



Transportation Electrification Program Update

Resource Management Commission

Karl Popham

Manager, Electric Vehicles & Emerging Technologies



October 2020

© 2018 Austin Energy

Agenda

1. Program Overview

2. Austin's EV metrics

3. FY20 Highlights

- DC Fast charging rollout
- City fleet infrastructure
- Heavy Duty / Cap Metro electrification
- EV readiness for commercial buildings
- Climate Equity Plan update
- Equity & Inclusion “EVs are for EVeryone”
- EV online buyer's guide
- “Customer Moment”



Electric Vehicles & Emerging Technologies Team



E-Visionary
City of the Year 2020



FAST COMPANY



EVs for Schools



Plug-in America
EV Utility of the Year 3

Austin Energy EV Customer Programs

- **Plug-In EVerywhere™ Driver Program**
 - \$4.17/mo unlimited charging at all 1000+ Level-2 ports for members
 - **New** \$0.21/min DC Fast charging
- **Plug-In EVerywhere™ Infrastructure Rebate Program**
 - Up to \$1,200 rebate for home Level-2 wi-fi enabled (\$900 non wi-fi)
 - Up to \$4,000 rebate for commercial/public Level-2 stations
 - Up to \$10,000 rebate for public DC Fast stations
- **Fleet & Public Infrastructure Pilot Tariff**
 - **New** optional EV infrastructure commercial tariff promotes efficiency and high usage
- **EV360 Pilot**
 - Flat rate of \$30/mo for off peak home charging + Plug-In EVerywhere
- **EVs for Schools**
 - EV charging stations for staff, students, parents, and visitors
 - **New** - curriculum is now available online nationally and in Spanish
- **E-Ride Program** Up to \$400 rebate from the purchase of electric bikes, includes individuals and bike fleet applications

Powered By GreenChoice® 100%
renewable wind power



Akins High School teacher, Jay H., plugs in his EV at an “EVs for Schools” charging station



DC Fast Infrastructure Rollout FY20



26 new DC Fast
at 9 Locations

DC Fast stations enable corridor traffic, multi-family, and ride-hail/taxi electrification with up to 125kW (paired) fueling 215 miles of range per half-hour.



Up to 125 kW (paired)
DC Fast Charging \$0.21/minute

DC Fast Hubs - Texas TCEQ Alt Fuels Grant Supported

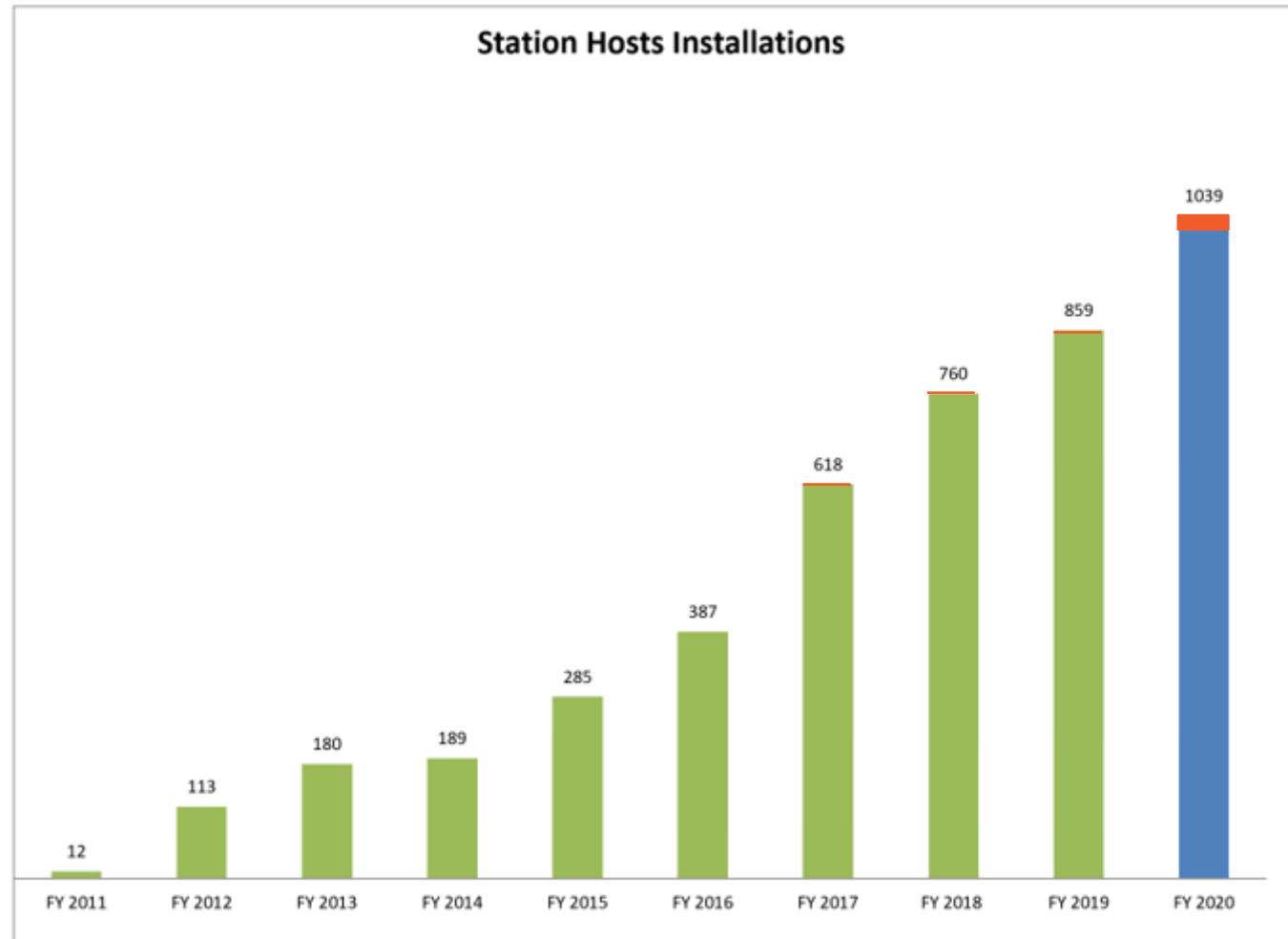
Host / Site	Address	# Stations
PARD-AISD	2001 W Cesar Chavez St.	4
Saltillo-Whole Foods	905 East 5th St.	4
Electric Drive	811 Electric Dr.	4
Mueller Market	1801 E 51st St.	4
Village at Westlake	701 S Capital of Texas	4

