

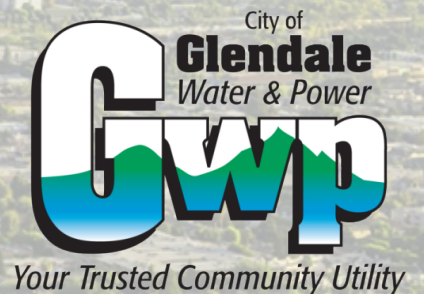


ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Glendale Water & Power Commission

November 4, 2024

Bryan Salazar, Business Transformation Manager
Glendale Water & Power, Clean Energy Section



Low Carbon Fuel Standards (LCFS)

- 2017: GWP started participating in LCFS Program.
- 2023: GWP earned 25,197 credits.
- Credits are earned based on Glendale EV registrations.
- 1 credit value = 1 metric ton CO₂ equivalent (MTCO₂e)
- Credit value currently around \$60.
- Current total credit value is approximately \$4.6 million.
- 39,473 credits have been sold for \$5,212,870 (\$132 avg).



Electric Vehicle Charging Infrastructure (EVSE)

- City Owned EV Charging Program
- City Owned EVSE Statistics
- Low Carbon Fuel Standards (LCFS)

- Zero-Emission Vehicle (ZEV) Adoption
- ZEV Population by Zip Code
- EV Chargers by Zip Code

- City Owned EVSE Project Pipeline
- Privately Owned EVSE Projects

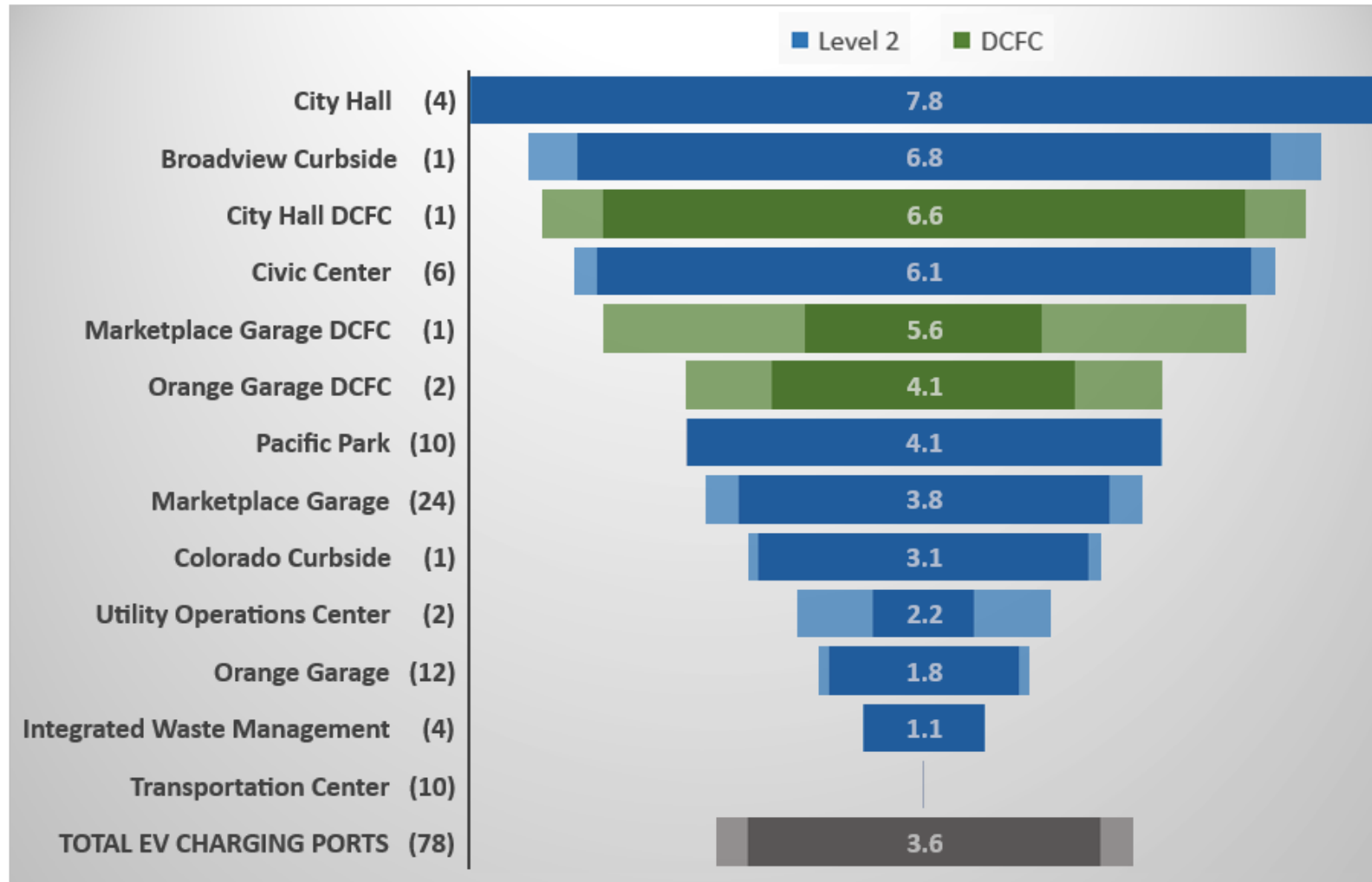
- GWP EV Charger Rebate Statistics

City Owned EV Charging Program

Location	Zip Code	Installation Type	Dates	Level 2	Level 3
Civic Center	91206	Parking Garage	2016/2019	6	-
Orange Garage	91205	Parking Garage	2016/2024	12	2
Broadview Curbside	91208	Curbside	2017/2022	1	-
Colorado Curbside	91205	Curbside	2017/2023	1	-
Utility Operations Center	91201	Parking Lot	2018/2023	2	-
City Hall	91206	Parking Lot	2020	4	1
Integrated Waste Management	91204	Parking Lot	2022	4	-
Transportation Center	91204	Parking Lot	2022/2023	10	-
Marketplace Garage	91203	Parking Garage	2023	24	1
Pacific Park	91204	Curbside	2023	10	-
Total				74	4



2024 YTD Average Daily Utilization (hrs.)



The darker portion of each bar indicates utilization during non-operational periods, while the lighter portion indicates actual utilization.



City Owned EVSE Statistics

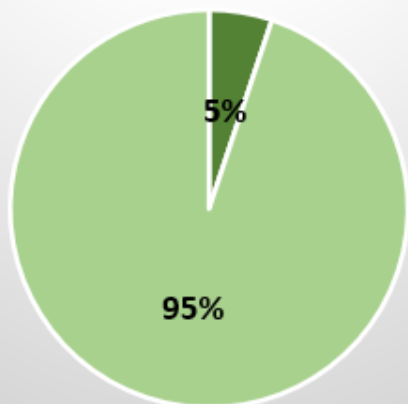
DCFC	4 Ports
Level 2	74 Ports
Total Chargers	78 Ports

DCFC	275,843 kWh
Level 2	443,731 kWh
YTD Energy	719,574 kWh

DCFC	\$97,149
Level 2	\$86,080
YTD Revenue	\$183,229

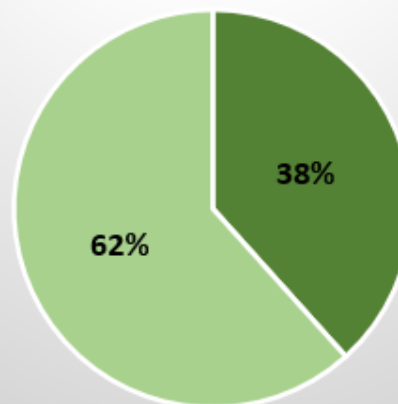
YTD % of Total Charging Ports

■ DCFC ■ Level 2



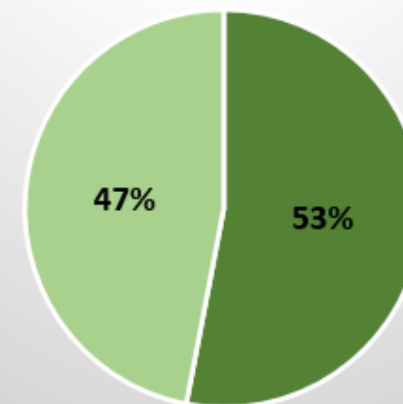
YTD % of Total Energy (kWh)

