DOCKETED	
Docket Number:	22-ALT-01
Project Title:	2022-2023 Investment Plan Update for the Clean Transportation Program
TN #:	242633
Document Title:	Presentation - Advisory Committee Meeting for the Clean Transportation Program
Description:	April 12, 2022
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Docketed Date:	4/12/2022

California Energy Commission

Advisory Committee Meeting for the Clean Transportation Program

April 12, 2022

Housekeeping

- This workshop is being recorded.
- Virtual participation will be possible Zoom through or telephone.
- Workshop event webpage is https://www.energy.ca.gov/event/meeting/2022-04/clean-transportation-program-first-advisory-committee-meeting-2022-2023
- Docket location https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-ALT-01
- Written comments should be submitted to Docket 22-ALT-01

  https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=22-ALT-01

Deadline for comments is Friday, April 29, 2022, by 5:00 P.M.

Meeting Agenda

- Welcome and Housekeeping.
- Opening remarks by Commissioner Monahan.
- Update on Advisory Committee Roles and Responsibilities document.
- Overview of the Clean Transportation Program.
- Overview of the staff draft report version of the *2022-2023 Investment Plan Update.*
- Presentations by CEC staff on the Clean Transportation Program funding activities and related topics.
- Updates on ZEV and Policy Activities.
- Advisory Committee discussion on the *2022-2023 Investment Plan Update.*
- Public comment.
- Closing remarks.

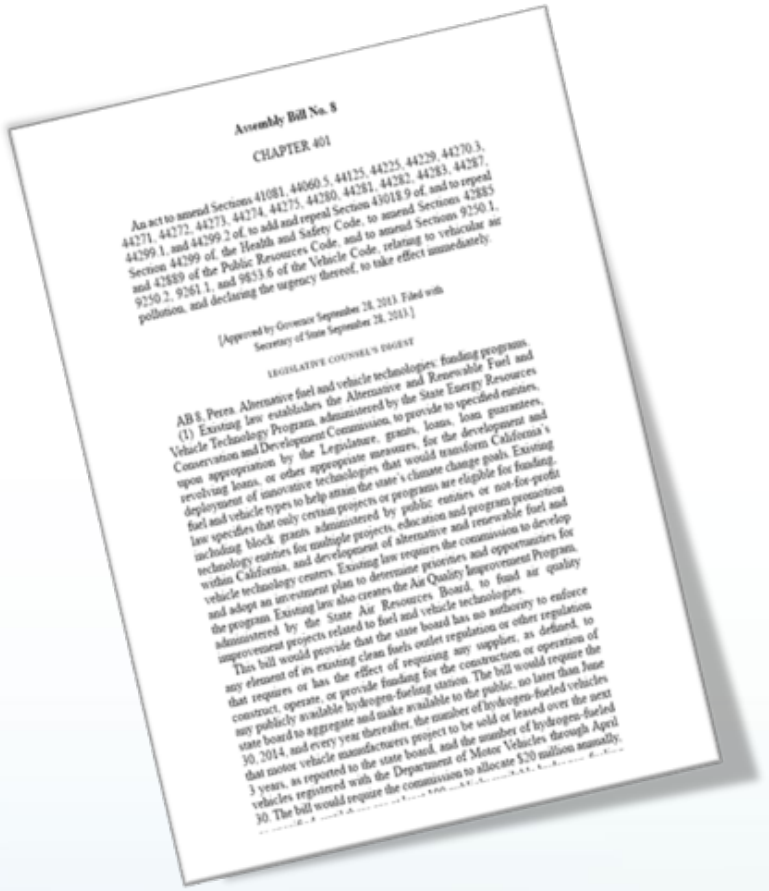
Welcome to the April 12, 2022 Meeting of the Clean Transportation Program Advisory Committee

Overview of the Clean Transportation Program and 2022-2023 Investment Plan Update

April 12, 2022, Advisory Committee Meeting

Patrick Brecht – Project Manager for the Clean Transportation Program Investment Plan
Fuels and Transportation Division

Clean Transportation Program Origins in Statute



Assembly Bill No. 8

CHAPTER 401

An act to amend Sections 41081, 44060.5, 44125, 44225, 44229, 44270.3, 44271, 44272, 44273, 44274, 44275, 44280, 44281, 44282, 44283, 44287, 44299.1, and 44299.2 of, to add and repeal Section 43018.9 of, and to repeal Section 44299 of, the Health and Safety Code, to amend Sections 42885 and 42889 of the Public Resources Code, and to amend Sections 9250.1, 9250.2, 9261.1, and 9853.6 of the Vehicle Code, relating to vehicular air pollution, and declaring the urgency thereof, to take effect immediately.

[Approved by Governor September 28, 2013. Filed with Secretary of State September 28, 2013.]

LEGISLATIVE COUNSEL'S DIGEST

AB 8, Perea. Alternative fuel and vehicle technologies: funding programs.

(1) Existing law establishes the Alternative and Renewable Fuel and Vehicle Technology Program, administered by the State Energy Resources Conservation and Development Commission, to provide to specified entities, upon appropriation by the Legislature, grants, loans, loan guarantees, revolving loans, or other appropriate measures, for the development and deployment of innovative technologies that would transform California's fuel and vehicle types to help attain the state's climate change goals. Existing law specifies that only certain projects or programs are eligible for funding, including block grants administered by public entities or not-for-profit technology entities for multiple projects, education and program promotion within California, and development of alternative and renewable fuel and vehicle technology centers. Existing law requires the commission to develop and adopt an investment plan to determine priorities and opportunities for the program. Existing law also creates the Air Quality Improvement Program, administered by the State Air Resources Board, to fund air quality improvement projects related to fuel and vehicle technologies.

This bill would provide that the state board has no authority to enforce any element of its existing clean fuels outlet regulation or other regulation that requires or has the effect of requiring any supplier, as defined, to construct, operate, or provide funding for the construction or operation of any publicly available hydrogen-fueling station. The bill would require the state board to aggregate and make available to the public, no later than June 30, 2014, and every year thereafter, the number of hydrogen-fueled vehicles that motor vehicle manufacturers project to be sold or leased over the next 3 years, as reported to the state board, and the number of hydrogen-fueled vehicles registered with the Department of Motor Vehicles through April 30. The bill would require the commission to allocate $20 million annually

- Established by Assembly Bill 118 (Nunez, 2007)
- Provides approximately $95.2 million per year
- Extended to January 1, 2024 by Assembly Bill 8 (Perea, 2013)

Highlights of Investments 2009-2021(December)

15,000+ Installed or Planned Chargers

Creation of Efficient Block Grants for both LD and MD/HD ZEV Infrastructure

80 New or Upgraded Publicly Available Hydrogen Refueling Stations

74 approved additional stations

27 ZEV or ZEV Infrastructure Manufacturing Projects

Workforce Training for More than 22,000 Trainees and 277 Businesses

71 Low-Carbon, Sustainable Fuel Production Projects within California

Leveraged over $700 Million in Private and Other Public Funds

Purpose of the Investment Plan

- Guides the Clean Transportation Program's investments toward meeting the state's clean transportation goals
- Takes into consideration state regulations and other funding programs to promote coordination across agencies
- Allocates funding for multiple fuel and vehicle technologies, transportation sectors, and supporting activities (e.g. workforce development)
- Since 2020, sets multi-year funding allocations for improved planning and visibility

Commitment to Inclusion, Diversity, Equity and Access

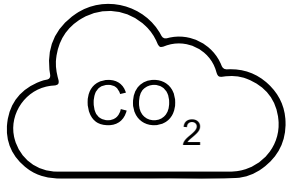
- Seek to provide more than 50% of Clean Transportation Program funds to projects that benefit low-income and disadvantaged communities.
- Investment Plan input from Disadvantaged Communities Advisory Group (DACAG), diverse interests from the CTP Advisory Committee, and other groups and individual stakeholders.
- Expand outreach to local community-based organizations

Program Community Benefits

- Planning a public process to define, measure, track, and target more program community benefits.
  - Outreach and engagement with DACAG, CTP Advisory Committee, coalitions, community groups, and individual stakeholders.
  - Public workshops
  - Website
  - Timeline

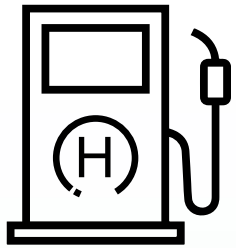
- Will explore community benefits beyond project location and GHG reductions such as health, mobility options, workforce, economic, and more.

Key California ZEV Policy Goals



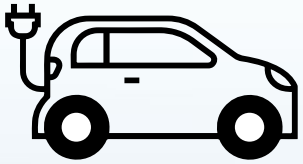
Climate

- Reduce GHG emissions to 40 percent below 1990 levels by 2030
- Achieve carbon neutrality by 2045



ZEV Infrastructure

- 250,000 electric vehicle chargers, including 10,000 DC fast chargers, by 2025
- 200 hydrogen refueling stations by 2025

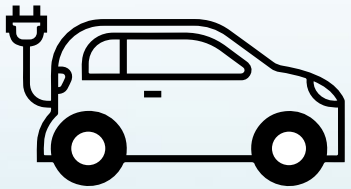


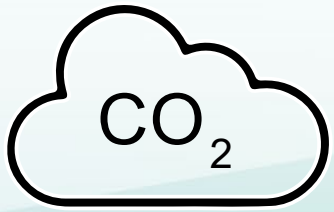
ZEV Fleet

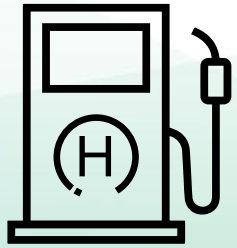
- 1.5 million electric vehicles by 2025
- 5 million zero-emission vehicles by 2030

Executive Order N-79-20 Goals

- ✓ 100% in-state sales of new passenger cars and trucks be zero-emission by 2035
- ✓ 100% medium- and heavy-duty vehicles be zero-emission by 2045 for all operations where feasible and by 2035 for drayage trucks
- ✓ 100% zero-emission off-road vehicles and equipment by 2035 where feasible



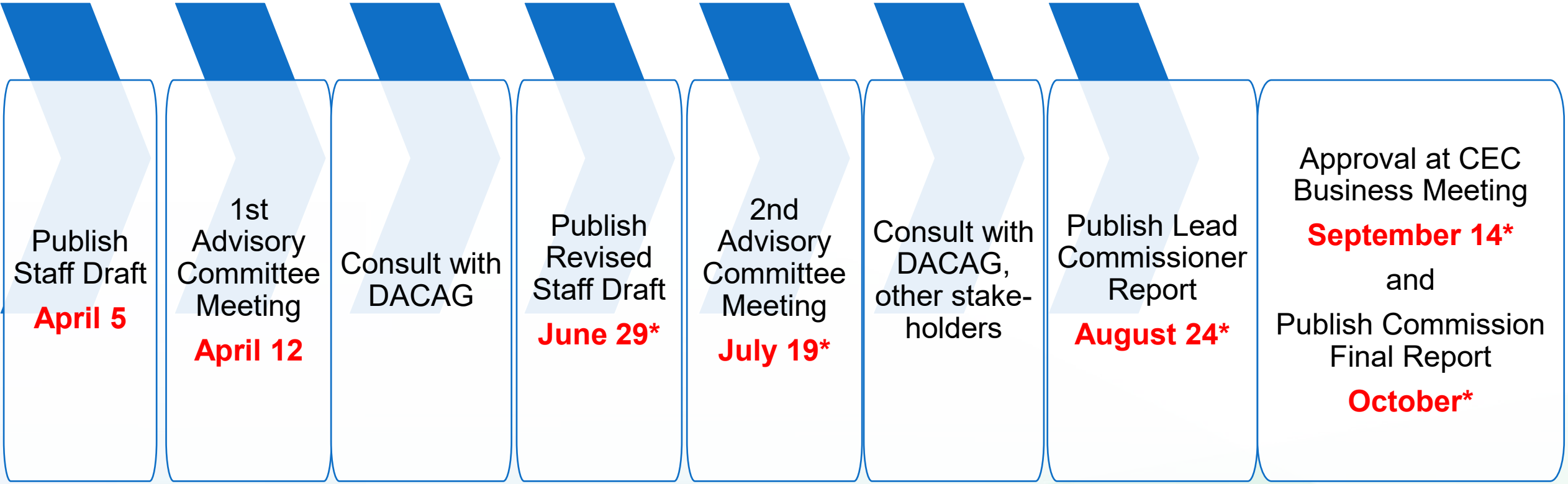




Informing the Investment Plan

- *AB 2127 Electric Vehicle Charging Infrastructure Assessment*
- *SB 1000 Electric Vehicle Charging Infrastructure Deployment Assessment*
- Public meetings/workshops with the Advisory Committee
- Consultation with the Disadvantaged Communities Advisory Group, other stakeholders
- Experience with administration of past Investment Plans
- Adjusting for General Fund augmentations

Investment Plan Process & Schedule



*Tentative, based on timing of state budget

Key Priorities in the Staff Draft Report Version of the 2022-2023 Investment Plan Update

$95.2 million/year as baseline funding, adjusted for General Funds from Budget Act of 2021.

