

Fleet Replacement Strategies For An Optimum Program and Compliance with ACF

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Topics

- **Introductions, Background, and Fleet Overviews**
- **Benefits of an Optimum Replacement Program**
- **Advanced Clean Fleets (ACF) Impact on Fleet Replacements**
- **Replacement Planning/Forecasting**
- **Specifications**
- **Contracts**
- **Outfitting/Upfitting**
- **Vendors**
- **Fleet Management Information System (FMIS) Software (Database)**
- **Budgeting/Funding**
- **Acquisition/Purchasing**
- **Department Support**
- **CARB ACF Purchase Requirements**
- **ACF Compliance Internal and External Support**
- **Zero Emissions Vehicles (ZEVs)**
- **ZEV Refueling Infrastructure**
- **Telematics (GPS)**
- **Educational and Informational Resources**
- **The Future**



Benefits of an Optimum Replacement Program

- **Minimization of Repair and Maintenance Costs**
- **Minimization of Total Cost of Ownership (TCO) Costs**
- **Right-Sizing a Fleet to Lower TCO and Emissions**
- **Increased Operational Uptime**
- **Improved Safety Features**
- **Reduction in Serious Bodily Injury in Accidents**
- **Reduction in Liability Exposure**
- **Better Fuel Efficiency**
- **Lower Carbon Footprint**
- **Reduction in Unscheduled Operational Downtime**
- **Increased Public Perception and Driver Morale**
- **Decrease Productivity Losses**
- **Maintaining Regulatory Compliance**



Advanced Clean Fleets (ACF) Impact on Fleet Replacements

- **Currently State and Local Government Fleets Must Purchase Zero Emissions Vehicles (ZEVs) as 50% of Their Applicable Vehicle Replacement Acquisitions**
 - **Currently the Percentage Increases to 100% on 1/1/2027**
 - **The California Air Resources Board of Directors Approved Amendments to the ACF Regulation that Include Extending the Current 50% Purchase Schedule Pathway to 2030**
 - **The Regulatory Language is Working its Way Through Processes to Have the Amendments Taking Affect on 1/1/2027**
- **The Following Significant Ancillary Costs of Transitioning to ZEVs are State and Local Governments Fleets Responsibility:**
 - **Installation of Hydrogen Fueling or Electric Charging Station Infrastructure**
 - **Remodeling, Modifying, or Building New Fleet Maintenance Facilities to Meet Worker Safety Regulations and Best Practices Related to Battery Electric and Hydrogen Fueled Trucks**
 - **Creation of Quarantine Sites for Battery Electric Trucks that are Damaged in Accidents or the Onboard Batteries Going Into A Thermal Runaway Event**
 - **New Safety, Maintenance, Repair Training and PPE for Current Fleet Staff**
 - **Possibility That Two ZEVs are Needed to Perform the Work of One Previous ICE Vehicle**



ACF Impact on Fleet Replacements – Cont...

The Following Significant Ancillary Costs of Transitioning to ZEVs are State and Local Governments Fleets Responsibility:

- **Differential Costs Between ICE Vehicle Being Replaced with a ZEV - 1.5X to 5X Higher Acquisition Costs**
- **Higher Accident Repair Costs Including Vehicles Being “Totaled” By Insurance Companies at a Much Higher Rate Than ICE Vehicles**
- **Early ZEV Replacement Costs Because Replacement Batteries are Not Available, at a Significantly Higher Cost Than Originally Forecast, New Battery Technology is Used that is NOT Backwards Compatible with Earlier ZEV Model High Voltage System Architecture**
- **Higher Labor Costs Due to Staff Required Training and Certification to Properly Maintain and Repair ZEVs**
- **Procurement or Leasing of New Property to Park ZEV Farther Apart Due to Battery Thermal Runaway Event Manufacturer and Insurance Company Safe Parking Distance Requirements**
- **Increased Administration Costs for Ongoing and Annual Reporting and Records Retention Costs**
- **Higher Warranty and Breakdown Towing Costs Due to a Lack of ZEV Local Dealerships**

City of Santa Clara Fleet

- **More Than 130,000 Residents**
- **45 Miles South of San Francisco**
- **~19 Square Miles**
- **In Silicon Valley**
- **Tech Industry: Nvidia, AMD, Applied Materials, Data Centers (~55) etc.**
- **Levi Stadium – S.F. Niners – 2026 activity - Superbowl – World Cup**
- **Fleet Size ~760 (~ 90 EV's – 34 Lightnings – 2 Silverado's – E-Transits)**
- **Departments: Power (SVP), Water & Sewer, Police, Fire, Public Works, Parks & Recreation etc.**
- **1 Central Shop, 14 Staff, 8 Techs**
- **Internal Service Fund**

Replacement Planning/Forecasting/Budget

Annual Replacement Budget & Forecasting

- **Replacement Data from Fleet Database**
- **Produce Draft Replacement List**
- **Review List and Refine with Fleet staff**
- **Optimum Replacement Cycles**
- **Identify ACF Options for New Replacements**
- **Meet with Departments for Alignment or Changes**
- **Establish Draft Replacement Candidates**
- **Establish Replacement Budget – ACF & Non ACF**
- **Establish Amortization Rates – ACF & Non ACF**
- **Update Forecast – ACF & Non ACF**
- **Send Workbook to Budget Office for Review**
- **Once Adopted - in Financial Tracking System**
- **Amortization Rates and Replacement Budget in Monthly Financial Reports**
- **Purchases Begin New Fiscal Year**
- **Current CIP Budgeted for EV Charging Infrastructure Plan for ACF Compliance**