■ DCFC ■ Level 2

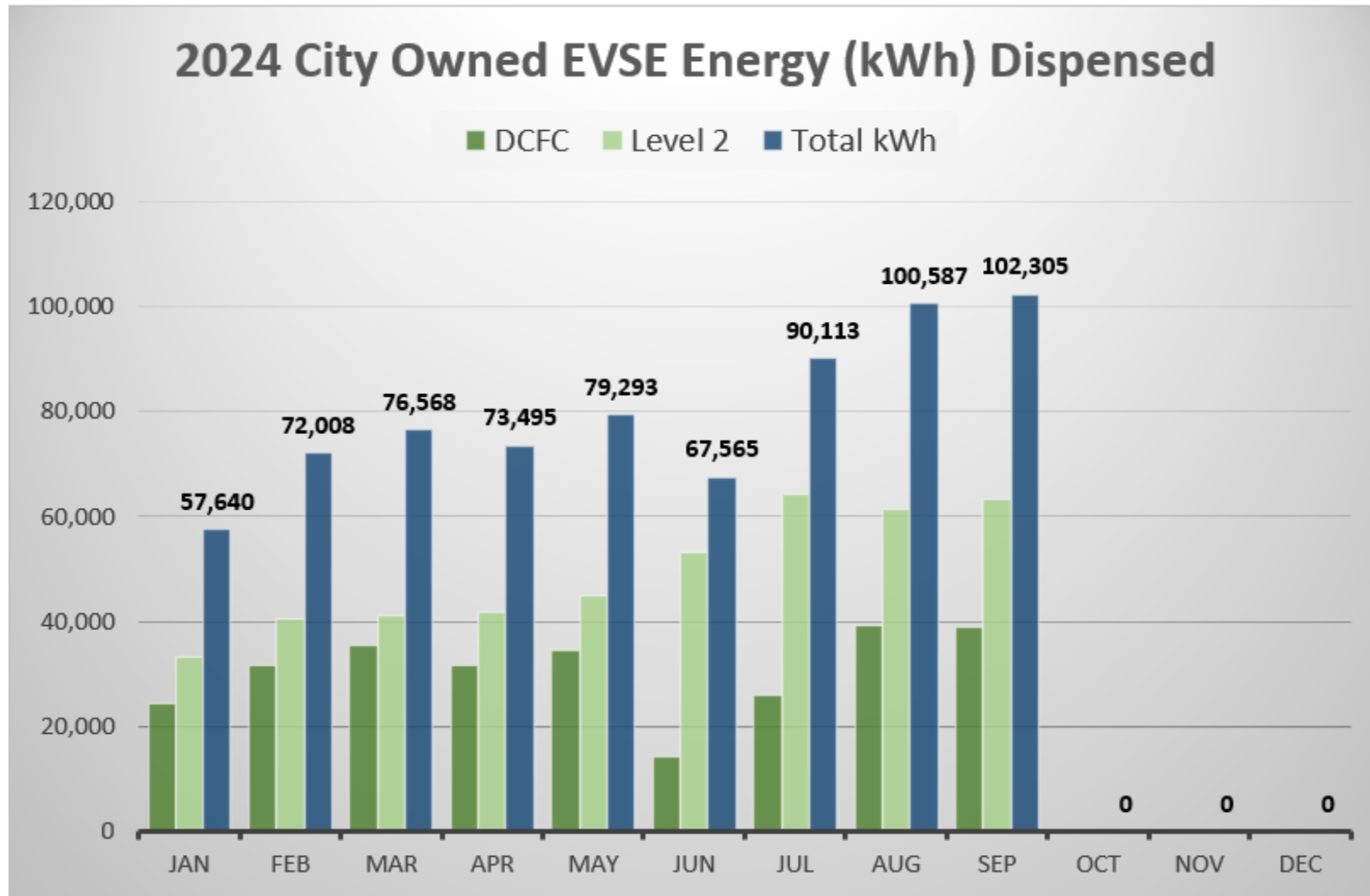


YTD % of Total Revenue

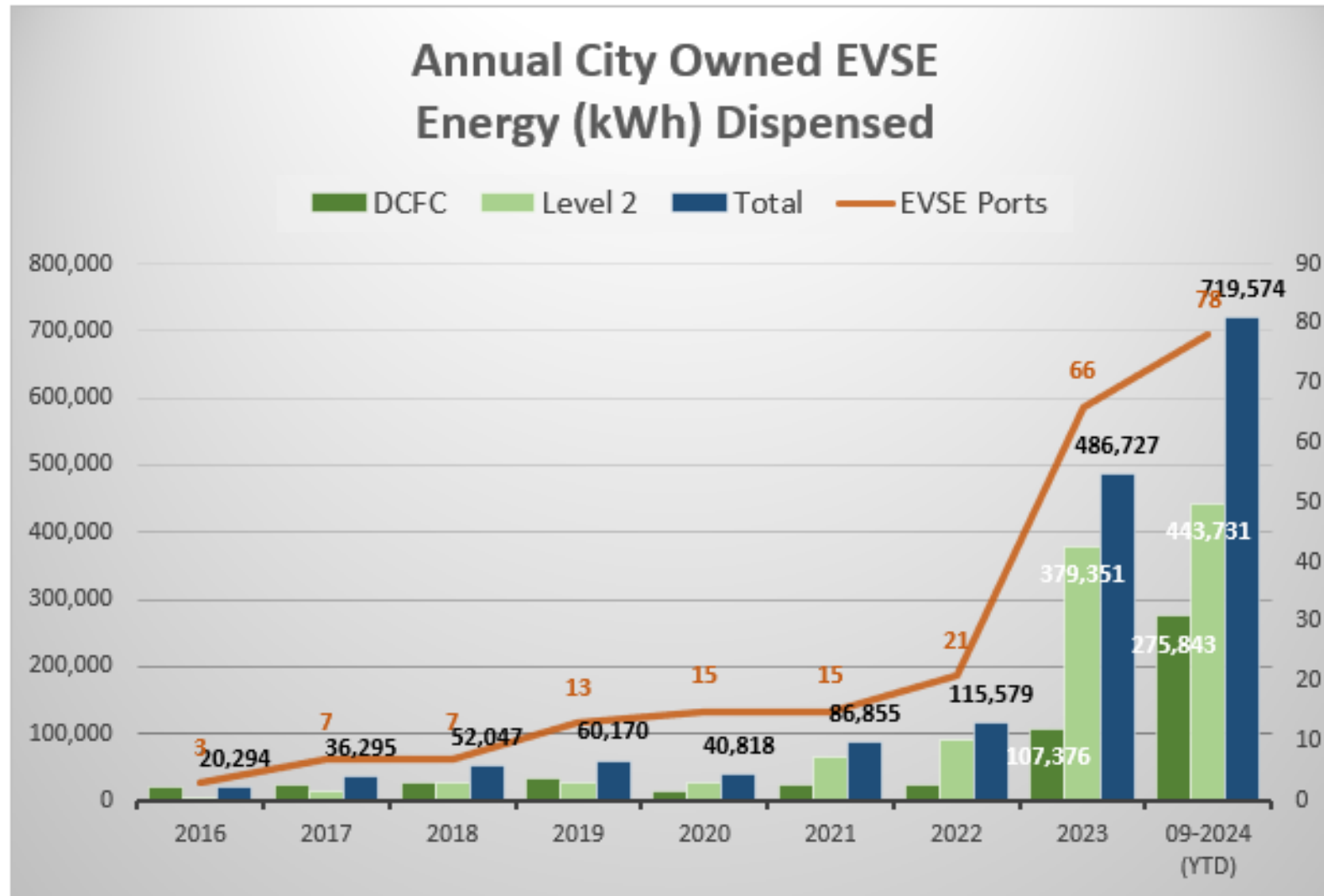
■ DCFC ■ Level 2



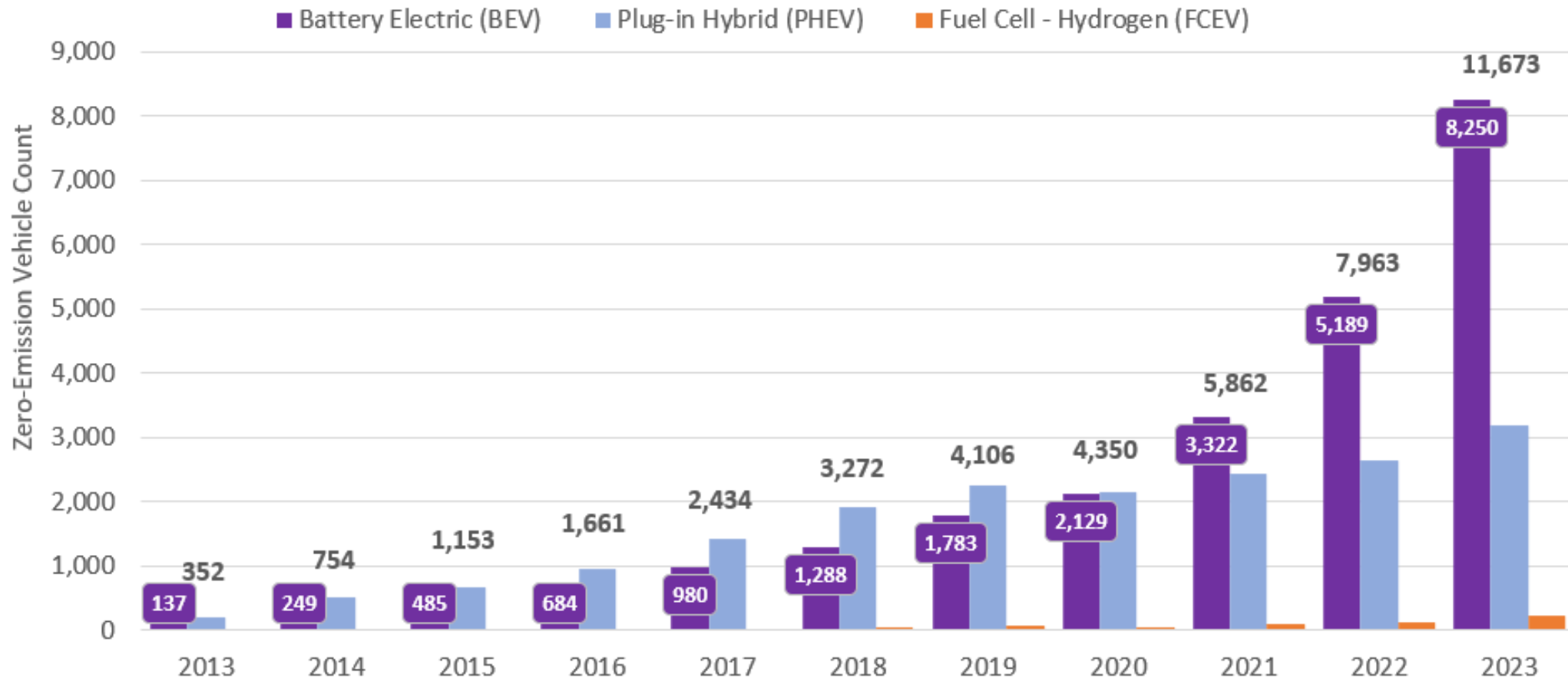
City Owned EVSE Statistics



City Owned EVSE Statistics



