



DKS



City of Antioch Fleet Transition Plan

July 12th, 2023

ATTACHMENT "B"

Advance Clean Fleet Rule

- *Applies to all municipalities in California*
- *Will be primary driver of vehicle replacements with 8,500 lbs GVWR or higher*
- *Two compliance pathways:*
 - *Procurements (default)*
 - *Milestones (optional)*
- *Effective Jan 1, 2024*

- In April 2023, the California Air Resources Board (CARB) approved the **Advanced Clean Fleets** rule, a first-of-its-kind rule that requires a phased-in transition toward zero-emission medium-and-heavy duty vehicles.
- California communities that sit near trucking corridors and warehouse locations with heavy truck traffic have some of the worst air in the nation.
 - Trucks represent only 6% of the vehicles on California's roads, but they account for over 35% of the state's transportation generated nitrogen oxide emissions and a quarter of the state's on-road greenhouse gas emissions.

- **Governor Gavin Newsom** has a goal of fully transitioning trucks that travel across the state to **zero-emissions** technology **by 2045**.
- The **Advanced Clean Fleets** rule is expected to generate **\$26.6 billion in health savings** from **reduced asthma attacks, emergency room visits and respiratory illnesses**.
- **Fleet owners** are expected to **save an estimated \$48 billion in their total operating costs** from the transition through **2050**.
- **California** is set to **invest almost \$3 billion** between **2021 – 2025** in **zero-emission trucks and infrastructure**. This investment is a part of a \$9 billion multi-year, multi-agency zero-emissions vehicle package to equitably decarbonize the transportation sector that was agreed upon by the Governor and the Legislature in 2021.

Fleet Transition



Dump Trucks



Service Trucks



Flatbed Trucks



Bucket/Boom Trucks

Vehicles Subject to CARB's Advance Clean Fleet Rule

Type	Make	Model	Vehicles
Bus	ELDORADO	E-450	2
Bus	ELDORADO	REC BUS	1
Commercial	FORD	F-750	1
Commercial	FREIGHTLINER	M2	1
Commercial	INTERNATIONAL	4900	1
Commercial	Peterbilt	348 DUMP	3
Commercial	Peterbilt	Vac-Con	2
Commercial	STERLING	L7500	2
Commercial	Vacuum Truck		1
Commercial	Xcavatos	Freight Liner	1
Truck	CHEVROLET	C5500	1
Truck	DODGE	2500	1
Truck	FORD	E-350	1
Truck	FORD	E-450	1
Truck	FORD	F-250	7
Truck	FORD	F-250 SD	2
Truck	FORD	F-350	22
Truck	FORD	F-350 Crew Cab	2
Truck	FORD	F-350 Flatbed	2
Truck	FORD	F-350 SD	5
Truck	FORD	F-450	1
Truck	FORD	F-450 SD	1
Truck	FORD	F-550	2
Truck	FORD	F-700 Tree Truck	1
Van	CHEVROLET	Express Van 1500	1
Van	FORD	TRANSIT	1
Grand Total			*66

* Includes three vacuum trucks that are subject to the Advance Clean Fleet rule but not included in our analysis. These vehicles are not likely to be replaced until 2033 or later due to their energy intensive duty cycles.

Remaining Fleet Vehicles to be Transitioned (Not subject to ACF)

Type	Make	Model	Vehicles
Motorcycle	HARLEY	Electra Gilde	2
Motorcycle		Motorcycle	3
Motorcycle	SUZUKI	DR650SEM2	2
Sedan	CHEVROLET	Impala	5
Sedan	FORD	Crown Victoria	10
Sedan		Focus	1
Sedan		FUSION	8
Sedan		Taurus	6
SUV	CHEVROLET	Tahoe	2
SUV	FORD	Expedition	1
SUV		Explorer	20
SUV		EXPLORER 4WD	1
SUV		INTERCEPTOR	10
SUV		PIU	2
SUV		UTILITY	8
SUV	JEEP	Cherokee	2
Truck	DODGE	Ram 2500	1
Truck	FORD	F-150	23
Truck		F-150 4X4	3
Truck		Ranger	4
Truck	ISUZU	Isuzu	1
Van	CHEVROLET	Express	1
Van	CHRYSLER	Voyager	1
Van	FORD	Transit Van	1
Van	TOYOTA	Sienna	1
Grand Total			119

