



Proposed Clean Miles Standard Regulation

Board Hearing
May 20, 2021

Outline

Background

- SB 1014 and Base Year Inventory

Proposed Requirements

- Electrification and GHG Targets

- Exemption and Flexibilities

- Optional GHG Credits

Proposal Impacts

Changes to the Proposed Regulation

Senate Bill 1014

Clean Miles Standard



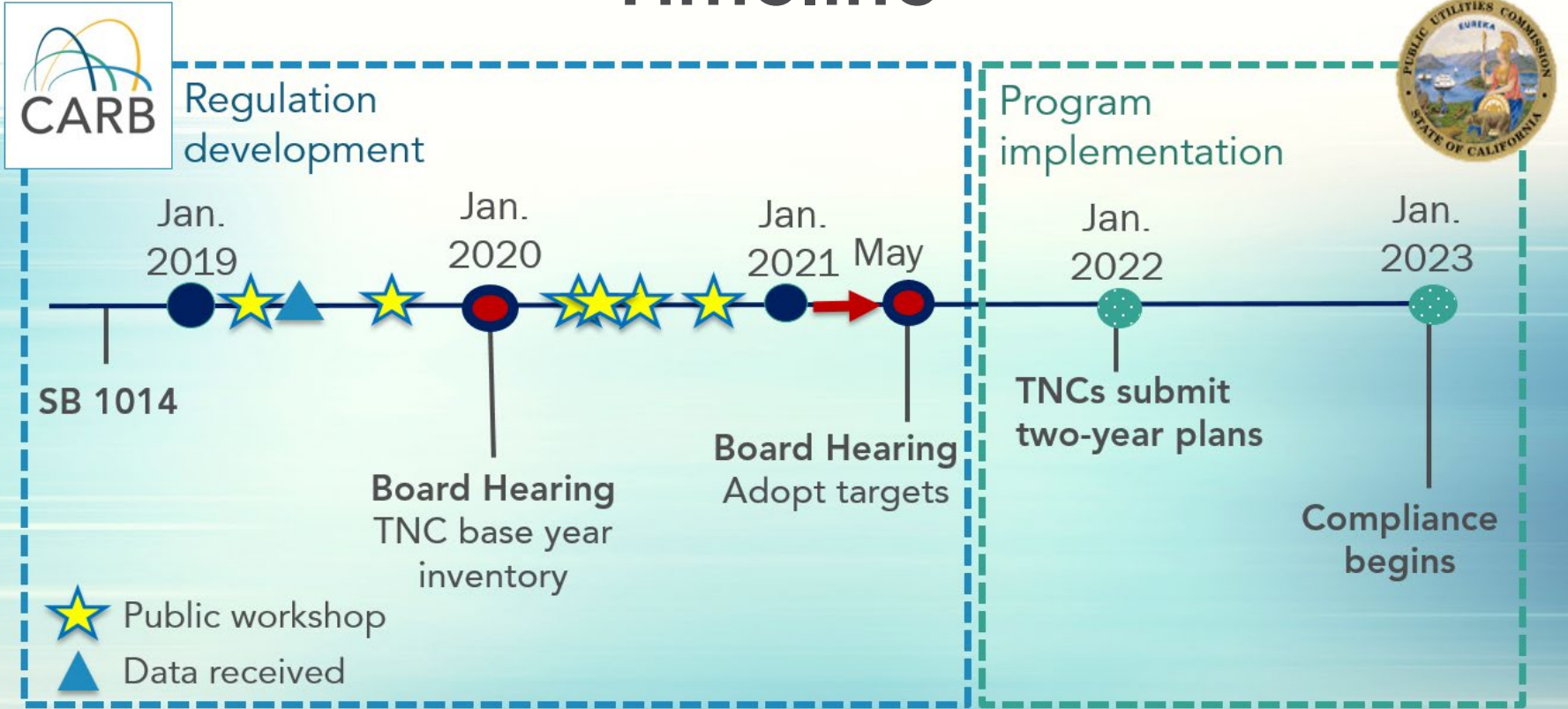
Applicable to:

Passenger service by transportation network companies (TNCs)

Key goals:

- Reduce GHG emissions
- Increase electrification
- VMT reduction

Timeline

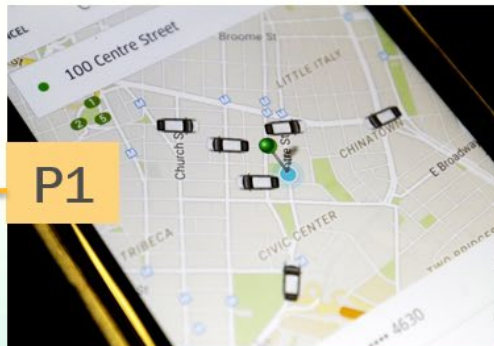


Trip Segments

Period 1

Driver looking for riders

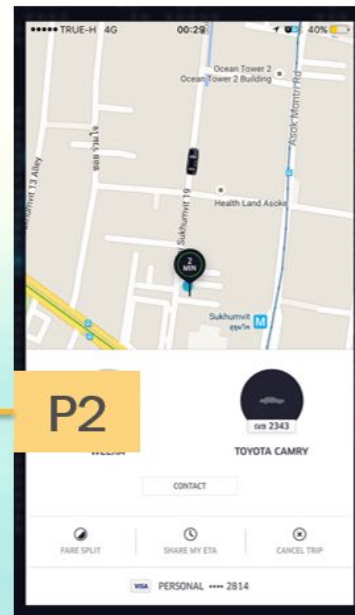
P1



Period 2

Driver en route to riders

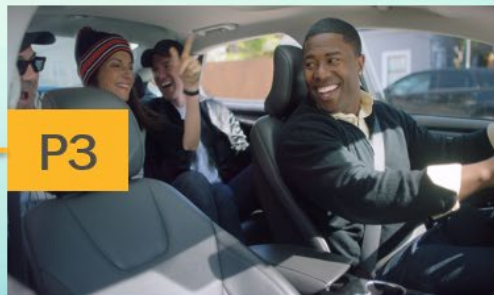
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Period 3

Rider(s) in vehicle

P3

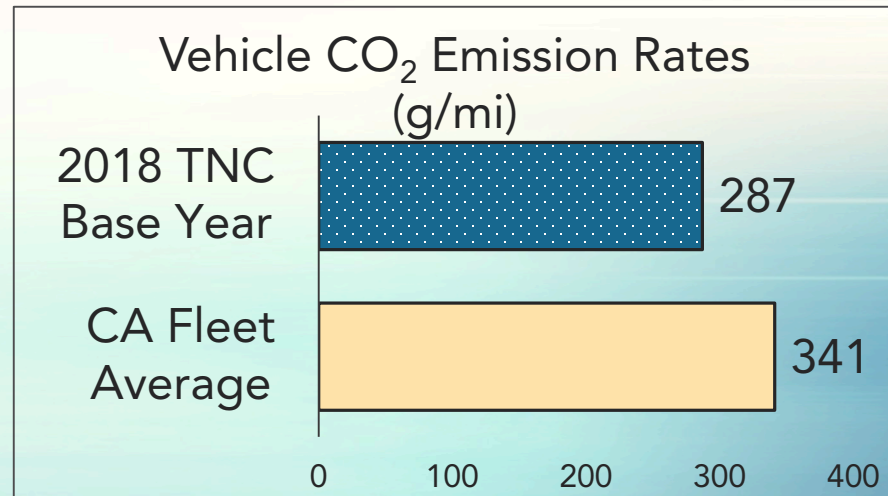
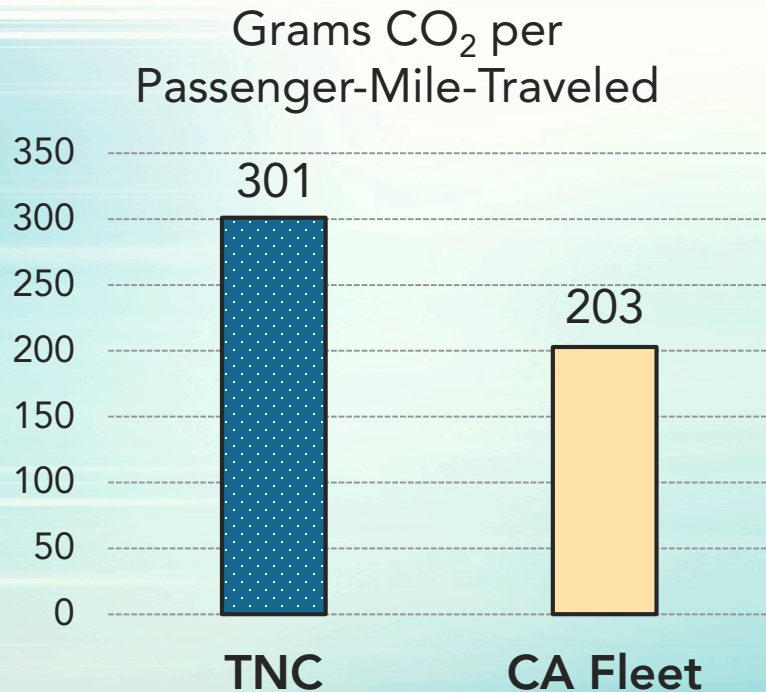