Accelerate charging and hydrogen fueling station deployment and promote in-state ZEV and ZEV-related manufacturing.

Coordination across various state agencies through the Zero-Emission Vehicle Infrastructure Plan (ZIP) and other state-wide efforts

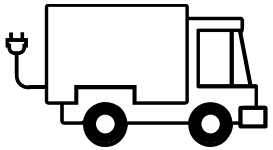
Ensuring investments benefit disadvantaged communities, low-income communities, rural communities, tribal communities, those living in multifamily housing, and others.

Future Investments

Key ZEV Clean Transportation Program Investments Planned for FYs 2022-2023 and 2023-2024

$50M

Light-Duty EV Charging Infrastructure and eMobility



$298M

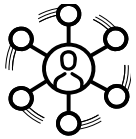
Medium and Heavy-Duty ZEVs and Infrastructure (battery-electric and hydrogen fuel cell)

$30M

Hydrogen Refueling Infrastructure

$125M

ZEV Manufacturing



$10M

Workforce Development

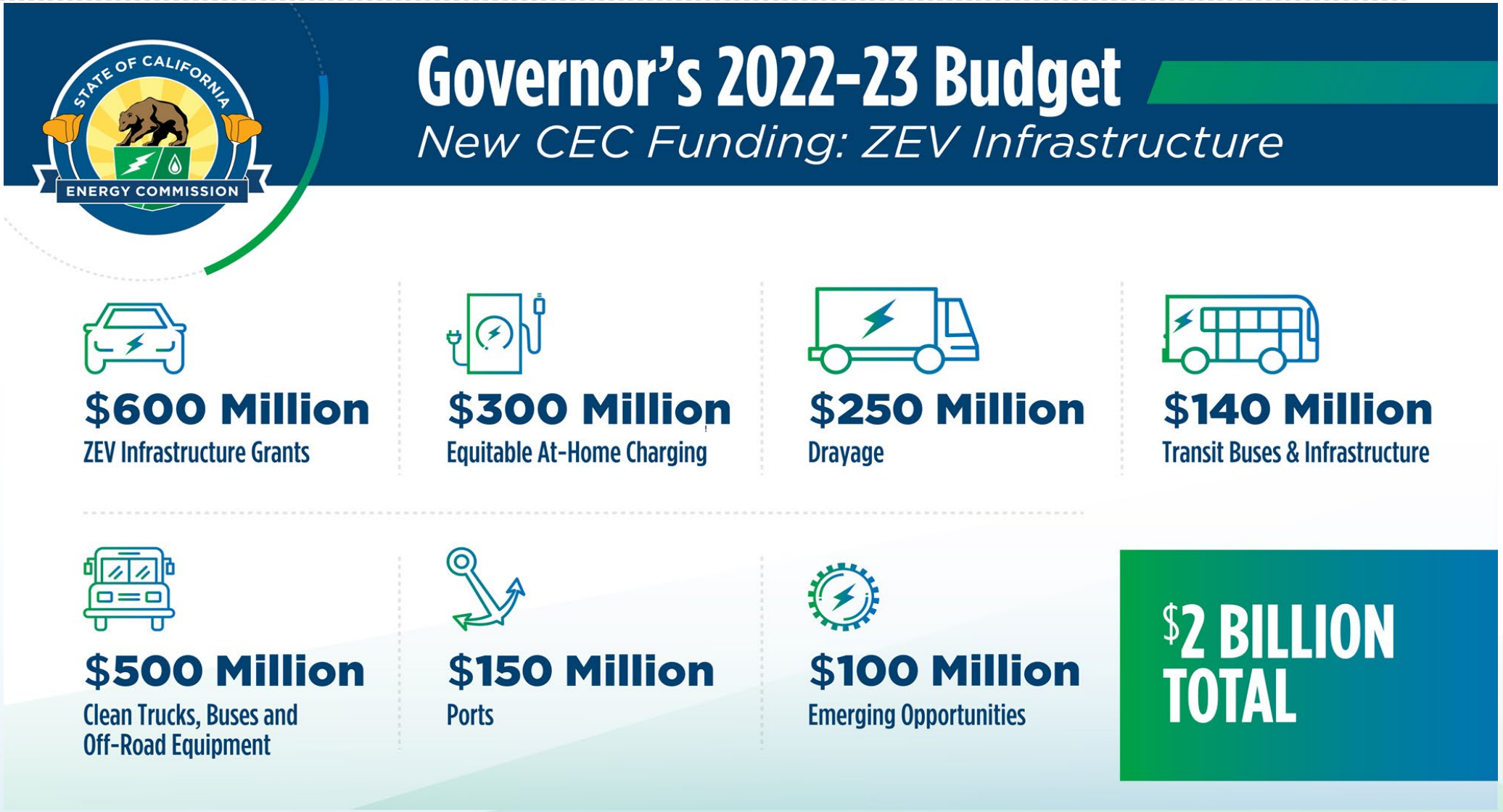
Combined Clean Transportation Program and General Fund Allocations in the Draft Staff Report (in millions)

Clean Transportation Program + General Fund (Budget Act of 2021)

Category	Funded Activity	FY 2021-2022 (for reference)	FY 2022-2023* (proposed)	FY 2023-2024* (proposed)
Zero-Emission Vehicles and Infrastructure	Light-Duty Electric Vehicle Charging Infrastructure and eMobility	$30.1 (CTP) $240.0 (GF)	$30.1 (CTP)	$13.8 (CTP)
Zero-Emission Vehicles and Infrastructure	Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure (battery-electric and hydrogen fuel cells)	$30.1 (CTP) $361.25 (GF)	$30.1 (CTP) $130.0 (GF)	$13.8 (CTP) $125.0 (GF)
Zero-Emission Vehicles and Infrastructure	Hydrogen Fueling Infrastructure	$20.0 (CTP) $27.0 (GF)	$20 (CTP)	$10 (CTP)
Alternative Fuel Production and Supply	Zero- and Near Zero-Carbon Fuel Production and Supply	$10.0 (CTP	$10 (CTP)	$5 (CTP)
Related Needs and Opportunities	Manufacturing	$118.75 (GF)	$125 (GF)	-
Related Needs and Opportunities	Workforce Training and Development	$5.0 (CTP)	$5 (CTP)	$5 (CTP)
	CTP Total	$95.2	**$95.2**	**$47.6**
	General Fund Total	$747.0	**$255.0**	**$125.0**

*Subject to appropriation by the Legislature

Governor's Proposed Budget



Light-Duty Electric Vehicle Charging Infrastructure

Samridhi Soni | LDEV Infrastructure and Analysis Office
Fuels and Transportation Division

Light-Duty Electric Vehicle Infrastructure Goals

- Increase equitable access to charging, including for Tribes and low-income, disadvantaged, and rural communities
- Accelerate deployment and market development
- Strategic installation of charging infrastructure throughout California to enhance EV driver experience and support transition to electric vehicles

California Electric Vehicle Infrastructure Project (CALeVIP) & Second Block Grants

Samridhi Soni | LDEV Infrastructure and Analysis Office
Fuels and Transportation Division

Achievements of CALeVIP 1.0 (Light-Duty First Block Grant)

- Launched 13 projects:
  - 36 Counties
  - $229 million in incentives ($43 million from partners)
  - Installed:
    - 981 Level 2 connectors
    - 320 DC fast chargers
  - In progress: 4,646 Level 2 and 1,099 DC fast chargers
  - 57% in disadvantaged and/or low-income communities
- Southern CA Level 2 (P13) launched April 5, 2022, in Los Angeles, Orange, Riverside, San Bernardino counties

More Light-Duty Block Grants

Up to $250 million each, for both block grants

Two Implementers: CSE and CALSTART

Goal: Fund & Deploy EV chargers across state regions & use cases

Public workshops beginning Q2 2022

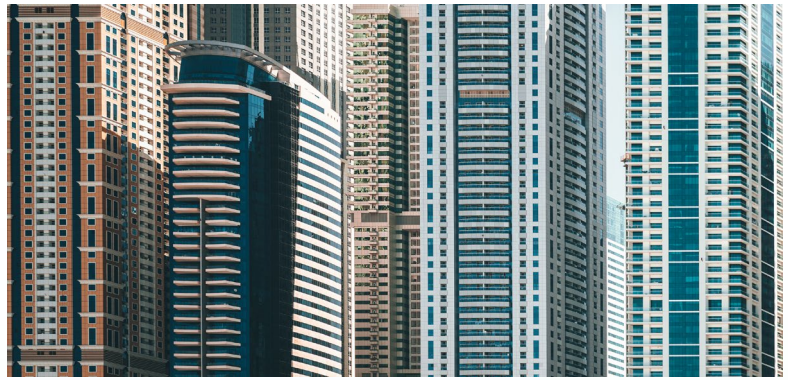
Project Launches – Q4 2022/Q2 2023

Expanding EV Infrastructure

Pilar Magaña| Light-Duty Electric Vehicle Infrastructure and Analysis Office
Fuels and Transportation Division

Expansion of Light-Duty EV Infrastructure & Encouraging EV Adoption

REACH: Multifamily Housing Charging Accessibility
$8.5 million



CARTS: On-demand Transportation Services
$16.6 million

REV: Rural Drivers Station Availability
$4.8 million

Light-Duty Electric Vehicle Infrastructure Funding Plans

Sharon Purewal| Light-Duty Electric Vehicle Infrastructure and Analysis Office
Fuels and Transportation Division

Workshop, December 2021

Concepts:

- Block Grants
- Vehicle-Grid Integration Pilots
- Local Government Fleets
- Corridor Charging
- BESTFIT 2
- High Density of Level 2 Charging
- Home Charging for Low-Income Households
- Increase Physical Signage for Charging Stations
- Community-Led EV Infrastructure Projects

Next Steps

Funding Opportunity	Available Funding	Development Schedule
Second Block Grants	Up to $150 million	Q1 – Q4 2022
High Density Level 2 Charging	$24 million*	Q2 – Q4 2022
Signage	$1 million*	Q2 2022
Additional funding for On-Demand Transportation Services	$10.6 million	Q1 – Q2 2022

Supporting Charger Development and Interoperability

Jeffrey Lu
Fuels and Transportation Division

Improving Customer Experience and Unlocking Advanced Charging Features

- Bugs in charging communication result in poor interoperability and unsuccessful charging sessions → ***Unreliable and bad experience!***
- Improvements can unlock easier-than-gas experience and advanced features such as managed and bidirectional charging

CTP is funding:

- **Vehicle-Grid Innovation Lab** (ViGIL; $1.97 million CTP funding): Charger communication and metering test lab operated by DEKRA.
- **Vehicle Interoperability Testing Symposium** (VOLTS; $910k CTP funding): Collaborative industry event where automakers and charging providers gather to test products for interoperability.

Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure

Esther Odufuwa, Energy Commission Specialist I
Fuels and Transportation Division

Medium- and Heavy-Duty Zero-Emission Vehicle and Infrastructure Goals

- Meet state GHG and air quality goals
- Reduce air pollution in communities that have historically faced higher levels of harmful diesel pollution, with a focus on disadvantaged communities
- Provide the infrastructure needs of MD/HD ZEVs equitably
- Include grid integration, integrated storage solutions, and charging management
- Help the markets for MD/HD ZEVs and infrastructure grow to scale

Recent MD/HD ZEV Infrastructure Funding and Total Awards

Grant Funding Opportunity Title	Total Amount
Block Grant for MD/HD Zero-Emission Refueling Infrastructure Incentive Projects	$50 million *(authority up to $276 million)*
Zero-Emission Transit Fleet Infrastructure Deployment	$36.2 million
Blueprints for Medium- and Heavy-Duty Zero-Emission Vehicle Infrastructure	$7.6 million
BESTFIT Innovative Charging Solutions *(MD/HD projects)*	$8.4 million
Hydrogen Fuel Cell Demonstrations in Rail and Marine Applications at Ports (H2RAM) (Joint project with ERDD)	$4 million
Zero-Emission Drayage Truck and Infrastructure Pilot Project *(Joint solicitation with the CA Air Resources Board (CARB)*	$44.3 million *($108.2 M total with CARB funds)*

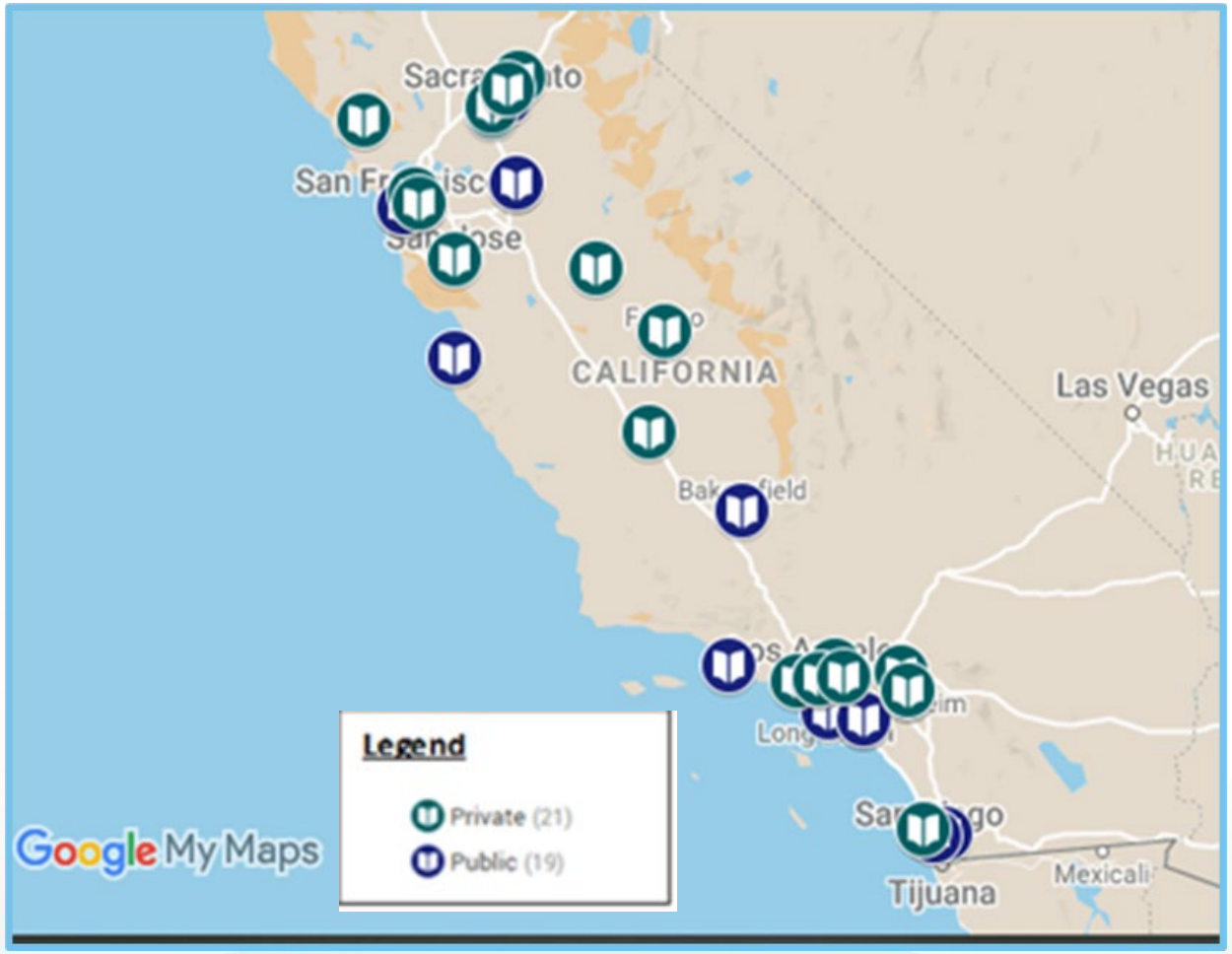
Proposed MD/HD ZEV Infrastructure Concepts

Summary of Proposed Concepts
Hydrogen Refueling
School District Vehicle Grid Integration
Truck Parking EV Charging and Hydrogen Refueling
Warehouse and Regional Trucking
Innovative EV Charging and Hydrogen Refueling Technologies
Mobility-as-a-Service Models
Rural Small Transit Fleet Infrastructure Deployment
Large Scale Ultra-Fast Charging Stations
MD/HD Blueprint Planning Documents
Infrastructure Concepts to Complement CARB Demonstration and Pilot Project Concepts
MD/HD Loan Pilot

MD/HD Blueprints

Original Blueprint solicitation (GFO-20-601) released July 2020

- Up to $200,000 per award
- 40 awards across multiple counties
  - ~$8,000,000M
- Proposing to continue funding



Next Steps

- Reviewing docket comments
- Drafting solicitations through end of the year
- Holding Pre-Solicitation Workshops
- Continue conversation with CARB

Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles (EnergIIZE)

Manuel Aguila – Energy Commission Specialist
Fuels and Transportation Division

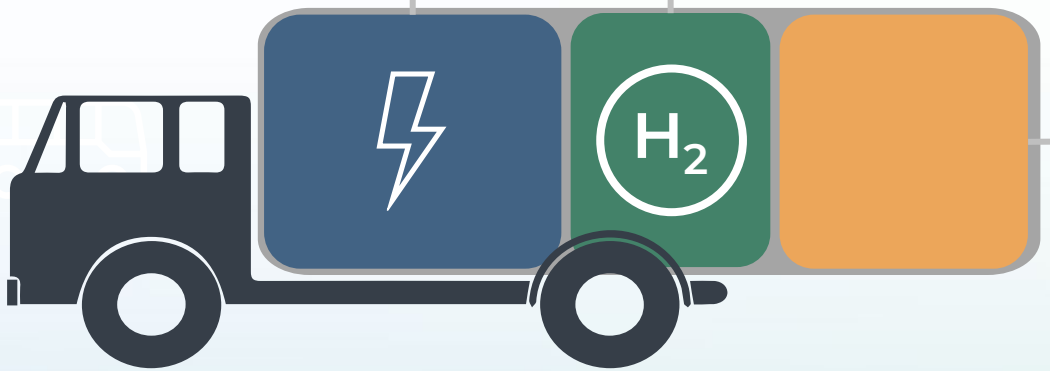
EnergIIZE

Energy Infrastructure Incentives for Zero-Emission Commercial Vehicles

EnergIIZE Commercial Vehicles provides financial incentives to increase the adoption of commercial zero emission medium- and heavy-duty (MHD) vehicles to promote healthy communities

EnergIIZE helps commercial fleets keep pace with industry demands as they transition to zero-emission vehicles, and helps advance zero-emission **infrastructure** technology

Up to $276m funding by the Clean Transportation Program (CTP)



EnergIIZE COMMERCIAL VEHICLES

EV Fast-Track

Applicants in this funding lane are ready to go and may already have prior experience applying for commercial MHD EV funding

EV Jump Start

Applicants in this funding lane will need to meet specific eligibility criteria and will be allotted more time to submit required documents

EV Public Charging Station

Applicants in this funding lane intend to develop publicly available charging stations for commercial MHD EVs

Hydrogen

Applicants in this funding lane intend to develop a hydrogen infrastructure project for commercial MHD vehicles

Hydrogen Fueling Infrastructure

Mark Johnson | Medium- and Heavy-Duty Zero Emission Technologies Office

Goals for Hydrogen Refueling Infrastructure

- California law requires CEC to allocate $20 million annually for public hydrogen refueling stations to reach 100 station milestone through January 1, 2024

- Target of 200 hydrogen refueling stations by 2025

- Current and planned investments:
  - Current investment of $166 million with plan to invest $279 million for public stations
  - $190 million match
  - California's current and planned investments in public hydrogen infrastructure rank second only to Japan internationally
  - Additional investments in private infrastructure for HDV (e.g. transit)

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Public and Privately Funded Light-Duty Station Locations

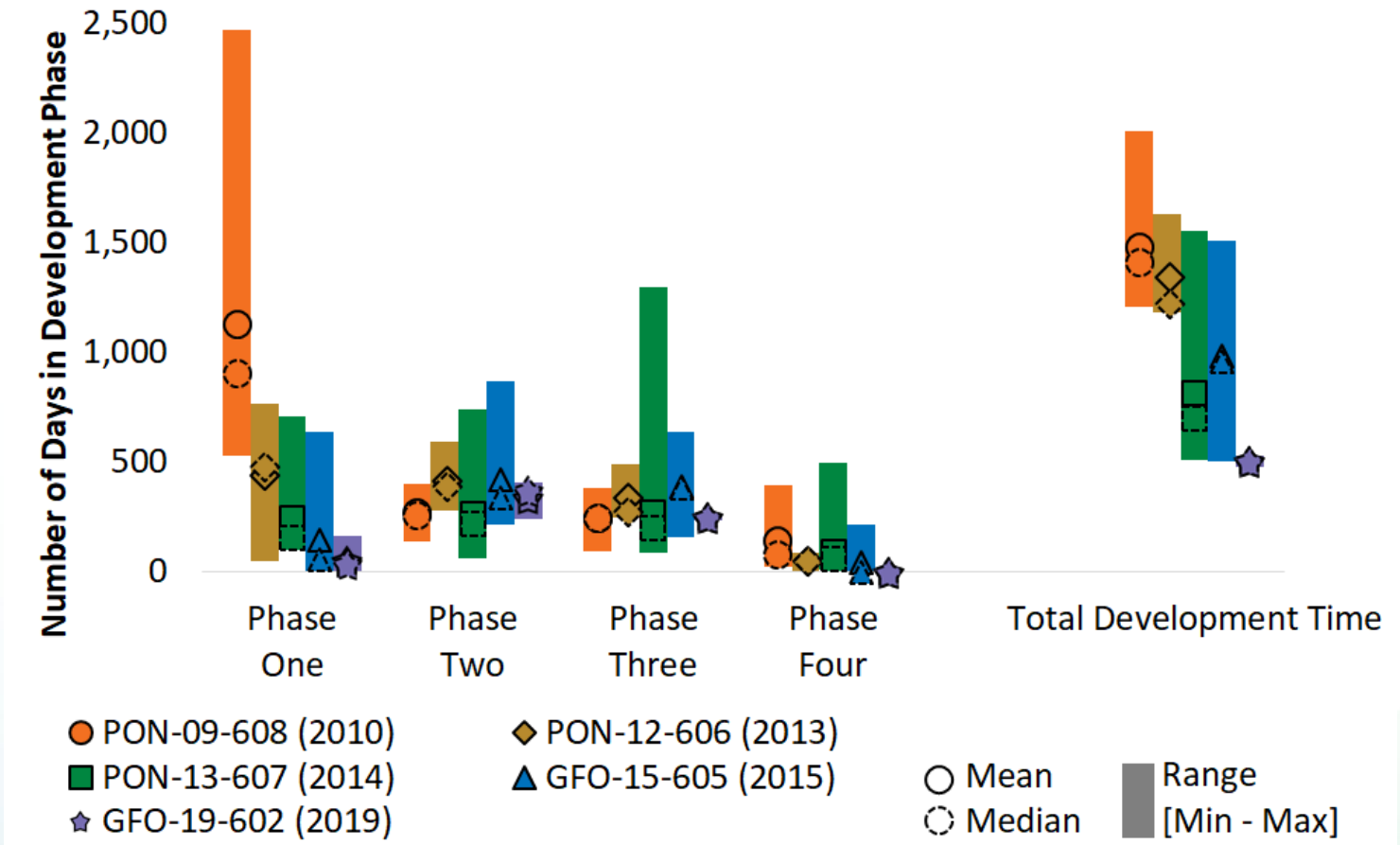
- 58 stations open retail
- 31 stations under construction
- 6 privately funded stations under construction
- Additional 82 stations planned through GFO-19-602
- Planned capacity can support about 240,000 FCEVs
- 61,100 FCEVs by 2027 projected by industry
- 12,700+ FCEVs in California as of March 2022

Source: Energy Commission Staff

Station Size and Development Time

Since 2010:

- Average new station capacity has grown over 500 percent, from supporting 250 to 1,700 cars
- Average station development time: 2 years



Source: Energy Commission Staff

Medium- and Heavy-Duty Hydrogen Stations

- 7 medium- and heavy-duty stations operating
- 4 medium- and heavy-duty stations planned
- Includes transit and heavy-duty truck fueling stations

Source: Energy Commission Staff

Renewable Hydrogen Production

- 5 projects funded (3 new facilities, 2 expansions) with $17M in CTP funding
- $66M in Match funding
- New production capacity of nearly 24,000 kg/day
- Technologies: 3 electrolysis, 1 gasification

Source: Energy Commission Staff

Next Steps

- Continue to develop the hydrogen refueling stations awarded under solicitation GFO-19-602

- Develop a new solicitation using $27 million in one-time funding
  - Workshop held on February 28, 2022 to solicit feedback

- The CEC expects to reach the 200-station goal with the new solicitation combined with recent private investment announcements