ACF Impacts

DEPT	COUNT	ACQ \$	REPLACE \$	ACF \$
PD	141	\$6,600,000	\$8,600,000	\$8,600,000
PW	132	\$8,500,000	\$12,900,000	\$21,500,000
SVP	106	\$9,000,000	\$14,400,000	\$25,000,000
PR	106	\$3,400,000	\$5,100,000	\$6,100,000
WD	65	\$8,100,000	\$12,700,000	\$22,800,000
FD	50	\$11,000,000	\$17,000,000	\$17,000,000
CD	22	\$800,000	\$1,000,000	\$1,000,000
FI	16	\$700,000	\$1,100,000	\$1,100,000
Grand Total	640	\$48,100,000	\$72,800,000	\$103,000,000

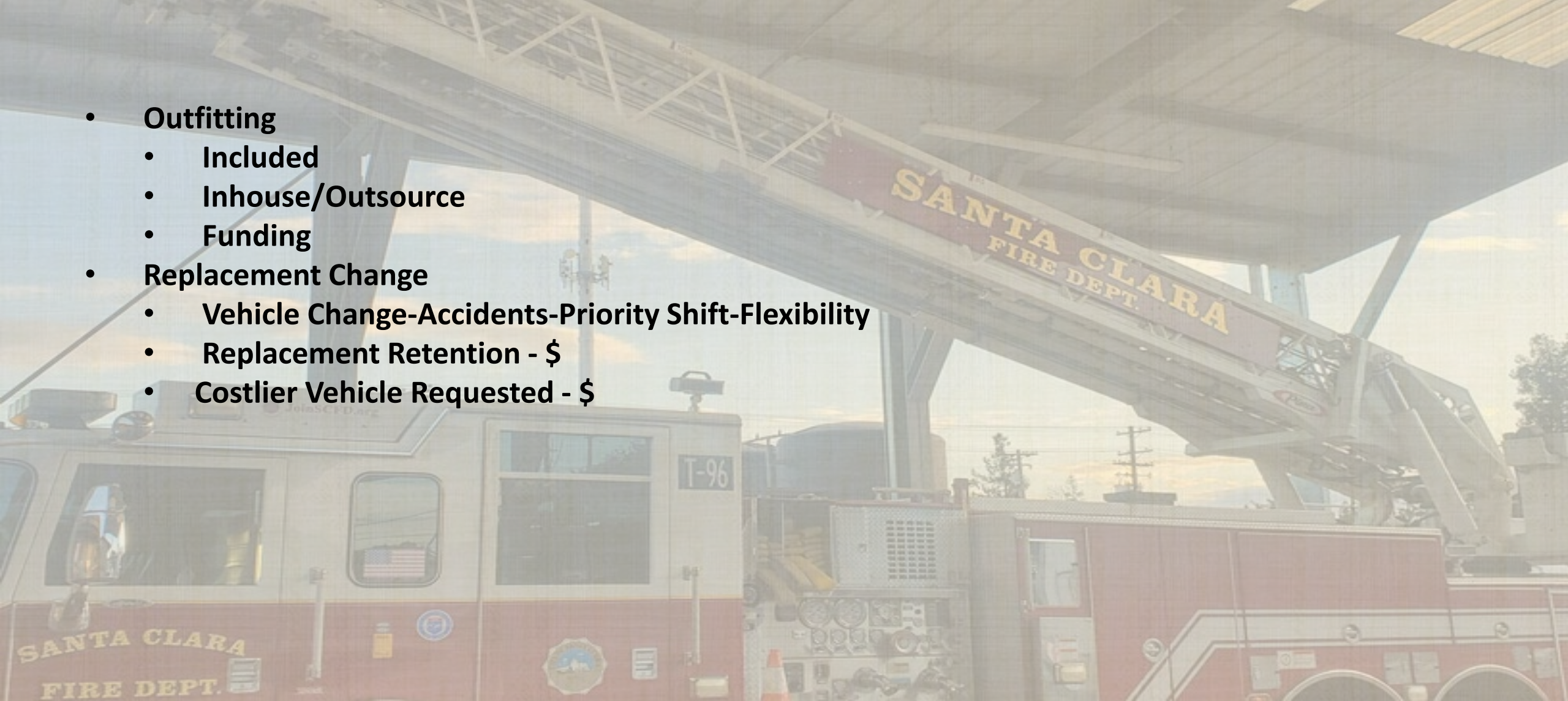
Note: 2X Does Not Include Infrastructure Cost

Acquisition Costs and Lead Times

TYPE	YEAR	\$	CURRENT \$	DELIVERY DAYS	ORDER DAYS
CREW TRUCK	2023	\$396,000	\$486,000	496	NEW ORDER
POLICE SUV	2020	\$45,500	\$71,000	527	237
STREET SWEEPER	2021	\$320,000	\$481,000	255	258
	2024	\$406,000		72	
FIRE ENGINE	2019	\$593,000	>\$1M	468	NA
	2023	\$813,000		230	NA
AERIAL TRUCK	2021	\$194,000	\$321,000	544	1,099

Post Budget / Acquisition

- **Outfitting**
 - Included
 - Inhouse/Outsource
 - Funding
- **Replacement Change**
 - **Vehicle Change-Accidents-Priority Shift-Flexibility**
 - **Replacement Retention - \$**
 - **Costlier Vehicle Requested - \$**



Specifications/Contracts/Acquisition/Purchasing

- **Specifications**
 - Performance
 - Technical
 - Warranty/Training/Delivery/Manuals/Diagnostic Equipment/Compliance
 - Resources - Manufacturers/Suppliers/Other Agencies/Specification History
- **Contracts and/or Quotes (3)**
 - Other Agencies
 - Sourcewell
 - State of California Statewide Contract
 - U.S. Communities
 - HGAC (Houston-Galveston Area Council)
- **Purchasing**
 - Municipal Code
 - Budget Approval
 - Vendor Approval over \$250K