EV Chargers (EVSE)



Solar-Powered Level 2 Charger
(PairedPower)



Level 2 Charger
(ChargePoint)



DC Fast Charger
(ABB)

EVSE Rollout Initial Phase

- In the Initial Phase, 12 dual-port Level 2, 1 solar-powered dual-port Level 2, and 2 dual-port DC Fast chargers would be installed, providing 26 new charging spaces.
- The Initial Phase does not require major utility upgrades and can begin right away.

Facility	EVs	Fleet L2s	Fleet DCFCs	Fleet CapEx	Fleet Annual OpEx	Public L2s	Public Solar	Public CapEx	Public Annual OpEx
Public Works	81	1	1	\$304,060	\$70,780	0	0	\$0	\$0
Police Department	84	0	1	\$259,200	\$60,000	0	0	\$0	\$0
Treatment Plant	7	2	0	\$32,120	\$21,560	0	0	\$0	\$0
City Hall	10	1	0	\$34,540	\$10,780	0	0	\$0	\$0
Antioch City Park		0	0	\$0	\$0	0	1	\$84,000	\$10,780
Antioch Community Park		0	0	\$0	\$0	0	0	\$0	\$0
Antioch Marina		0	0	\$0	\$0	2	0	\$143,600	\$21,560
Nick Rodriguez Comm. Ctr.		0	0	\$0	\$0	2	0	\$120,800	\$21,560
PD Substation/Comm. Ctr.		0	0	\$0	\$0	0	0	\$0	\$0
Prewett Water Park		0	0	\$0	\$0	4	0	\$248,440	\$43,120
Senior Center		0	0	\$0	\$0	0	0	\$0	\$0
Total	182	4	2	\$629,920	\$163,120	8	1	\$596,840	\$97,020

Antioch Marina may have additional capacity available. We need to talk with PG&E to find out exactly how much additional capacity is available.

Financials

- 182 fleet vehicles based at six different facilities to be transitioned
- Deployment of Level 2 and DC Fast chargers across eight locations