2018 Base Year as a Starting Point

1.25% of CA's light-duty VMT was associated with TNCs



TNC Base Year Emissions Compared to the California Fleet



1% of California's light-duty GHG emissions from TNCs

Setting the Targets

Stakehold
Input

Base Year
Data

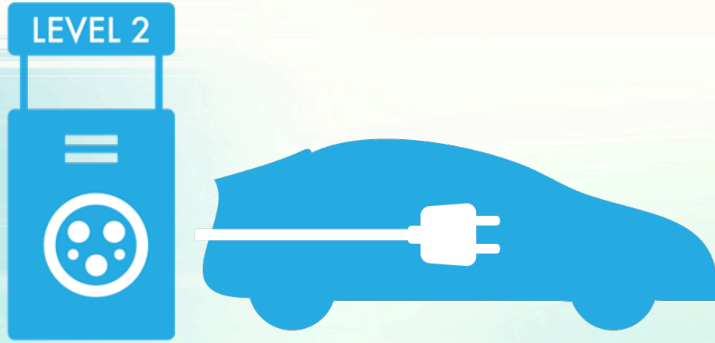
**Electrification
Targets**

Technology
Readiness

Upfront &
Ongoing
Costs per
Year

Technology
Availability

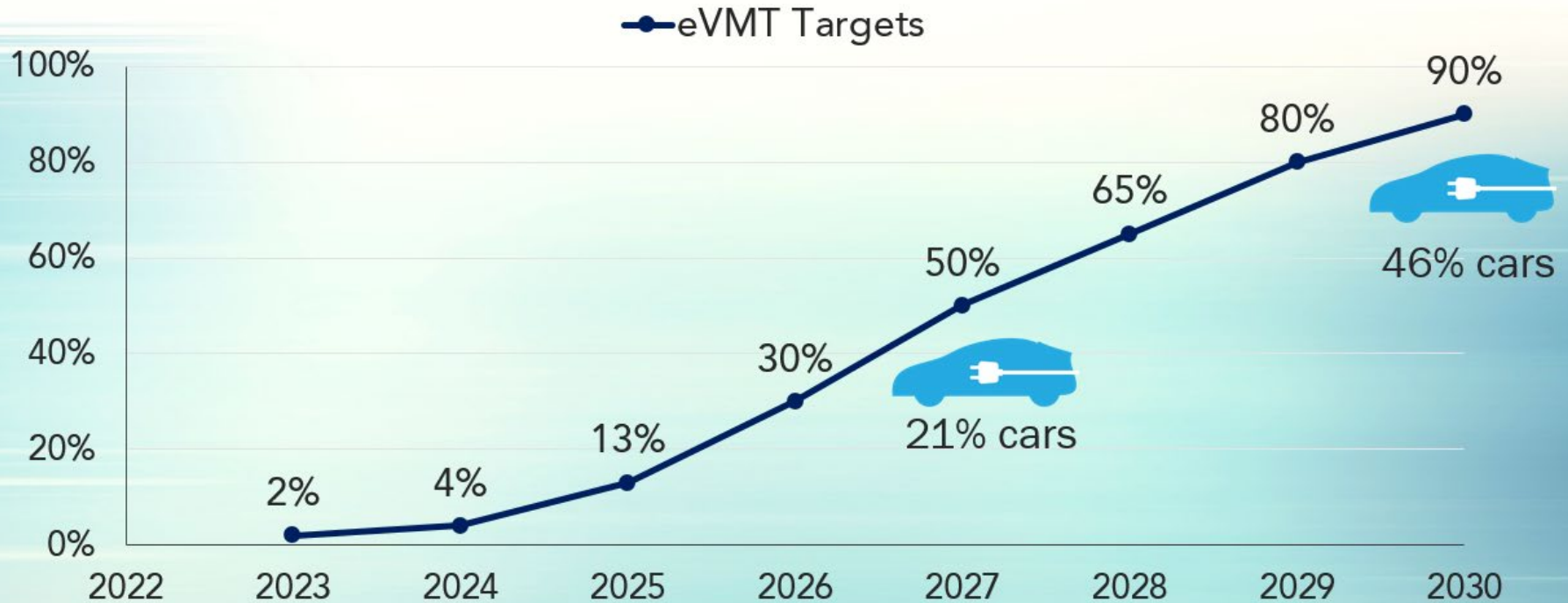
Electrification Targets



Electric vehicle miles traveled (eVMT)

Fraction of vehicle miles traveled by battery electric vehicles (BEV) and fuel cell electric vehicles (FCEV)

Electrification Targets



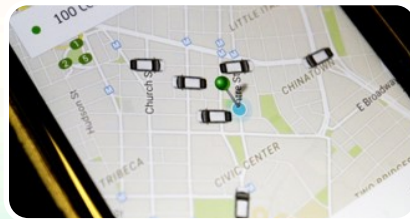
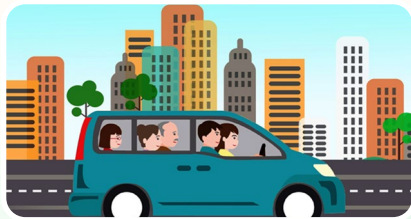
How to meet this target?

$$\% eVMT = \frac{\text{Annual P3 miles completed by ZEVs}}{\text{Annual P3 miles}}$$

Why Period 3 segments only?

