

CLIMATE SMART SAN JOSE: ELECTRIC VEHICLE REACH CODE UPDATE

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February 9, 2023

Delivering world-class utility services and programs
to improve health, environment, and economy.



OVERVIEW FOR TODAY

- Background
- Reach Code Requirements
- Proposed Reach Code Ordinance Update
- Next Steps
- Comments and Questions





Background

WHAT ARE REACH CODES

The California Energy Commission

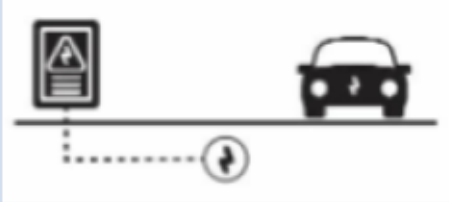
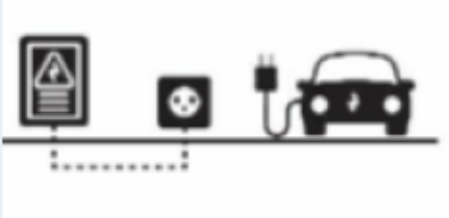

- Sets energy standards for all new buildings and regulates alterations to existing buildings
 - California Title 24 and California Green Building Standards Code

Building Reach Code

- Jurisdictions, such as the City, may choose to increase or "reach" beyond the California building code minimum requirements in the form of a reach code.



EV CHARGING INFRASTRUCTURE DEFINITIONS

<p>EV Capable <i>(Some assembly required)</i></p>		<p>Raceway (conduit), electrical capacity (breaker space)</p>
<p>EV Ready <i>(Plug & Play)</i></p>		<p>Raceway (conduit), electrical service capacity, overcurrent protection devices, wire and outlet (i.e. full circuit)</p>
<p>EV Supply Equipment (EVSE) Installed <i>(Level 2 Charge!)</i></p>		<p>All the equipment needed to deliver electrical energy from an electricity source to the EV</p>



Reach Code Requirements

CITY OF SAN JOSE REACH CODE – EV REQUIREMENTS

City of San José Reach Code (2019)

- Included increased EV charging infrastructure requirements for new multifamily buildings
 - 70% of spaces – EV capable
 - 20% of spaces – EV Ready (charging outlet)
 - 10% of spaces – Electric Vehicle Service Equipment (charging station)



CALIFORNIA'S ELECTRIC VEHICLE GOAL

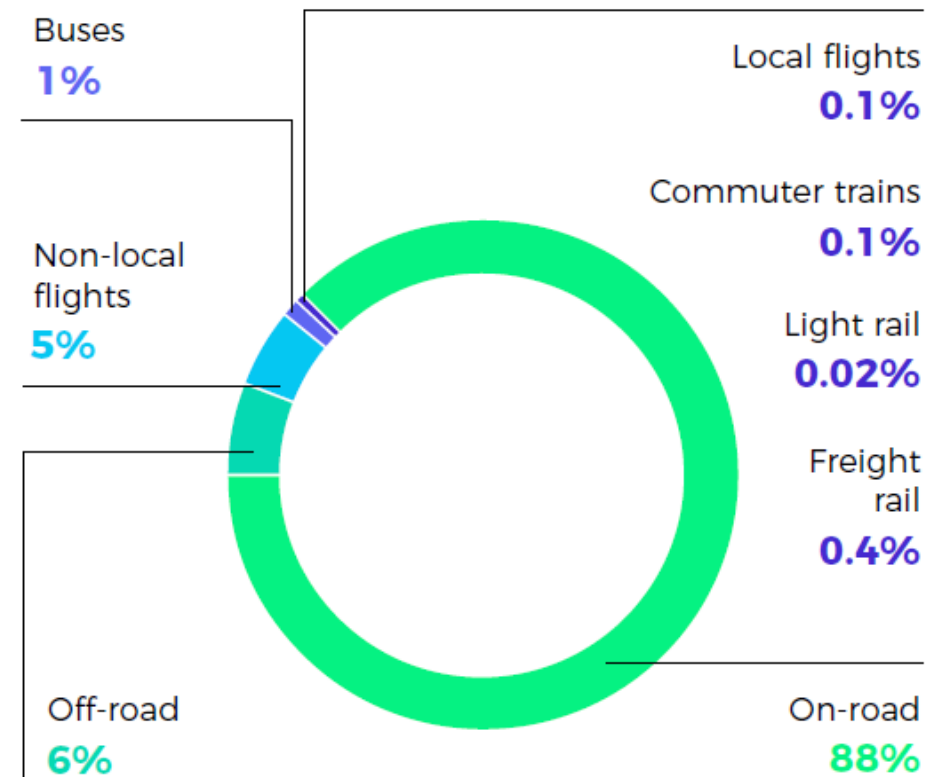
On September 23, 2020, Governor Newsom issued Executive Order N-79-20 setting a goal that 100% of all new passenger cars and trucks sold in the State will be zero-emission by 2035.



REACHING CARBON NEUTRALITY BY 2030

- City Council approved a carbon neutrality by 2030 goal in Nov. 2021
- Transportation is San Jose's largest greenhouse gas (GHG) emissions source
- Nearly 90% of transportation emissions come from on-road sources
- 43% of those on-road emissions come from passenger vehicles
- By increasing access to charging infrastructure, we are encouraging EV adoption locally and beyond.

