CALIFORNIA
AIR RESOURCES BOARD

Clean Miles Standard Workshop

DRAFT REGULATION TARGETS

July 17, 2020

Webinar Participation Guide

- All participants will be muted during the workshop.
- Presenter will call out slide numbers or slide titles – if you experience delays, please be patient until the slide loads, or try re-joining the webinar.
- For the Q&A session following the presentation, please type in your question using the Questions function of GoToWebinar.
- Questions can also be sent to cleancars@arb.ca.gov to be addressed at a later time.

Workshop Topics

- Draft electrification targets
- Draft greenhouse gas targets
- Reporting requirements
  - Fuel consumption table
  - Compliance occupancy
- Flexibilities and exemptions
- Zero-emission passenger mile credits
- Alternative scenarios

SB 1014 Background

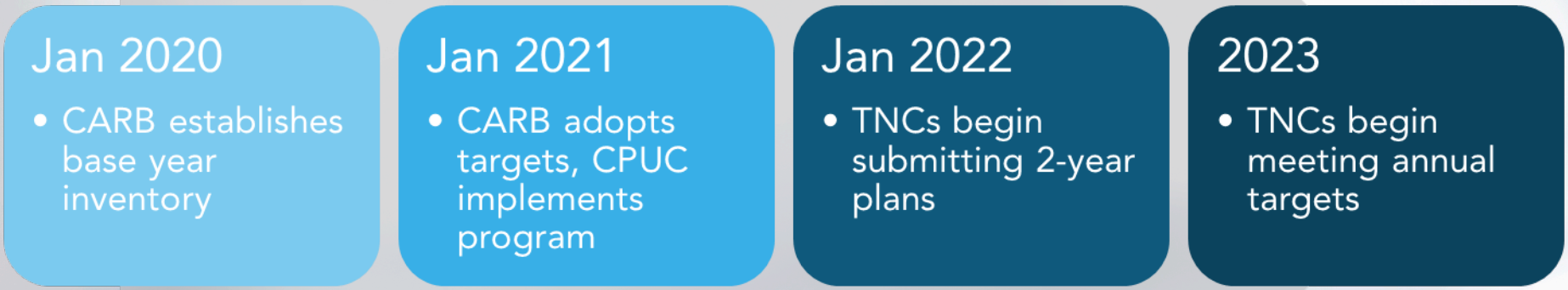
Applicable to:

Passenger service on transportation network company (TNC) platforms

Key goals:

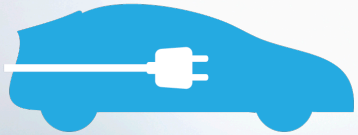
- Reduce GHG
- Increase electrification

SB 1014 Deadlines



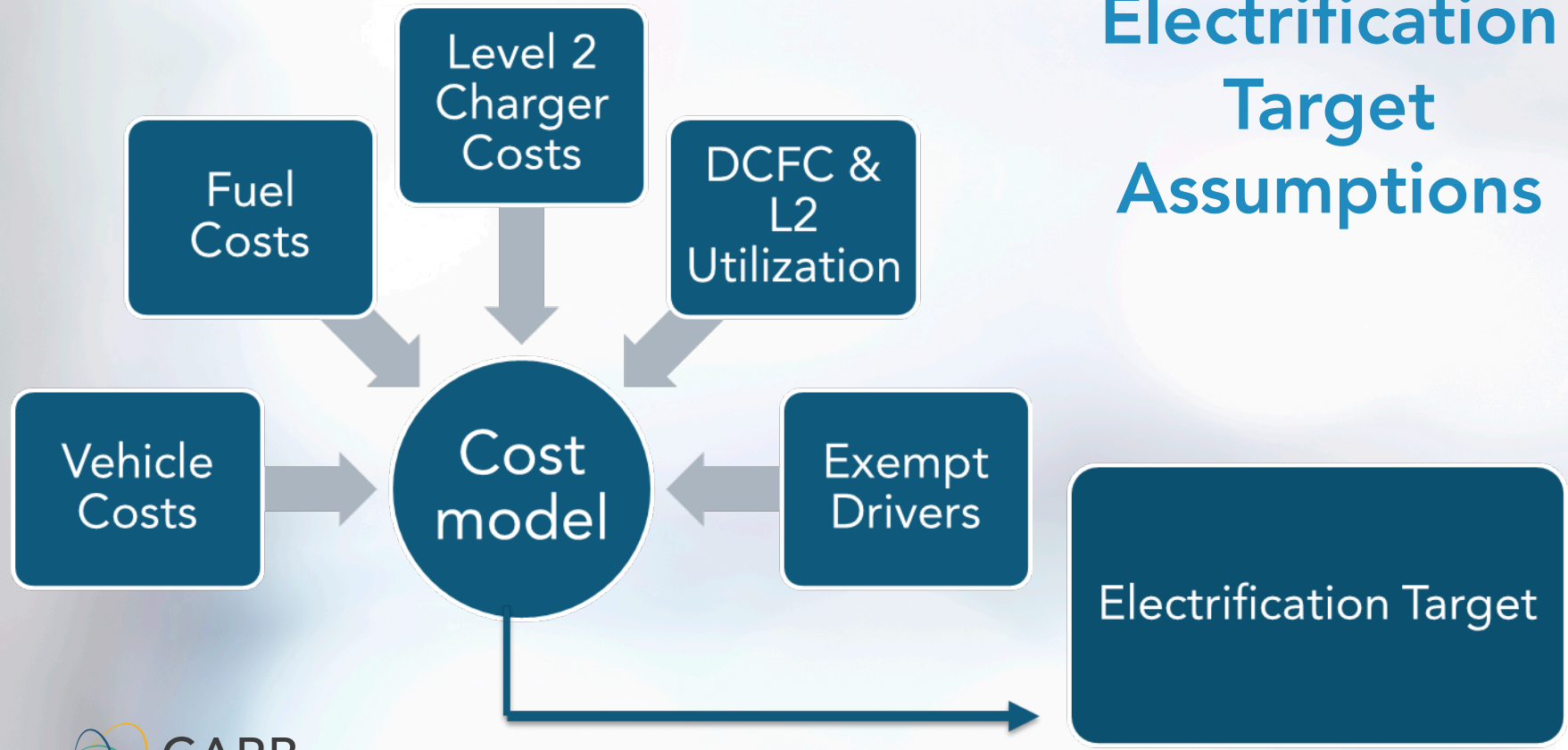
CARB

Draft
Electrification Targets (% eVMT)



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

Updated Electrification Target Assumptions



Updated Electrification Target Assumptions

Input Values	Updates
Vehicle Costs	No amortization to vehicle capital costs (used to be 3yr amortization)
Fuel Costs	Gasoline price projections to use CEC IEPR estimates
Level 2 Charger Costs	Level 2 home charger costs amortized over 3 years (from 7 years)
DCFC & Level 2 Utilization	DCFC/L2 utilization split assumed to be 50/50 in 2018, 75/25 by 2023, and flat lines at 90/10 by 2026
Low Mileage Drivers	Drivers with less than 5,000 TNC miles per year assumed not to switch to ZEV

Draft Electrification Targets

- Strategy 1: Individual driver breaks even
- Strategy 2: Individual driver breaks even but also earns extra*
- Draft regulation targets with updated inputs

*$35/week in 2020 → $10/wk in 2030

CARB

Characteristics of Vehicles that Switched to ZEVs in the Cost Model

- For the draft electrification target of 60%:
  - A third of 2030 TNC vehicles switched to ZEVs
  - In early years, primarily switching high mileage vehicles
  - Average age of vehicle switched to ZEV varied between 1-3 years
- Achieving a much higher electrification target would require switching a very large number of low mileage and older vehicles
  - Bigger risk as these are lower income drivers

Comments Received from May 15th Workshop

Infrastructure and charging time

COVID-19 uncertainties

Higher/lower electrification targets

Impact on low-income and DAC drivers

Incentives and subsidies

Level 2 home charger costs

Regional targets

Greenhouse Gas Target Metric

$$\frac{\text{g } CO_2}{\text{PMT}} = \frac{\text{Total VMT}_{\text{Periods 1,2,3}} \times CO_2 \text{ per mile}}{\text{Total VMT}_{\text{Period 3}} \times \text{Occupancy}}$$