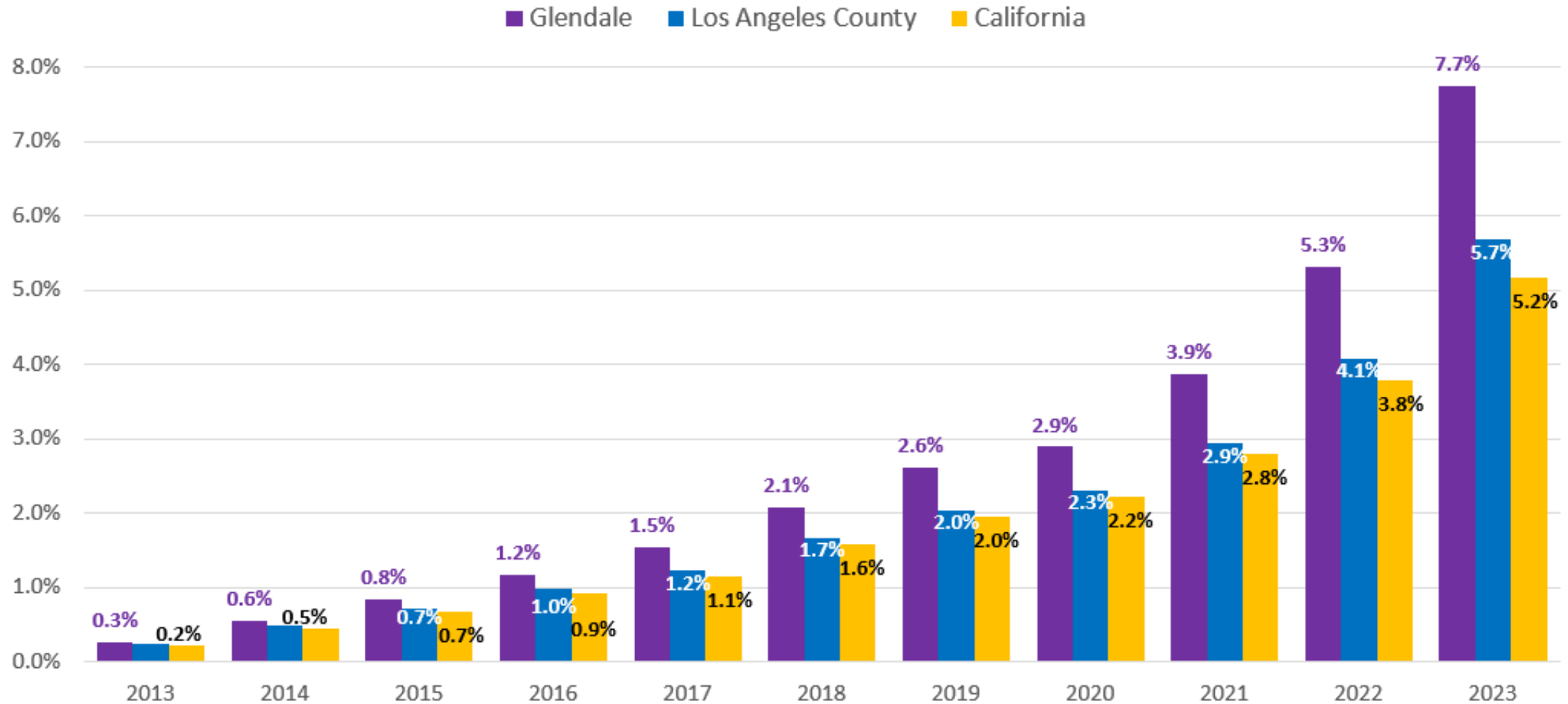
Zero-Emission Vehicle (ZEV) Adoption In Glendale



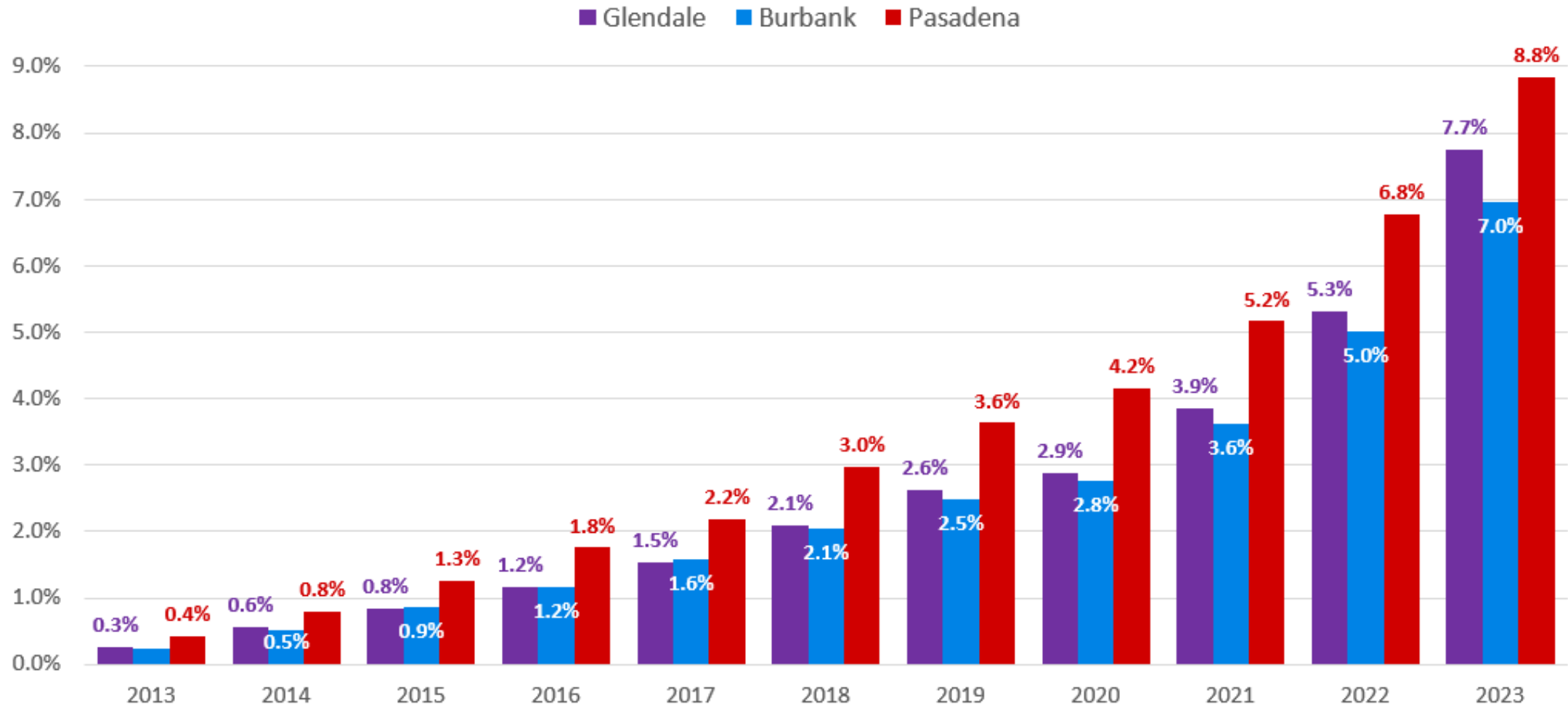
ZEV Growth:	114.2%	52.9%	44.1%	46.5%	34.4%	25.5%	5.9%	34.8%	35.8%	46.6%
BEV Growth:	81.8%	94.8%	41.0%	43.3%	31.4%	38.4%	19.4%	56.0%	56.2%	59.0%