Replacement Planning/EV Charging



No.	Location	Address	EVSE Type	Public/ Fleet	Charging Stations	Level 2 Total ports (fleet)	Level 3 Total Ports (fleet)	Level 2 Total ports (public)	Level 3 Total Ports (public)
1	Fire Station 2/Training Center	1900 Walsh Ave	Level 2	Fleet	3 dual port	6	0	0	0
2	Fire Station 6	888 Agnew Rd	Level 2	Fleet	2 dual port	4	0	0	0
3	Fire Station 8	2400 Agnew Rd	Level 2	Fleet	2 dual port	4	0	0	0
4	Mission Cemetery	420 N Winchester Blvd	Level 2	Fleet	1 dual port	2	0	0	0
5	Utility Yard - DC Fast Chargers	1715 Martin Ave	DCFC	Fleet	2 dual DCFC	0	4	0	0
5	Utility Yard	1715 Martin Ave	Level 2	Fleet	20 dual	40	0	0	0
6	Santa Clara Police Department	601 E Camino Real	Level 2	Fleet	10 dual	20	0	0	0
7	Central Park Library (option 2 - from SVP pole)	2635 Homestead Rd	Level 2 and Level 3	Public	Combination	0	0	0	0
8	Senior Center (back lot)	1303 Fremont St	Level 2	Public	1-dual	1	0	0	0
9	City Hall	1500 Warburton Ave	Level 2 and Level 3	Public and Fleet	15 dual	6	4	8	4
10	CRS	969 Kiely Blvd	Level 2	Public and Fleet	1-dual	1	0	0	0
11	DVR Power Plant	850 Duane Ave	Level 2	Fleet	3-dual	6	0	0	0
TOTAL						90	8	16	5

City of Santa Clara logo and wordmark

City of Santa Clara

Funded | 6191 - Electric Vehicle Charging (Fleet)

Project Number:

Year Initiated:

Planned Completion Year:

Project Type:

Strategic Pillar

Location

6191 Theme / Category:

2024 Project Manager:

2036 Department:

Distinct Fund:

07 - Promote Sustainability and Environmental Protection

Citywide

Decorative orange map-style graphic

Project Description

This project funds the costs to comply with the California Air Resources Board's (CARB) new regulation "Advanced Clean Fleet" (ACF) rule. This requires fleets to purchase zero emission vehicles when replacing their medium and heavy-duty fleet in 2024. The City owns approximately 170 vehicles impacted by this rule. 50% of fleet purchases in these vehicle classes are required to be zero emission through 2026, then starting in 2027, 100% of replacement purchases are required to be zero emission vehicles ongoing. This project addresses the charging infrastructure need for these vehicles at city locations where most of these vehicles are domiciled. Current EV infrastructure projects are not at adequate levels to meet the new requirements. The infrastructure funding requested aligns with the fiscal year of replacement volume by class. The initial phase of this project includes hiring a consultant to assess existing available infrastructure and create an EV charging installation and phasing plan.

ACF 50% CY												ACF 100% CY																	
GVWR GRP	2009	2015	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2043	NO RPLC YR	Grand Total	
8.6K - 11.4K	1	1	1	1	1	1	1	1	2	1	8	8	20	7	11	5	6	1		4								81	
13K - 19.5K						1	1		2	2		1		11	4	6	4	5	1		1	1			1			41	
25.9K - 39K					1			4	2			3		2	1	2	2	5	1	2	1	1		2		1	1	31	
54.6K - 66K										2							1	2	3		2		1	1	1			13	
Grand Total	1	1	1	1	2	2	2	5	6	5	8	12	20	20	16	13	13	13	5	6	4	2	1	3	2	1	1	166	

Fleet Management Information System (FMIS) Software (Database)

Faster Web
Fuel Master
Titan
Geotab
Excel
Access
SQL Server
Report Builder
Peoplesoft
Questica
Power BI



Collaboration/Relationships/Support

- **Department Resources**
 - Executive Management
 - Fleet
 - Analyst
 - Engineering
 - Compliance
- **Operating Departments**
 - Liaisons
 - Analyst
 - SVP
- **Budget Office/Finance**
 - Analyst
 - Accounting
 - Buyers
- **Other Agencies**
- **Professional Organizations**
- **Suppliers/Vendors/Manufactures**



ACF Replacement Planning

ACF Planning

- Communication & Awareness
- Replacement - Planning & Funding
- EV Charging - Planning & Funding

ACF Observations & Challenges

- Utilities (Water/Sewer/Power) Should be Exempt
- Technology
- Cost
- Timeline
- Federal/State/Private/Public
- Contractor Vehicles
- Historical Stress & Resource Drain
- Ignores Other Advances



MARCH 15, 2023

Downed Power Lines Cause First-Known Shelter-in-Place in Santa Clara on Busy



"The temporary shelter in place issued today was to support traffic management and allow City crews the space and access to safely clean up debris and restore the downed power lines. All powerlines are de-energized and do not pose a public threat. Crews will be working around the clock with the goal of having debris cleared and the roadway