Zero- and Near Zero-Carbon Fuel Production and Supply

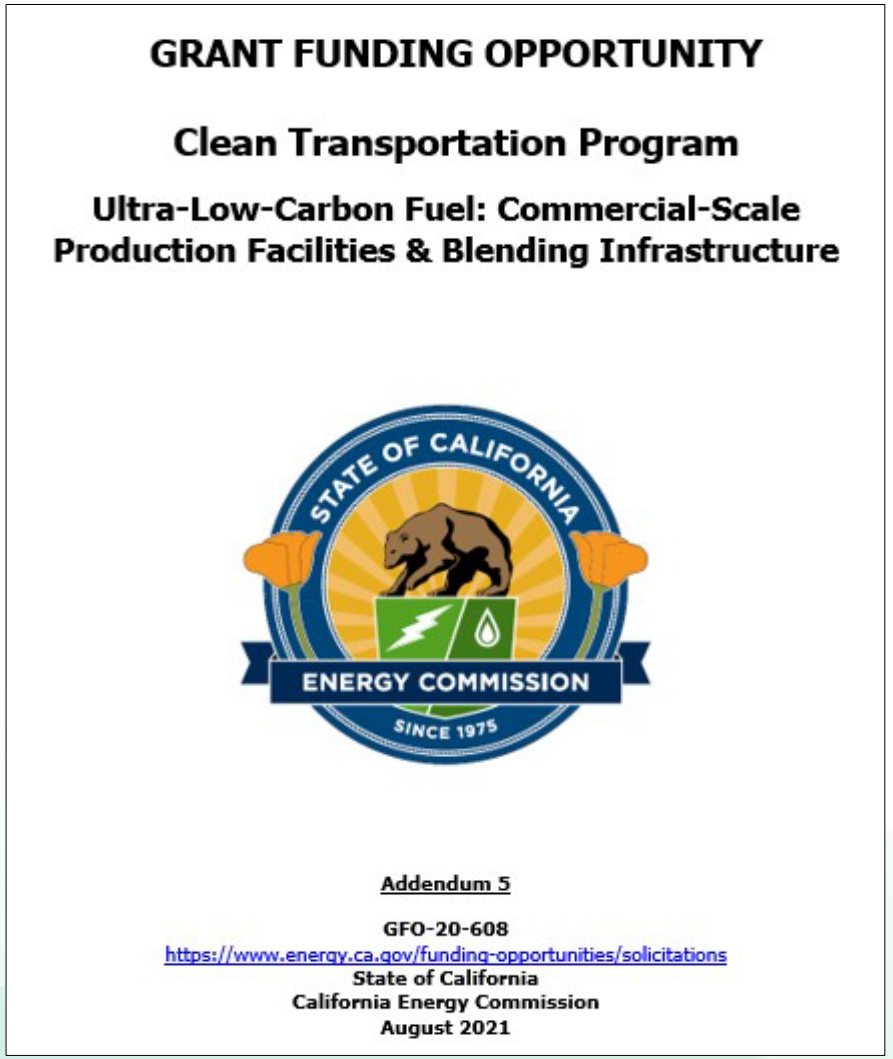
Hieu Nguyen | Transportation Integration and Production Office, Manufacturing and Production Unit
Fuels and Transportation Division

Goals for Zero- and Near Zero-Carbon Production and Supply

- In-state commercial-scale production of lowest carbon alternative fuels
- Increase in-state low-carbon fuel and blending capacity
- Cost-effective mitigation of greenhouse gas emissions
- Job creation in low-income communities

Funding Solicitation Overview

- Commercial-Scale
  - Fuel Production Facilities
    - New or Existing Facilities
  - Fuel Blending Facilities
    - Renewable diesel/biodiesel only
- Ultra-Low-Carbon Fuel: ≤ 30 gCO2e/MJ
- 1 million diesel gallon equivalents per year



Fuel Production Project Results

Recipient Name	Fuel Production Type	Fuel Production Capacity (DGE)	GHG Mitigation (MT CO2e per yr)	Jobs	Feedstock
California Grinding	Biomethane	1.345 M	55,000	29	Green, dairy manure and food waste
Merced Pipeline	Biomethane	1.8 M	113,000	39	Dairy Manure
SoCal Biomethane	Biomethane	1.6 M	18,000	10	Food waste and wastewater
Grand Total		**4.75 M**	**186,000**	**78**	

Fuel Blending Project Results

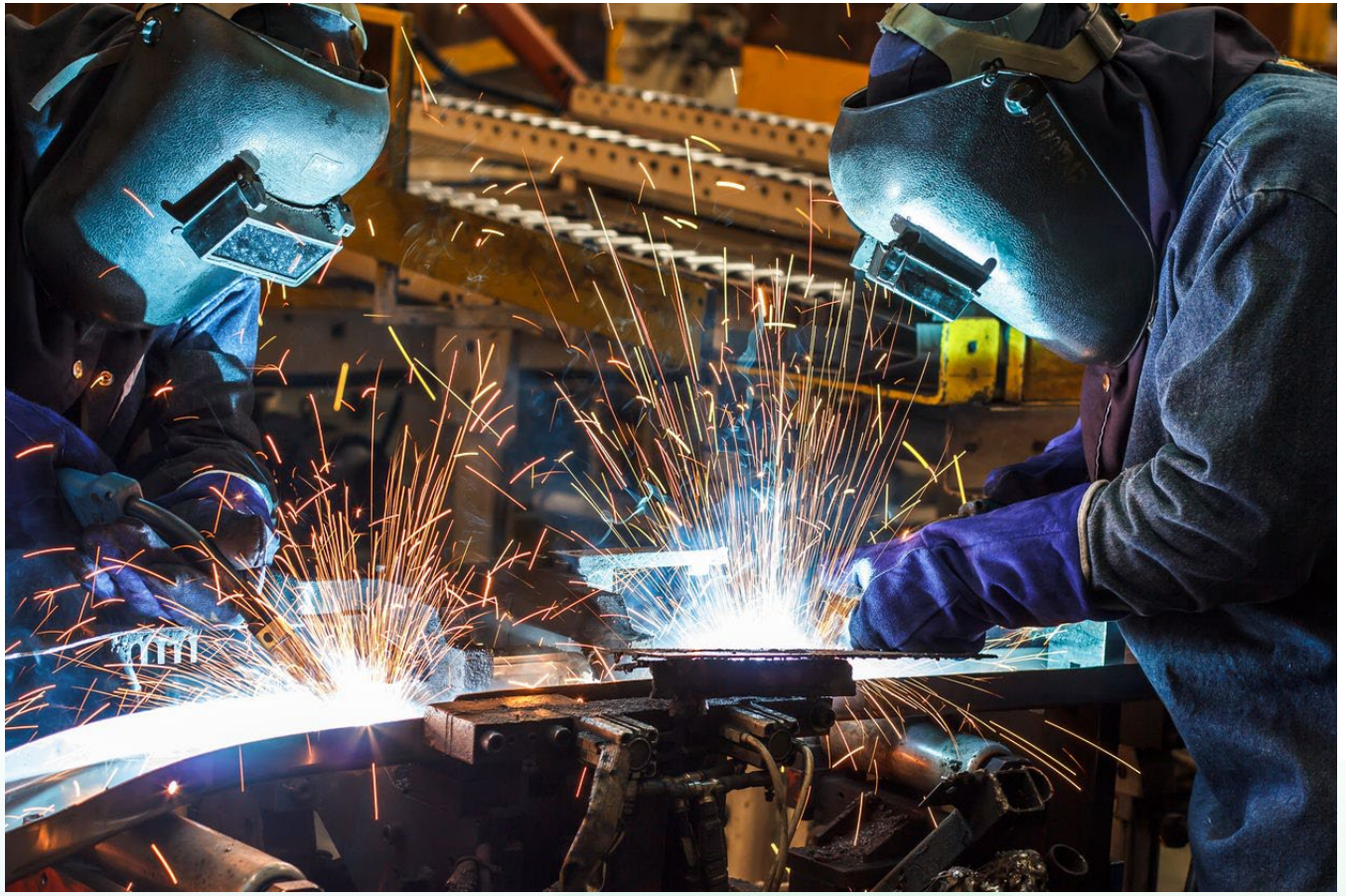
Recipient Name	Fuel Blend Type	Fuel Blending Capacity (DGE)	Fuel Blending Throughput per year	GHG Mitigation (MT CO2e per yr)	Jobs
AltAir Paramount	Renewable Diesel and Biodiesel	32.5 million	149 million (116.5 RD, est. 2024)	1,580,000	100+ short term
New Leaf Biofuel	Renewable Diesel and Biodiesel	78 million (BD 24m, RD 64m)	78 million (est. 2027)	700,000	12 (3-5 long term)
	Grand Total	**110.5 m**	**227 million**	**2.28 m MT**	**112**

ZEV and ZEV-Related Manufacturing

Jonathan Bobadilla
Transportation Integration and Production Office
Fuels and Transportation Division

Goals for ZEV Manufacturing

- Attract new and expand existing ZEV-related manufacturing in California
- Increase number and quality of jobs
- Bring positive economic impacts to the state
- Contribute to California's goals of zero-emission transportation



California Zero-Emission Vehicle Industry

#1 ZEV Market in the US[2]

1,054,095 ZEVs Sold in CA Through Q4 2021[1]

#1 in the US for ZEV manufacturing jobs[3]

References

1. California Energy Commission Zero Emission Vehicle and Infrastructure Statistics, accessed 02/17/2022
2. U.S. Department of Energy, Alternative Fuels Data Center. Accessed 11/03/2021
3. Where are the EV jobs? – Atlas EV Hub

California Budget Act of 2021 - Manufacturing

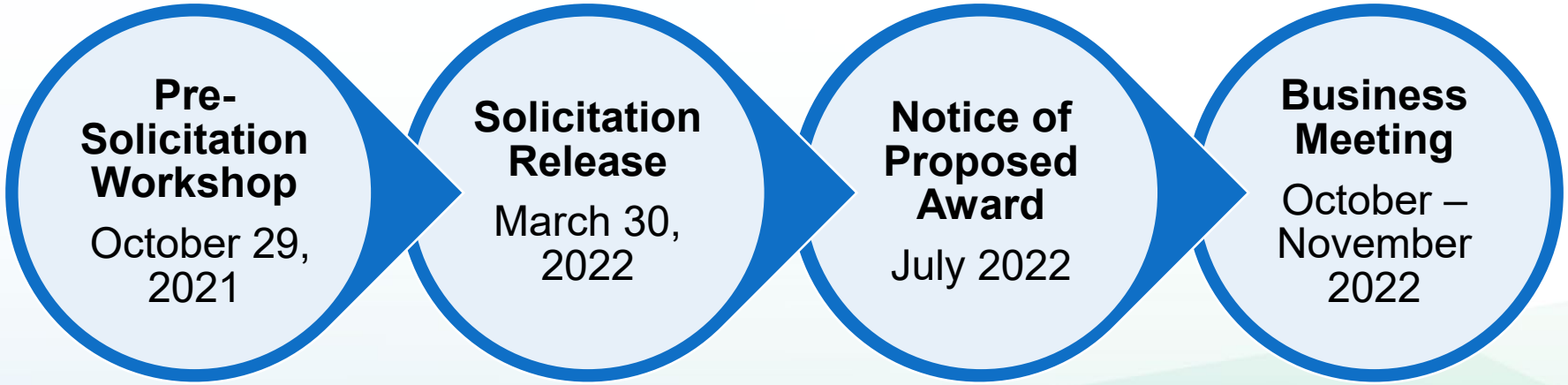
Senate Bill 129 (Skinner, 2021)

- $125 million for FY 2021-2022 ($118.75 million after admin costs)
  - Available for encumbrance until **June 30, 2024.**
  - Available for liquidation until **June 30, 2026**.
- $125 million for FY 2022-2023 (pending Legislative approval)

"...shall be used to support manufacturing grants to increase in-state manufacturing of zero-emission vehicles, zero-emission vehicle components, and zero-emission vehicle charging or refueling equipment."

Manufacturing Solicitation GFO-21-605

- GFO-21-605 Zero Emission Transportation Manufacturing (ZETM)
  - ➢Competitive grant funding opportunity
  - ➢For ZEV, ZEV components, and ZEV Infrastructure manufacturing
  - ➢$60 million total* available



*The CEC may allocate additional funding based on applications received, as well as additional funding appropriated for 2022-23.

Battery Manufacturing Block Grant Solicitation

- ZEV Battery Manufacturing Block Grant
  - ➢Block grant implementer
  - ➢Develop and implement grants to subrecipients for ZEV battery manufacturing
  - ➢$25 million total* available

*The CEC may allocate additional funding based on GFO-21-605 applications received, as well as additional funding appropriated for 2022-23.