Initial Buildout Cost

Fleet Charging

\$630K



Public Charging

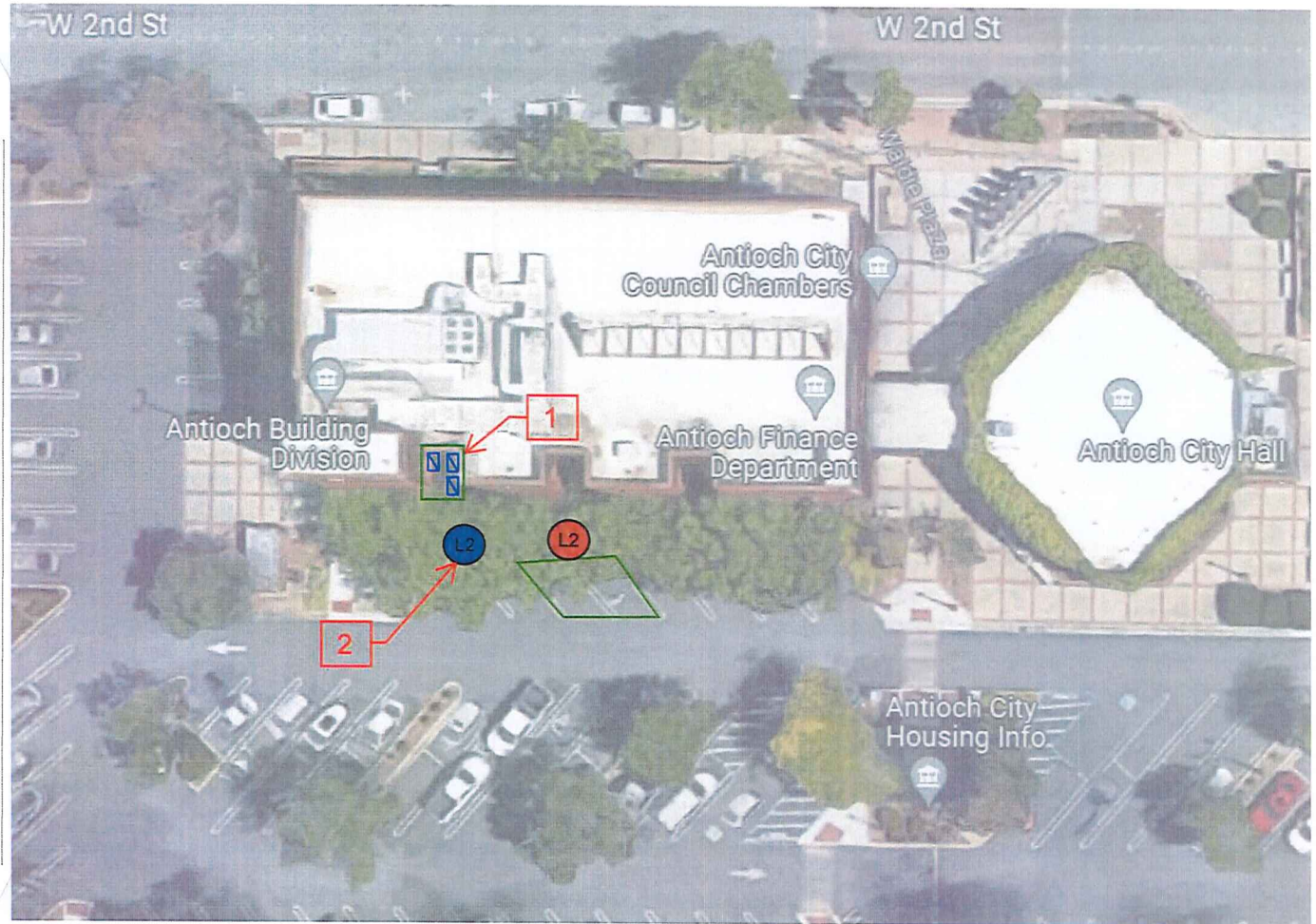
\$600K

Potential Funding Sources

- Bay Area AQMD
- PG&E EV Fleet
- Carl Moyer
- Prop 1B
- HVIP
- VW Mitigation Trust
- CALTRANS (TIRCP)