KRON 4 W

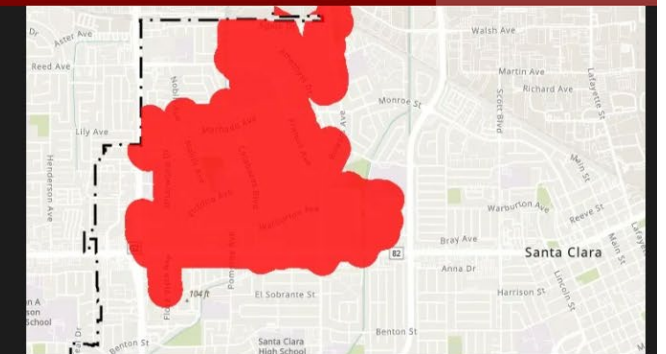
BAY AREA

**Santa Clara power outage
Friday leaves over 1,000
without power**

by: Alex Baker

Posted: Mar 28, 2025 / 03:31 PM PDT

Updated: Mar 28, 2025 / 03:31 PM PDT



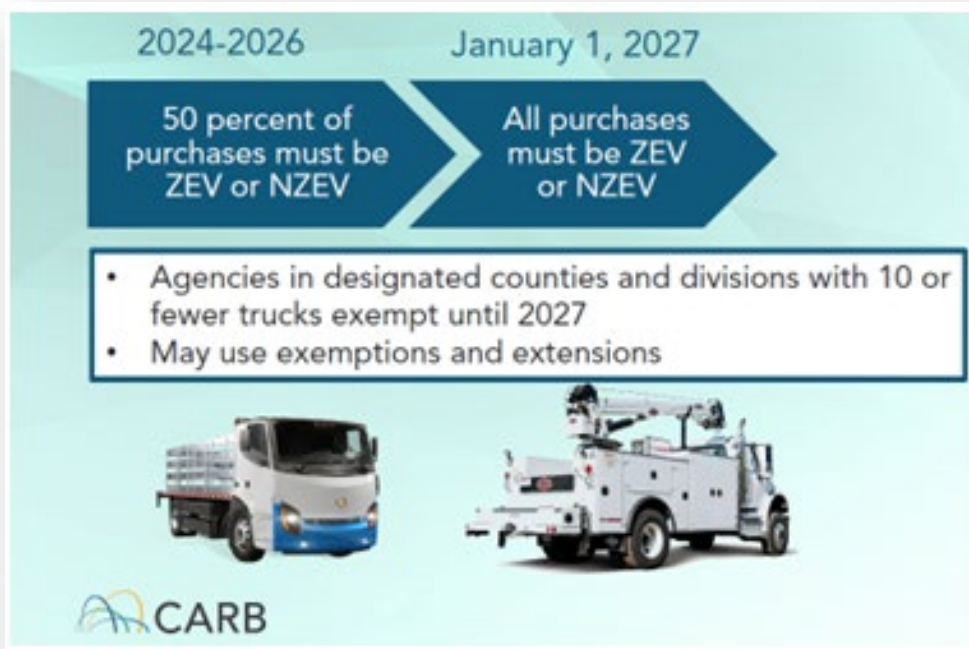
Map: Silicon Valley Power



CARB ACF Purchase Requirements

Advanced Clean Fleets

Purchase Schedule Pathway Option



<https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets>

ZEV Milestone Option

Optional ZEV Milestone Phase-in

- Open to High Priority and State and Local Government fleets
- Must meet ZEV milestones as a percent of total fleet
- Flexibility to add new ICE vehicles that are California certified or used ICE vehicles with 2010 or newer model year

Zero-Emission Fleet Percentage	10%	25%	50%	75%	100%
Group 1: Box trucks, vans, 2-axle buses, yard trucks, light-duty package delivery vehicles	2025	2028	2031	2033	2035
Group 2: Work trucks, day cab tractors, 3-axle buses	2027	2030	2033	2036	2039
Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042



Work truck means any single-unit truck that is not a box truck, van, bus, or specialty vehicle

21

Must have declared using the ZEV Milestone Phase-in Option **by 4/1/2024**. After electing to use this option, fleet owners are no longer subject to and **may not switch back to** the State or local government fleet Purchase Schedule Pathway requirements.