Workforce Training and Development

Larry Rillera

Fuels and Transportation Division

Goals for Workforce Training and Development

- Develop clean transportation career pathways
- Focus on job creation, quality, and quantity
- Align ZEV jobs with ZEV and ZEV infrastructure deployments
- Leverage workforce partnerships and investments
- Prioritize priority communities and priority populations
- Support small-, minority-, women-, disabled veteran-, LGBTE- owned business enterprises

Advanced Transportation and Logistics

ETP EMPLOYMENT TRAINING PANEL

NMSDC 50TH ANNIVERSARY | National Minority Supplier Development Council | Advancing Economic Equity Together

Workforce Portfolio

- $36 million total investment
- 20,000 trainees and trainers
- State Partnerships: Employment Training Panel; CA Community Colleges, CA Workforce Development Board, CA Conservation Corps, CA Air Resources Board
- Electric School Bus Training Project
- ZEV Automotive and Truck College Training Project
- ZEV High School Pilot Project
- Transportation Electrification Training Project
- IDEAL ZEV Workforce Pilot (GFO-21-602)

IDEAL ZEV Workforce Pilot

- Competitive solicitation
- Projects that provide clean transportation career pathways to ZEV and ZEV infrastructure industries
- Equity focused ZEV workforce training and development solutions
- Partnerships
- CARB as Solicitation Partner
- $6.5 million total investment

Priority Communities + ZEV Workforce Training and Development > Jobs

Solicitation Results

- 20 total applications received
- 14 proposed awardees
- Diversity of:
  - Applicants
  - Training Needs
  - Equity Communities
  - Geography
  - ZEV Sectors
  - Project Partners

Project Locations and Impacts

National Indian Justice Center, Inc.

West Oakland Job Resource Center

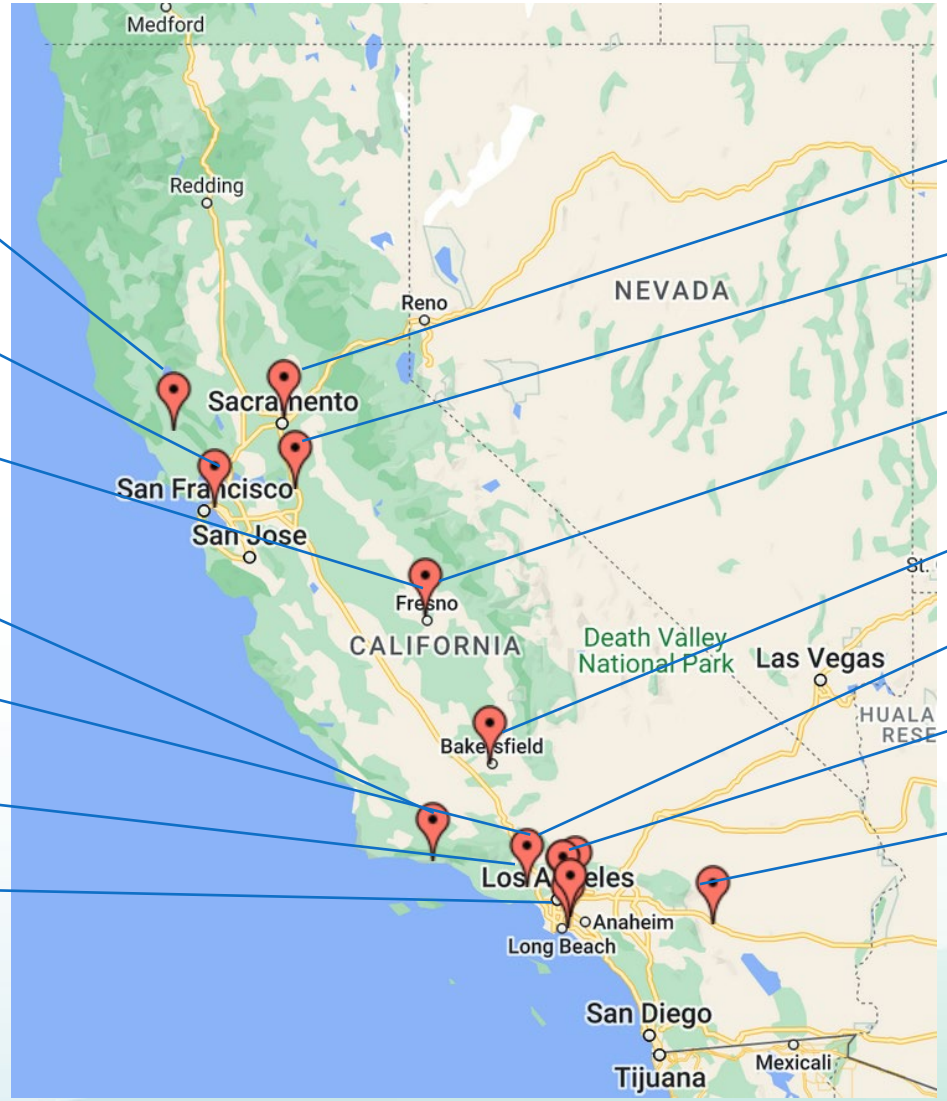
Latino Equity Advocacy and Policy Institute

Green Paradigm Consulting

County of Los Angeles

Municipal Equipment Maintenance Association

CSU Long Beach



Community Resource Project, Inc.

Housing Authority of the County of San Joaquin

Fresno City College

Kern Community College District

Los Angeles Pierce College

CSU Los Angeles

SunLine Transit Agency

Estimated Baseline Metrics*

CalEnviroScreen Score	Trainees	Trainers	Training Hours	Training Sessions	Full-Time Jobs**	Part-Time Jobs**	Outreach Events / Participants
89	4,306	101	31,985	1,216	4,424	2,542	216 / 34,485

* Estimates and averages based on pre-project survey conducted in March 2022 of proposed awardees.
** Directly created, retained, and projected post-project.

Meeting of the
Clean Transportation Program Advisory Committee

Break

Reconvening at X:XX

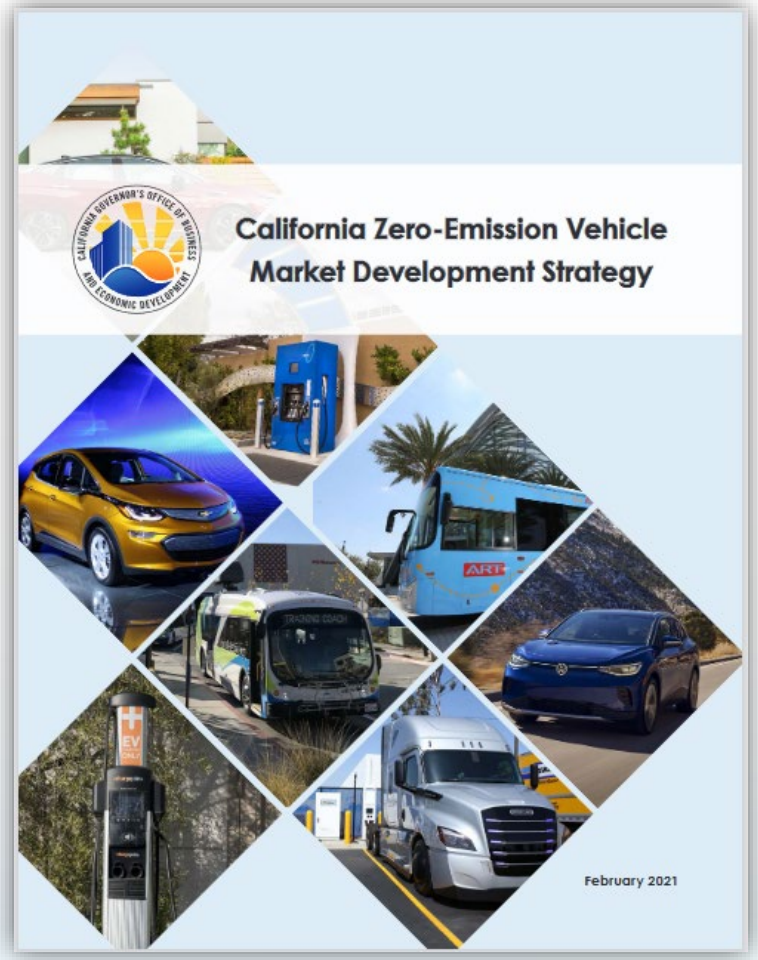
Updates on ZEV Planning and Analysis

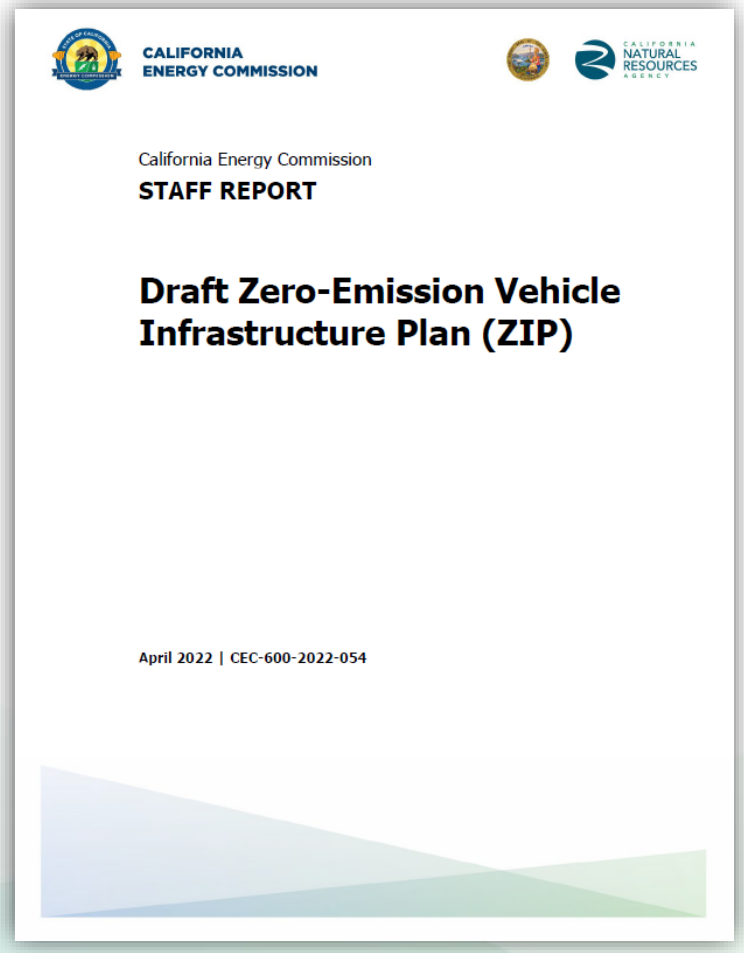
Draft Zero-Emission Vehicle Infrastructure Plan (ZIP)

Thanh Lopez

Fuels and Transportation Division

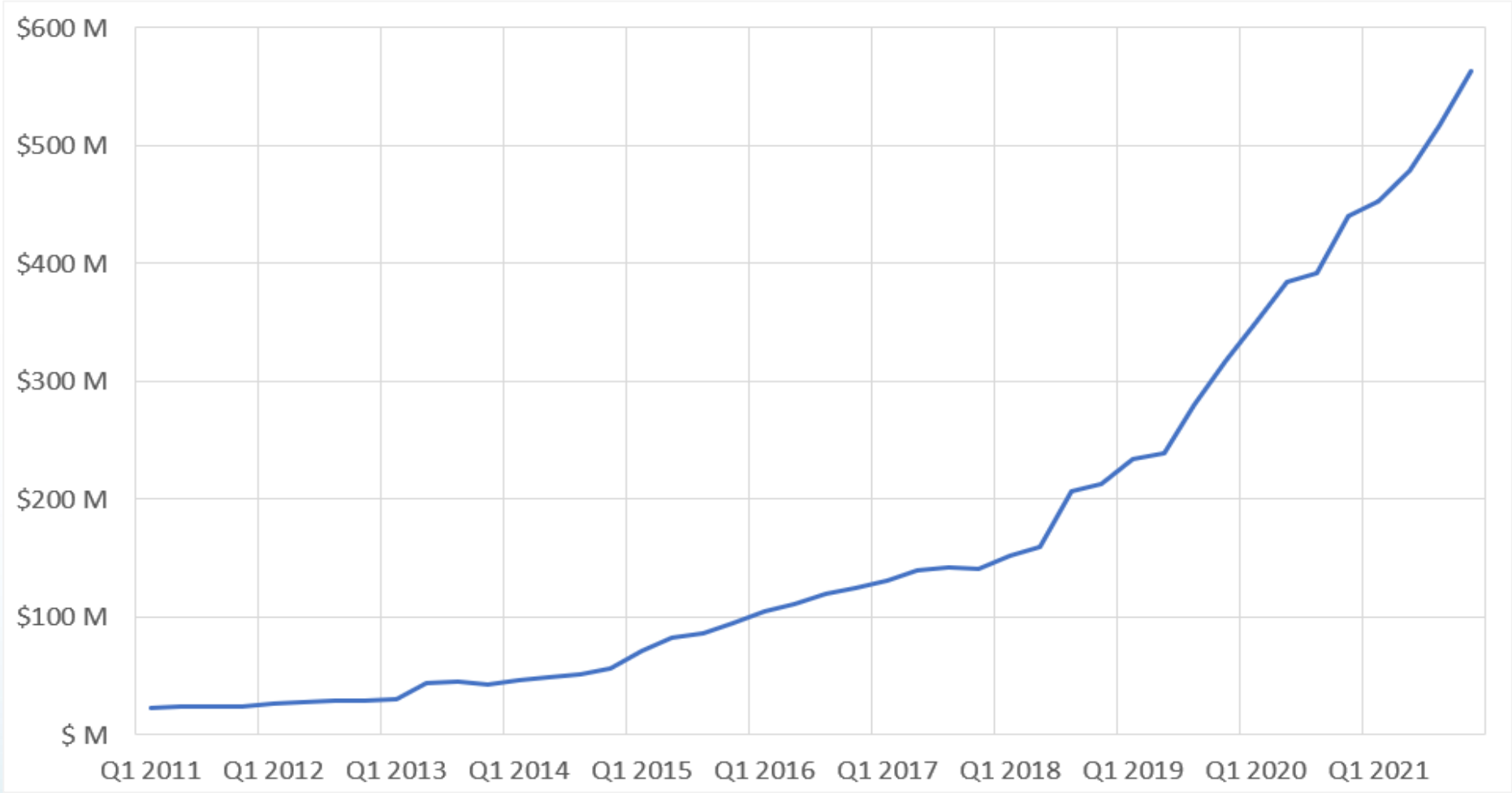
ZIP Background





Private Investments in Infrastructure

Cumulative Private Investments in Light-Duty Plug-in Electric Vehicle Charging (2011-2021)