Zero-Emission Vehicle (ZEV) Adoption Comparison



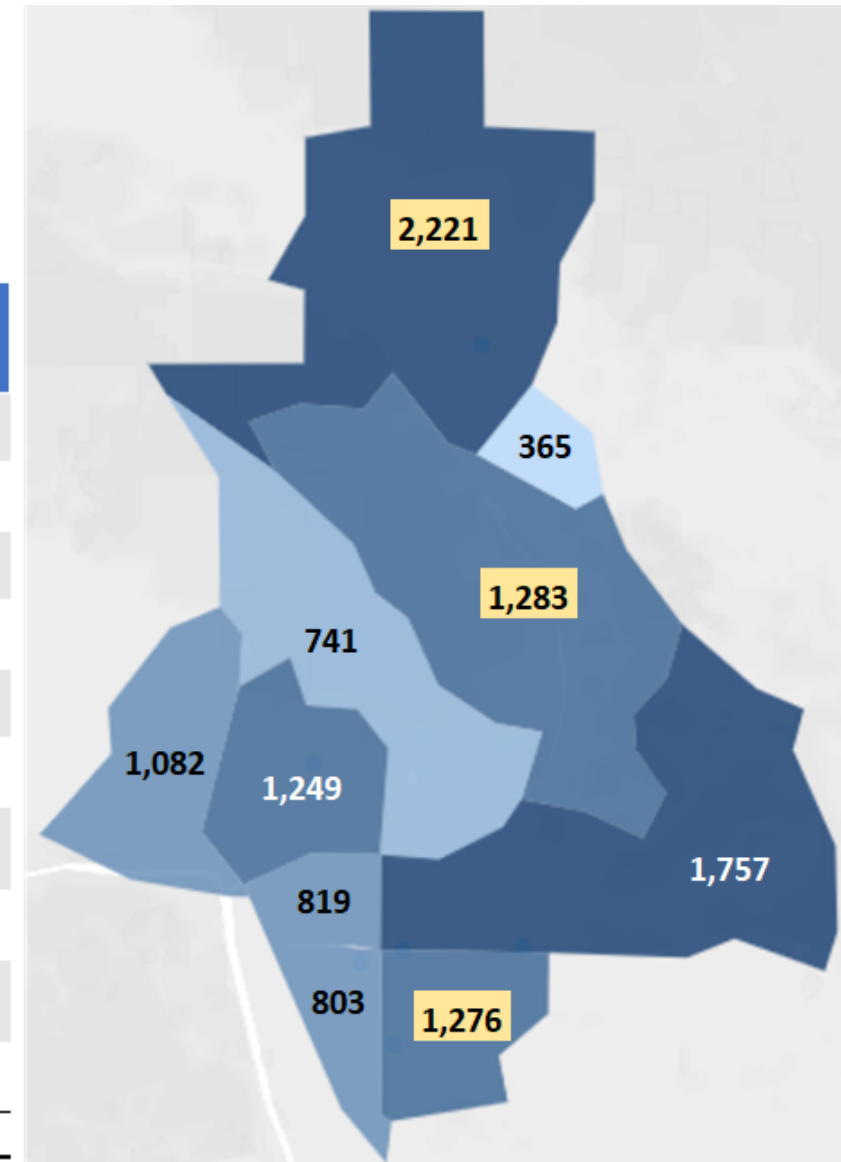
Zero-Emission Vehicle (ZEV) Adoption Comparison



Zero-Emission Vehicle (ZEV) Population by Zip Code

Zip Code	Neighborhoods	Population*	% of Total	2023 ZEVs	% of Total	ZEVs per Capita
91020	Montrose	7,509	4%	365	3%	5%
91201	Riverside Rancho, Grand Central, Grandview, El Miradero	22,163	10%	1082	9%	5%
91202	Pelanconi, North Glendale, Verdugo Viejo, Glenwood	22,831	11%	1249	11%	5%
91203	Fremont Park, West Glendale, Vineyard	16,679	8%	819	7%	5%
91204	Tropico, Pacific-Edison	18,445	9%	803	7%	4%
91205	Adams Square, Mariposa, Somerset, Citrus Grove,	35,755	17%	1276	11%	4%
91206	Civic Center, Chevy Chase, Emerald Isle, Glenoaks Canyon, Scholl Canyon, Woodbury	32,294	15%	1757	15%	5%
91207	College Hills, Rossmoyne, Greenbriar, Brockmont	11,091	5%	741	6%	7%
91208	Rancho San Rafael, San Rafael Hills, Vergudo Woodlands, Oakmont, Montecito Park, Sparr Heights, Whiting Woods	15,377	7%	1283	11%	8%
91214	Verdugo City, Crescenta Highlands	32,344	15%	2221	19%	7%
		214,488		11,673		5%

* From https://www.california-demographics.com/zip_codes_by_population



Zero-Emission Vehicle (ZEV) Population by Zip Code

ZEV Density by Zip Code - Glendale, CA																
Zip Code	2015 ZEVs	2016 ZEVs % of Total	2017 ZEVs % of Total	2018 ZEVs % of Total	2019 ZEVs % of Total	2020 ZEVs % of Total	2021 ZEVs % of Total	2022 ZEVs % of Total	2023 ZEVs % of Total							
91020	36	41 2%	62 3%	97 3%	128 3%	151 3%	187 3%	251 3%	365 3%							
91201	97	154 9%	251 10%	314 10%	382 9%	412 9%	544 9%	741 9%	1082 9%							
91202	138	197 12%	286 12%	388 12%	474 12%	482 11%	635 11%	851 11%	1249 11%							
91203	55	81 5%	134 6%	186 6%	264 6%	263 6%	385 7%	497 6%	819 7%							
91204	51	86 5%	152 6%	159 5%	201 5%	211 5%	309 5%	430 5%	803 7%							
91205	107	156 9%	224 9%	323 10%	393 10%	421 10%	601 10%	820 10%	1276 11%							
91206	192	280 17%	407 17%	540 17%	667 16%	711 16%	900 15%	1205 15%	1757 15%							
91207	117	153 9%	193 8%	254 8%	309 8%	336 8%	421 7%	557 7%	741 6%							
91208	140	204 12%	302 12%	414 13%	501 12%	523 12%	696 12%	947 12%	1283 11%							
91214	207	291 18%	396 16%	568 17%	752 18%	796 18%	1133 19%	1603 20%	2221 19%							
No Zip	13	18 1%	27 1%	29 1%	35 1%	44 1%	51 1%	61 1%	77 1%							
Total	1,153	1,661	2,434	3,272	4,106	4,350	5,862	7,963	11,673							

