

Informational Update on Overcoming Barriers to Zero and Near-Zero Emission Transportation for Low-Income Residents

**Senate Bill 350
Clean Transportation Options Study**

July 21, 2016

California Environmental Protection Agency

 **Air Resources Board**

Senate Bill 350 Overview

- Climate and energy legislation passed in 2015.
- Calls for widespread transportation electrification across California.
- Studies being conducted by ARB and the CEC on barriers to access clean transportation and energy efficiency for low-income residents.

Clean Transportation Study Requirements

- Increasing the understanding of barriers and opportunities to access clean transportation options for:
 - Low-income residents throughout California
 - Residents in disadvantaged communities
- Must be published on or before January 1, 2017.

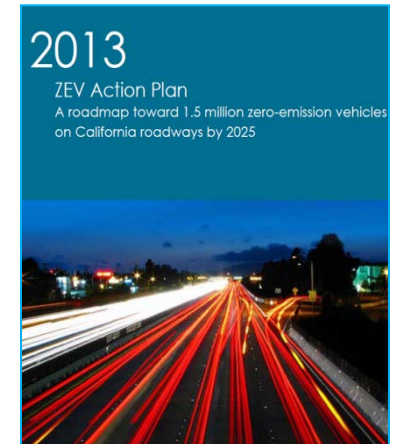
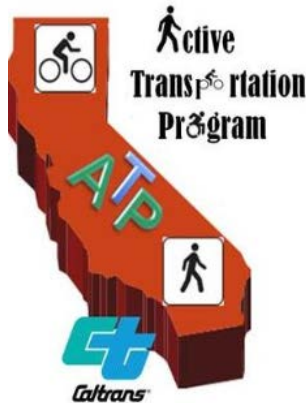
Barriers to Clean Transportation

- Low-income Californians have many barriers to overcome in accessing cleaner transportation.
- Staff is conducting a comprehensive review of multiple transportation options, including:
 - Zero and near-zero emission vehicles (new and used)
 - Active transportation (walking, biking, bike sharing)
 - Public transportation (transit and school buses, trains, ferries)
 - Ride sharing (car share, vanpool, demand response)

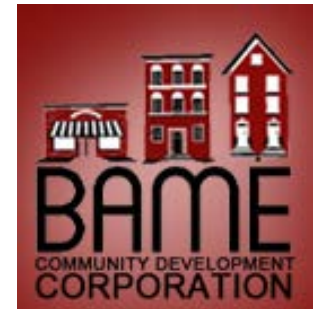
Goals of the Study

- Develop a guidance document with clear recommendations to inform future policy and investments.
- Inform the State's investments in clean transportation programs (e.g. scrap and replace, transit, school buses, and car sharing).
- Inform additional research needs on zero and near-zero emission transportation options.

Build Upon Lessons Learned from Existing Research



Stakeholder Engagement



Program Coordination

- Continued collaboration with other ARB programs:

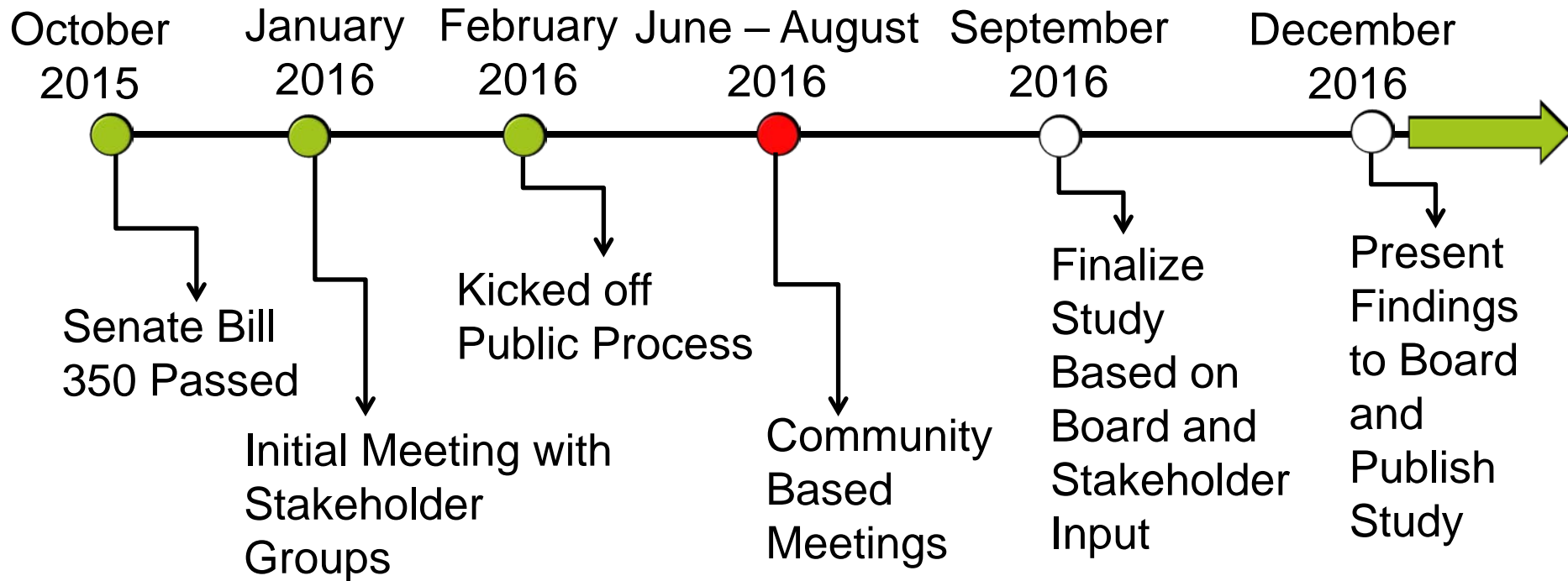
- Advanced Clean Cars
- Advanced Clean Transit
- Sustainable Communities Strategies
- Low Carbon Transportation and Fuels Investments and Air Quality Improvement Program



Advanced Clean Cars
Innovation driving performance



Ongoing Project Progress



Public Process Overview

- Public Meetings to Date:
 - Project kick-off
 - Multiple roundtable discussions
 - Community-based meetings with residents
 - One-on-one conference calls and meetings
- Additional community-based meetings and roundtable discussions planned.



Low-Income Resident Focus

- Focused on multiple communities across California.
 - Rural, tribal, and urban.
- Case studies of communities will allow for examples to be incorporated into analysis.
 - Locations anticipated include Northern California, San Joaquin Valley, and Southern California.
 - Potential opportunities in San Diego and Bay Area.

Barriers and Opportunities Analysis to be Completed in 2016

- 5 main barrier categories identified for analysis.
- Within these barrier categories, specific characteristics are being explored.
- Characteristics identified will inform potential opportunities to increase access.



1. Accessibility and Convenience of Transportation Options

- Physical proximity, connectivity, and affordable housing close to transportation.
- Example characteristics include:
 - Access as means of opportunity (economic and social)
 - Active transportation options (e.g. first mile/last mile)
 - Link between transportation and public safety/health
 - User experience for transit and alternative modes



2. Reliability and Affordability of Transportation Options

- Mode choices are made based on costs and what is available.
- Example characteristics include:
 - Cost of zero and near-zero emission vehicle and transportation technologies
 - Travel time and punctuality of transit (service quality)
 - Gaps in transportation service (connectivity)

3. Community-based Needs

- Barriers to access are unique for each individual community.
- Example characteristics include:
 - Gaps in access vary by region
 - Feasibility of transportation mode types



4. Transportation Education and Outreach

- Accessibility and reliability of transportation information; exposure to cleaner options.
- Example characteristics include:
 - Publicizing transportation availability
 - Mode use and linkages
 - Eligibility for reduced fares and incentives
 - Exposure to advanced technologies and mobility options



5. Transportation Planning, Infrastructure, and Investment

- Planning, infrastructure, and investment needs for updating existing transportation systems.
- Example characteristics include:
 - Livability and transit oriented development
 - Tradeoffs from changes to current transportation
 - Infrastructure needs and placement



Next Steps

- Continue literature review.
- Participate in additional community meetings.
- Develop recommendations to guide future investments in clean transportation.
- Present initial findings and incorporate input.
- Present findings to the Board.
- Release study in December 2016.
- Provide annual updates to the Board on progress.