

# Monterey County Fleet Electrification Study

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Presentation for the Alternative Energy and Environment Committee 5.27.21

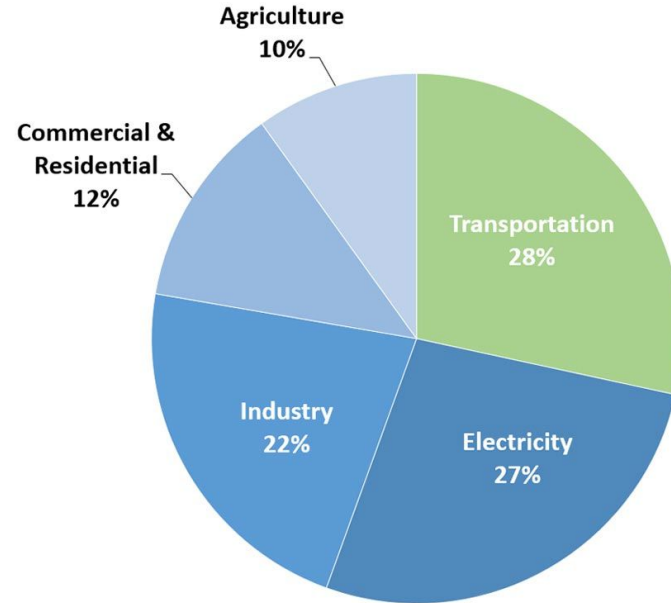
# Recommendations

- a) Receive a presentation from the Monterey County Sustainability Program and Julie Stasiuk, a Monterey Bay Economic Partnership student intern, on the preliminary results of the Fleet Electrification Study.
  
- b) Provide direction to staff.

# Transportation: Largest contributor to GHGs in US

- Largest source of transportation-related GHG emissions (>50%)
- 41% of California's greenhouse gas emissions
  - Passenger cars and light-duty trucks
- 4 types of GHG
  - Carbon dioxide
  - Methane
  - Nitrous oxide
  - Hydrofluorocarbon (HFC)

## Total U.S. Greenhouse Gas Emissions by Economic Sector in 2018



U.S. Environmental Protection Agency (2020). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2018

# Policy Changes- EO N-79-20

- Governor Gavin Newsom's executive order states "all new cars and passenger trucks sold in California be zero-emission vehicles" by 2035
  - Transportation accounts for >50% of CA's GHG emissions
  - EV's are CA's second largest global export market
- Transportation creates >50% of CA carbon pollution
  - 80% smog-forming pollution
  - 95% toxic diesel emissions

## Biden plans to replace government fleet with electric vehicles

PUBLISHED MON, JAN 25 2021-5:38 PM EST | UPDATED TUE, JAN 26 2021-8:58 AM EST



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## Amazon unveils its new electric delivery vans built by Rivian

*The delivery giant aims to have 10,000 vehicles on the road by 2022*

By Andrew J. Hawkins | [@andjyhawk](#) | Oct 8, 2020, 9:49am EDT

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## Calif. will make Uber and Lyft nearly all-EV by 2030

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Source: By David Ferris, E&E News reporter • Posted: Tuesday, November 24, 2020

## General Motors plans to exclusively offer electric vehicles by 2035

PUBLISHED THU, JAN 28 2021-11:00 AM EST | UPDATED THU, JAN 28 2021-2:46 PM EST



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## Volvo to go fully electric by 2030

By Charles Riley, [CNN Business](#)