0% - 4%

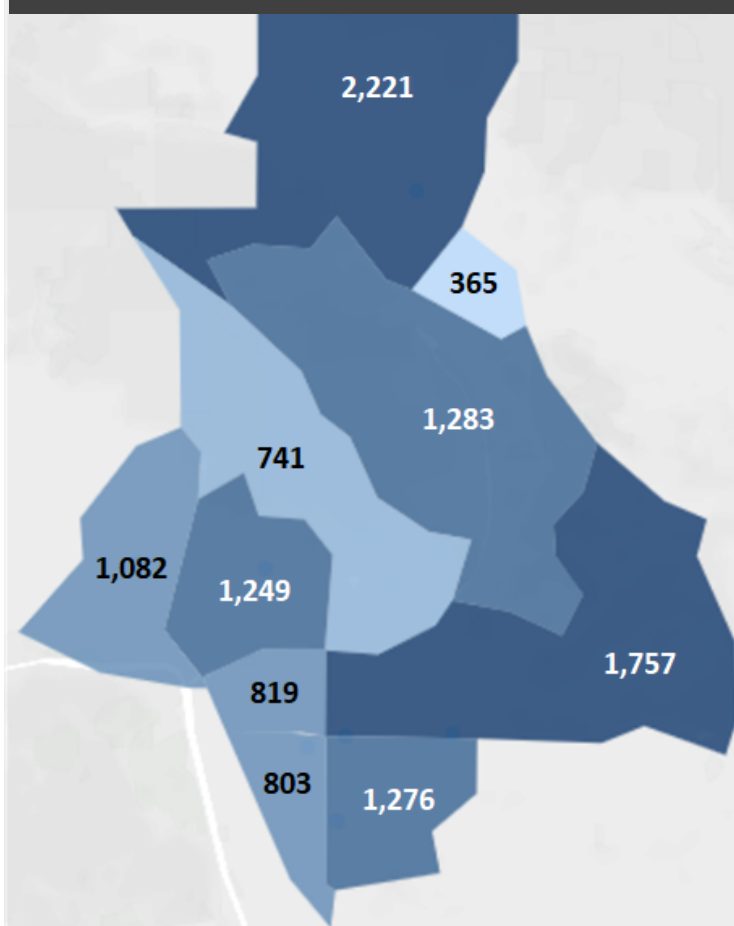
5% - 10%

11% - 20%

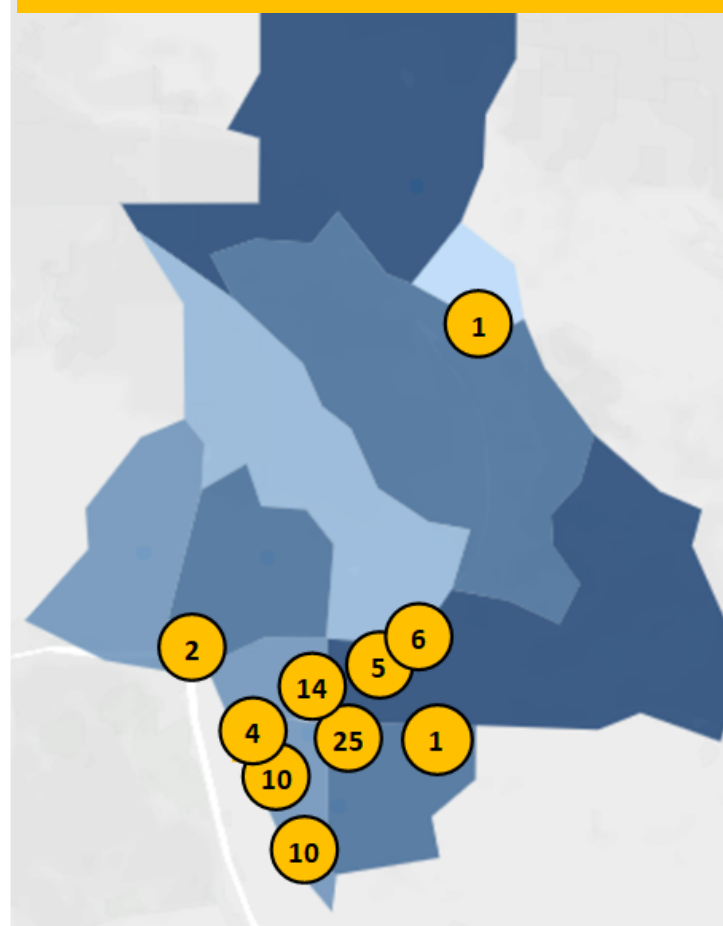


ZEV Population by Zip Code & EV Chargers

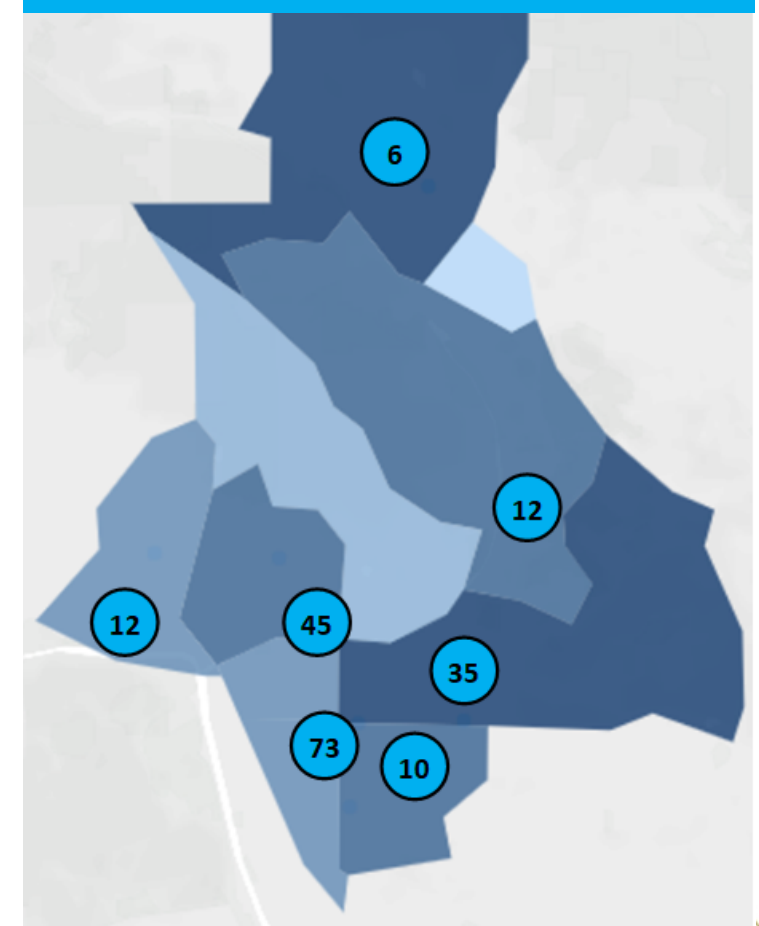
ZEVs by Zip Code: 11,673



City Owned EVSE: 78

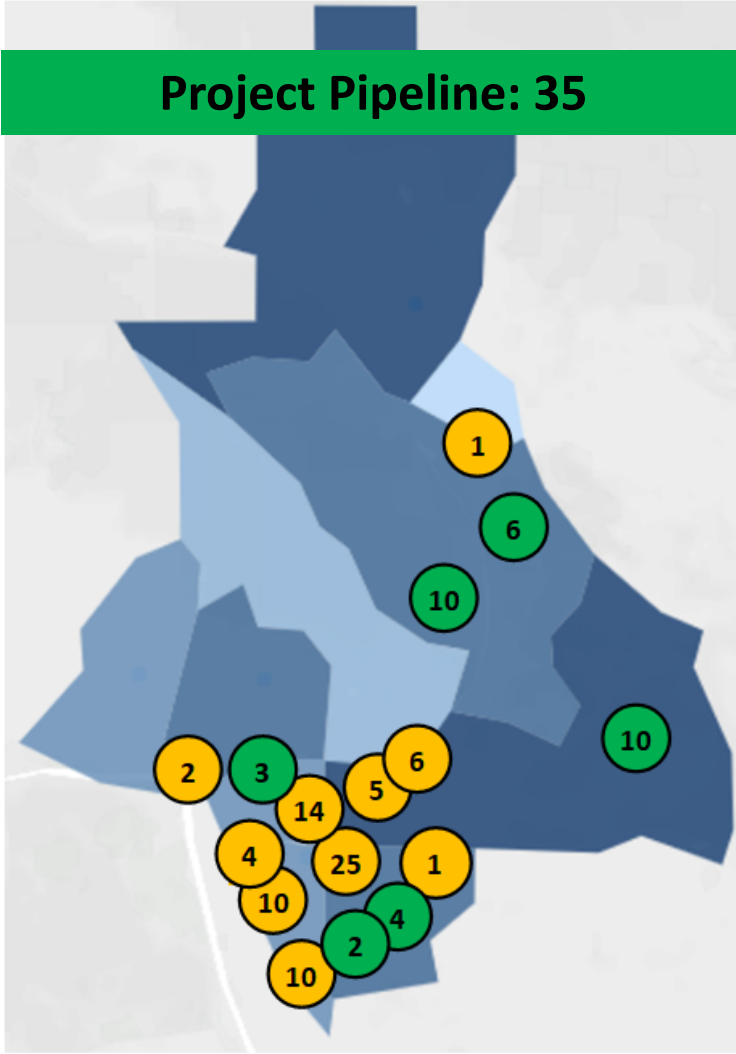


Non-City Owned EVSE: 193



Project Pipeline – Design & Plan Review Phase

Project Pipeline: 35



Project Pipeline	Zip Code	Installation Type	Level 2
Sports Complex	91208	Parking Lot	6
Maple Park	91205	Curbside	4
Palmer Park	91205	Curbside	2
GCC Lot 34	91208	Parking Lot	10
Scholl Canyon Golf Course	91206	Parking Lot	10
Fremont Park	91203	Parking Lot	3
Total			35