DC Fast Stations

Host / Site	Address	# Stations
Travis County	700 Lavaca Sr.	1
Elektrica	2705 Hwy71	1
ABIA Cell Phone Lot	2716 Spirit of TX Hwy	2
Austin Film Society	1901 E 51st St.	2

EV Host Installations

Public Charging Program



180 Charging
Port Increase
(includes 26
DC Fast)

1,000+ Port
Milestone
Achieved

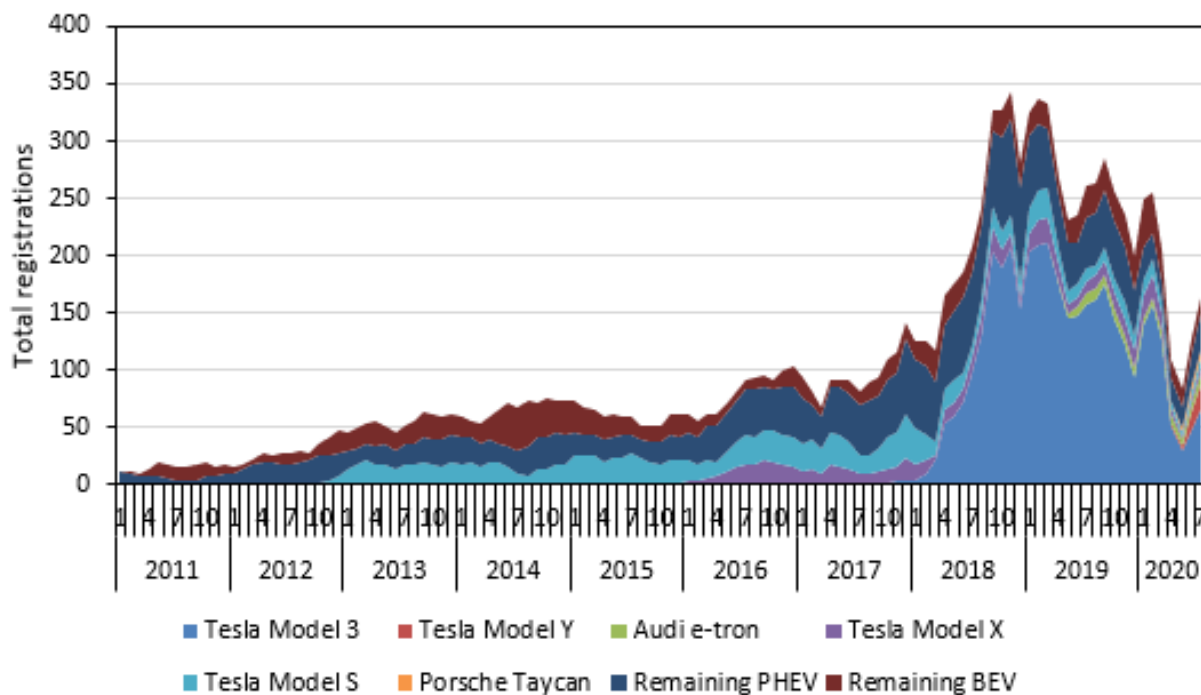
289 Locations



1039 charging ports have been installed at 289 locations to include retail, workplace, multifamily, and fleet