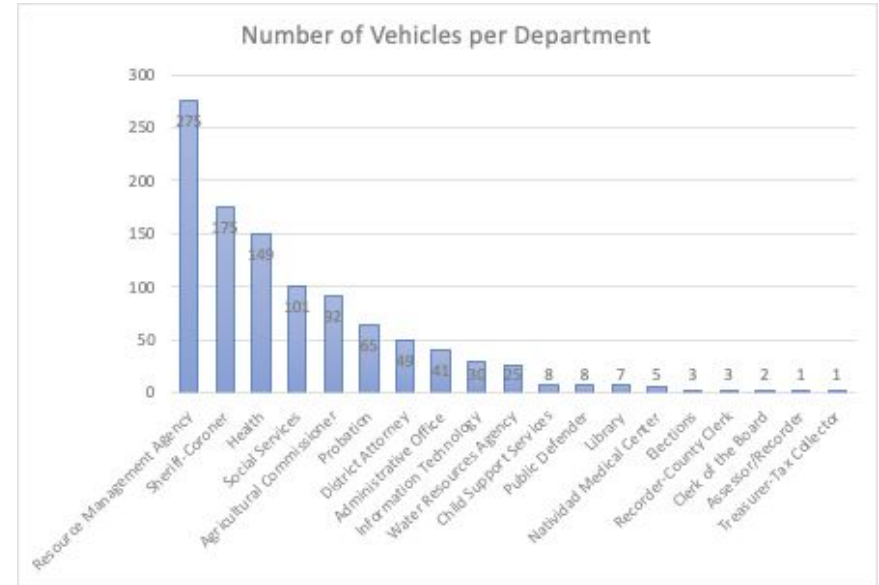
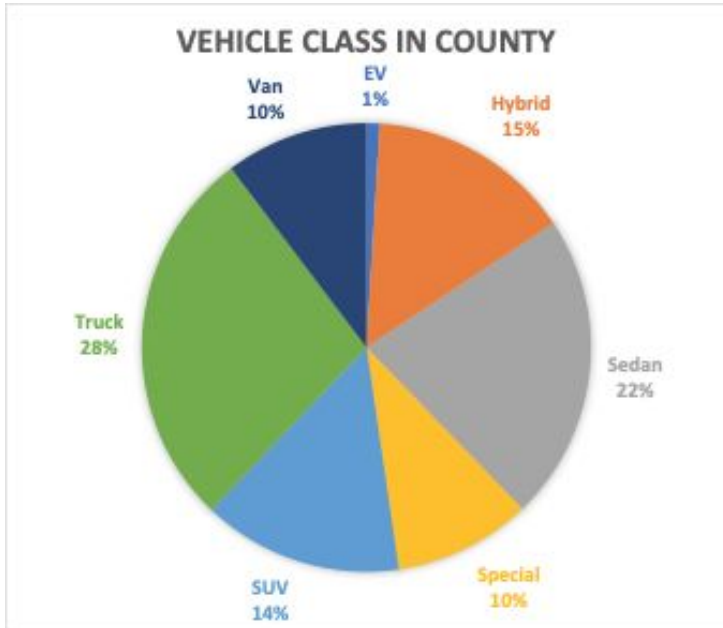
Updated 2:38 PM ET, Tue March 2, 2021

# Industry Trends

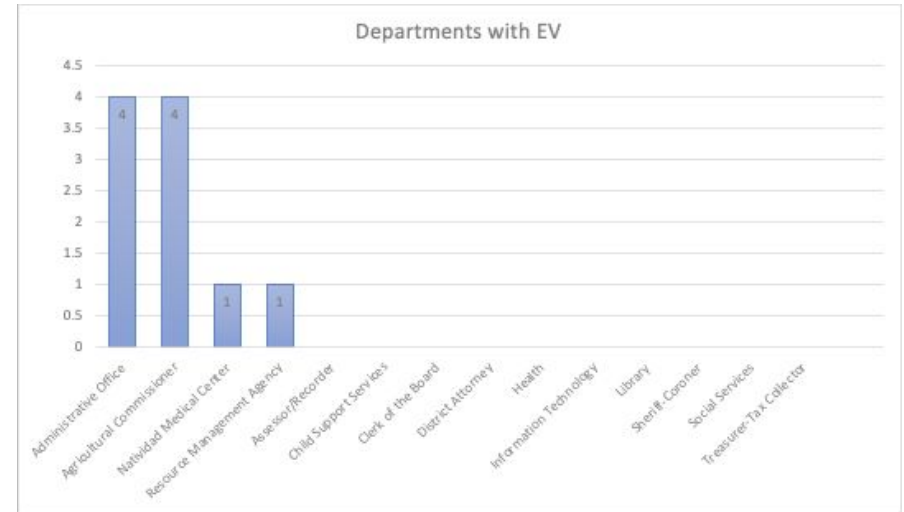
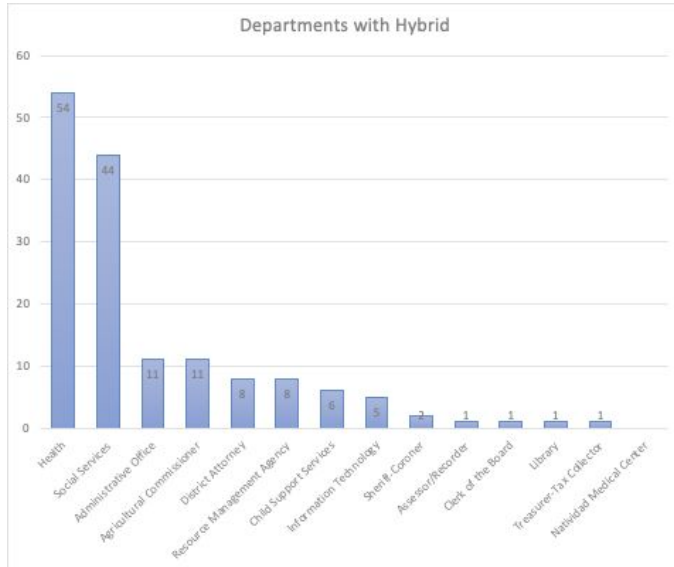
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# Monterey's Fleet By Class