Future EVSE Infrastructure

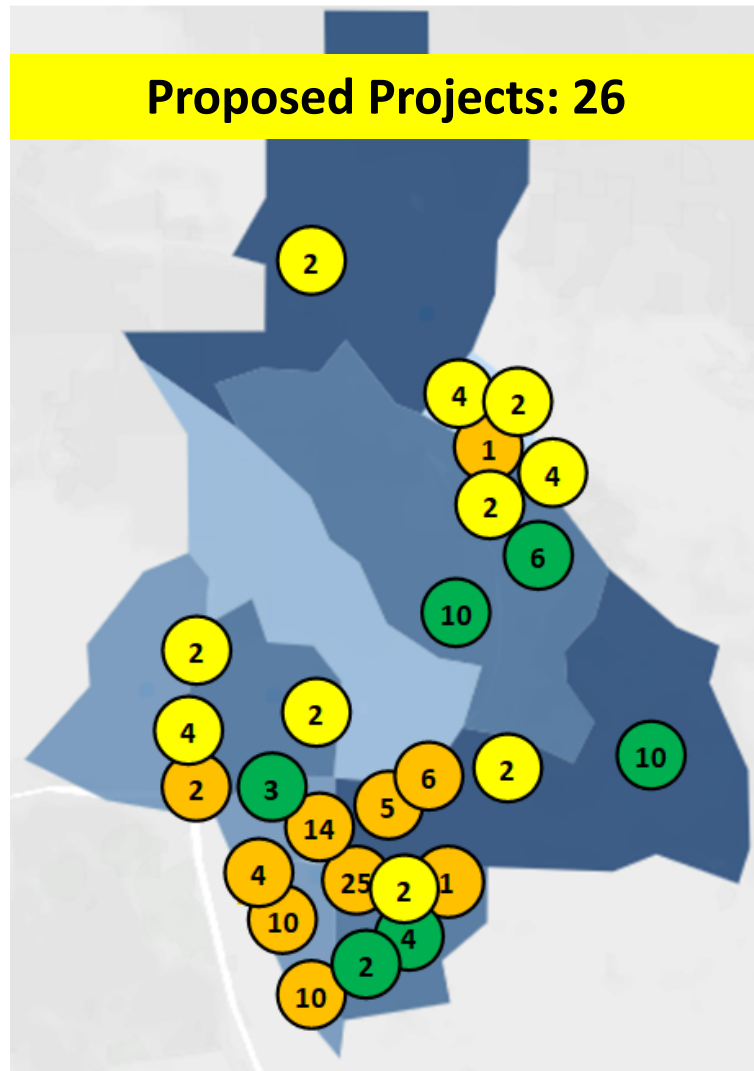
Given the complexities and costs associated with EVSE ownership, GWP is exploring options to privatize future EVSE projects.

Paths forward include:

- Solicit an RFP to continue EVSE ownership including design, permitting, procurement, construction, maintenance, networking, and payment collection.
- Solicit an RFP for a private EVSE company to install, own, and operate publicly accessible EVSE.



Potential Locations to Increase Public Access to EVSE



Proposed Project Locations	Zip Code	Installation Type	Level 2
La Crescenta Pavilion	91214	Curbside	2
Trader Joe's	91020	Curbside	2
Wickham Way	91020	Curbside	2
Montrose Shopping Park	91020	Curbside	2
Mathnasium	91208	Curbside	2
Montrose Community Park	91208	Parking Lot	4
Chevy Chase Medical Center	91206	Curbside	2
Adams Square	91205	Curbside	2
Stocker Village	91202	Curbside	2
Pelanconi Park	91202	Curbside	4
Kenneth Village	91201	Curbside	2
Total			26

Proposed Curbside Projects

La Crescenta Pavilion – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Trader Joe's – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Wickham Way – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Montrose Shopping Park – 2 Level 2 Curbside EV Chargers