City Hall Initial Phase

-  One NEW Level 2 Charger
-  One EXISTING Level 2 Charger
 - For Fleet Use

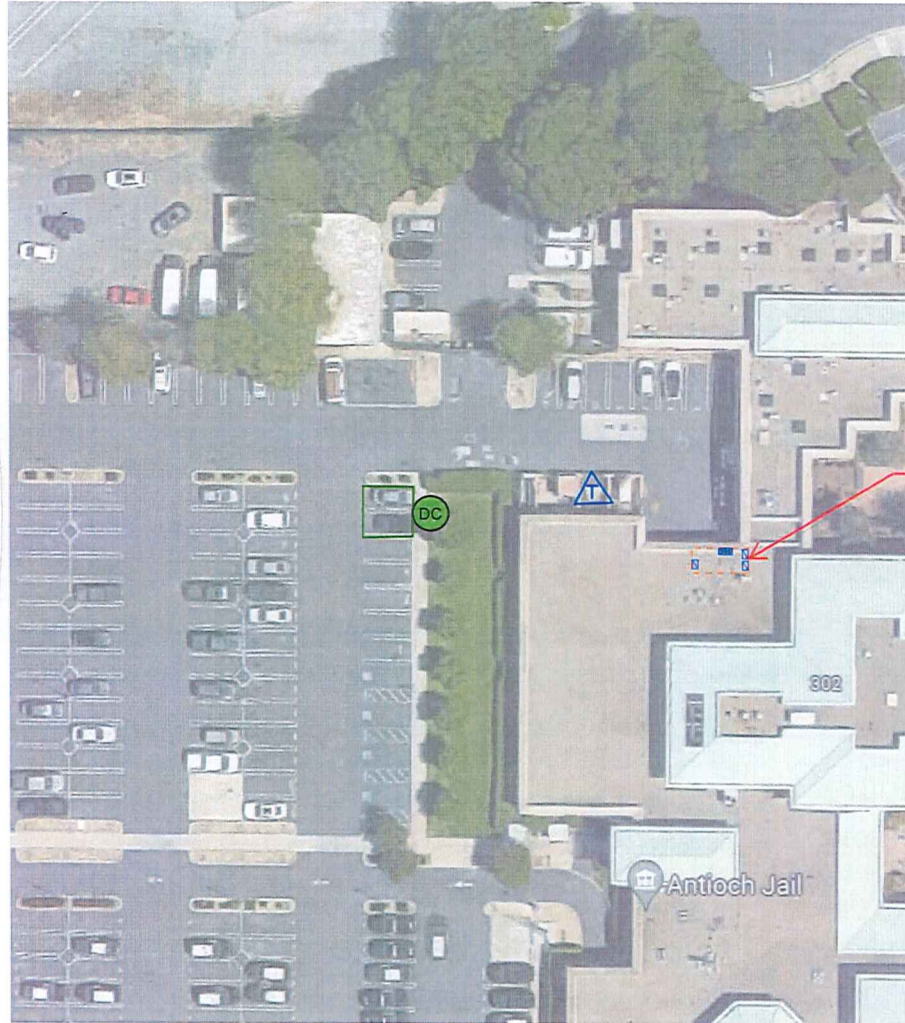


Police Dept Initial Phase

- DC One NEW Dual-Port 150kW DC
Fast Charger
- For Fleet Use

B-8

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Public Works Initial Phase

DC One NEW Dual-Port 150kW DC Fast Charger

L2 One NEW Dual-Port Level 2 Charger

- For Fleet Use

B-9

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Treatment Plant Initial Phase

- L2** Two NEW Dual-Port Level 2 Chargers
 - For Fleet Use

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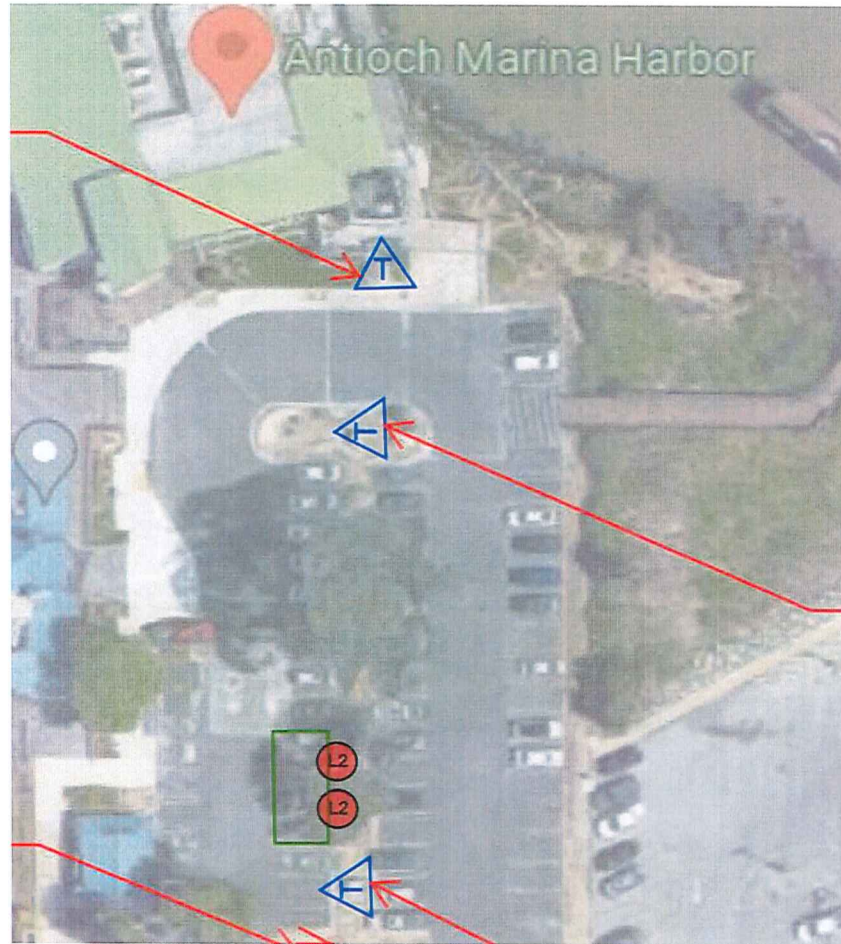
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Antioch Marina Initial Phase

