Vehicle Affordability and Incentive Amounts
Does a given incentive mix enable meaningful vehicle choice for consumers?
Today’s Meeting

Gather feedback about and ground assumptions in reality

Set up future conversations about rebate amounts
Current incentive levels do not enable affordable EV choices for households with income less than 400% of the federal poverty level.

Incentive dollars enable relatively more choice in the used EV market.
Outline

Cost Calculations

Affordability calculations overview

Cost assumptions

Example calculation and summary
Cost Calculations

Loan Costs
- Principal (incl. tax & fees)
- Interest

Operating Costs
- Insurance
- Fuel
- Avg. other maintenance

\[ \text{TOTAL MONTHLY OPERATING COSTS} = \text{Loan Costs} + \text{Operating Costs} \]
Affordability Calculations

- 10% down payment
- 4-year (48-month) loan

TOTAL MONTHLY OPERATING COSTS < (15% of monthly income) / household purchase power adjustment
New Vehicle Inputs

• 2022 model year vehicles from FuelEconomy.gov
• Make, model, and trim combinations where trim is related to electric range
• Where price information is available
• Limited to CVRP-eligible vehicles
  • Under MSRP cap
  • Exceeding all-electric range minimum

Photos from Kelly Blue Book
Vehicle Cost Assumptions

- Vehicle cost: MSRP or KBB Fair Purchase Price without options
- Interest rate: 9.77% for new, 10% for used
- Insurance premium: $190/month
- Maintenance: $33/month (lifetime average)
- DMV and doc fees: $789
- Sales tax rate: 8.82% (average via taxfoundation.org)
- Fuel costs: varies by vehicle, based on FuelEconomy.gov
- Purchasing power adjustment for larger households
Max Monthly Cost

Including interest, insurance, fuel, and lifetime-average maintenance costs

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<tr>
<th>Income Level</th>
<th>Income</th>
<th>Max Monthly Cost</th>
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<td>225% of FPL</td>
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<td>300% of FPL</td>
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<td>400% of FPL</td>
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<td>CVRP Income Cap</td>
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Example: New CVRP-Eligible BEVs

- Four-person household
- $111,000 income (400% FPL)
- CVRP-eligible vehicles
- $14,000 point-of-sale incentive

2022 Model Year Options = 1
- Nissan LEAF (40 kWh)
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### Four-person Household: CVRP Eligible NEW EVs

#### PHEV

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#### BEV

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Out of 33 model year 2022 vehicles for which price data are available. Price data are gathered from OEM websites and auto media sites. Vehicles are combinations of make, model, and trim, where the trim results in a difference in all-electric range, as provided by fueleconomy.gov.
Four-person Household: Used EVs

Assuming same eligibility criteria applied to new EVs in CVRP

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Out of 140 model year 2010 or later vehicles meeting CVRP MSRP limits and all-electric range minimum for which used price data are available. Price data are Fair Purchase Prices from Kelly Blue Book. Vehicles are combinations of make, model, and trim, where the trim results in a difference in all-electric range, as provided by fueleconomy.gov.
Current incentive levels do not enable affordable EV choices for households with income less than 400% of the federal poverty level

Incentive dollars enable relatively more choice in the used EV market
Appendix
Vehicle Cost Assumptions Explained

Interest Rates

• Values chosen:
  • New: 9.77%
  • Used: 10%

• Why this was chosen: Average interest rate during August 2022 assuming a 700–750 credit score.

• Sources:
  • Average credit score: Experian
  • Average August Loan Rates: U.S. News and MyAutoLoan

• Possible alternatives: 3.86% for new vehicles and 8.21% for used via Experian Q4 2021 report
Vehicle Cost Assumptions Explained

- Value chosen: $33 per month
- Why this was chosen: Maintenance cost per mile of BEV $0.031 and PHEV $0.030, at 13,000 miles a year this equals about $33 a month
- Source: 2020 Consumer Reports report
- Possible alternative: $66.08 per month for BEV and $97.50 per month for PHEV via April 2021 Department of Energy report

Maintenance
Vehicle Cost Assumptions Explained

- Value chosen: $190 per month
- Why this was chosen: National EV average
- Source: Forbes
- Possible alternatives: Weighted average of EV model specific quotes from independent quote generators
Vehicle Cost Assumptions Explained

DMV and Document Fees, Taxes

• Value chosen: $789; 8.82% tax rate
• Why this was chosen: $709 DMV fee (new vehicles) and $80 median doc fees; California average tax rate
• Source: Edmunds, Tax Foundation
• Additional considerations: Recent dealer markups for EVs are 2.6% for non-Tesla BEVs and 1.6% for PHEVs via Edmunds. Markups in CA could be higher.
Vehicle Price Data Summary

Applying CVRP eligibility criteria to both new and used cars