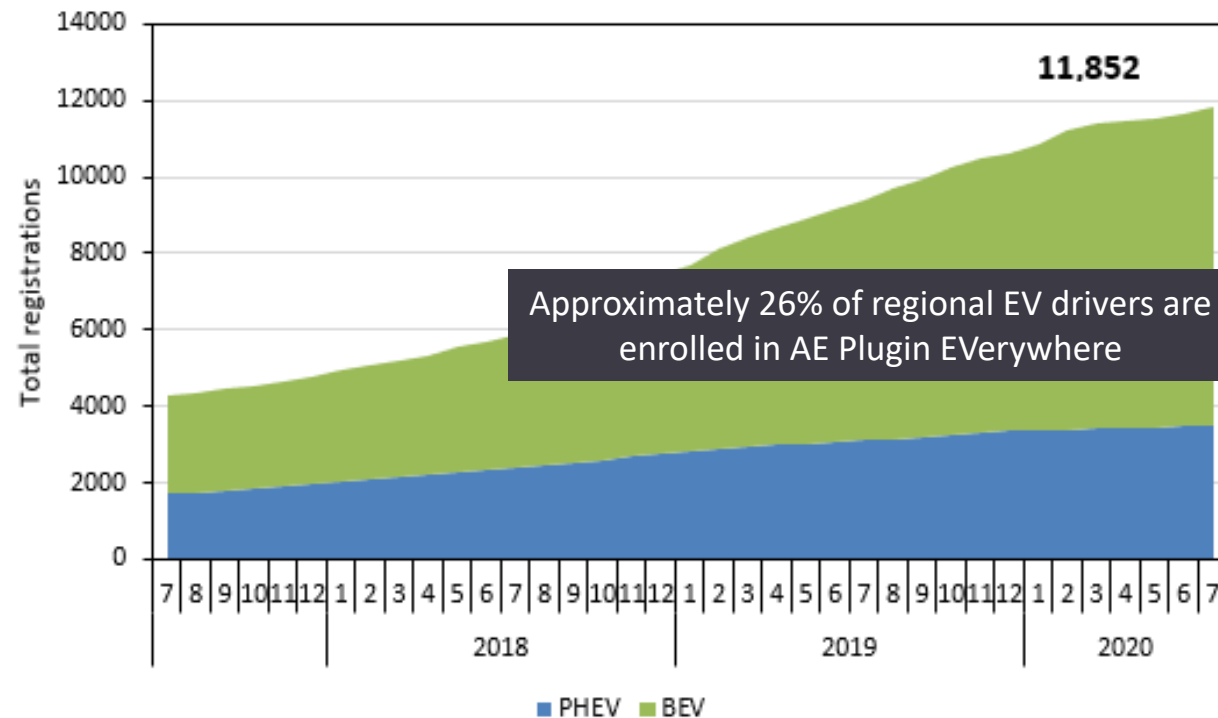
EV Registrations

Monthly registrations by vehicle



Data provided quarterly from EPRI for Travis and Williamson County

Cumulative registrations by type



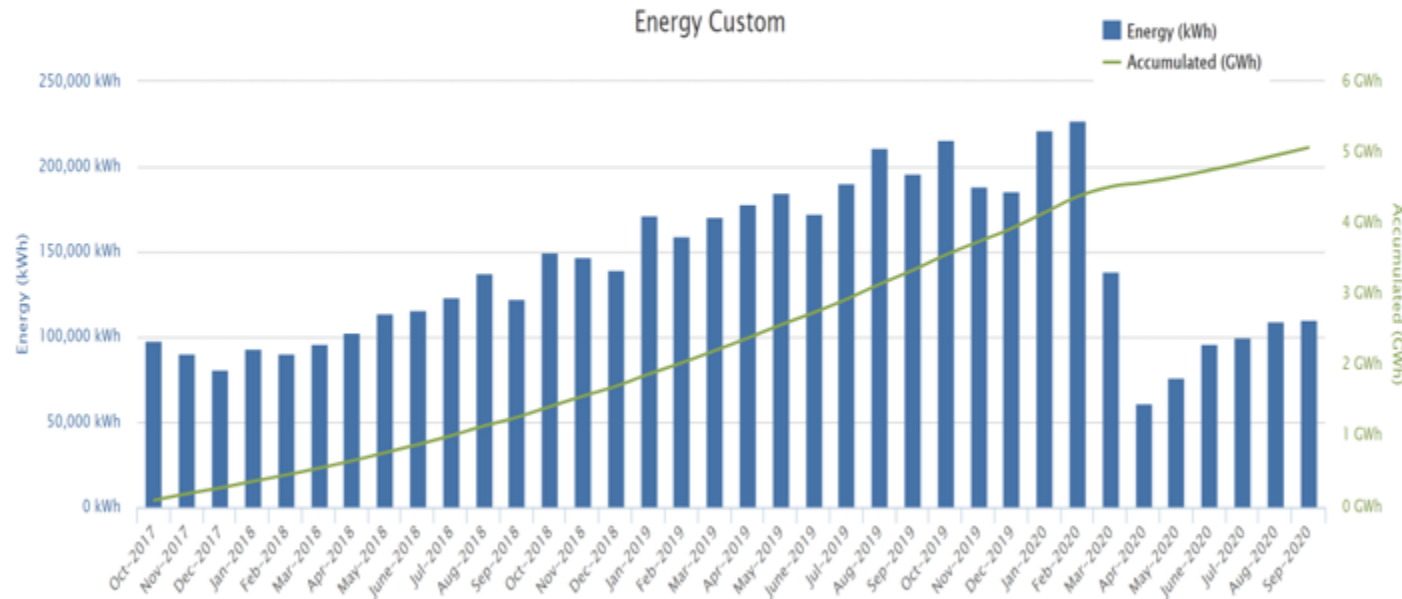
Data provided quarterly from EPRI for Travis and Williamson County