Source: GO-Biz EV Infrastructure Investment Model and CEC Staff Analysis

Funding for Infrastructure

- State Funding
  - ZEV Package 1.0 ($3.9 B)
  - ZEV Package 2.0 ($6.1 B)
    - Includes federal "formula" funding ($384 million)
- Federal "discretionary" (competitive) funding opportunities
- Utility Investments
- Private funding

ZEV Infrastructure Actions

Hydrogen for LD FCEV

DCFC for LDEV

Charging and hydrogen fueling for MDHD ZEVs

Emerging technologies

L1 & L2 Charging for LDEV

Parallel Efforts on Infrastructure

- Improving Building Codes
- Building Reliability of Charging and Hydrogen Fueling Networks
- Streamlining Permitting
- Improving Interconnection Times
- Standardization of Charging and Fueling Infrastructure

ZIP Process and Schedule

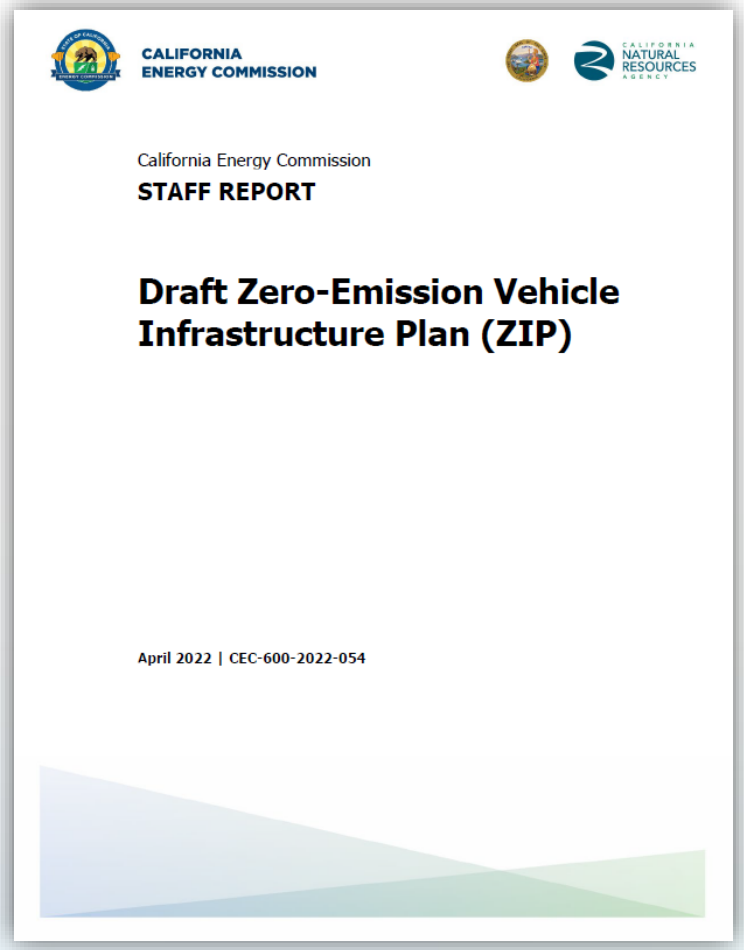
Public Workshop Kickoff
January 2022

Draft ZIP Published
April 2022

Public Workshops
April/May 2022

Publish Final ZIP
Summer 2022

Draft ZIP and Workshop



- Draft published April 1, 2022
- Staff workshop on April 14, 2022
  - Events Page: https://www.energy.ca.gov/event/workshop/2022-04/draft-zero-emission-vehicle-infrastructure-plan
- Public comment due : Friday, May 13, 2022

Update on Assembly Bill 2127 Work

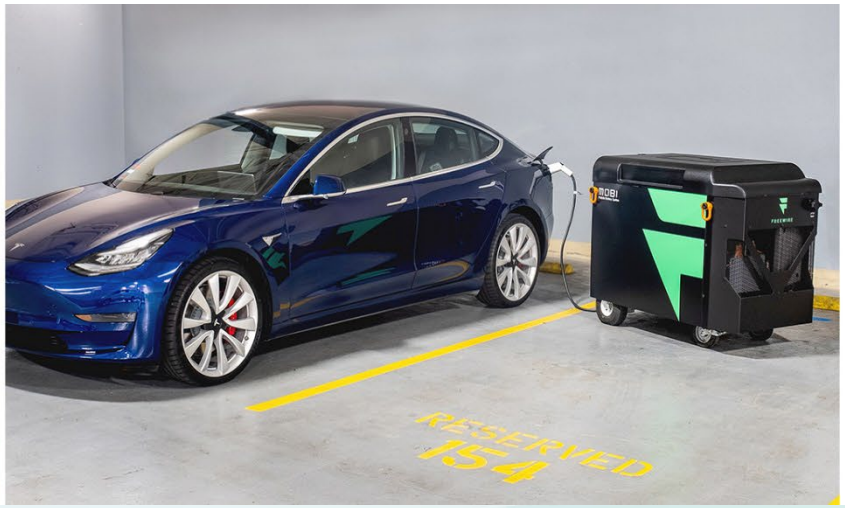
Kiel Pratt, Supervisor, Vehicle-Grid Integration Unit
Fuels and Transportation Division / Transportation Integration and Production Office

Projecting California's Needs for Charging Infrastructure

Cleaner transportation

Grid-friendly infrastructure

Convenience



Source: CEC, FreeWire Technologies, Beam Global

Assembly Bill 2127 (2019) and Executive Order N-79-20 (September 2020)

- Every 2 years, create report assessing:
  - Charging infrastructure needs for all vehicle types
  - Utility grid connection
  - Charger hardware and software
  - Programs accelerating EV adoption
- Update AB 2127 assessment to capture expanded targets under EO N-79-20

Zero-Emission Vehicle Targets

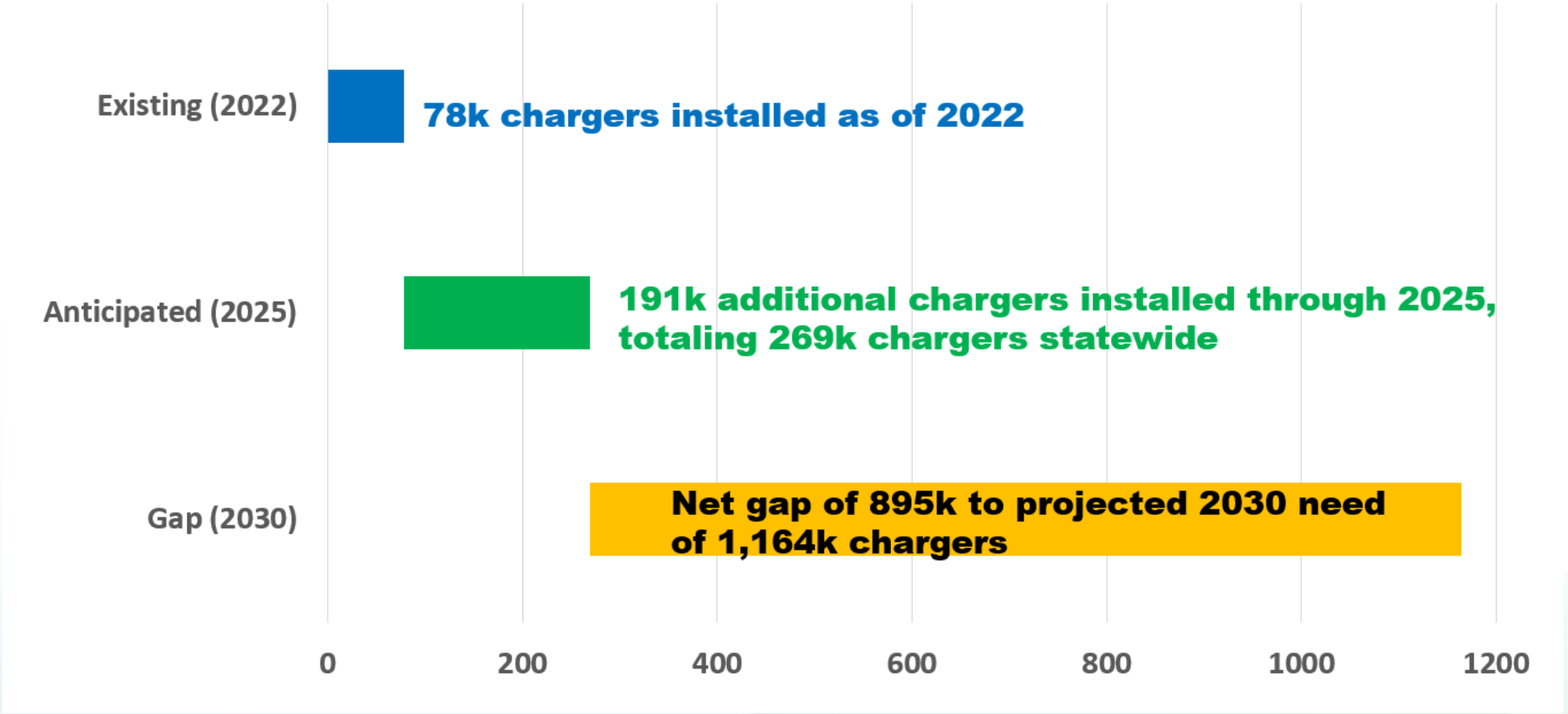
AB 2127: 5M ZEVs by 2030

Source: FreeWire

EO N-79-20: 8M ZEVs by 2030

Source: Volta Charging

Progress Toward Over 1M Light-Duty Chargers by 2030



First AB 2127 Report Published in Summer 2021

- Focus on Equity
- Vehicle-grid integration
  - Bidirectional charging
- Standard connectors and communications
  - Convenience
  - Grid-friendly charging
- Local “best-fit” solutions
- Financing innovations and continued public support

- Quantified medium- and heavy-duty sector for 2030:
  - Modeling suggests 157k chargers needed for 180k vehicles