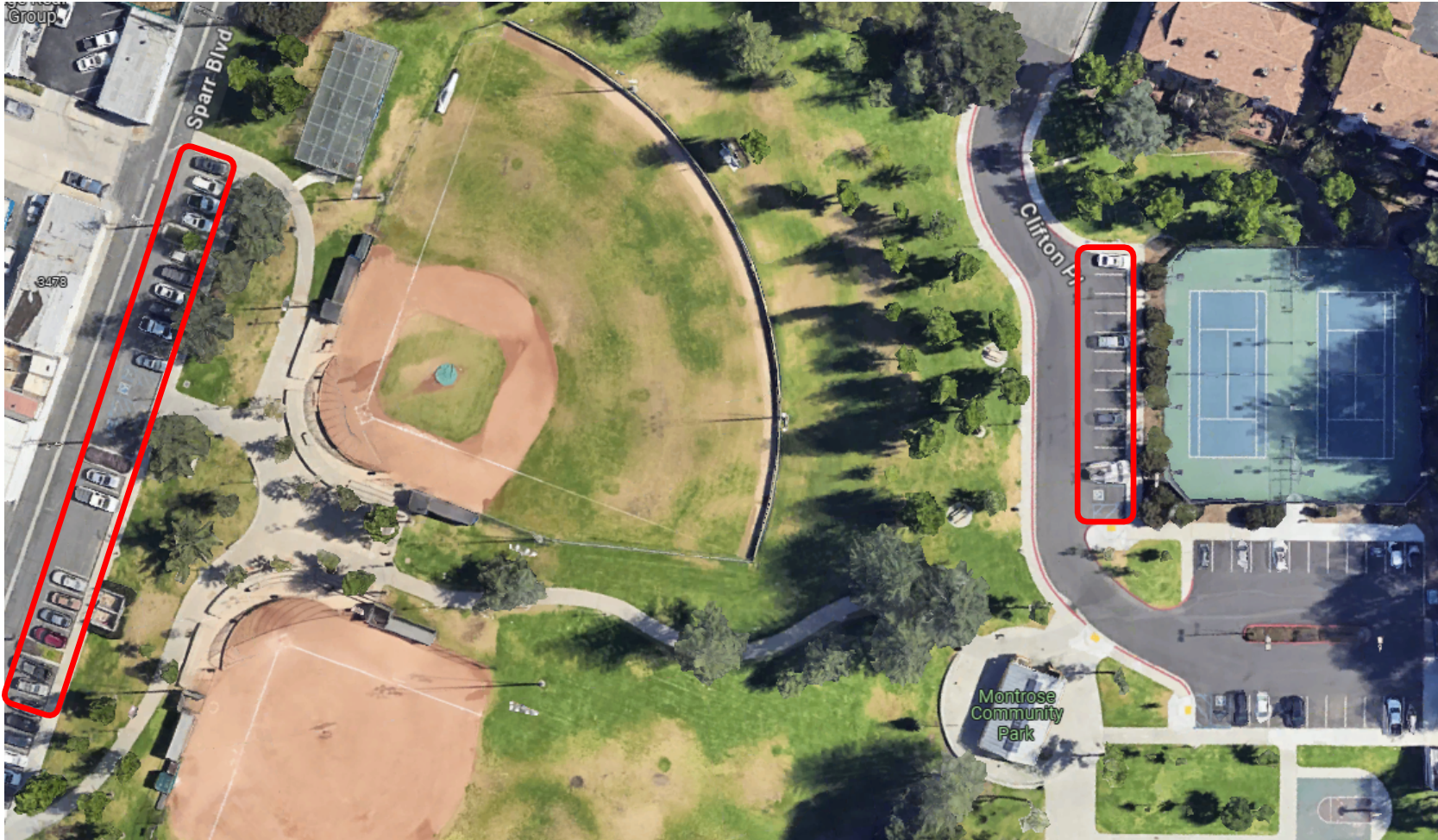
Proposed Curbside Projects

Ocean View Blvd (Mathnasium) – 2 Level 2 Curbside EV Chargers



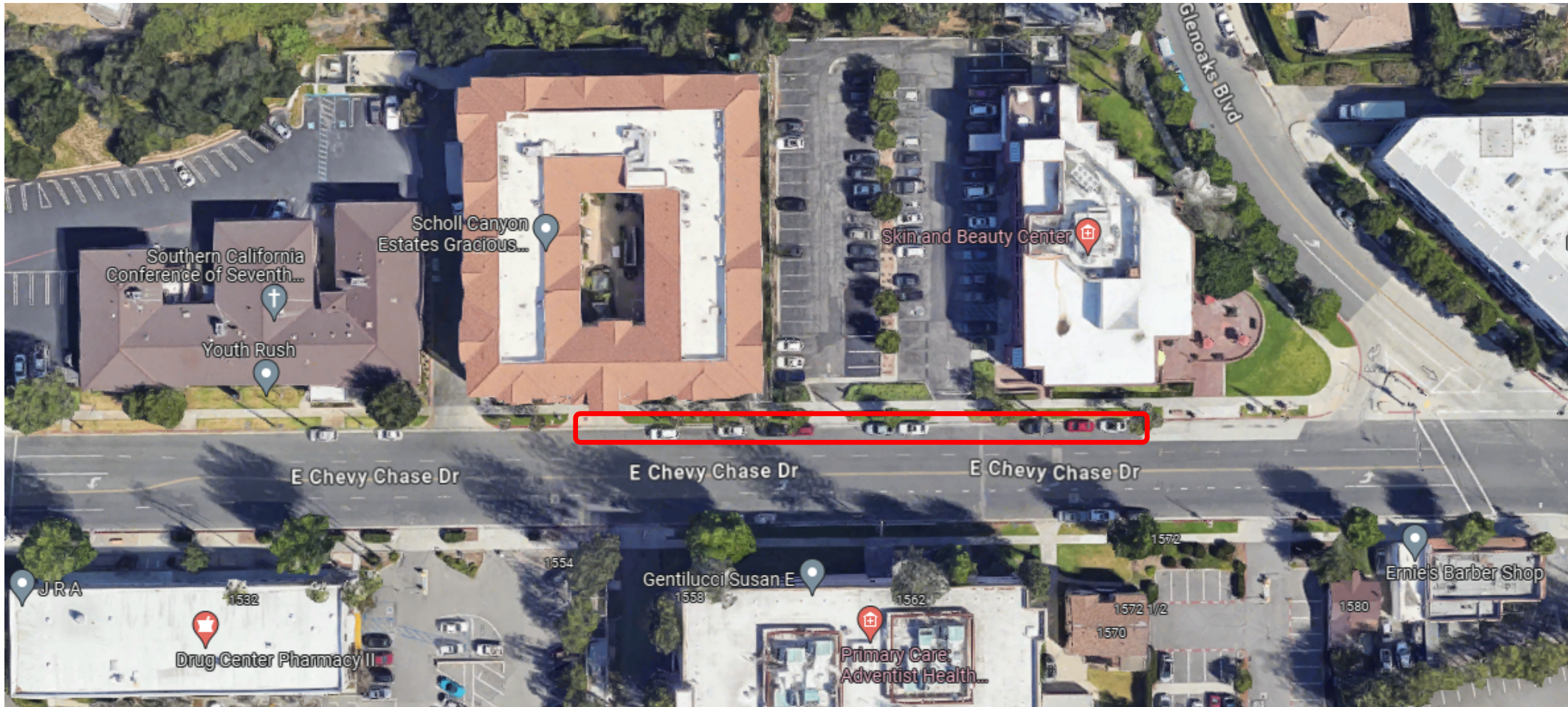
Proposed Curbside Projects

Montrose Community Park – 4 Level 2 EV Chargers



Proposed Curbside Projects

Chevy Chase Medical Center – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Adams Square – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Stocker Village – 2 Level 2 Curbside EV Chargers



Proposed Curbside Projects

Pelanconi Park – 4 Level 2 Curbside EV Chargers



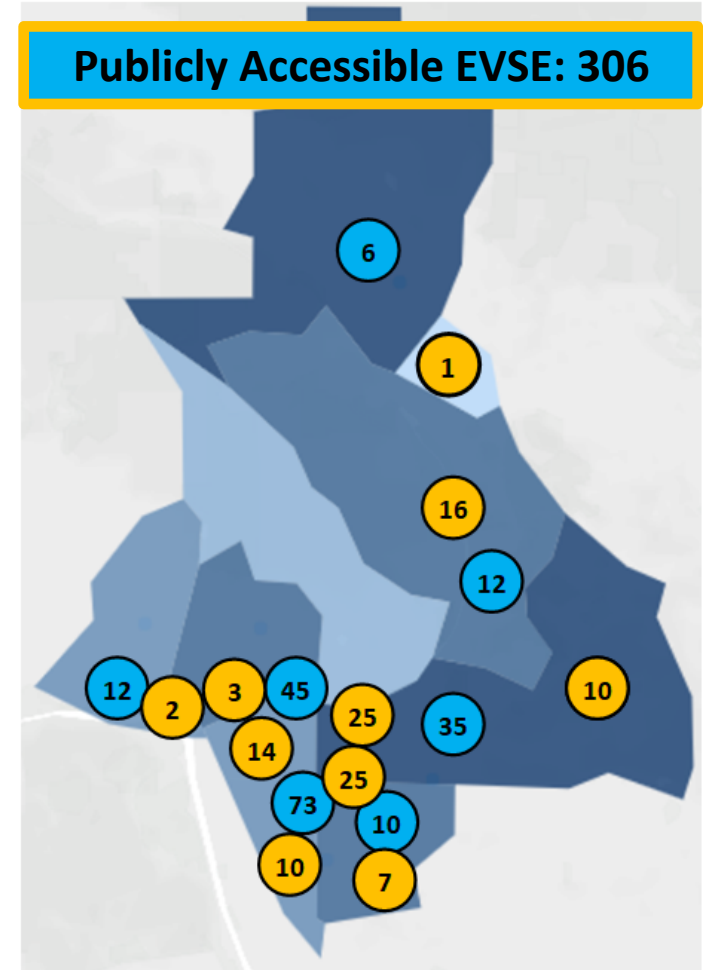
Proposed Curbside Projects

Kenneth Village – 2 Level 2 Curbside EV Chargers

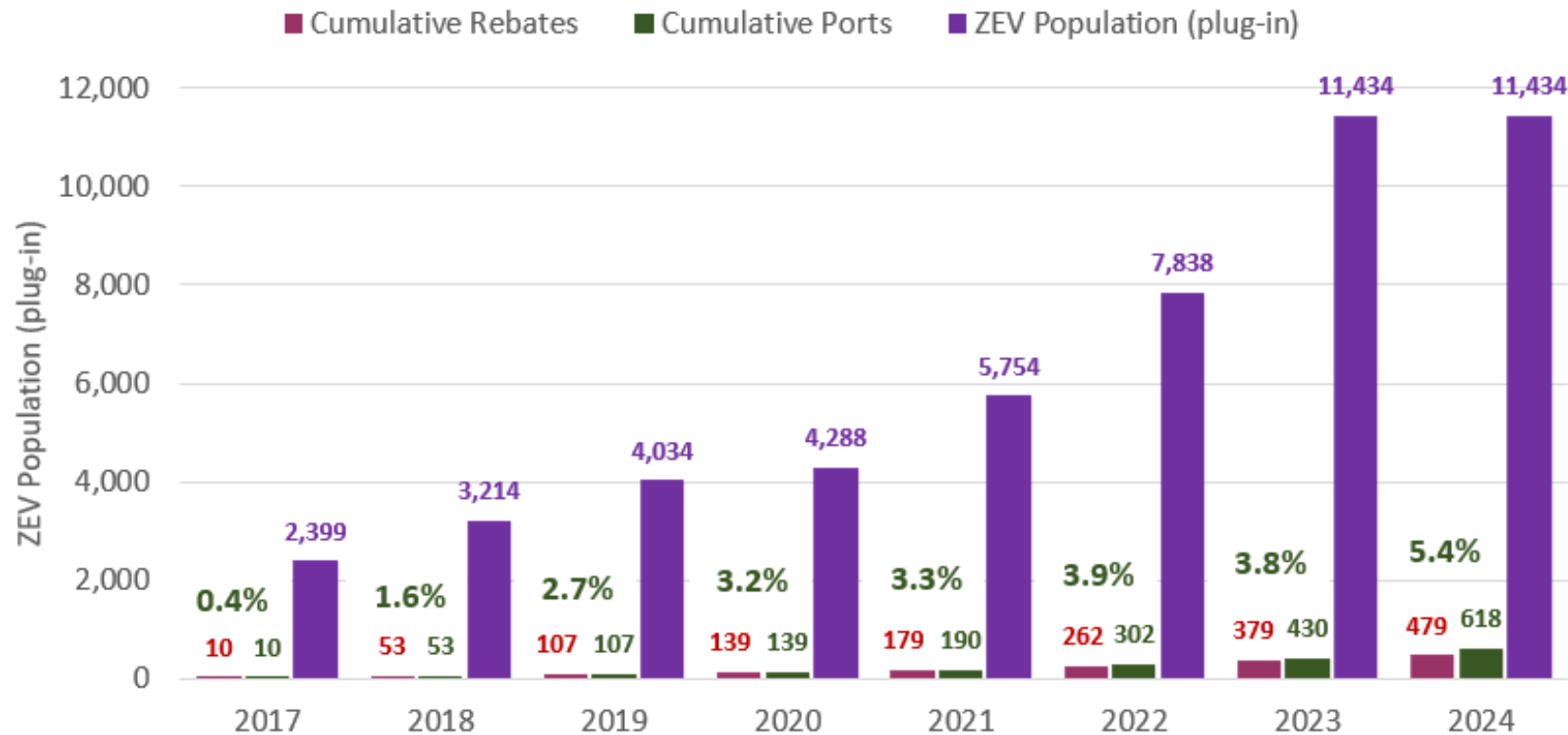


Ratio of ZEVs to City Owned & Public EV Chargers

Zip Code	Neighborhoods	Current Projects		Public Ports	Total City & Public Ports	Total Ratio
		Total	Ratio			
91020	Montrose	0	N/A	0	0	N/A
91201	Riverside Rancho, Grand Central, Grandview, El Miradero	2	541	12	14	77
91202	Pelanconi, North Glendale, Verdugo Viejo, Glenwood	0	N/A	4	4	312
91203	Fremont Park, West Glendale, Vineyard	17	48	41	58	14
91204	Tropico, Pacific-Edison	24	33	73	97	8
91205	Adams Square, Mariposa, Somerset, Citrus Grove	32	40	10	42	30
91206	Civic Center, Chevy Chase, Emerald Isle, Glenoaks Canyon, Scholl Canyon, Woodbury	21	84	35	56	31
91207	College Hills, Rossmoyne, Greenbriar, Brockmont	0	N/A	0	0	N/A
91208	Rancho San Rafael, San Rafael Hills, Vergudo Woodlands, Oakmont, Montecito Park, Sparr Heights, Whiting Woods	17	75	12	29	44
91214	Verdugo City, Crescenta Highlands	0	N/A	6	6	370
		113	103	193	306	38