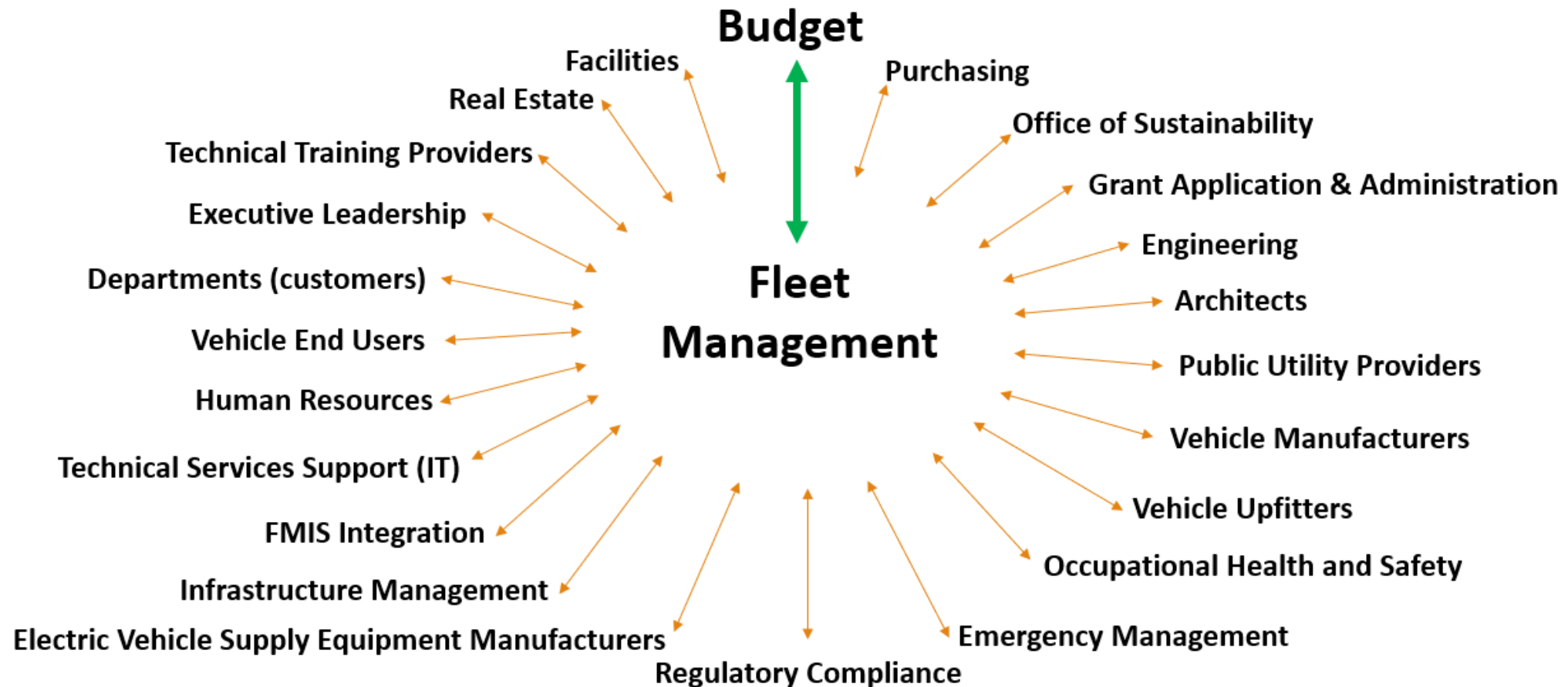
Scope and Applicability

- Public agencies that own, lease, or operate a diesel-fueled heavy-duty vehicle with manufacturer's gross vehicle weight rating greater than 8,500 pounds
- City, county, public utility, special district, or an agency of the State of California, and any department, division, public corporation
- Excludes federal agencies





ACF Compliance Internal and External Support





ACF ZEV Transition Logistics



- **Waiting** for ZEVs to meet all range and duty cycles of current vehicle applications
- Delivery of ZEVs to match charging or hydrogen fueling infrastructure availability while internal infrastructure is being developed. **Stranded Assets**
- Waiting for **public refueling infrastructure** to catch up with needs
- Timing of local and regional electricity **grid capacity** and generation
- Fleet maintenance facility remodels, extensions, or **new construction** timing
- **Availability of Funding Resources**



Zero Emissions Vehicles (ZEVs) for ACF Compliance

Zero Emission Vehicle (ZEV) Types

- Battery Electric Vehicles (BEV)
- Hydrogen Fuel Cell Electric Vehicles (FCEV)
- Hybrid Electric Vehicles (HEV) Are Not ZEVs
- Plug-In Hybrid Electric Vehicles (PHEV) **Limited by All-Electric Range Requirement**

Phase 2 Plug-in Hybrid Electric Vehicles All-Electric Range Requirements and ATC Multipliers			
Vehicle Model Year	AER (miles)		ATC Multiplier
	Slow-Charge ⁽¹⁾	Fast-Charge ⁽²⁾	
2017 - 2020	0	0	1.5 (Phase 1)
2021 - 2023	10+	10+	3.5 ⁽³⁾
2024 - 2026	20+	15+	3.5 ⁽³⁾
2027+	35+	20+	3.5 ⁽³⁾

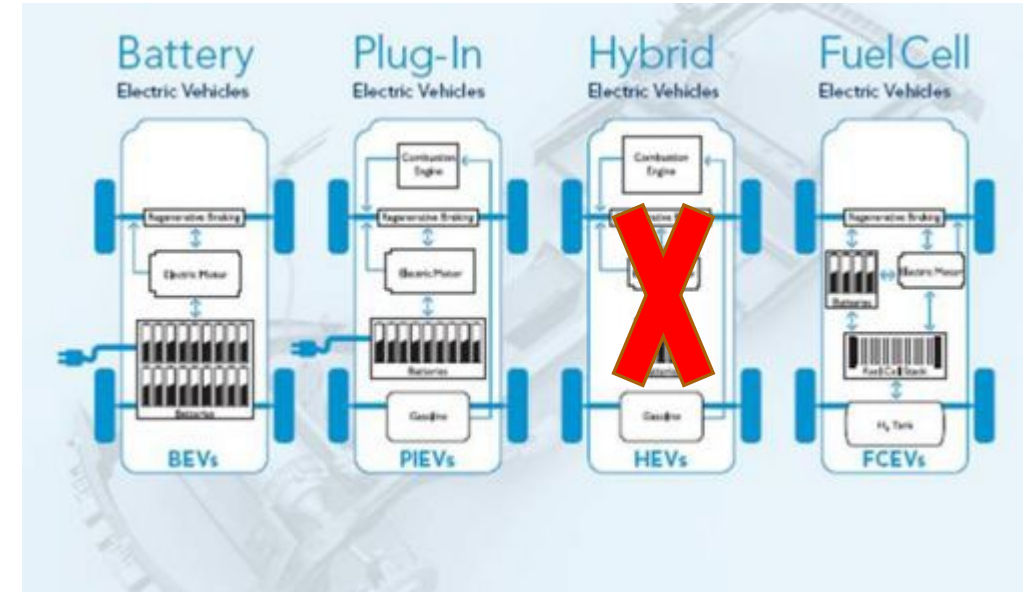
Notes:

(1) Slow-charge refers to Level 1 and Level 2 chargers with electrical circuit rated up to 240 volts AC, up to 80 amps, and 19.2 kilowatts.

(2) Fast-charge compatible **PHEVs** must: 1) be capable of charging from 15 percent state-of-charge to 85 percent state-of-charge within one-half hour (0.5hr); and 2) demonstrate that typical operating time is at least 8 times (8x) typical charging time (i.e., a vehicle must be capable of operating for 8 minutes for each minute of charge time).

(3) If the **PHEV** AER is less than that specified in the AER column for the respective vehicle model year, an ATC multiplier of 1.5 would be applicable if the **PHEV** complies only with subparagraph (k)(7)(ii)(A) of this section.

[https://ww2.arb.ca.gov/sites/default/files/2022-09/Phase%20202019%20version_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-09/Phase%2020202019%20version_0.pdf)



Vehicle Manufacturers are currently focused on producing “Low Hanging Fruit” classes such as:

- Delivery Vans, Mini-Buses, Cargo Trucks, Transit Buses, and Trucks for Intrastate Commerce
- Vocational (work) Truck Designs are Forecast to be Available Beginning in 2026



ZEV Marketplace Updated Information

- The Repeal of the ACF Regulation for High Priority and Drayage Fleets Reduced the ZEV Market by ~333,301 Vehicles*
- Only ~50,499* State and Local Government Fleet Vehicles Remain to be Replaced
- An **87% Reduction** in the ZEV Manufacturer Potential Sales Market
- Anticipate a Reduction in ZEV Models Available for Purchase
 - At a Higher Cost
 - Fewer Applicable ZEV Types to Choose From
 - An Increase in ZEV Purchase Exemption Request Submissions

* Data from CARB Large Entity Fleet Reporting - STATEWIDE AGGREGATED DATA

https://ww2.arb.ca.gov/sites/default/files/2022-02/Large_Entity_Reporting_Aggregated_Data_ADA.pdf



ZEV Marketplace Updated Information – Cont...