Source: Ford Motor Company

Planned Features for the Second AB 2127 Report

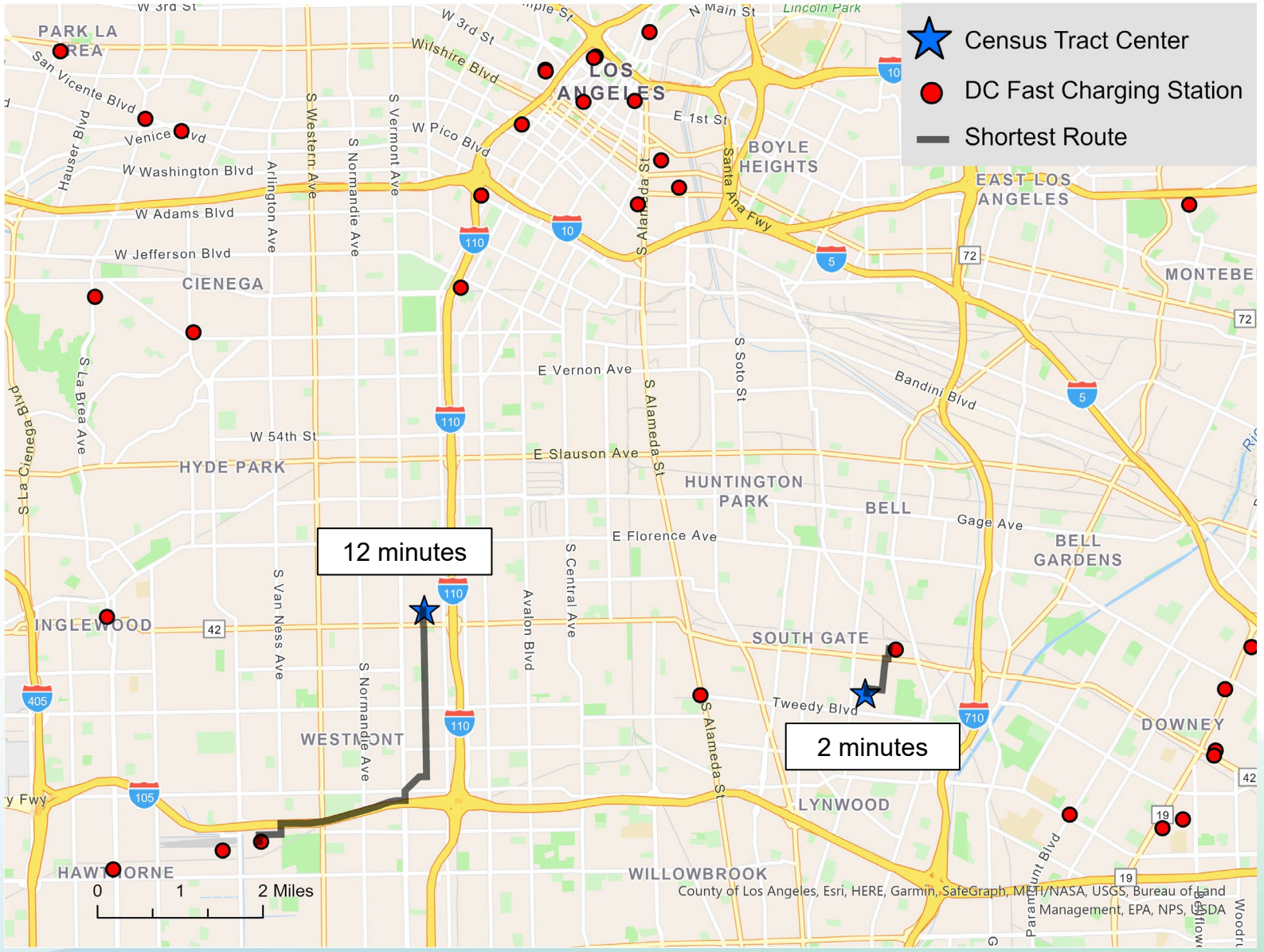
- Update models and assumptions; more detailed geographically
- Highlight potential for EVs as grid and reliability resource
- Discuss reliability of existing charging network, workforce updates, infrastructure costs
- Add additional charging options such as curbside charging

- Anticipated Schedule:
  - Fall 2022: Publish Staff Report draft and host workshop
  - Anticipated early 2023: Publish Revised Staff Report and present at Energy Commission Business Meeting, publish Commission Report

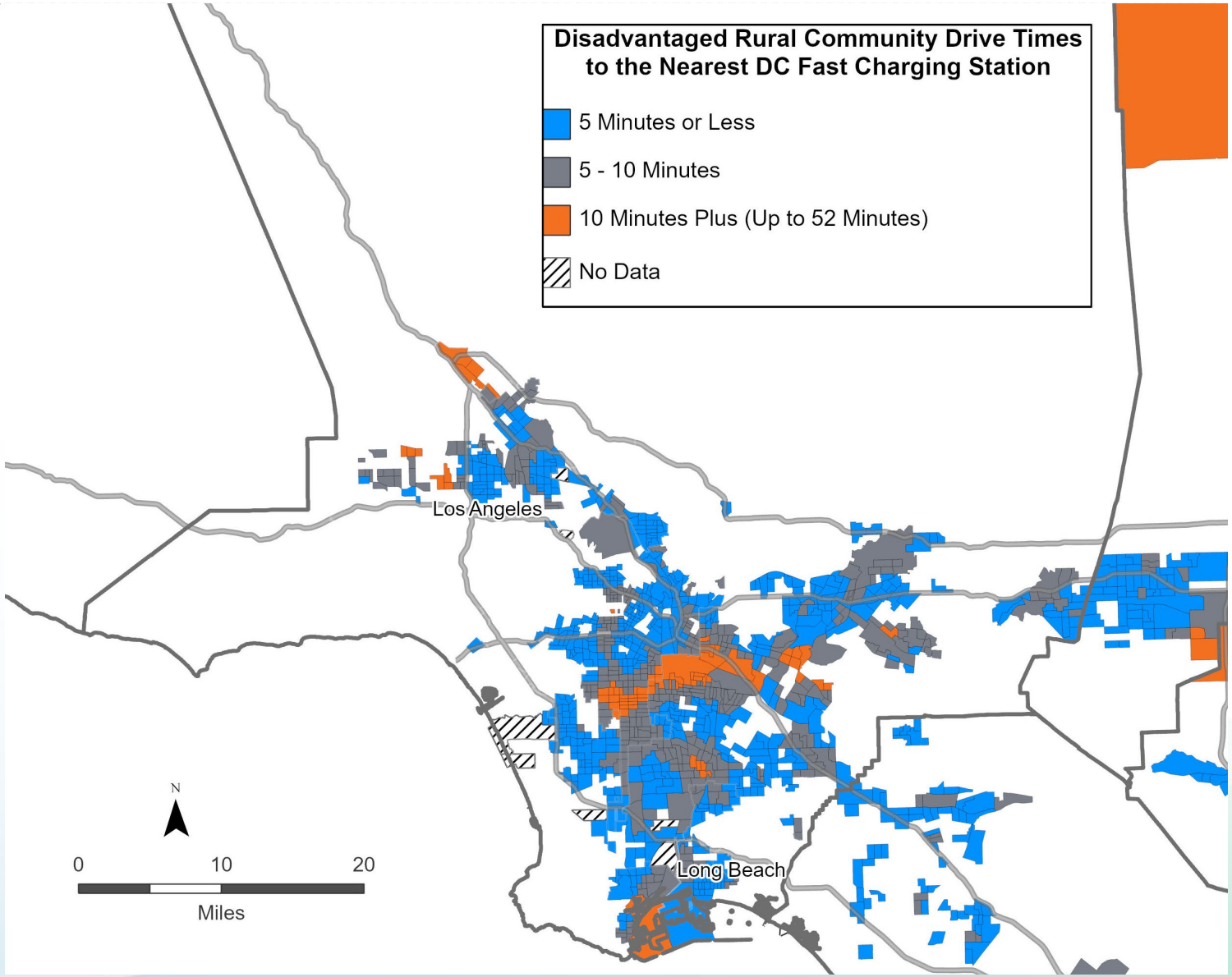
SB 1000: California Electric Vehicle Deployment Assessment

Tiffany Hoang
Air Pollution Specialist
Light-Duty Electric Vehicle Infrastructure and Analysis Office

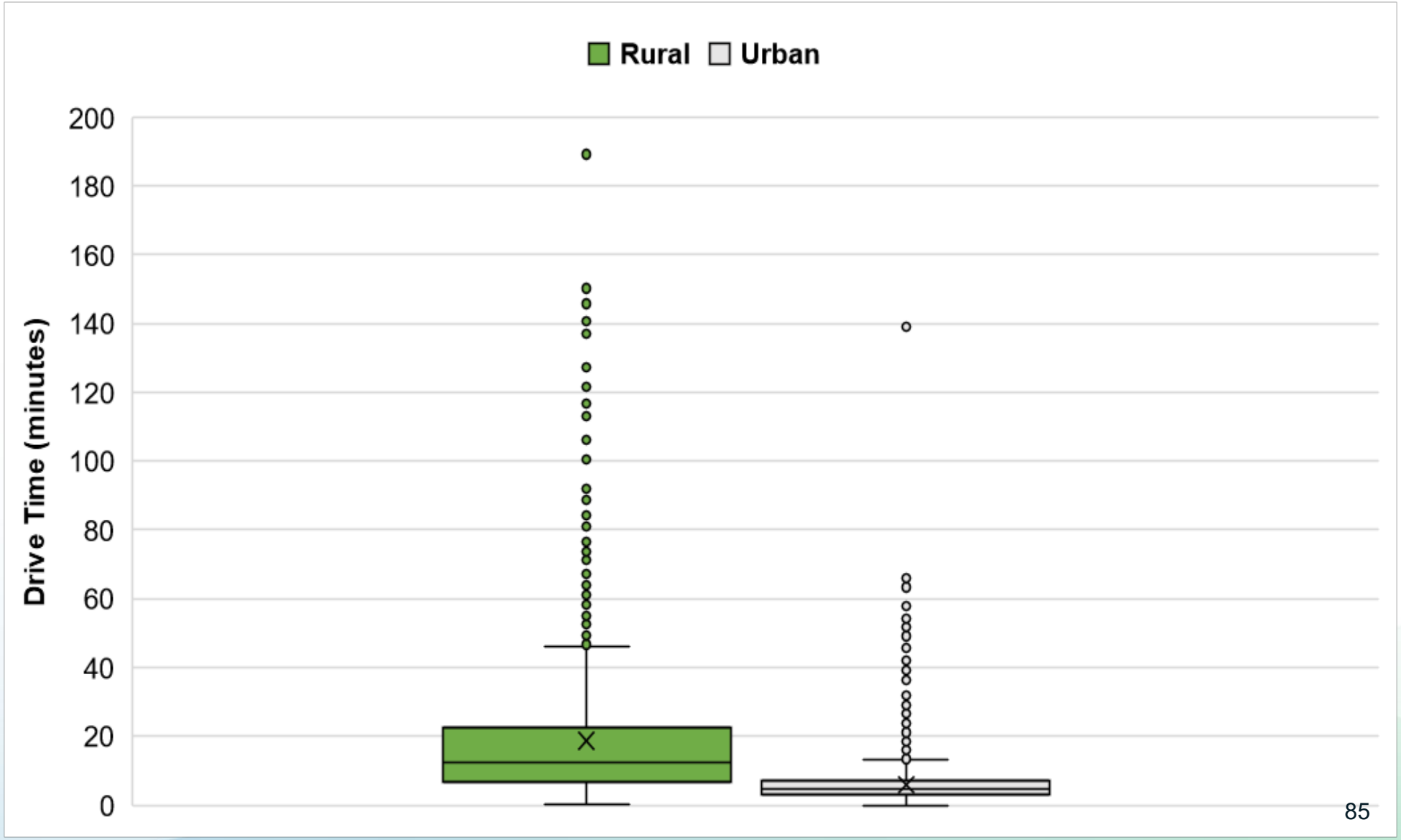
Measuring drive times to fast chargers



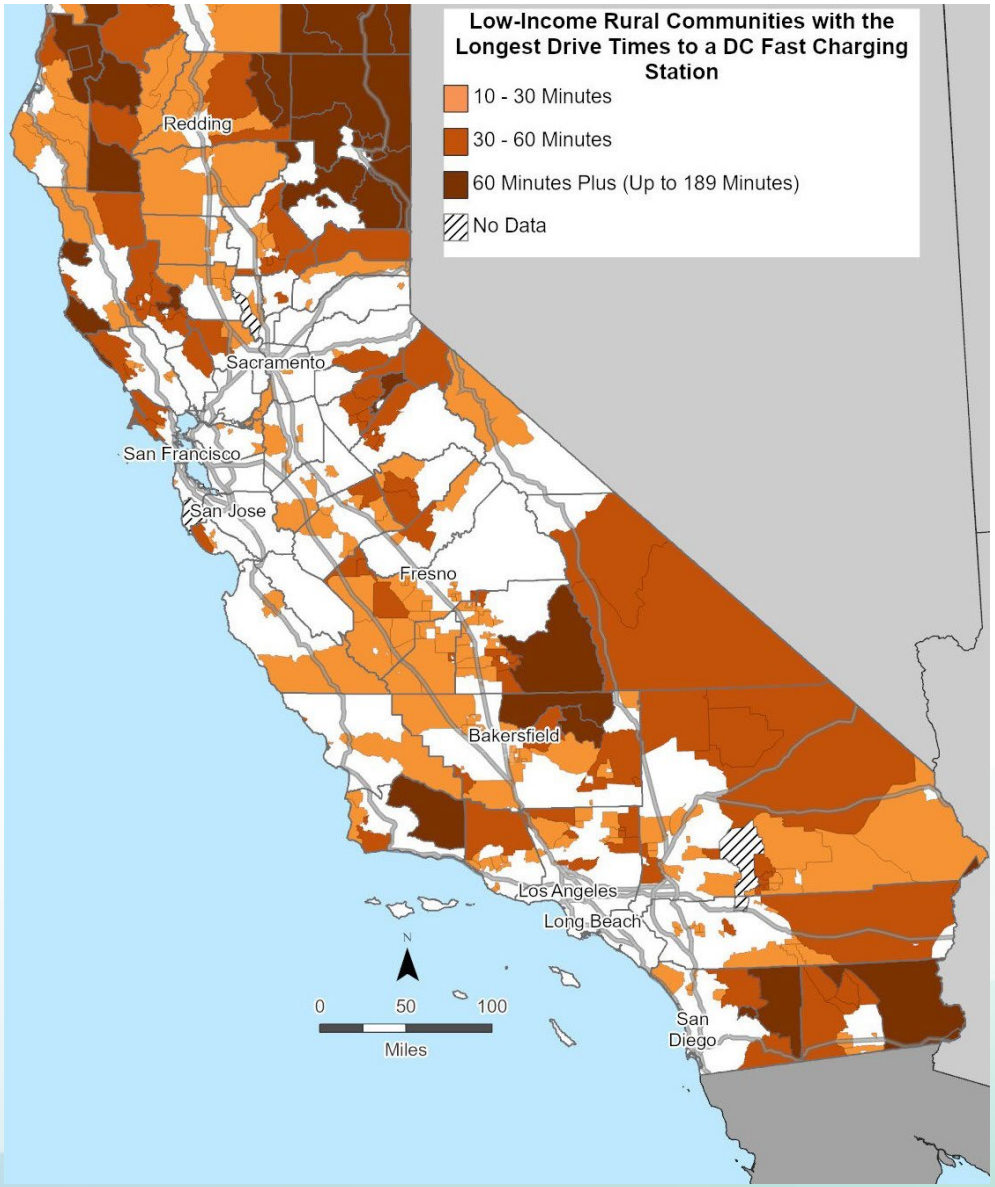
Drive times vary among disadvantaged communities



Rural communities are farther from public fast charging than urban communities



Low-income rural communities have the least access to public fast charging



SB 1000 Webpage

The SB 1000 webpage, https://www.energy.ca.gov/programs-and-topics/programs/clean-transportation-program/electric-vehicle-infrastructure, will provide downloadable drive time maps and spreadsheets with drive times by census tract.