1040 Vehicles Total in 2020



# Department's with EV's and Hybrids



# Total Cost of Ownership

	TCO ICE	TCO EV (incentive included)	TCO EV, No Incentive
<b>Sedan</b> <i>-2021 Dodge Charger</i> <i>-2021 Nissan Leaf</i>	<b>\$62,161</b>	<b>\$32,489</b>	<b>\$39,989</b>
<b>SUV</b> <i>-2021 Ford Escape AWD</i> <i>-2021 Hyundai Kona EV</i>	<b>\$50,756</b>	<b>\$38,959</b>	<b>\$46,459</b>

**Total Cost of Ownership (TCO) = Manufacturer's Suggested Retail Price (MSRP) + Lifetime Cost of Gas/Power + Maintenance Cost - Depreciation/Salvage Value**

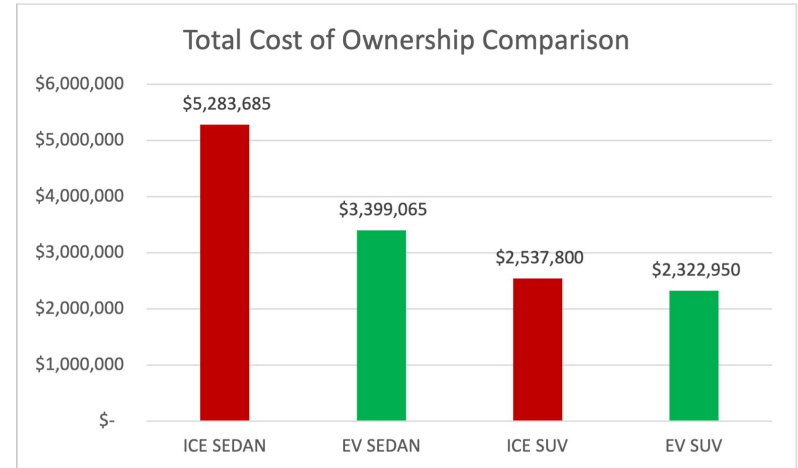
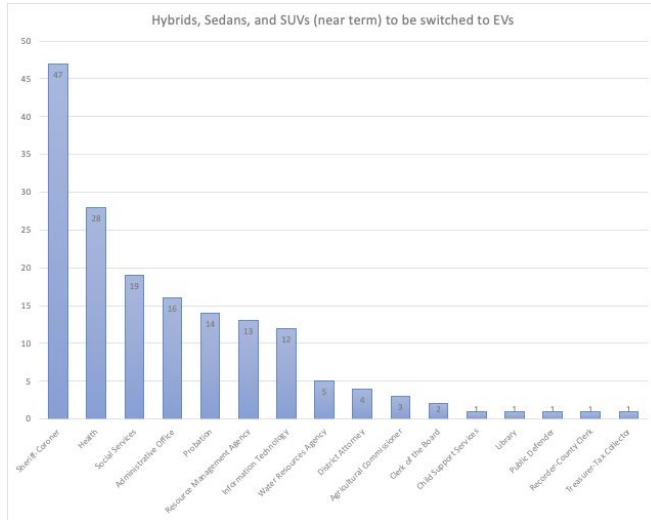
**(-EV incentive)**



