

# Universal Dashboard

*CARB Public Work Group Session*

Special thanks to CSE Staff

8/23/2023

Meghna Eluganti, Senior Manager, Transparency & Insights

Kaitlyn Bretz, Manager, Transparency & Insights



Center for  
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# Agenda

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- Introduction and Project Timeline (5 min)
- Review Universal Dashboard - MVP Version (10 min)
- Feedback Session (25 min)
- Next Steps (5 min)

# Workgroup Session Purpose

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For potential dashboard users to provide feedback on their dashboard user experience and the look and function which will help for future dashboard development



# Dashboard Introduction and Timeline

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# Introduction to Universal Dashboard\*

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- **What is a Universal Dashboard\*?**

- An interactive tool that serves as a centralized location for information primarily relating CARB's light-duty ZEV purchase incentive programs
- Includes, but not limited to, CARB's five electric vehicle programs Clean Cars 4 All (CC4A), Clean Vehicle Rebate Project (CVRP), Clean Vehicle Assistance Program (CVA Program), Drive Clean Assistance Program (DCAP) and the Clean Fuel Rewards (CFR) Program

- **Dashboard Goals**

- Unifies and helps with monitoring and comparing quantitative and qualitative key performance metrics (KPIs) across all of CARB's light-duty EV incentive programs
- Using data visualization and equity best practices, the dashboard aims to make complex information easy to comprehend for dashboard users

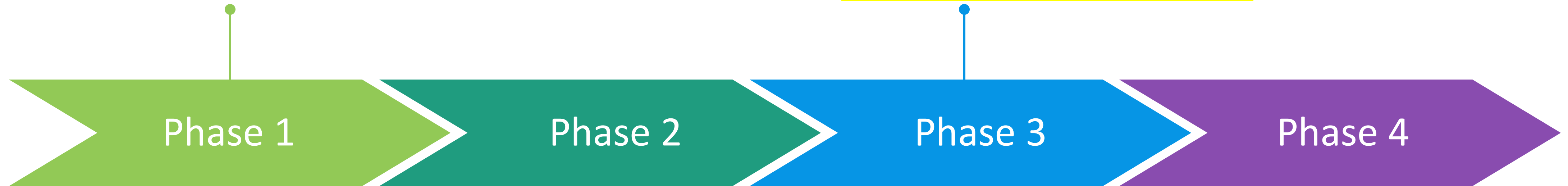
# Universal Dashboard Timeline

## Q1-Q2 2023

- Identify Dashboard Goals ✓✓
- Identify Interested Parties ✓✓
- Conduct KPI Interviews ✓✓
- Gather Data and Create Data Dictionary ✓✓

## Q4 2023

- Create First Edition of Dashboard
- Streamline Data Processing
- Conduct User Acceptance Testing
- Launch First Edition of Dashboard



## Q2-Q3 2023

- Identify and Analyze KPI trends ✓✓
- Create Initial Dashboard Wireframe ✓✓
- Develop Dashboard MVP Version ✓✓
- Conduct Feedback Interviews (in progress)
- Build Dashboard Website (in progress)
- Gather Additional Data Sources (in progress)

## 2024

- Updates & Refinements
- Training Sessions
- Usage Monitoring

✓ completed tasks

# Dashboard MVP

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- **What is in the MVP version of the dashboard?**
  - The minimum viable product (MVP) is the initial version of the dashboard that includes interactive features for users to customize their view of CARB's EV incentive program's data
  - The MVP includes data on:
    - Application volume
    - Allocated funds
    - Incentive volume by geographic location
    - Program applicant and household demographics
    - Make, model, and type of EVs rebated

# MVP Development Process

## Define Dashboard Scope

- Define goals and scope ✓
- Define limitations ✓

## Analyze KPI Trends

- Interpret KPI categories ✓
- Analyze KPI trends ✓

## Map KPIs to available data across programs

- Identify gaps in program data ✓



## Interview Interested Parties

- Identify interested parties ✓
- Conduct interviews to identify KPIs ✓
- Clean program data ✓

## Gather Program Data

- Review available data across all programs ✓
- Clean program data ✓
- Build initial wireframe with KPIs ✓

## Build Dashboard MVP Version

- Create an early version of the dashboard based on KPIs identified and data gathered ✓