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CALIFORNIA ENERGY COMMISSION

Enter keywords, e.g. Tracking Progress

HOME PROCEEDINGS RULES AND REGULATIONS PROGRAMS AND TOPICS FUNDING DATA AND REPORTS SHOWCASE

California Energy Commission > Programs and Topics > All Programs > Clean Transportation Program > Electric Vehicle Infrastructure Deployment Assessment – SB 1000

10 47 9/11/2017 not ready charging in progress 240 V eco

Electric Vehicle Infrastructure Deployment Assessment – SB 1000

SB 1000 (2018) requires the California Energy Commission to assess whether electric vehicle charging station infrastructure is disproportionately deployed. Research helps inform Clean Transportation Program investments to improve charging access through the deployment of new charging station infrastructure.

Senate Bill 1000 (Lara, Statues of 2018, Chapter 368) requires the California Energy Commission, as part of the development of the Clean Transportation Program Investment Plan, to assess whether charging infrastructure is disproportionately deployed by population density, geographical area, or population income level, including low-, middle-, and high-income levels. This includes evaluating whether direct-current fast charging stations are disproportionately distributed and whether access to these charging stations is disproportionately available.

This assessment provides guidance for Clean Transportation Program funding and projects, and information for stakeholders working to improve electric vehicle charging access.

CLEAN TRANSPORTATION PROGRAM

- Advisory Committee for the Clean Transportation Program Investment Plan
- Clean Transportation Funding Areas
- Clean Transportation Program Investment Plans
- Clean Transportation Program Overview
- California Electric Vehicle Infrastructure Project (CALeVIP) Cost Data
- Clean Transportation Financing and Investment Initiative
- **Electric Vehicle Infrastructure Deployment Assessment – SB 1000**
- Localized Health Impacts Reports

Collapse All

Reports

- SB 1000 California Electric Vehicle Infrastructure Deployment Assessment: Increasing Access to Electric Vehicle Infrastructure for All (2020 Staff Report)

Data and Analysis

- Spreadsheet of SB 1000 Energy Commission Report 2020 Results
- Spreadsheet of SB 1000 Low-, Middle-, and High-Income Communities and CalEnviroScreen 3.0 Disadvantaged Communities

UPCOMING EVENTS

No events are available at this time.

PAST EVENTS

PROCEEDING INFORMATION

Docket Log (20-TRAN-02)

Submit Comments (20-TRAN-02)

CONTACT

FTD@energy.ca.gov

RELATED LINKS

Clean Transportation Program Investment Map

Clean Transportation Program Investment Plans

Integrated Energy Policy Report – IEPR

Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment

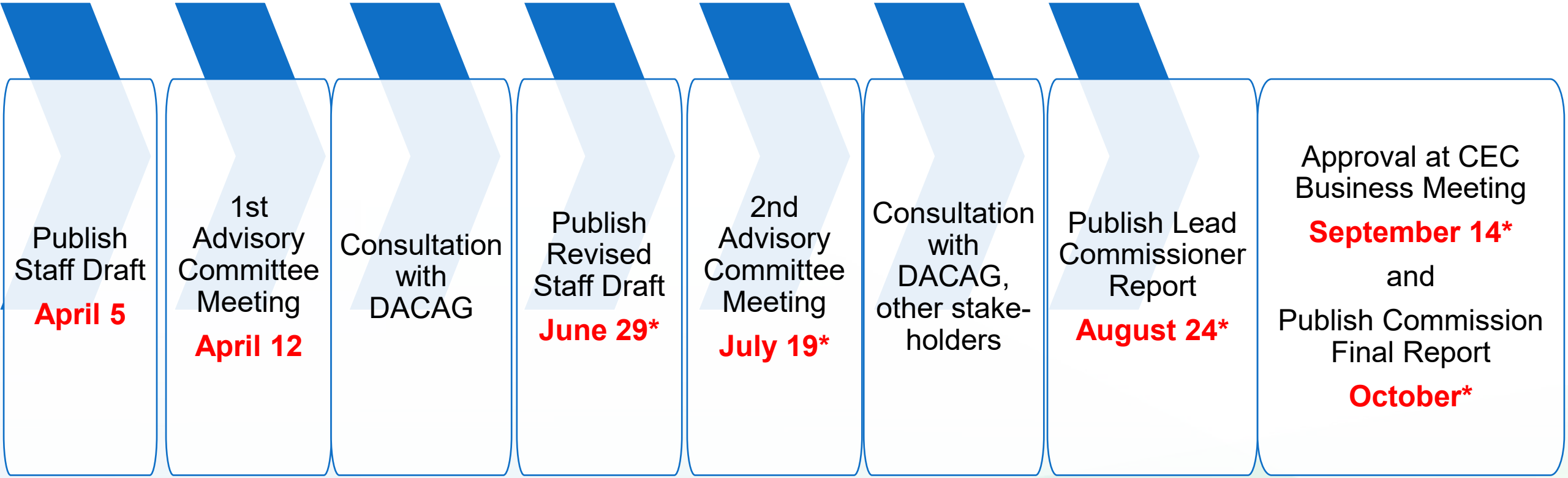
California Electric Vehicle Infrastructure Project (CALeVIP) Cost Data

2022-2023 Investment Plan Update for the Clean Transportation Program

Patrick Brecht

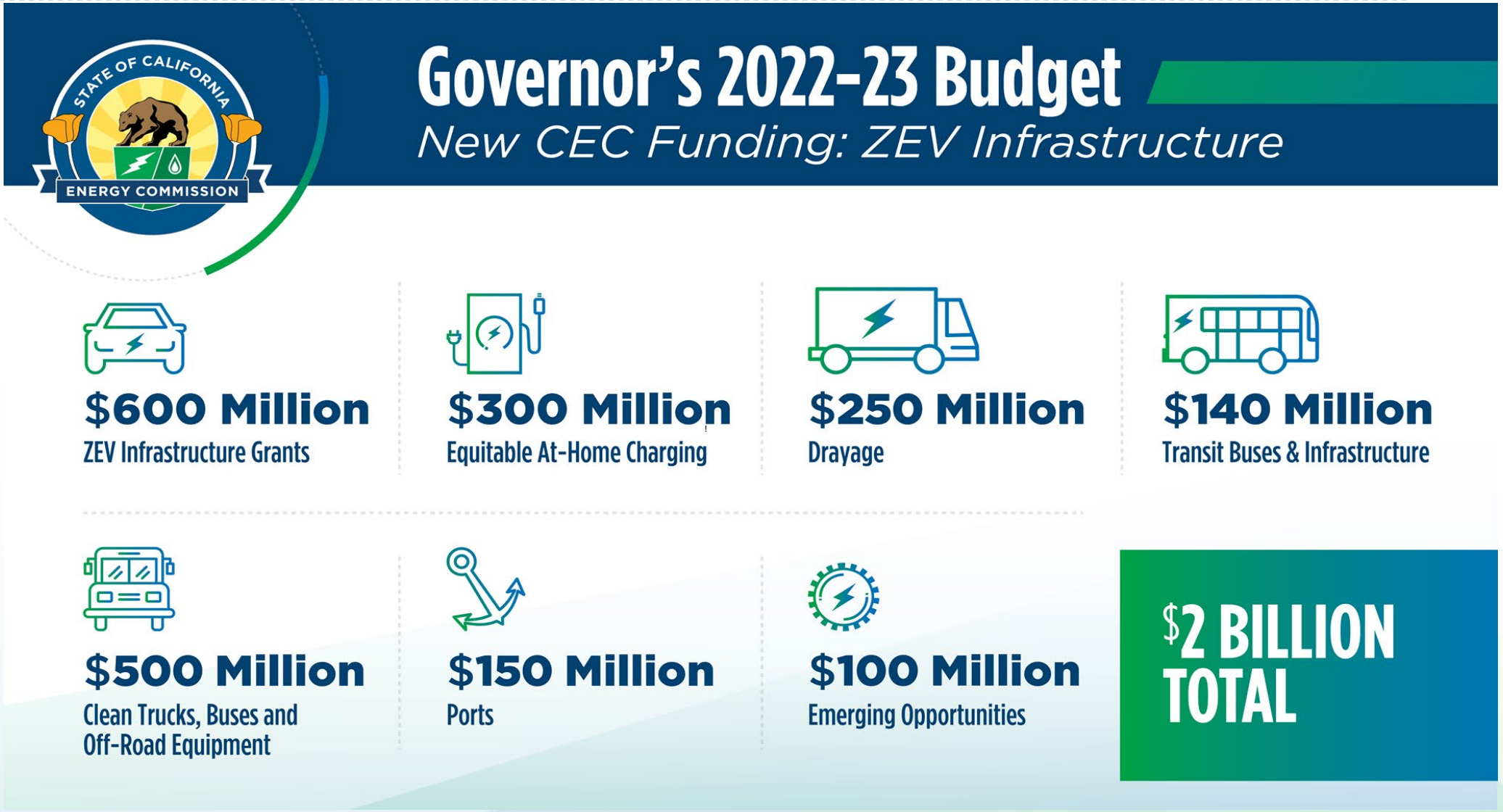
Project Manager for the Clean Transportation Program Investment Plan

Investment Plan Process & Schedule



*Tentative, based on timing of state budget

Governor's Proposed Budget



Combined Clean Transportation Program and General Fund Allocations in the Draft Staff Report (in millions)

Clean Transportation Program + General Fund (Budget Act of 2021)

Category	Funded Activity	FY 2021-2022 (for reference)	FY 2022-2023* (proposed)	FY 2023-2024* (proposed)
Zero-Emission Vehicles and Infrastructure	Light-Duty Electric Vehicle Charging Infrastructure and eMobility	$30.1 (CTP) $240.0 (GF)	$30.1 (CTP)	$13.8 (CTP)
Zero-Emission Vehicles and Infrastructure	Medium- and Heavy-Duty Zero-Emission Vehicles and Infrastructure (battery-electric and hydrogen fuel cells)	$30.1 (CTP) $361.25 (GF)	$30.1 (CTP) $130.0 (GF)	$13.8 (CTP) $125.0 (GF)
Zero-Emission Vehicles and Infrastructure	Hydrogen Fueling Infrastructure	$20.0 (CTP) $27.0 (GF)	$20 (CTP)	$10 (CTP)
Alternative Fuel Production and Supply	Zero- and Near Zero-Carbon Fuel Production and Supply	$10.0 (CTP	$10 (CTP)	$5 (CTP)
Related Needs and Opportunities	Manufacturing	$118.75 (GF)	$125 (GF)	-
Related Needs and Opportunities	Workforce Training and Development	$5.0 (CTP)	$5 (CTP)	$5 (CTP)
	CTP Total	$95.2	**$95.2**	**$47.6**
	General Fund Total	$747.0	**$255.0**	**$125.0**

*Subject to appropriation by the Legislature

Closing Links and Contact

More information:
https://www.energy.ca.gov/programs-and-topics/topics/transportation

Submit e-comments by April 29, 2022 at:
https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=22-ALT-01

Contact:
Patrick.Brecht@energy.ca.gov