CARB

Draft GHG Target Assumptions

Deadheading: held constant from BAU

Fuel consumption: from electrification targets

$$\frac{g\ CO_2}{PMT} = \frac{Total\ VMT_{Period\ 1,2,3} \times CO_2\ per\ mile}{Total\ VMT_{Period\ 3} \times Occupancy + \text{Active/Transit PMT}}$$

Occupancy: used compliance values

Active/Transit PMT: held constant from BAU (0)

Draft GHG targets were set using electrification and occupancy

Occupancy Assumptions

Due to COVID-19, pooling paused

Target Assumptions:

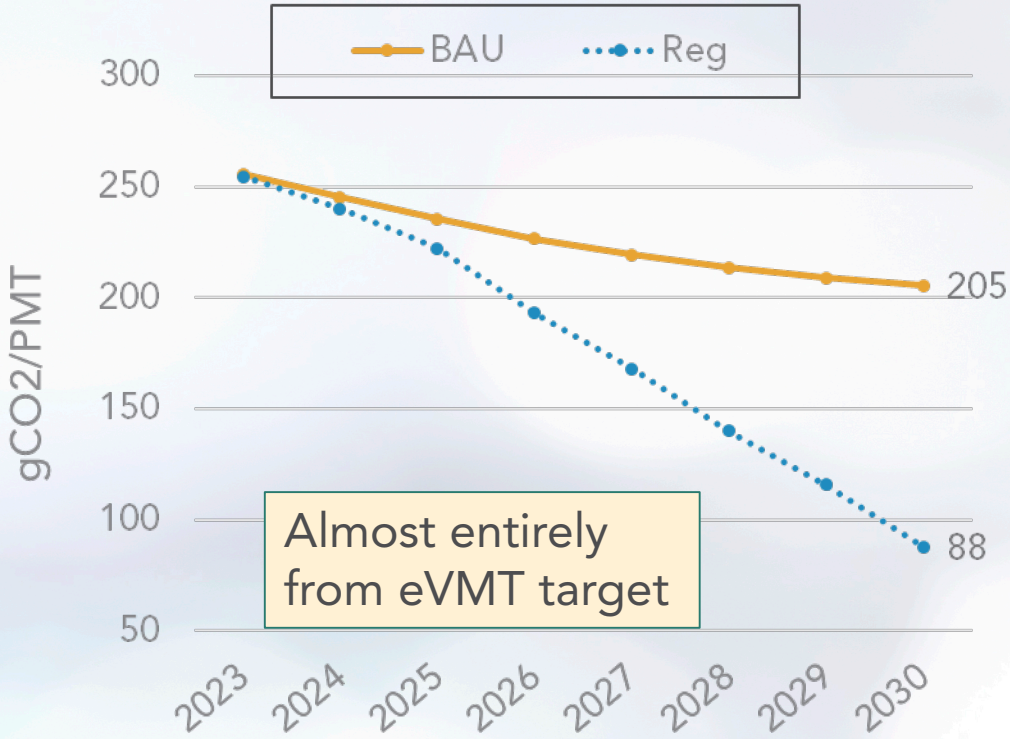
- Pooling recovers by 2023 to 2018 levels
- Optimistic but feasible pooling increases by 2030

Year	Pooling Regions (LA, SD, SF)			Rest of State	
	Pool Request	Pool Match	Compliance Occupancy	Pool Request	Compliance Occupancy
2023	0.35	0.70	1.55	0	1.55
2030	0.50	0.83	1.86	0	1.5