- **Chevrolet BrightDrop Cargo Vans Discontinued in 2025**
- **Ford F-150 Lightning EV Truck Discontinued in 2025**
- **Ford “Project T3” EV Truck to Replace F-150 Lightning Canceled**
- **Ford Next Generation Electric Van Canceled**
- **Ford F-150 Plug-In Hybrid Electric Truck Anticipated as a 2027 Model Year Model**
- **RAM 1500 EV Truck Canceled**
- **RAM Heavy-Duty EV Truck Canceled**
- **RAM EREV Truck Anticipated as a 2027 Model Year Model**



ZEV Marketplace Updated Information – Cont...

CARB List of Certified Medium and Heavy-Duty ZEVs



50

Count of Manufacturer

208

Count of Vehicle Model

Vehicle Class

All

▼

Vehicle Make

All

▼

EO Model Year

All

▼

ZEP Certified

All

▼

Vehicle Class	Vehicle Make	Vehicle Model	EO Model Year	ZEP Certified	Complete Vehicle	Cab & Chassis	Manufacturer
Class 7	ARBOC	Equest Charge 3000	2024	True	True	False	Arboc Specialty Vehicles
Class 7	ARBOC	Equest Charge 3000	2025	False	True	False	Arboc Specialty Vehicles
Class 7	ARBOC	Equest Charge 3500	2024	True	True	False	Arboc Specialty Vehicles
Class 7	ARBOC	Equest Charge 3500	2025	False	True	False	Arboc Specialty Vehicles
Class 7	ARBOC	X1-5s-230	2024	False	True	False	Arboc Specialty Vehicles
Class 8	Autocar	E-ACCT	2024	False	False	True	Autocar, LLC
Class 8	Autocar	E-ACX	2025	True	False	True	Autocar, LLC
Class 8 Tractor	Autocar	E-ACCT	2025	True	False	True	Autocar, LLC
Class 6	Battle Motors	BEV LET2	2024	True	False	True	Battle Motors, Inc.
Class 6	Battle Motors	BEV LNT	2024	True	False	True	Battle Motors, Inc.
Class 6	Battle Motors	BEV Striker	2025	True	False	True	Battle Motors, Inc.
Class 7	Battle Motors	BEV LET2	2024	True	False	True	Battle Motors, Inc.
Class 7	Battle Motors	BEV LNT	2024	True	False	True	Battle Motors, Inc.
Class 7	Battle Motors	BEV Raider	2025	True	False	True	Battle Motors, Inc.
Class 8	Battle Motors	BEV LET2	2024	True	False	True	Battle Motors, Inc.
Class 8	Battle Motors	BEV LNT	2024	True	False	True	Battle Motors, Inc.

<https://ww2.arb.ca.gov/applications/list-certified-medium-and-heavy-duty-zevs>



ZEV Marketplace Updated Information – Cont...