Impact of Pandemic Closures on Public Charging

Tracks with Gas Pump Decrease

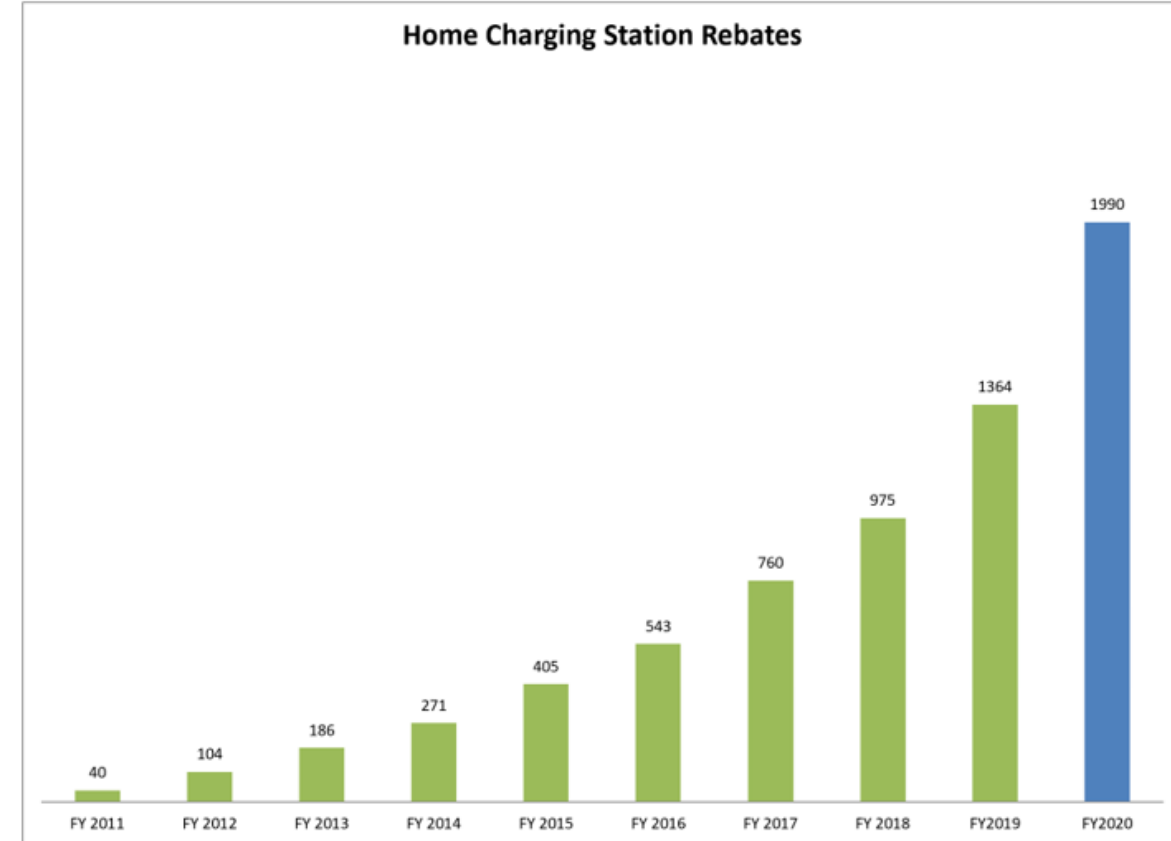
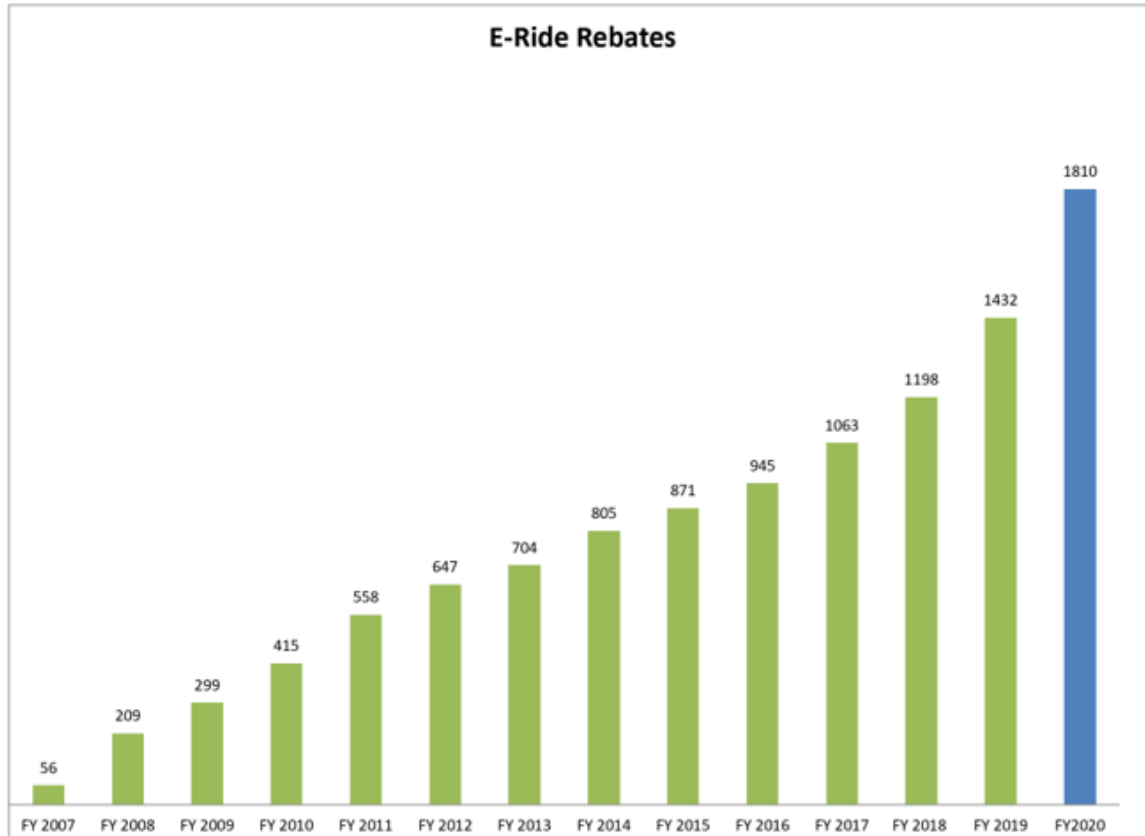
Energy Usage – Plug-in EVERYwhere Network
(Monthly, 3 year rolling)



Public Charging: Public Charging: 7.15 GWh consumed through 771,061 charging sessions since program inception, displacing approximately 28.6M petroleum miles with 100% renewable GreenChoice® energy.
Data provided by ChargePoint Station Manager



Electrification Program Growth – FY20 Surge



Participants from Texas Bicycle Coalition to include 19 e-bikes in FY20 from Austin Energy E-Ride Fleet Program