Electric Vehicle Charger Rebates

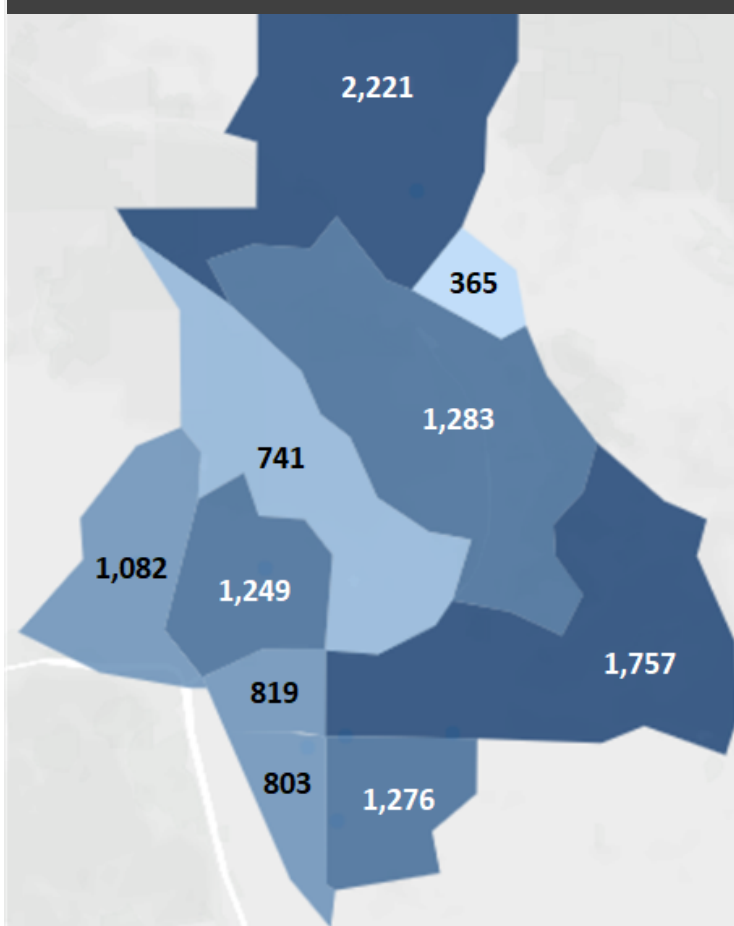


									TOTAL
Annual Rebates	10	43	54	32	40	83	117	100	479
Total EV Charging Ports	10	43	54	32	51	112	128	188	618
Total Rebate Amount	\$5,000	\$26,210	\$29,568	\$17,016	\$55,437	\$128,577	\$137,749	\$1,087,642	\$1,487,199

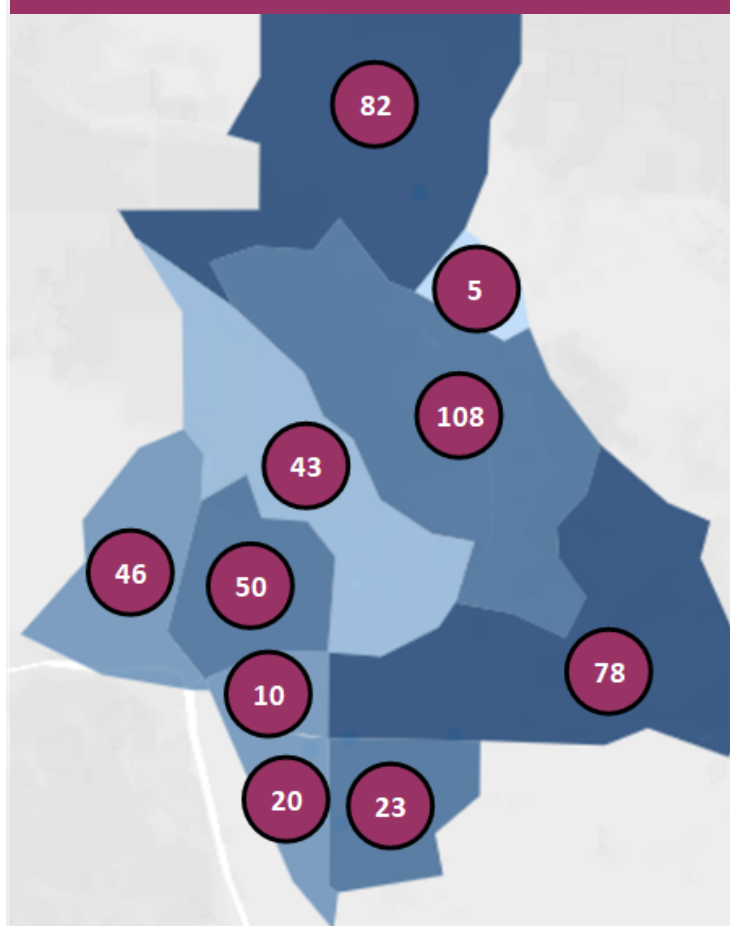


Incentivized EV Charging Ports by Zip Code

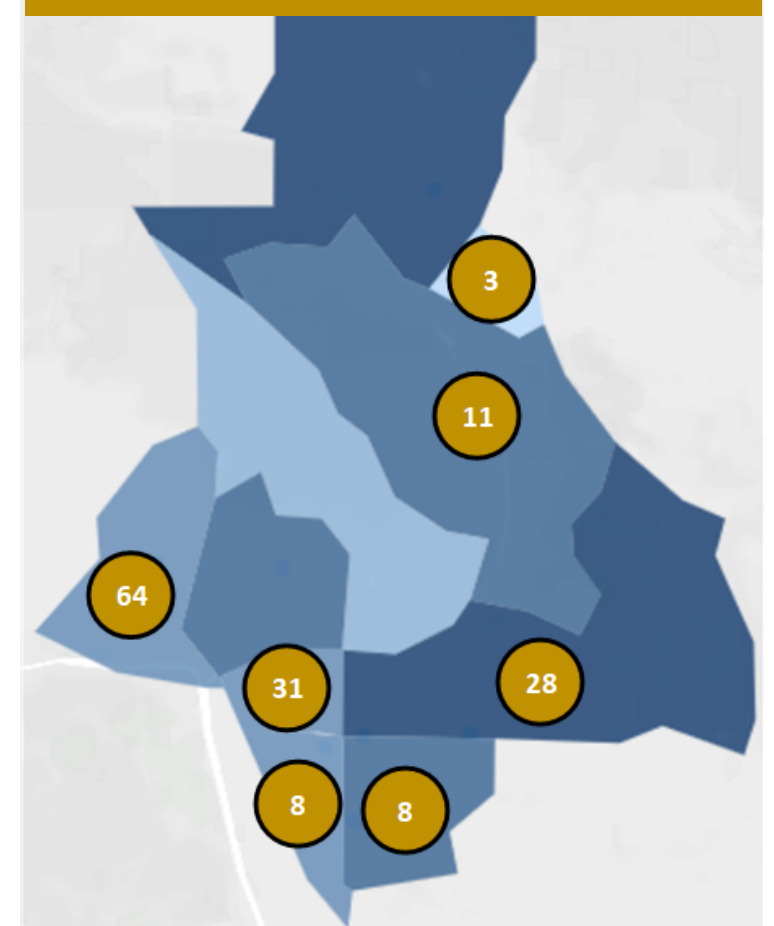
ZEVs by Zip Code: 11,673



Residential Ports: 465



Commercial Ports: 153



EV Population to EVSE Ratio Comparisons

EV Population to EVSE Ratio				Population to EVSE Ratio		ZEV Adoption %
Zip Code	2023 ZEVs	2023 EVSE	Ratio	Population	Ratio	
California	1,516,107	46,562	33	39,128,162	840	5.2%
LA County	389,077	4,164	93	9,606,925	2,307	5.7%
Glendale (WIP)	11,673	306	38	214,798	702	7.7%
Burbank	5,599	256	22	110,457	431	7.0%
Pasadena	10,619	558	19	165,463	297	8.8%

Next Steps

- Solicit RFP for City owned EVSE maintenance & network services.
- Solicit RFP for private EVSE development on City property.
- Continue permitting process and construction for City owned EVSE pipeline projects.
- Continue & enhance community outreach for EV charger rebates.
- Continue evaluating City owned facilities for Level 2 & Level 3 EV charger installations.



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