CARB

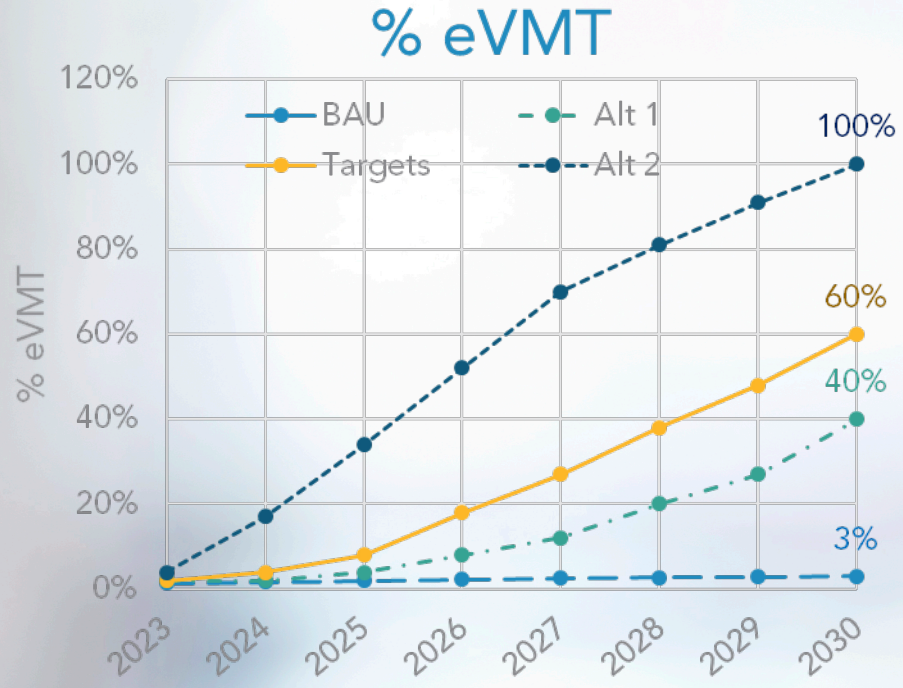
Draft GHG Annual Targets

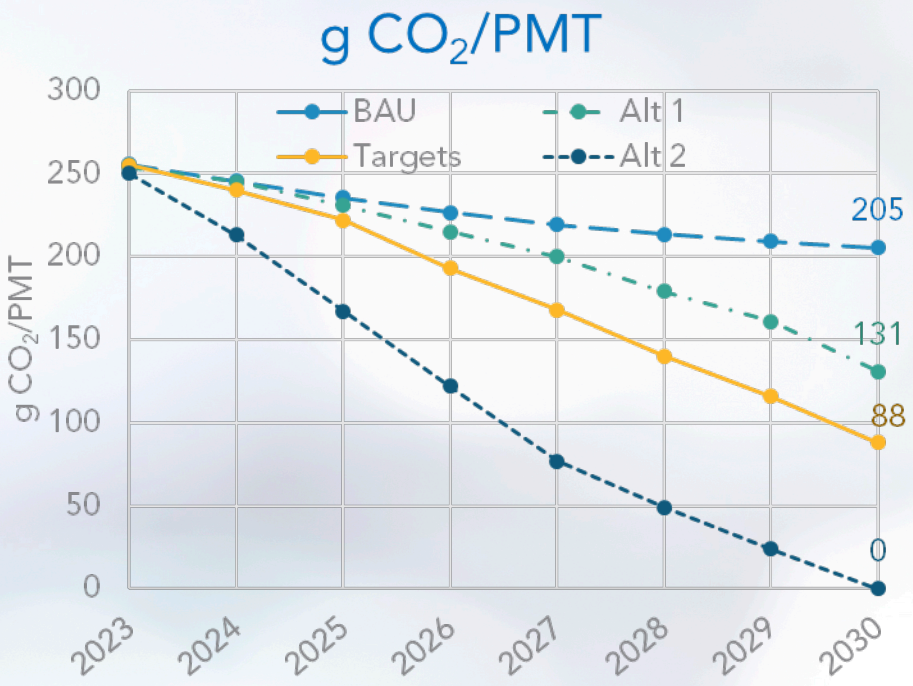
Compliance Year	g CO_2/PMT
2023	255
2024	240
2025	222
2026	193
2027	168
2028	140
2029	116
2030+	88



CARB

Alternative Scenarios for SRIA





CARB

Compliance Occupancy Values

- Values to be used for GHG target compliance calculation
- Promote use and availability of pooling
- In place of real occupancy while data collection is developed and refined