# Top 5 KPIs

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1. **Consumer Demographics:** DAC Status, Household Income, Race, Ethnicity
2. **Geography:** DAC, LIC, County
3. **Incentive Program:** Program Information, Eligibility Requirements
4. **Vehicle Characteristics:** Incentivized Vehicle Make/Model/Technology Type
5. **EV Adoption:** Number of EVs Rebated, Number of EVs Registered

# Preview Dashboard Visuals

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# Questions to Consider

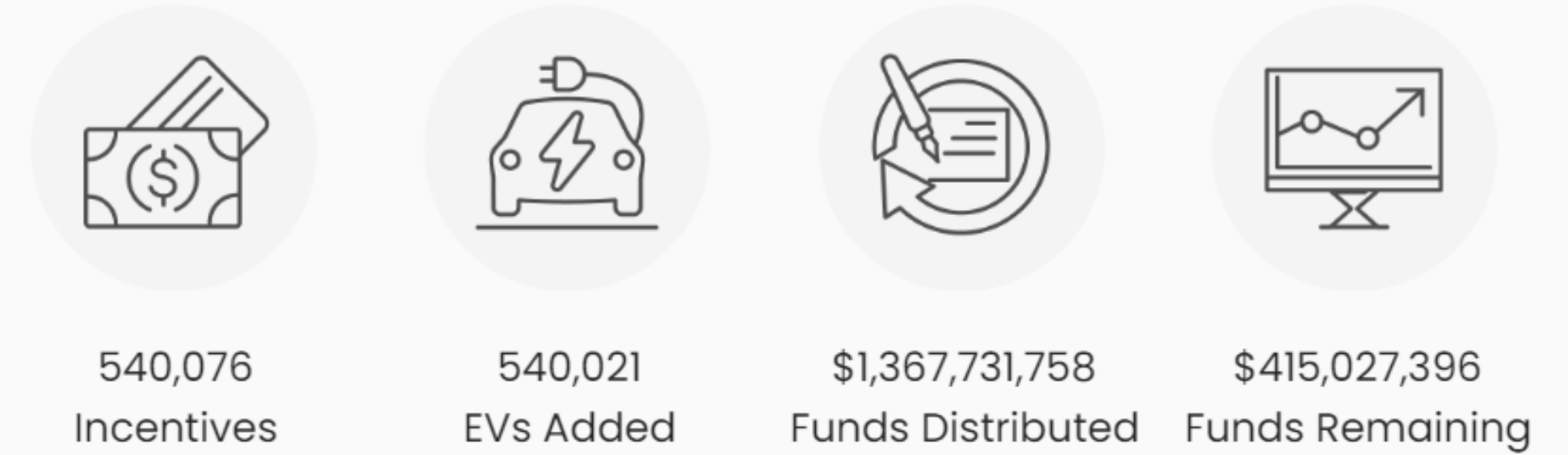
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- What about the interface has been most useful? What about the interface has been least useful?
  - Do the navigation, information, filter, and download buttons/icons make sense?
  - Is the hover text informative and easy to understand?
  - What was your favorite visualization? Your least favorite?
- What else do you think should be included?