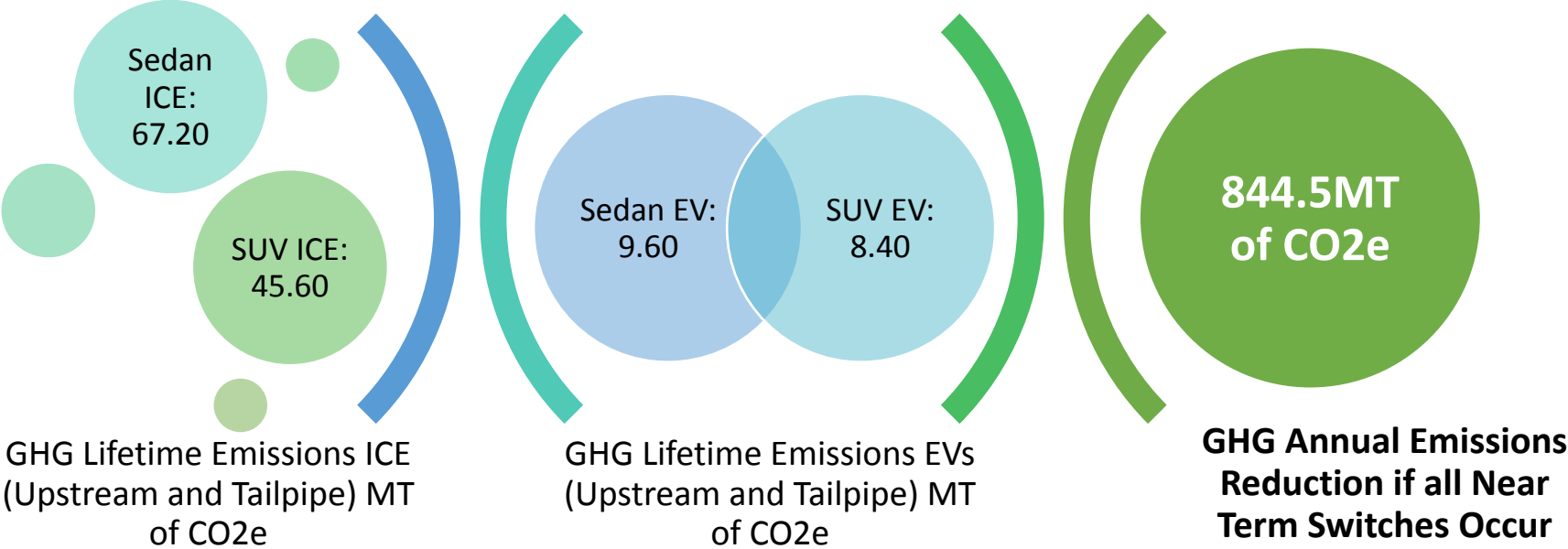
• 168 Vehicles (85 Sedan, 50 SUV, 33 Hybrid)

# Near-Term Switches

- Sheriff-Coroner
- Health
- Social Services
- Administrative Office
- Probation



# Emissions Reductions





# Limitations of Study

- No behavioral evaluation-
  - Driving patterns, docking station, special vehicle needs
- Cost of charging not included
- Did not examine “special” vehicles or mid-term switches

# Study Conclusions

1. Strongly encourage departments with near-term advantageous switches to purchase EVs.
  - a) Department-level custom presentations are recommended to evaluate driving patterns and car docking
2. Expand Study to mid-term switches and to include a charging station analysis
  - a) Build EVCS into the CIP and parking lot/parking garage construction
3. Health Department and Department of Social Services have the most near-term advantageous switches; they will need more charging stations
  - a) Continue study to evaluate EVCS needs