Ride Type	Compliance Occupancy
Non-pooled	1.5
Pool-requested, unmatched	1.5
Pool-requested, matched	2.5

$$\frac{\text{g } CO_2}{\text{PMT}} = \frac{\text{Total VMT}_{\text{Periods 1,2,3}} \times CO_2 \text{ per mile}}{\text{Total VMT}_{\text{Period 3}} \times \text{Occupancy}}$$

CARB

Example: Passenger Car g CO_2/mi

MY	Diesel	Gas	HEV	PHEV
…				
2009	398	363	177	
2010	305	342	144	
2011	344	339	148	213
2012	327	323	153	140
2013	321	314	153	147
2014	296	308	154	148
2015	274	299	148	157
2016	342	281	151	166
…				

Compliance CO_2 Table

$$\frac{\text{g } CO_2}{\text{PMT}} = \frac{\text{Total VMT}_{\text{Periods 1,2,3}} \times CO_2 \text{ per mile}}{\text{Total VMT}_{\text{Period 3}} \times \text{Occupancy}}$$

CARB

Reporting Requirements

- Two-Year (Biennial) Compliance Plan
  - First plan is due January 1, 2022 for compliance in 2023 and 2024
- Annual Compliance Summary Report
  - Due March 31 of each year following compliance year
  - E.g., annual compliance report for 2023 is due March 31, 2024
- Continued annual data submittals with CPUC templates

Additional Data Required in Annual Compliance

New enforceable fields:

- Vehicle type/technology/fuel
  - PC, LT, hybrid, PHEV, BEV, FCEV, diesel
- Pool-matched (Y/N)
  - In addition to Pool-Requested (Y/N)*
- Vehicle occupancy*

*In current CPUC data submittal template

Small Company Exemptions

TNCs with annual VMT ≤ 5 million

Exempt from:

- GHG and electrification targets
- Two-year (biennial) compliance plan
- Annual compliance summary report

Not exempt from:

- Continued annual data submittal as required by CPUC

Compliance Flexibilities

New entrants & small TNCs:

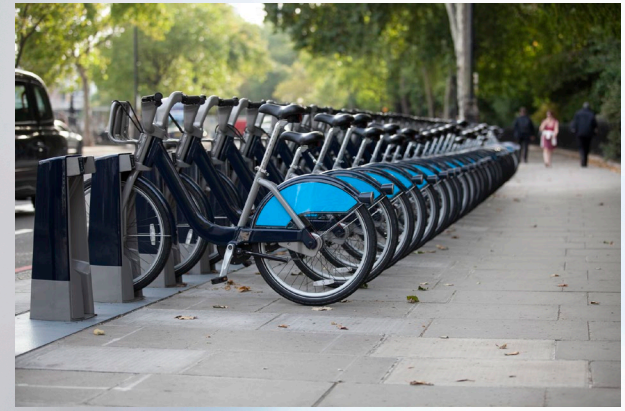
- After one year of operation with 5 million VMT
- E.g., a TNC that exceeds 5 million VMT in 2026 must submit a compliance plan by 2027 for complying with targets in 2028 and 2029.

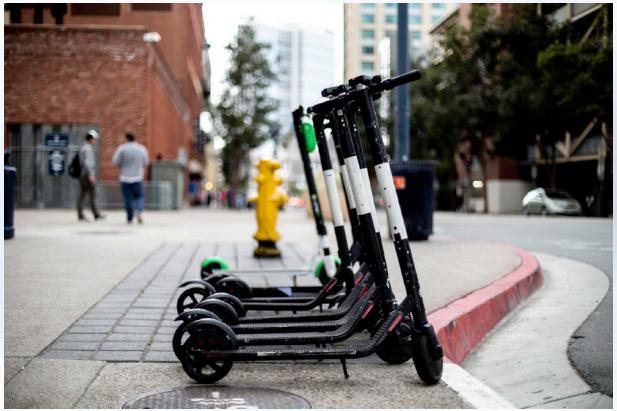
All TNCs:

- Option to use 3-year averaging
- Option to carry forward over-compliance credits up to 3 years

Transit & Active Transportation Credits: Key Design Principles

- Increase first/last mile transit connections
- Increase bike, scooter, and walk miles