City of Austin Fleet Electrification

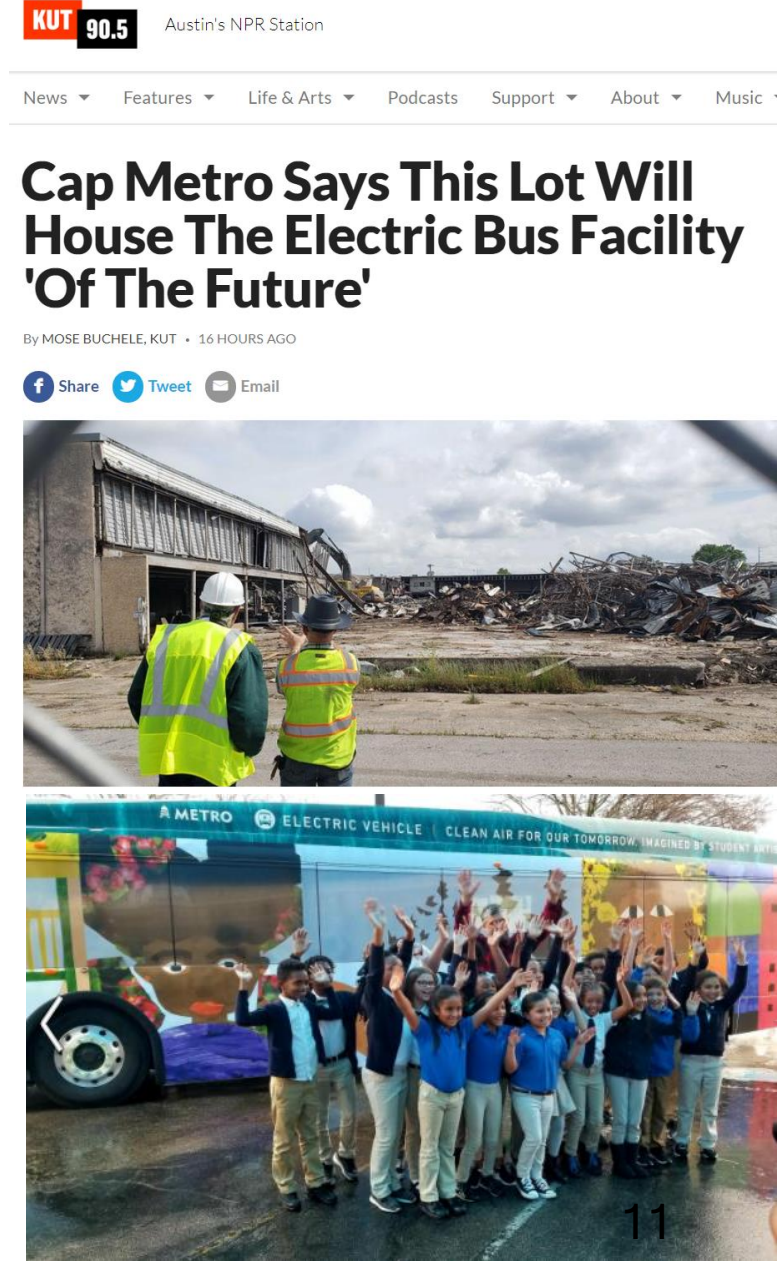


- Over 200 EVs currently in COA fleet, tracking toward 330 goal
- City Fleet EV plan expected to save the city \$3.5M and 12,000 metric tons of CO2 over 10 years
- Deploying charging infrastructure at COA facilities to support electric fleet
 - 93 ports installed at 20 facilities
 - Execution of Indefinite Delivery, Indefinite Quantity (IDIQ) contract to expedite future installations
 - Future proofing new COA buildings (DSD Highland, Austin Energy HQ)



Capital Metro Bus Electrification

- Cap Metro collaborated with Austin Energy in the development of their North Ops Bus Depot to build a smart charging facility for over 200 electric buses
- Cap Metro currently has 12 battery-electric buses with plans to buy 19 additional 40-foot electric buses in the next 2 years; *Passage of Project Connect or additional grant funding could expedite this timeline*
- By collaborating early in the process, Cap Metro was able to future proof the electric capacity of their facility to expedite expansion while reducing costs
- Austin Energy has also developed a Fleet & Public Charging Pilot Rate designed to encourage high usage and efficiency while ensuring full cost recovery for Austin Energy



EV Readiness

Goals

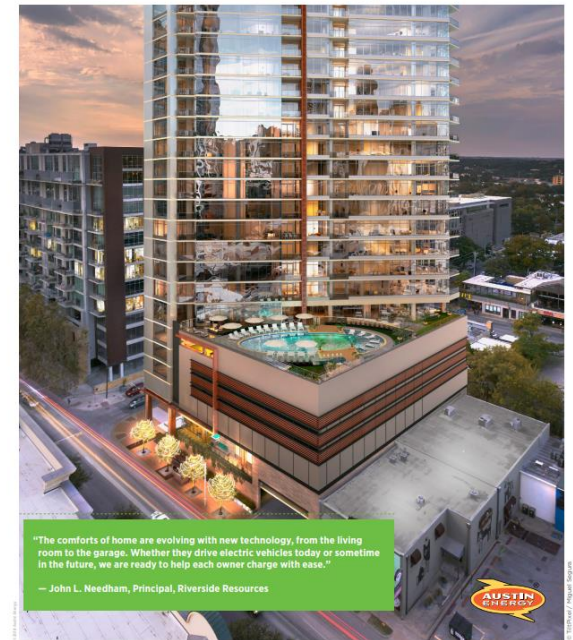
- Make at least 10% of all new parking spaces EV Ready
- Significantly reduce future costs for charging infrastructure

Requirements

- Installation of conduit/raceway
- Service Panel Capacity
- Distribution Transformer Capacity
- Sizing – (min 40-amp, 240 Volt)
- Standards based (Includes National Electrical Code Article 625 and Texas Accessibility Regulation)



CASE STUDY
FIFTH & WEST RESIDENCES
100% ELECTRIC VEHICLE READINESS



Austin case study on 100%
EV Ready

Austin Climate Equity Plan - Transportation Electrification

Draft Goals

Goal 1: By 2030, 40% of total vehicle miles traveled in the City of Austin are electrified and electric vehicle ownership is diverse culturally, geographically and economically. This translates to approximately 460,000 electric vehicles on the road.