# Dashboard Preview

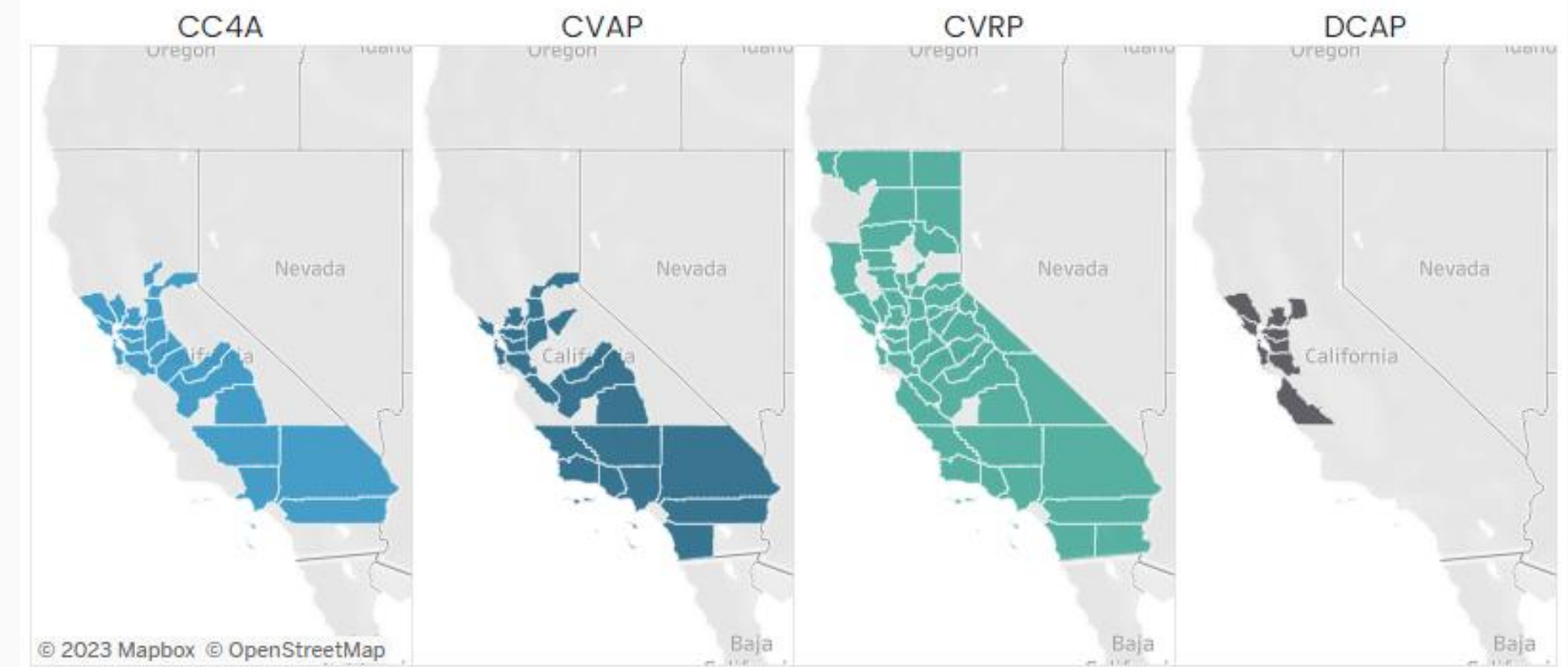
The dashboard includes 5 tabs

1. Overview
2. Programs
3. Vehicles
4. Applicants
  1. Demographics
  2. Household Information
  3. Geographies
5. Resources