San Jose Transportation GHG Emissions (2019)



2022 DIRECTION

Council Direction:

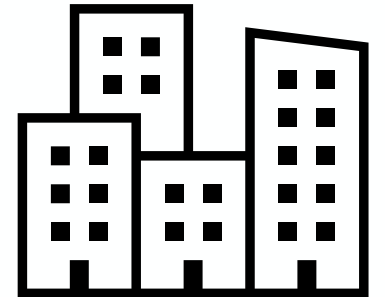
- In April 2022, City Council directed staff to return before the end of 2022, after community engagement, with:
 - An estimate of the marginal per-unit cost of expanding EV Ready parking requirements in new construction to include 5% EVSE and 95% EV Ready charging for every new multifamily unit with parking

Transportation and Environment (T&E) Committee

Direction:

Staff shared marginal cost analysis at the December 13, 2022, T&E meeting

- T&E directed City staff to return in March 2023 after additional stakeholder engagement with proposed ordinance language



An aerial night photograph of a city, likely Los Angeles, showing various buildings, streets, and palm trees. A semi-transparent blue rectangular box is overlaid on the left side of the image, containing white text. The background shows a cityscape with lights, a tall skyscraper, and mountains in the distance under a dark sky.

2023 Reach Code Ordinance Update

PROPOSED EV CHARGING INFRASTRUCTURE REQUIREMENTS FOR NEW MULTIFAMILY HOUSING

- Proposed requirements for all new multifamily housing developments with parking
 - **95% of parking spaces** - EV Ready
 - **5% of parking spaces** - EVSE
 - CALGreen requires at least 5% EVSE
 - **Wiring from the receptacle to the unit's panel** in alignment with CalGreen proposed requirements



PROPOSED EV CHARGING INFRASTRUCTURE REQUIREMENTS FOR NEW MULTIFAMILY HOUSING

Proposed updates have two main benefits:

- They will ensure that every parking space has EV charging access
- Wiring to the panel will ensure that residents can access PG&E time-of-use rates for the most affordable electricity



EV INFRASTRUCTURE OPTIONS FOR NEW MULTIFAMILY HOUSING DEVELOPMENTS

Port Type	Max Volts / Amps per Port	minimum kVA	Cost per Port	San Jose 2019 Reach		1: High Power - No Direct		2: High Power + Direct Billing		3: Mixed Power + Direct Billing	
				% of units (1 space/unit)	cost	% of units (1 space/unit)	cost	% of units (1 space/unit)	cost	% of units (1 space/unit)	cost
L2 EV Capable	240V/40A	0	\$2,362	70%	\$165,358		\$0		\$0		\$0
L1 EV Ready	120V/20A	2.4	\$2,061		\$0		\$0		\$0		\$0
L2 EV Ready - LPL2	240V/20A	4.8	\$2,352		\$0		\$0		\$0	84%	\$197,551
L2 EV Ready	240V/40A	9.6	\$2,806	20%	\$56,111	95%	\$266,527	95%	\$266,527	10%	\$28,056
L2 EVCS - dumb ALMS, dual port	240V/40A	4.8	\$3,114	10%	\$31,136		\$0		\$0		\$0
L2 EVCS - networked ALMS, dual port	240V/40A	4.8	\$4,935		\$0		\$0		\$0	6%	\$29,611
L2 EVCS - networked ALMS, single port	240V/40A	9.6	\$7,135		\$0	5%	\$35,673	5%	\$35,673		\$0
Totals - Breaker and Downstream				100%	\$252,604	100%	\$302,200	100%	\$302,200	100%	\$255,218
Direct Billing Approach				None		None		Dedicated EV Meter per DU		Dedicated EV Meter per DU	
Developer				Cost		\$252,731		\$302,327		\$378,999	
				Percent of construction		0.40%		0.48%		0.60%	
										\$332,016	
										0.53%	

The cost analysis assumes a 100-dwelling multifamily housing development with a port at each parking space.

- Main goals: provide full charging access and direct billing at a cost to the developer comparable to our current reach code, which is at 0.40%
- Option 1: provides full power EV Ready L2 spaces and 5% EVCS spaces with no direct billing
- Option 2: provides the same as option 1 with direct billing requirements
- Option 3: breaks down the 95% EV Ready L2 into 84% EV Ready LPL2 and 10% EV Ready with 6% EVCS and includes direct billing

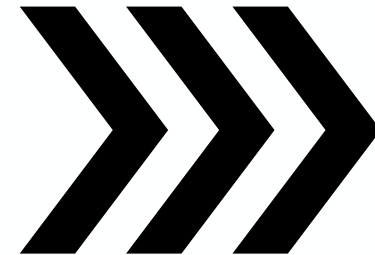
Next Steps



NEXT STEPS



- Complete stakeholder engagement in February 2023
- Provide proposed reach code ordinance update to City Council in March 2023



COMMENTS AND QUESTIONS



DO YOU SUPPORT THE CITY'S PROPOSED REACH
CODE ORDINANCE UPDATES? WHY OR WHY NOT?

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