Goal 2: By 2030, Austin has compelling and equitably-distributed charging infrastructure that is a mix of level 1, 2, and DC fast charging to accommodate 40% of total vehicle miles traveled in the city. This translates to 226 megawatts of electrical load and could mean over 37,000 charging ports.

Goal 3: The Austin-Round Rock-San Marcos MSA will be a global leader in transportation electrification by adopting policies and technologies that maximize the economic and health benefits for all while evolving with and defining the growth of this emerging industry.

Today:
~1% VMT

Goal:
40% VMT
by 2030



Equity & Inclusion – “EVs for EVeryone”

Goal - create a future of mobility that is equitable, affordable, and accessible while helping the environment.

- Provide electric vehicle outreach, program development and deployment with a focus on marginalized communities
- Conducted 100s of e-bike access and safety trainings for underserved community members
- 86+ multifamily communities have charging including Affordable Housing properties that are home to over 27,800 residents.
- Council approved full-time employee program resource for FY20
- EVs for Schools expansion...



Austinite Maria, participates in an Austin Energy e-Bike demonstration and safety event

Equity & Inclusion – “EVs for Schools” Update

“EVs for Schools” Program, pilot prioritized deployment and outreach for economically disadvantaged students at title-one schools

- 795 teachers at 122 schools in Central Texas are utilizing the EV lessons
- As a response to COVID19, curriculum was made online and free of charge to families locally and nationally to support at home learning
- Now offered in Spanish
- 6,850+ students experiencing the living lab with 65% of those students economically disadvantaged
- Companion Virtual Reality (VR) experience
- Curriculum incorporated by other entities nationwide to include Madison Gas and Electric, Southern California Edison, Metropolitan Area Planning Council of Boston, and Sacramento area schools

Austin American-Statesman

Charging stations at schools to power electric vehicles, student minds



Dealership Engagement & Online EV Buyer's Guide

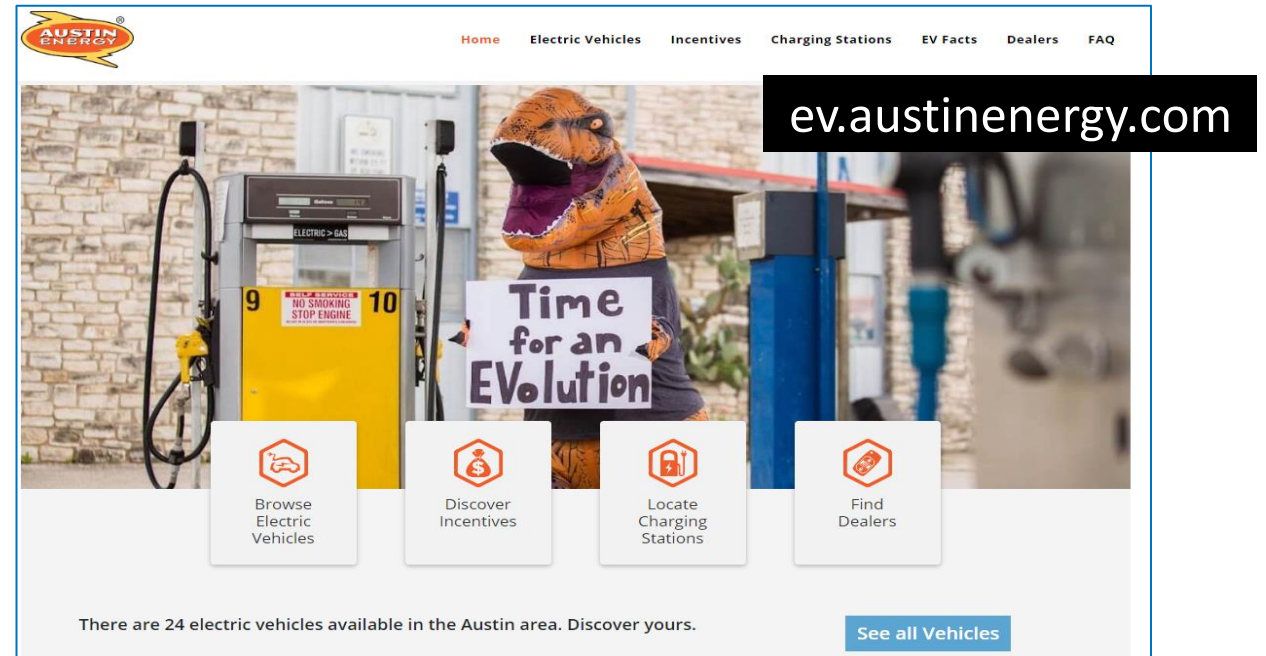
- **Online EV Resource & Buyers Guide**

- Enhance the EV shopping & charging experience
- Aggregated source of EVs for sale in Austin
- Phase 2 scheduled for November adds “real-time” new/used EV inventory