- To reduce potential for excess empty miles by ZEVs

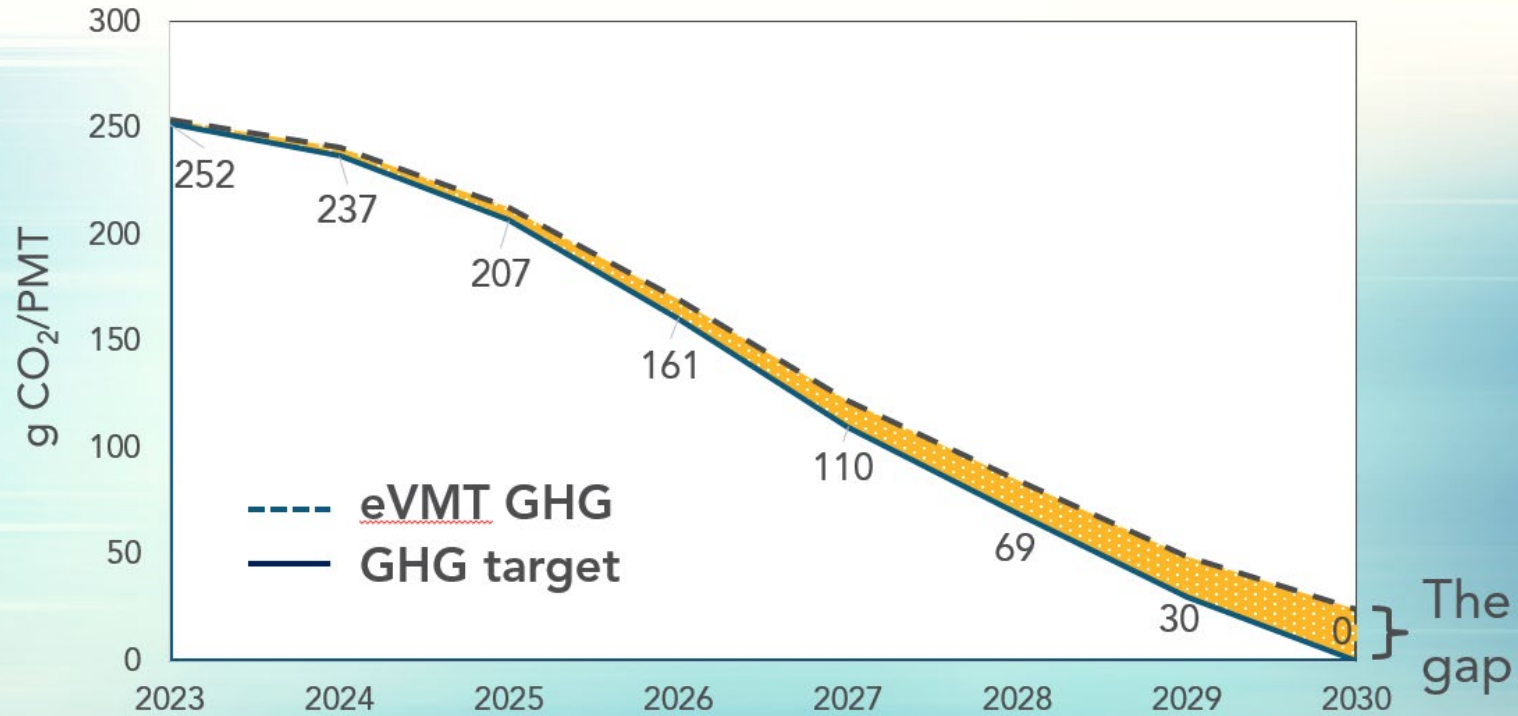
Greenhouse Gas Targets



Grams CO₂ per passenger-mile traveled

Total vehicle CO₂ emissions relative to total passenger miles traveled

Greenhouse Gas Targets



Grams CO₂ per Passenger-Mile Traveled

↓ Encourages lower fuel consumption vehicles, such as hybrids

↓

$$\frac{g \text{ CO}_2}{PMT} = \frac{\sum(VMT_{All} \times \text{CO}_2 \text{ factor})_{trip}}{\sum(VMT_{Period\ 3} \times \text{occupancy factor})_{trip}}$$

↑ Encourages higher occupancy, pooling

UNITS:

CO₂ factor – g/mi

Occupancy factor – passengers

Optional GHG Credits

Transit Connected Trips

- Vehicle trip connected to a mass transit trip
- Purchased through integrated fare systems

Bike or Sidewalk Investment

- Must be part of an approved regional transportation plan
- Construction or repair of a sidewalk

Must be used in the same year they are earned and cannot be banked for use in future years

Exemptions and Flexibility

1. Small TNC exemption:

Applicable to TNCs with annual VMT \leq 5 million

Exempt from:

- Electrification and GHG targets, Annual Compliance Report

Not exempt from:

- Continued annual data submittal

2. Wheelchair accessible vehicle (WAV) trip exemption

3. Flexibility:

Carry forward over-compliance GHG up to 3 years

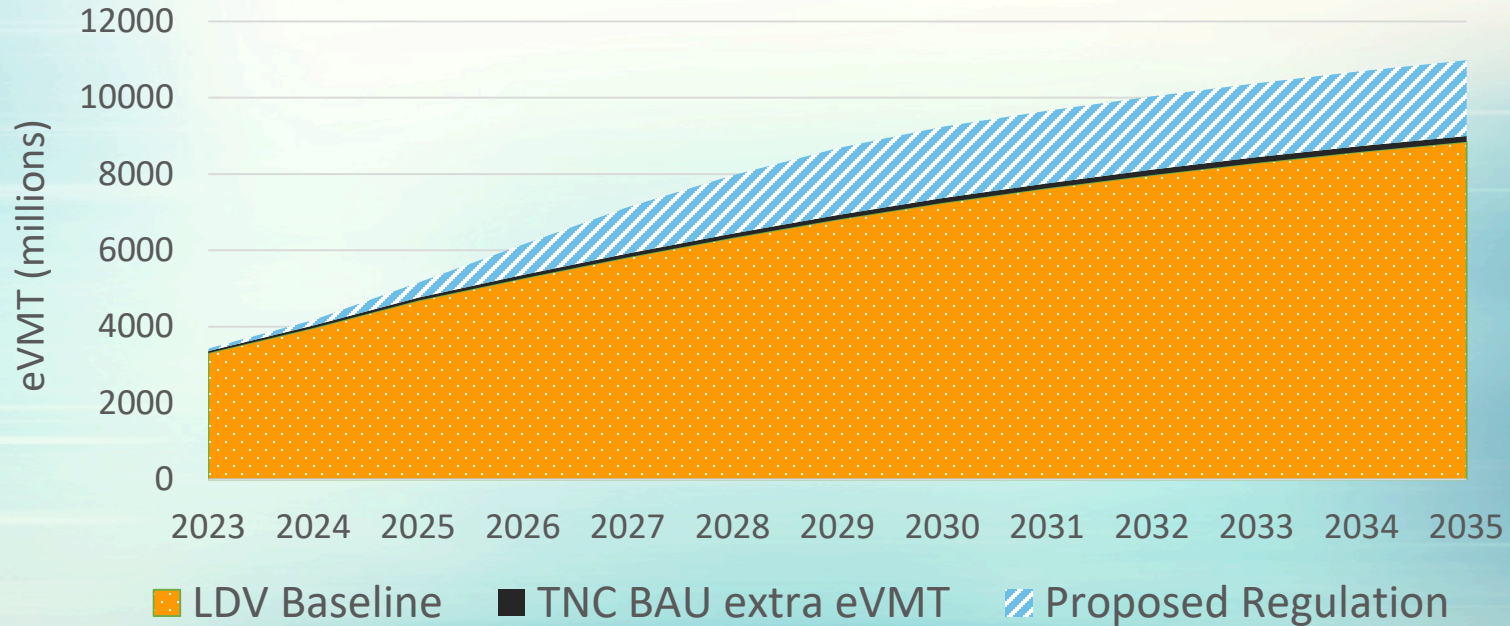
Impacts from the Proposed Regulation

Cumulative Emission Reductions:

Years	PM _{2.5} (tons)	NO _x (tons)	GHG (MMT CO ₂)
2023-2031	93.21	298.03	1.81

Net Increase in CA Electric Miles

Statewide Total eVMT from BEV and FCEV



Net Costs Savings for the Proposed Regulation Increase Over Time

In 2030, the proposed regulation is estimated to provide a net benefit of

\$215 million



Driver meetings and stakeholder conversations confirm that upfront costs are still a barrier to ZEV adoption

Potential Savings for a TNC ZEV Driver in 2027

	ICE	ZEV
Capital Cost	--	+\$575 (incr. vehicle price) + \$221 (charger, annualized) - \$500 (CVRP) - \$1000 (LCFS) = -\$704 saved to purchase ZEV
Maintenance Cost	--	-0.035/mi
Insurance Cost	--	+\$29/year
Operational Cost	\$2.63/gal (45 mi/gal)	\$0.19/kWh (equivalent to \$1.90/gal gasoline) PC (4.5 mi/KWh)

Note: costs/savings projected are in 2018 dollars

Net cost savings:

\$1,670 with 20,000 annual miles

\$2,212 with 30,000 annual miles

Net cost savings without incentives:

\$170 with 20,000 annual miles

\$712 with 30,000 annual miles

Stakeholder Positions

- **Regulated Party**
 - Additional “optional GHG credits”
 - “Off-ramp” (relax rule) if unexpected market conditions arise
 - Targets not feasible without more government support on EV adoption
- **Environmental Advocates**
 - Maintain proposed 2030 targets
 - Publicly release annual compliance reports
- **Labor and Driver Advocates / Drivers**
 - Ensure drivers do not bear any regulation costs
 - Prefer the companies are held accountable to reduce their cost

Proposed 15-day Changes

1. Clarify CPUC shall administer the optional GHG and carry-over credits
2. Clarify CPUC has the ability to add additional optional GHG credit categories during their proceedings
3. CPUC to define Biennial Plan requirements, not CARB

CARB Role Going Forward

- Support CPUC proceedings opening in 2021
- Public data disclosure to track annual compliance
- Monitor infrastructure and costs
 - Charger infrastructure access (e.g., home)
 - Electrification costs (e.g., ZEVs, electricity)
- Evaluate driver impacts
 - Engagement and research
 - Consider new data requirements

Proposed Resolution 21-10

Approve for
adoption:

Section 2490, Title
13, California Code
of Regulations



Thank you

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