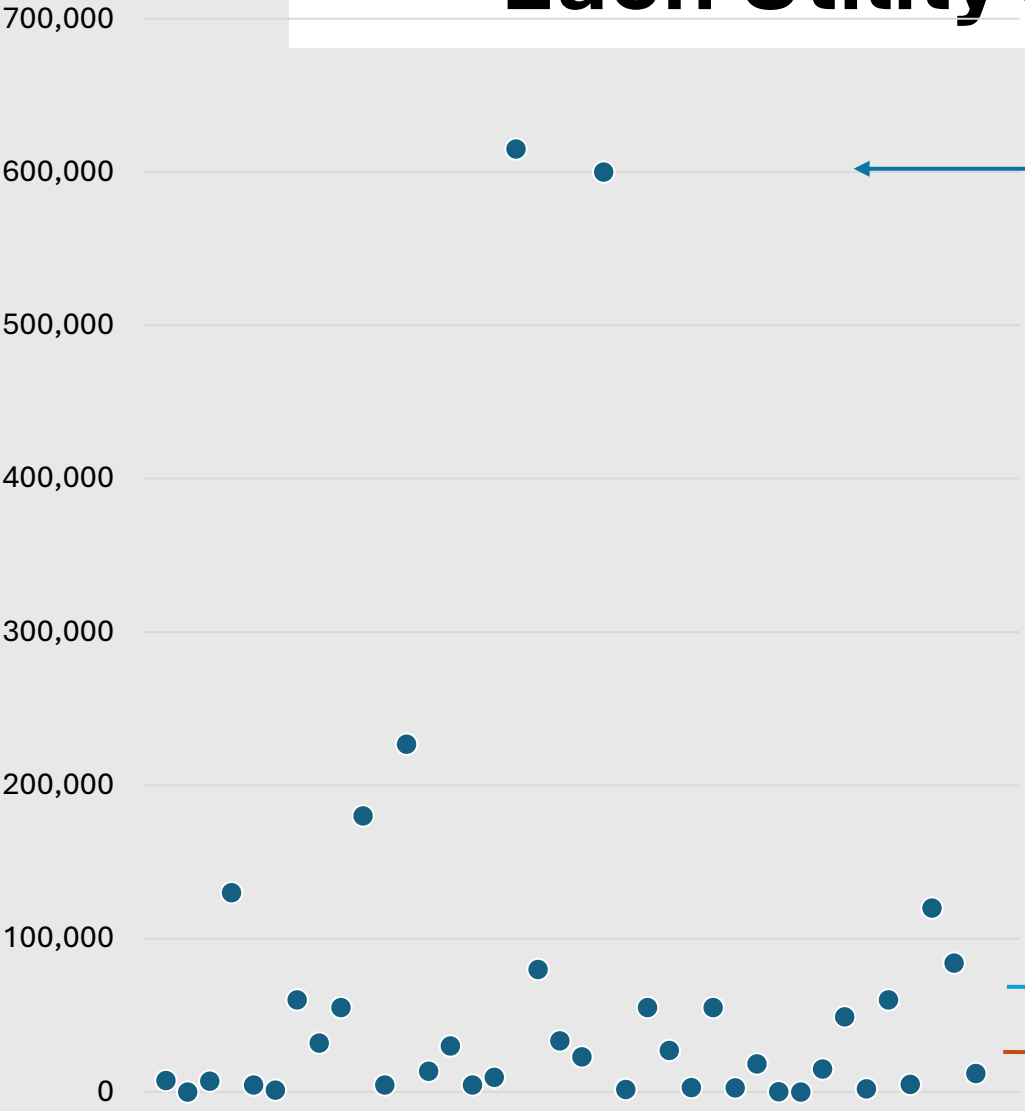
# Incentives Offered for EV Adoption



- Regulations
- Insufficient funding
- None available and no plans to implement

Source: 2025 Electric Vehicle Benchmark Survey, n=40 utilities

# Number of Electric Vehicles Within Each Utility's Service Territory



2 large West Coast IOUs with 600,000+ EVs

25% of utilities have 60,000 or more EVs in their service territory

25% of utilities have 25,000-60,000 EVs in their service territory

50% of utilities have up to 25,000 EVs in their service territory

The count of EVs within a particular service territory can depend on geography, utility type, and customer count.

25th percentile	4,656
50th percentile	25,000
75th percentile	60,000
Average	71,017

Source: 2025 Electric Vehicle Benchmark Survey, n=38 utilities