Lessons Learned: Key Attributes for Transit & Active Transportation Credits

- Strong data reporting
- Verify transit connections (e.g. integrated fares)
- Advance innovative partnerships
- Provide mobility options and EVs
- Promote infrastructure investments
- Foster transportation alternatives (especially important for low income riders)

Potential Zero-Emission PMT Credit Options

1. Credit for miles walked or taken via micromobility (e.g. e-bike and e-scooter) owned and operated by a TNC, connected to a TNC virtual stop.
2. Credit for TNC trips or micromobility owned and operated by TNC connected to transit via the California Integrated Travel Program (CAL-ITP).
3. Credit for TNC investments in bicycle infrastructure.
4. Credit for TNCs that partners with transit agencies under the Innovative Clean Transit regulation.

1. Walk or Micromobility Miles Connected To TNC Virtual Stop

Proposed Quantification Methodology:

$$Active\ /\ Transit\ \text{PMT} = Total\ \#\ of\ Connected\ Trips_{W/M} \times Distance\ Travled\ in\ Connected\ Trips_{W/M} \times Multiplier$$

- Virtual Stop: Refers to corner to corner service, not door-to-door service. Its where riders request a TNC pick-up then walk or use micromobility to access pick-up location.
- Credit only for TNC owned, operated, and reported bike/scooter miles.

2. TNC/Micromobility Connected Trips to Transit via California Integrated Travel Program (CAL-ITP)

Proposed Quantification Methodology:

$$Active\ /\ Transit\ \text{PMT} = Total\ \#\ of\ Connected\ Trips_{Transit} \times Miles\ Traveled\ in\ Connected\ Trips_{P3\ Trips} \times Multiplier$$

- Credit for P3 portion of TNC trips connected to transit and reported via the CAL-ITP program.
- Credit for TNC owned, operated, and reported bike/scooter miles connected to transit and reported via the CAL-ITP program

3. TNC Investments in Bicycle Infrastructure

Proposed Quantification Methodology:

$$GHG\ Emission\ credits\ from\ bikeway\ Investment = \frac{TNC\ bikeway\ Investment}{\$128\ per\ ton \times Project\ Life} \times Multiplier \qquad (unit: gram\ CO2)$$

Notes:

1.$128 per ton of CO2 is the average cost effectiveness of bikeway projects based on a FHWA report. Future-year cost-effectiveness is expected to be lower.

2. Default project life will be 10 years

3. Estimated GHG emission credits will be applied to the overall equation of credit calculation shown in slide 13

CARB

4. Zero-emission Mobility Partnerships under the Innovative Clean Transit Regulation

Proposed Quantification Methodology:

$$Active/Transit\ PMT = ICT\ TNC\ Partnership\ Credit\ as\ reported\ by\ Transit\ Agencies$$

Notes:

1. Credit for TNC partnerships with transit agency's under the Innovative Clean Transit (ICT) regulation.
2. ICT requires all public transit agencies to gradually transition to a 100 percent zero-emission buses, but also encourages zero-emission first- and last-mile connectivity for transit riders.

CARB

Questions for Stakeholders

- **Value of Credit and Credit Caps:** How much value should these credits have (i.e. what would be reasonable quantification multiplier be)? Should there be a cap on the amount of credits?
- **Reporting:** For each credit the TNCs may need to collect and submit certain activity data to claim the credits. What data could be challenging or easy to collect?
- **Other Credits**: Are there other credit options we should consider?
- **Equity**: Are there more effective ways to promote equity with these credits? For example, higher multipliers for rides that begin or end in a disadvantaged community?
- **Costs:** What are the costs associated with these credit options?
- **Implementation:** How likely are TNCs to use these credit options?

Regulation Timeline

- **August 2020**
  Draft Regulation posted on CMS website
- **August 16, 2020**
  Standardized Regulatory Impact Assessment (SRIA) posted by Dept. of Finance and link on CMS website
- **October 20, 2020**
  Initial Statement of Reasons (ISOR) posted with SRIA
- **December 10, 2020**
  Board Hearing

Requesting Stakeholder Feedback

Please submit comments by July 31, 2020 to cleancars@arb.ca.gov

Q&A

Please submit your questions via the GoToWebinar Questions function