- L2** Two NEW Dual-Port Level 2
Chargers
- For Public USE

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Prewett Water Park Initial Phase

- L2** Four NEW Dual-Port Level 2 Chargers
 - For Public Use

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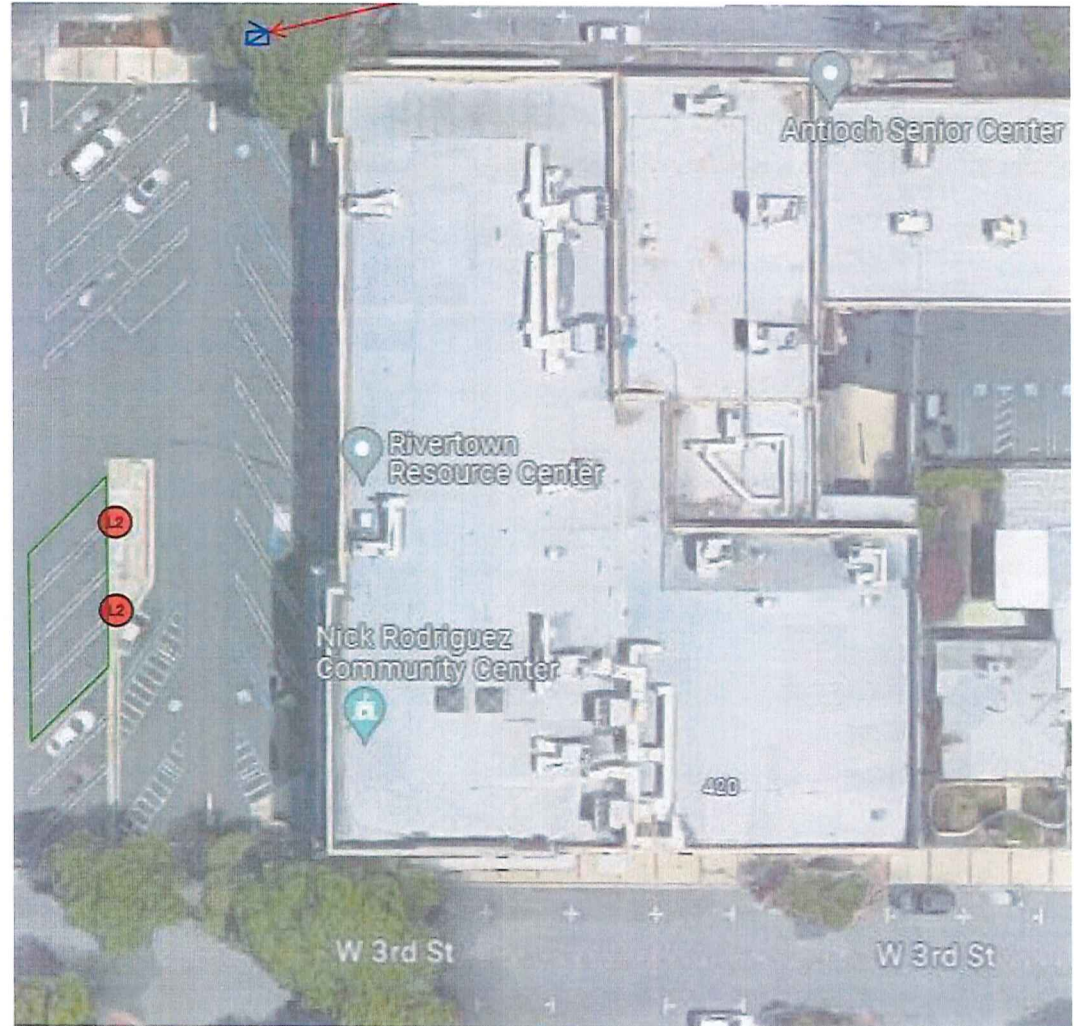


