



Valley Water

Clean Water • Healthy Environment • Flood Protection

Workplace Electric Vehicle Charging Station Management

Valley Water: EV Charging Profile

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Total Agency Employees: 842 (FY19-20)

Known Employee EV Users: 72

Agency Charging Stations: 16

Charging Locations: 3

1. Almaden Campus (ChargePoint)

- 2 - DC Fast Chargers
- 10 - Level 2 Chargers

2. Rinconada Water Treatment Plant (Clipper Creek)







- 2 - Level 2 Chargers

3. Leased: Santa Teresa Office Building (TurboDock)

- 2 - Level 2 Chargers

EV Charging Basics

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Type	Miles of Range Per Hour of Charging (RPH)	Time to Fully Charge	When to Use	Connector
Level 2 Charging Station (AC) 	<ul style="list-style-type: none">+ 12 RPH for cars with 3.7 kW on-board charger+ 25 RPH for cars with 6.6 kW on-board charger	<ul style="list-style-type: none">+ 3.5 hours for an 80-mile battery+ 8 hours for a 200-mile battery	<ul style="list-style-type: none">+ At work+ While you sleep+ Topping up around town	 J1772 connector
DC Fast Charging 	<p>100 RPH or more, depending on the power level of the charger</p> <ul style="list-style-type: none">+ 24 kW (up to 100 RPH)+ 44 to 50 kW (up to 200 RPH)	<p>Depends on the power level of the charger and car model, but could be 80% charged within 30 minutes</p>	<ul style="list-style-type: none">+ Short stops+ Express Corridor locations	<div> SAE Combo (CCS) CHAdeMO Tesla</div>

Connectors

All EVs except Tesla use the same J1772™ connector for Level 2 charging. Tesla makes adapters that allow their vehicles to charge using J1772 or CHAdeMO connectors.

Not all EVs come with DC fast charging as a standard feature. It's often available as an upgrade package.

When choosing a DC fast charging station, check the connector to make sure it fits your car's charging port. There are three different DC fast charging connector standards in North America, each used by different EVs.

SAE Combo (CCS) Is compatible with

- + BMW
- + VW
- + Chevy
- + All upcoming U.S. and European cars
- + Some of the new cars from Asian manufacturers



CHAdeMO Is compatible with

- + Nissan
- + Mitsubishi
- + Kia



Tesla Is compatible with

- + Tesla

Note: adapters available for J1772 and CHAdeMO



Sample Bay Area Agency EV Pricing Policies*

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	EV Charger Location	Municipality	Access Cost	Hourly Cost	Power per kWh Cost	Escalation Cost	Off-Peak Power per kWh Cost	Tiered Policy Scheduling, If Applicable
1	City of San Jose	San Jose	\$1.25		\$0.25 L2		\$0.20	Off-Peak 9:30 P.M. – 8:30 A.M.
2	Santa Clara City Library	Santa Clara			\$0.49 L2, \$0.59 DCFC			
3	Santa Clara University	Santa Clara		\$2.00		\$3.00		Escalation cost after 4-Hours
4	Santana Row	San Jose			\$0.59 L2			Blink Members pay \$.49 kWh for L2
5	City of Berkeley - Oxford Parking Garage	Berkeley		\$1.50				
6	Town of Los Gatos - Creekside Sports Park	Los Gatos	\$1.00	\$1.00		\$5.00		Escalation cost after 4-Hours
7	Los Gatos Inn	Los Gatos		\$1.50		\$3.00		Per hour from 8 A.M. – 8 P.M. Escalation after 8 P.M.
8	City of Saratoga Library	Saratoga		\$1.25 L2 \$9.95 DCFC				Min: \$1.00
9	City of Cupertino - City Center	Cupertino		\$3.30		\$4.00		First four hours; Escalation thereafter
10	City of Palo Alto - Cambridge Garage	Palo Alto			\$0.23 L2	\$2.00		Escalation cost per hour following 20-minute grace period following full charge
11	Castro St Garage	Mountain View			\$0.20 L2	\$3.00		First four hours; Escalation thereafter
12	Los Altos Plaza - South Parking Plaza	Los Altos			\$0.32 L2			
13	City of Los Altos Hills	Los Altos Hills			\$0.25 L2			
14	Rinconada Library	Palo Alto			\$0.23 L2			Escalation cost: \$2.00/hr. following 20-minute grace period after charge completion
15	Stanford Visitor Center	Palo Alto		\$2.00			\$1.00	Between 6 A.M. - 4 P.M.; all other times \$1.00 hr.
16	Palo Alto City Hall	Palo Alto		\$0.23 L2		\$2.00		20 min grace period after charge; overstay fee per hour after grace period
17	City of Morgan Hill	Morgan Hill	\$0.50 L2 \$6.00 DCFC/hour		\$0.25 L2 \$0.25 DCFC			DCFC - \$0.25/kWh; after 30 Minutes an extra \$0.10/min.
18	Brisbane Village	Brisbane	\$5.00 DCFC/hour		\$0.20 DCFC			DCFC – Escalation cost per hour after 45 minutes Evening Parking Fee – \$8 flat rate
19	City of Fremont - Development Services Ctr	Fremont		\$1.25 L2				Parking Fee - \$1 between 8 a.m. and 6 p.m.
20	County of San Mateo	San Mateo		\$1.50 L2		\$7.50		M-F 8 A.M. - 5 P.M. Escalation cost after 4-Hours; Max 4 Hours. Free outside these hours
21	City of Pleasant Hill	Pleasant Hill			\$0.20 L2			
22	City of Redwood City - Public Library	Redwood City		\$5.00 DCFC				Time Limit – 4-Hours; \$1/Hour Parking Fee
23	City of Petaluma	Petaluma		\$1.00 L2				

*As of 7/1/2020



EV Policy Pricing Recommendation

Policy	Cost Types	Definition	Implications	Annual Service Costs
Current Standard	Current Structure (No Cost)	No cost associated with the use of Valley Water stations for the public or staff	<ul style="list-style-type: none"> Increased interest in station use by all users requires further analysis of tax and bargaining unit considerations for Valley Water employees. Not applicable for public end users. 	1. Annual Service Cost - \$15,000 (approximate) 2. Energy Cost-L2 \$15,000 (Usage Analysis) 3. Energy Cost-DC \$N/A (currently not activated) <u>Current Annual Approximate Service Costs: \$30,000</u>
Recommendation	kWh Based	Cost associated with kW usage while a vehicle is connected to the station. When the vehicle is connected to the charging station and drawing power this fee would apply.	<ul style="list-style-type: none"> Proposed rate schedule below would cover the kW usage costs and the cost to operate and maintain all EV stations not to exceed 100%. 	1. Annual Service Cost - \$23,000 (approximate) 2. Energy Cost-L2 - \$15,000 (Usage Analysis) 3. Assumed Energy Cost-DC- \$19,000 (approximate) <u>Total Annual Approximate Service Costs: \$57,000</u>

Rate Recommendation	Charge Fees
DC kWh + Service Fee Rate	\$0.19/kWh*
L2 kWh + Service Fee Rate	\$0.19/kWh*
Escalation Rate L2 (Per Hour after 4-Hours)	\$2.00
Escalation Rate DC (Per Hour After 1 Hour)	\$4.00

*Rate includes Valley Water's \$0.11 kWh charge rate and EV Station Unit's Average Operation and Maintenance per kW service fee of \$0.08

QUESTIONS?