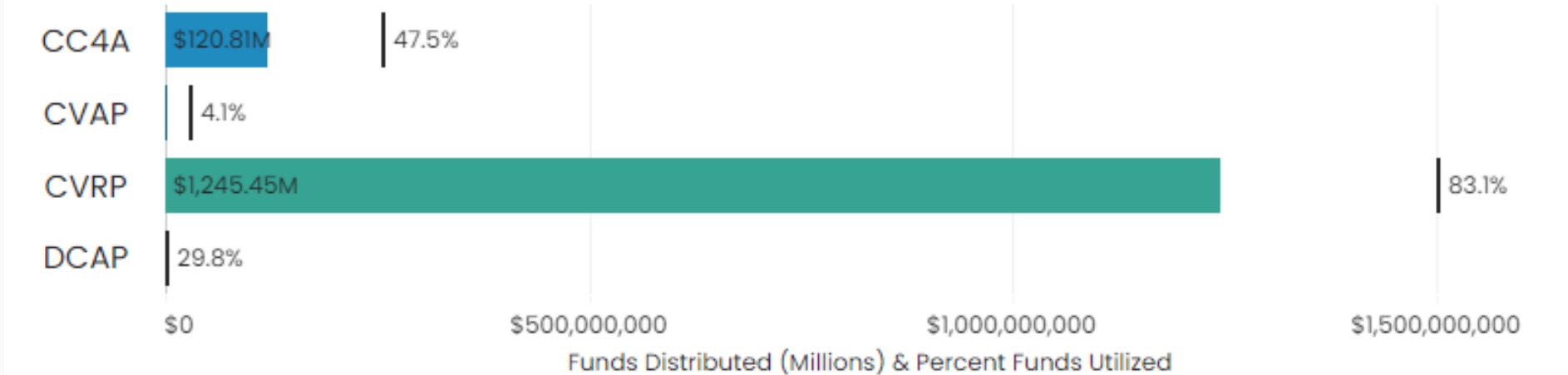


## Where is Each Program?

Hover over each county to see how many applications each program has approved

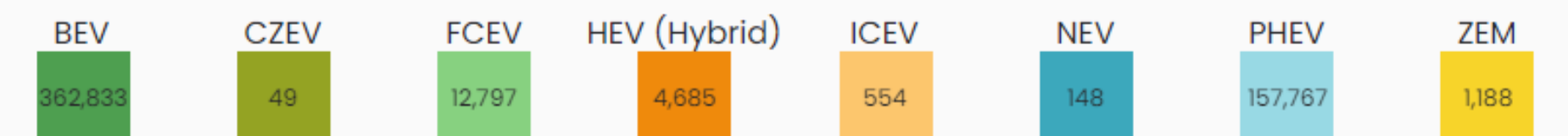


## Total Funds Distributed by Program



## Total Incentives by Vehicle Type

Note that the Mobility Option incentive offered by CVAP is removed since it allows applicants to go "car free". Internal combustion engine vehicles (ICEVs) are included since they are offered by some CC4A programs.