ZEV Availability Quick Reference Including Voucher Incentive Amounts



\$5.0MM

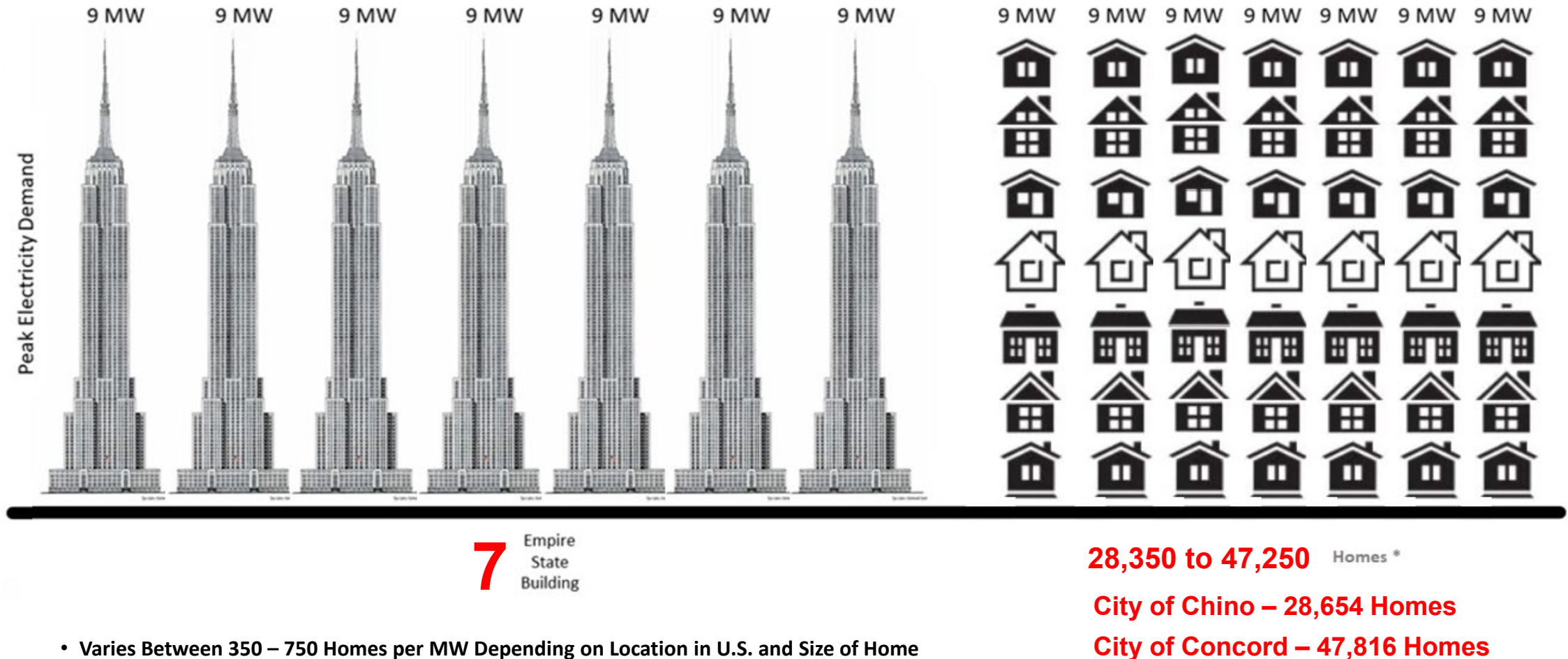
Reserved for Public Fleets

<https://ww2.arb.ca.gov/applications/list-certified-medium-and-heavy-duty-zevs>



ZEV Refueling Infrastructure

Charging Infrastructure Daily Electricity Consumption - Example for 454 Trucks

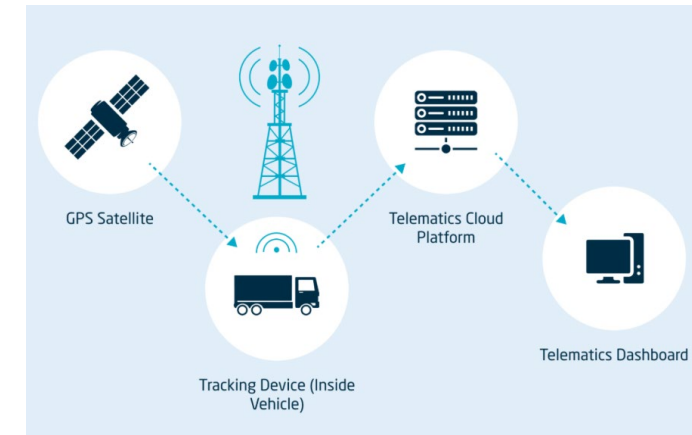




Telematics (GPS)

Excellent Tool to Assess Vehicle Utilization

- **Resolves the Issue of Highly Utilized Vehicles that Travel Within a Small Geographical Area so Total Miles Traveled (TMT) Is Not An Accurate Measurement of Utilization**
- **Identifies Vehicles That Travel Infrequently But Long Distances When They Do**
 - **Ideal Vehicle to be Replaced with Using a Motor Pool or Rental Vehicle**
- **Helps Determine if a Remote Motor Pool Can be Established to Serve Multiple Departments and Repurpose or Retire Assigned Vehicles**
- **Is Used for the Creation of Dynamic Remote Keyless Motor Pools to Replace Assigned Vehicles**
- **Identifies Overnight Parking Locations for Potential EV Charging Station Installations to Support EV Current and Future EV Acquisitions**
- **Vehicle Miles Traveled (VMT) Data Can be Used to Choose the Correct Size EV Battery Size Option to Minimize Acquisition Costs**





Educational and Informational Resources

- **U.S. Department of Energy Office of Critical Minerals and Energy Innovation Department Clean Cities and Communities Program**

California Coalitions

- [Central Coast Clean Cities Coalition](#)
- [East Bay Clean Cities Coalition \(Oakland\)](#)
- [Long Beach Clean Cities](#)
- [Los Angeles Clean Cities Coalition](#)
- [NorCal Clean Cities and Communities](#)
- [San Diego Regional Clean Cities Coalition](#)
- [San Francisco Clean Cities Coalition](#)
- [San Joaquin Valley Clean Cities and Communities](#)
- [Silicon Valley Clean Cities \(San Jose\)](#)
- [Southern California Clean Cities Coalition](#)
- [Western Riverside County Clean Cities Coalition](#)





Educational and Informational Resources

CARB ACF Regulatory Language Website

- Main website
 - <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets>
- Original Final Regulation Order: State and Local Government Agency Fleet Requirements Document
 - <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/acffroa1.pdf>
- CARB Board Approved ACF Amendments: State and Local Government Agency Fleet Requirements Document
 - <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/acffroa1.pdf>



Educational and Informational Resources – Cont....

CARB ACF Fact Sheets Website:

<https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/advanced-clean-fleets-fact-sheets>

- **General Fact Sheets**
- **Components of the Regulation**
- **Exemptions and Extensions**
- **Videos**
- **Tools**
 - **Advanced Clean Fleets Searchable FAQ**
 - **Advanced Clean Fleets Compliance Planning Tool Calculator**
- **Annual and Ongoing Reporting is Through CARB TRUCRS Website and Software**
https://ssl.arb.ca.gov/trucrs_reporting/login.php



Educational and Informational Resources – Cont....



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Advanced Clean Fleets

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CARB is developing a medium and heavy-duty zero-emission fleet regulation with the goal of achieving a zero-emission truck and bus California fleet by 2045 everywhere feasible and significantly earlier for certain market segments such as last mile delivery and drayage applications.

[MORE ABOUT THIS PROGRAM >](#)

Email Updates

Keep up to date on future meetings and important events for the Advanced Clean Fleets regulation by signing up for our email updates.

[SUBSCRIBE](#)





Educational and Informational Resources – Cont....

How to Sign Up for Other CARB Regulation E-Mail Lists



Email Updates

To sign up for updates or to access your subscriber preferences, please enter your contact information below.

Subscription Type

Email Address *



Your contact information is used to deliver requested updates or to access your subscriber preferences.

[Privacy Policy](#) | [Cookie Statement](#) | [Help](#)

https://public.govdelivery.com/accounts/CARB/subscriber/new?topic_id=listserv



Educational and Informational Resources – Cont....