Nick Rodriguez Community Center Initial Phase

- L2** Two NEW Dual-Port Level 2 Chargers
- For Public Use

B-13

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Antioch City Park Initial Phase

L2 One NEW Dual-Port Level 2
Solar-powered Charger

- For Public Use

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Questions?

- Please contact Thomas Paddon at tpaddon@frontierenergy.com

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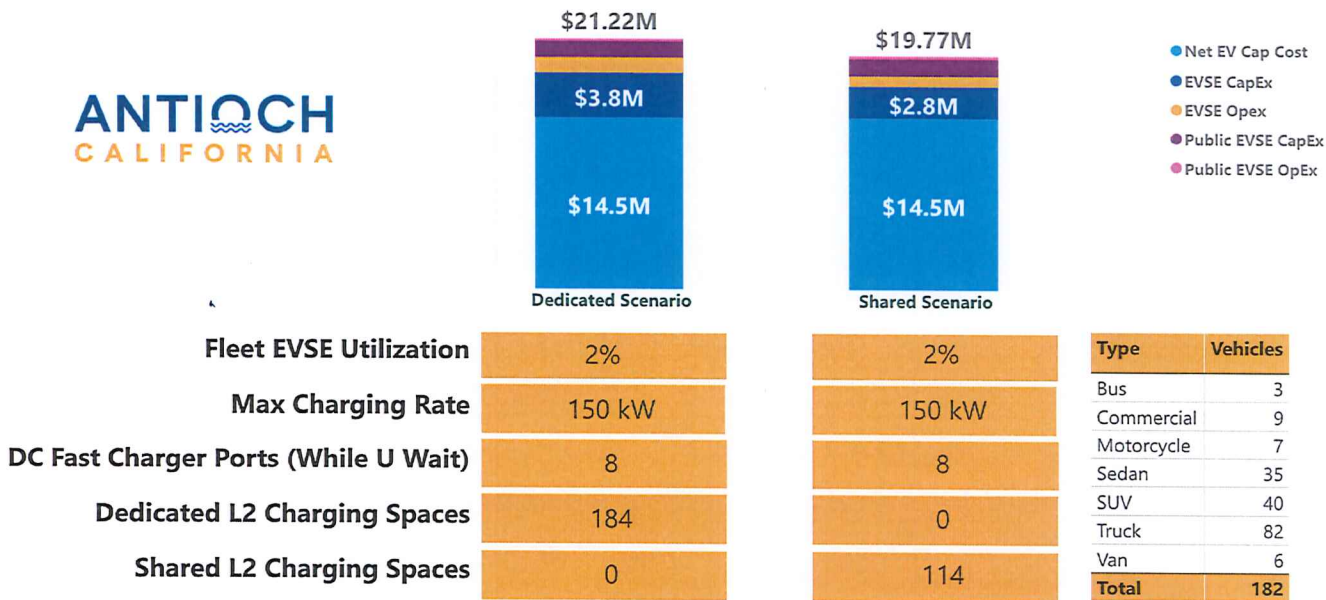
APPENDIX

Summary

- 182 fleet vehicles parked at six different facilities
- Deployment of Level 2 and DC Fast chargers across the six locations
- Dedicated and Shared Transition scenarios evaluated



10-Year Summary



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