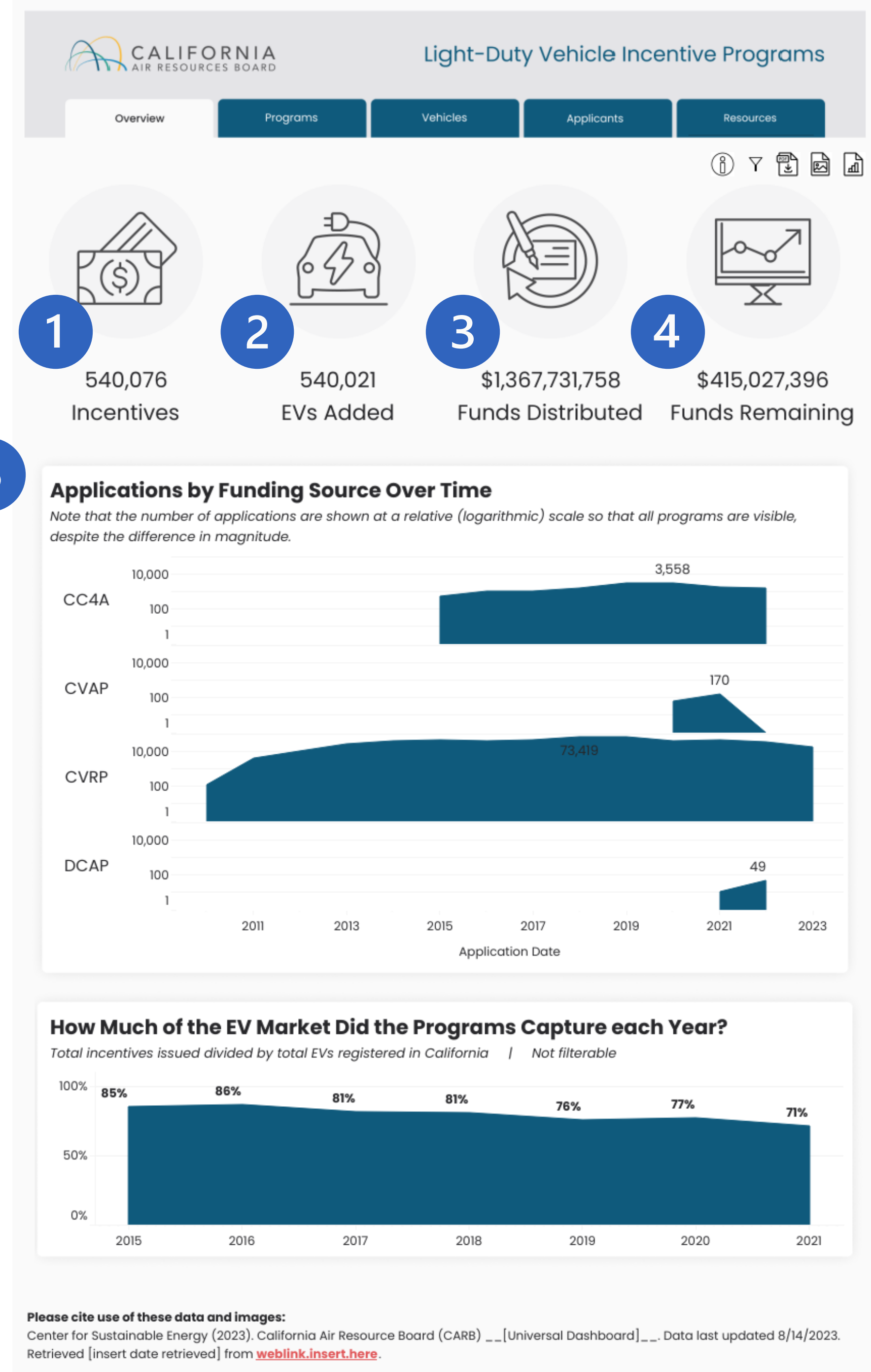
# Dashboard Preview – Overview Tab

## Purpose

Provides quick summary of CARB EV incentive program impact and remaining funds

## Prioritized KPIs

- 1 Total Incentives
- 2 Total EVs Added
- 3 Total Funds Distributed
- 4 Total Funds Remaining
- 5 Approved Applications by Program