- **Partnerships with local car dealerships**

- Boost EV sales through charging education

- **Supported by Bloomberg Climate Cities Challenge**



1. Awareness
Utility marketing to create awareness

2. Purchase
Dealer sales and training tool that reinforces strategy

3. Ownership
Consumer tool for every EV brand simplifying electric fuel

4. Experience
Easy to visualize fuel branding at every station

“Customer Service Moment”

- One of the best customer service experiences I have ever had with any organization – public or private. -*Craig L.*
- The ease, kindness, understanding and efficiency with which he assisted me was commendable -*Stephanie D.*
- One more great program from Austin Energy. If only the entire state was served by Austin Energy, Texas would be a better place to live. -*EV Program Customer Survey*
- Just writing to thank your team for such quick and courteous assistance. Y'all have a great team and service. -*Gibrán L.*

EV incentive programs are now
100% digital and paper-free





Karl Popham

Manager, Electric Vehicles & Emerging Technologies
Austin Energy



www.pluginAustin.com &
austinenenergy.com/go/shines



Karl.Popham@austinenenergy.com



Backup Slides



Medium and Heavy Duty Electrification

- Still an Emerging Market
 - Refuse trucks
 - Airport equipment
 - Buses
- Range can be a barrier
 - High charging speeds
 - Batteries getting better



Light Duty

Service:

- Single Phase 120/240V

Charging:

- Charging typically under 10kW per vehicle

Implications:

- Panel space is a potential customer concern
- Utility service & secondaries

Medium and Heavy Duty

Service:

- Three Phase

Charging:

- Site charging requirements can several MW

Implications:

- Customer becomes responsible for the Medium Voltage Distribution on site / beyond primary meter
- Multiple distribution feeders may be required, possibly even substation upgrades

Fleet and Public EV Charging Pilot Rate



	Inside City Limits	Outside City Limits
Basic Charges		
<i>Customer (\$/month)</i>	\$500	\$500
Demand Charges (\$/kW)		
<i>Billed kW</i>	\$12.25	\$12.25
Energy Charges (\$/kWh)		
<i>Billed kWh</i>	\$0.00000	\$0.00000
Power Supply Adjustment Charge (\$/kWh)		
<i>Billed kWh</i>	\$0.03139	\$0.03139
Community Benefit Charges (\$/kWh)		
<i>Customer Assistance Program</i>	\$0.00058	\$0.00058
<i>Service Area Lighting</i>	\$0.00124	\$0.00000
<i>Energy Efficiency Services</i>	\$0.00335	\$0.00335
Regulatory Charge (\$/kW)		
<i>Billed kW</i>	\$2.37	\$2.37

Load must be 90% EV charging

Climate Equity Plan - Transportation Electrification Draft Goals

Goal 1: By 2030, 40% of total vehicle miles traveled in the City of Austin are electrified and electric vehicle ownership is diverse culturally, geographically and economically. This translates to approximately 460,000 electric vehicles on the road.

- Conduct an EV Community Needs Assessment
- Create Equitable Incentives for Buying and Leasing EVs
- Reduce Tolls for EV's in the Eastern Crescent
- Launch an e-Bike + Electric Car Sharing Program
- Electrify Public Sector Fleet Vehicles
- Electrify Private Sector Fleet Vehicles

Goal 2: By 2030, Austin has compelling and equitably-distributed charging infrastructure that is a mix of level 1, 2, and DC fast charging to accommodate 40% of total vehicle miles traveled in the city. This translates to 226 megawatts of electrical load and could mean over 37,000 charging ports.

- Create a Network of Low-cost, Accessible Charging Stations
- Incentivize Internet-Connected Smart Charging
- Adopt New Energy and Building Codes
- Expand Outreach to Underserved Groups

Goal 3: The Austin-Round Rock-San Marcos MSA will be a global leader in transportation electrification by adopting policies and technologies that maximize the economic and health benefits for all while evolving with and defining the growth of this emerging industry.

- Create a Regional Coalition to Support EV's
- Pilot and Adopt New Technology
- Prioritize a Just Transition
- Expand the EV-related Business Ecosystem