Operational and Budgetary Impacts of the CARB ACF Regulation 5-Part Webinar Series

- <https://memafleet.org/2023/10/06/mema-and-sacramento-clean-cities-acf-5-part-webinar-series-now-available/>

NorCal Clean Cities and Communities Presentation Archives

- <https://www.cleancitiessacramento.org/events-archive.html>

ARCHIVES

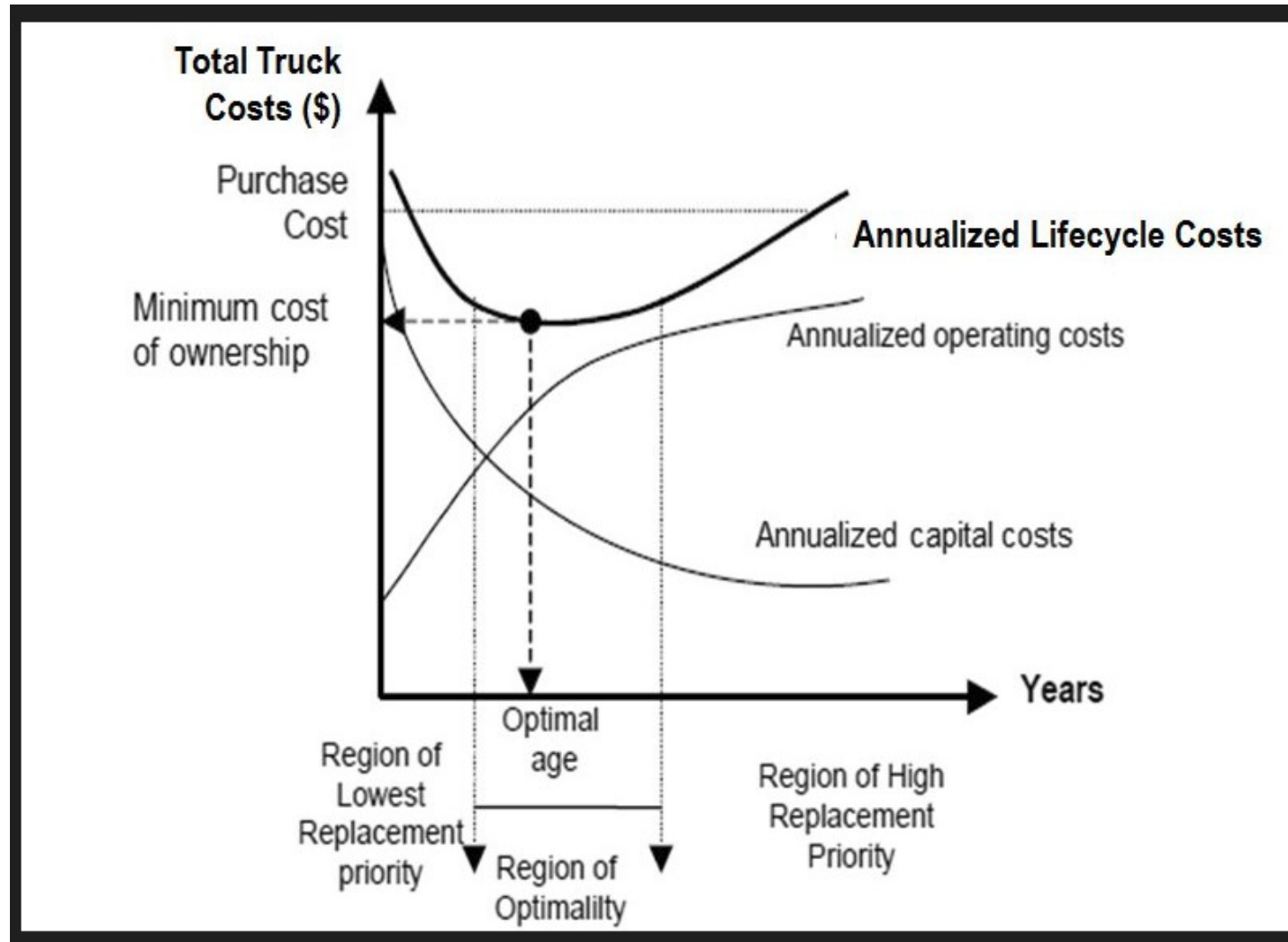
Missed an event? Want to look back at presentations? Check out any of the past years below to find an event's highlights, presentations, pictures, recordings, write-ups, and more!

2026	2025	2024	2023
2022	2021	2020	2019
2018	2017	2016	2015
2014	2013	2012 & Older	Upcoming





Lifecycle Total Cost of Ownership Graph





The Future - Our Opinions

- **Higher Vehicle Acquisition Costs Mainly for Light, Medium, and Heavy-Duty Trucks and Specialty Vehicles**
- **Higher Fuel Costs in California**
- **Higher Electricity Rates**
- **Continued Inconsistency Between State and Federal Government on Vehicle Emissions Regulations Leading to Higher Acquisition Costs**
- **Higher Collision Repair Costs Due to Electronic Complexity and Increased Complicated Safety Equipment**
- **Fewer ZEV Manufacturers for Light, Medium, and Heavy-Duty Trucks and Specialty Vehicles**
- **Growth of Plug-In Hybrid Electric Light, Medium, and Heavy-Duty Trucks and Specialty Vehicles to Meet ACF Requirements Through to 2030**
- **Decrease in Operation and Maintenance Costs of Light Duty EVs**
- **Continued Closer Acquisition Cost Parity Between Light Duty EVs and ICE Vehicles**
- **Increased Pressure on Fleet Management to Decrease Costs**
- **Increased Opportunities to Right Size Fleets to Reduce Costs and Emissions**
- **Increased Recalls and Warranty Repairs Due to Connected Systems Within Vehicles**



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Questions



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