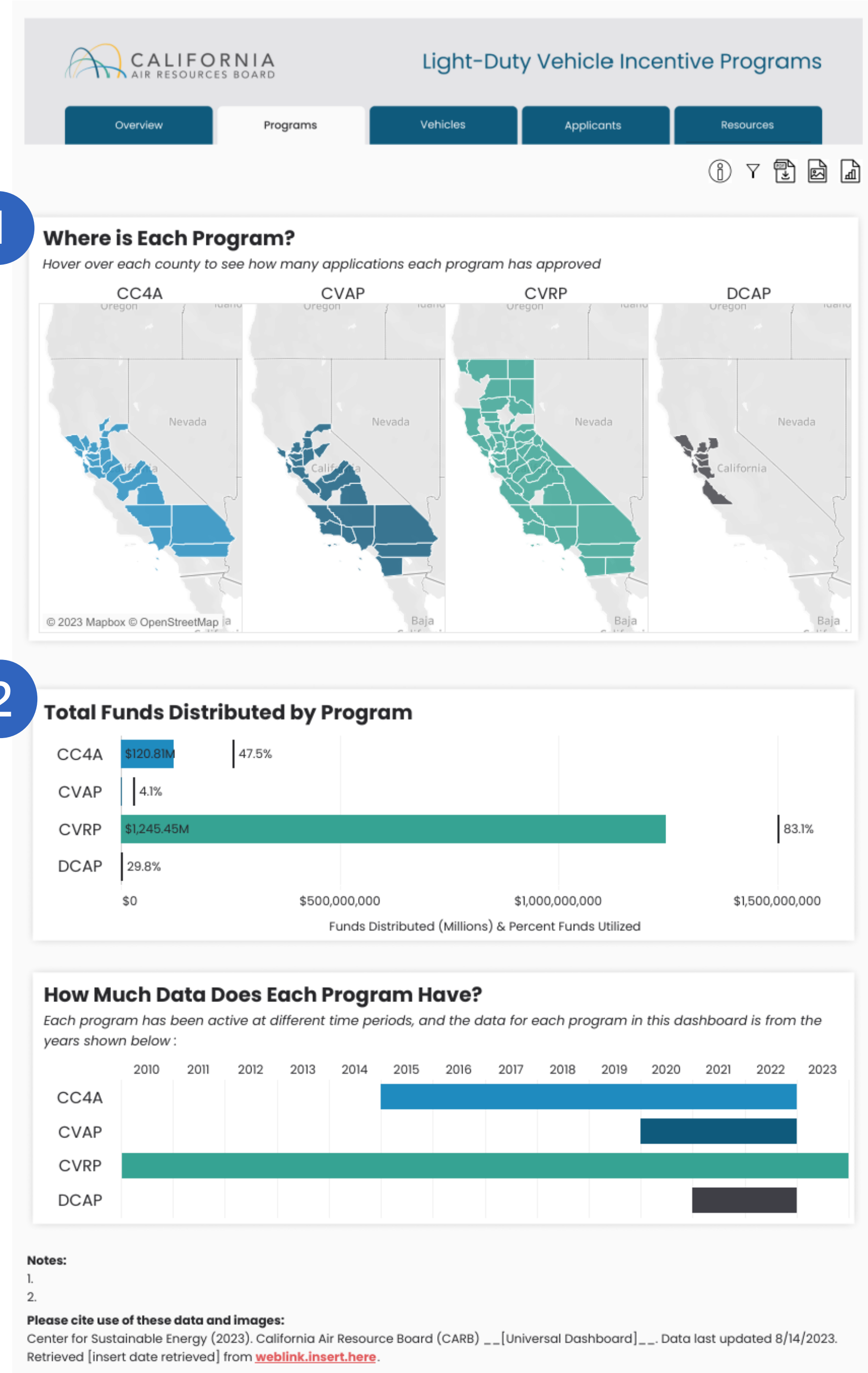
# Dashboard Preview – Programs Tab

## Purpose

Provides contextual information about each program

## Prioritized KPIs

- 1 Location eligibility of each program
- 2 Number of funds distributed



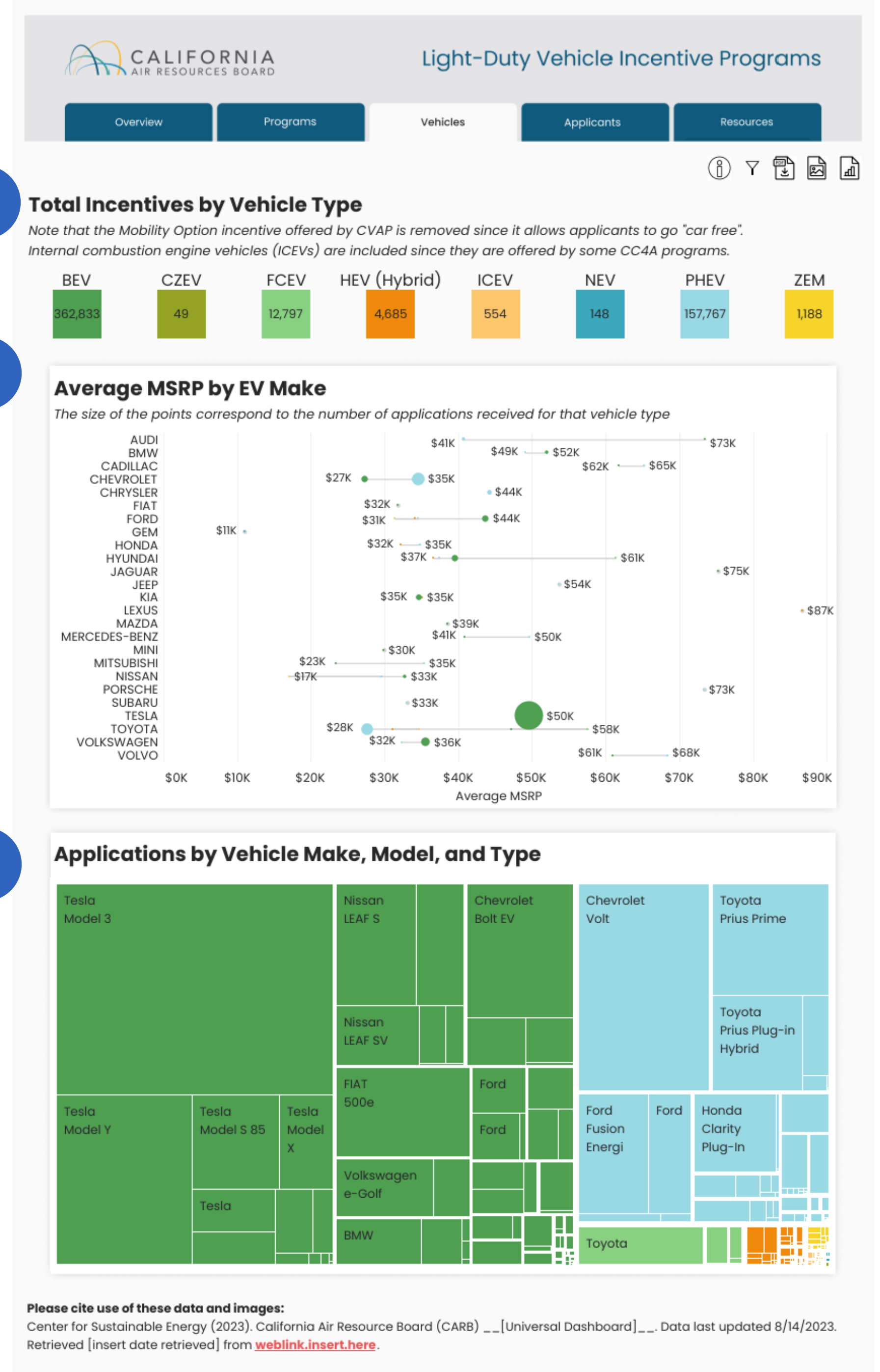
# Dashboard Preview – Vehicles Tab

## Purpose

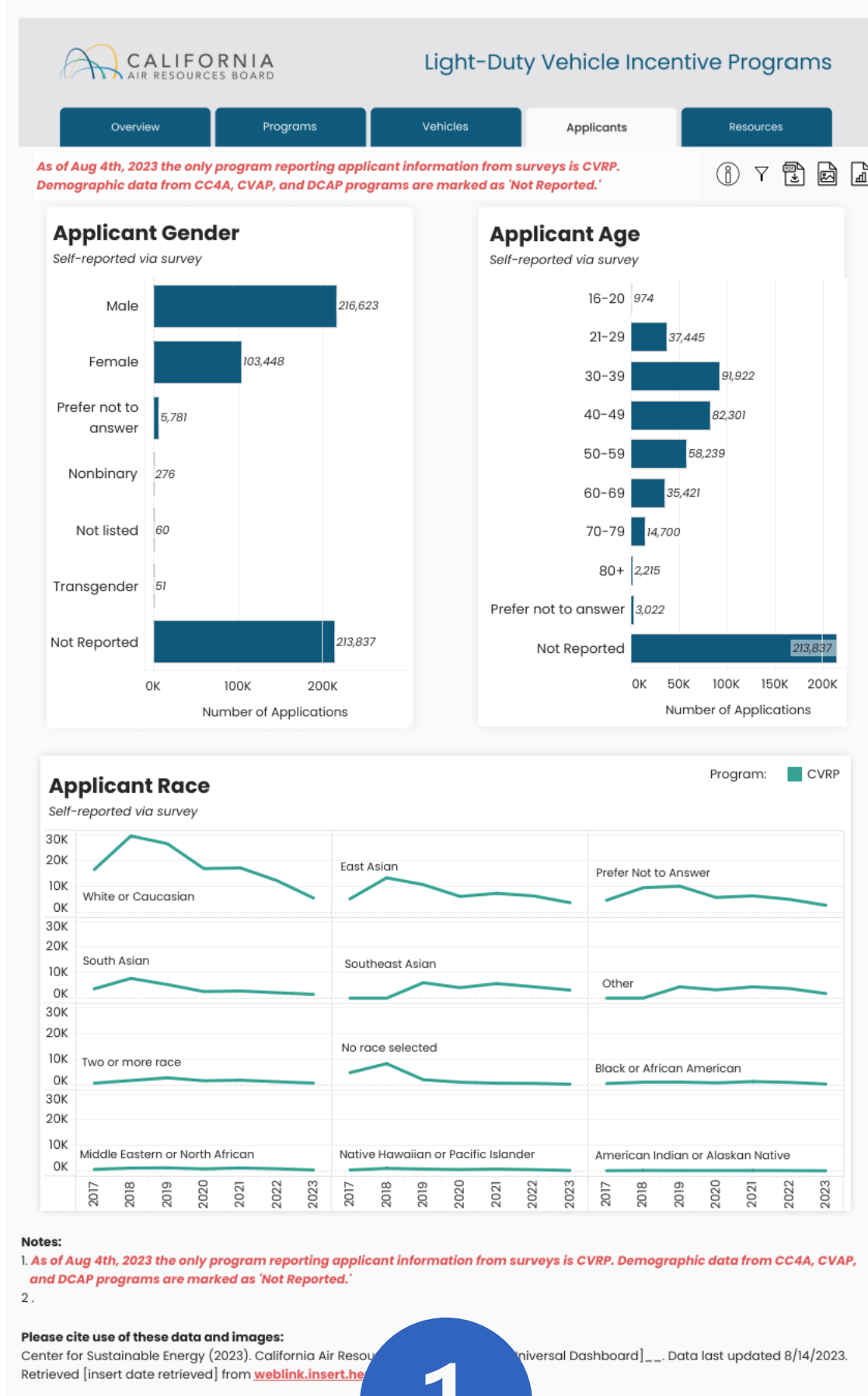
Provides an overview on vehicle composition in all programs

## Prioritized KPIs

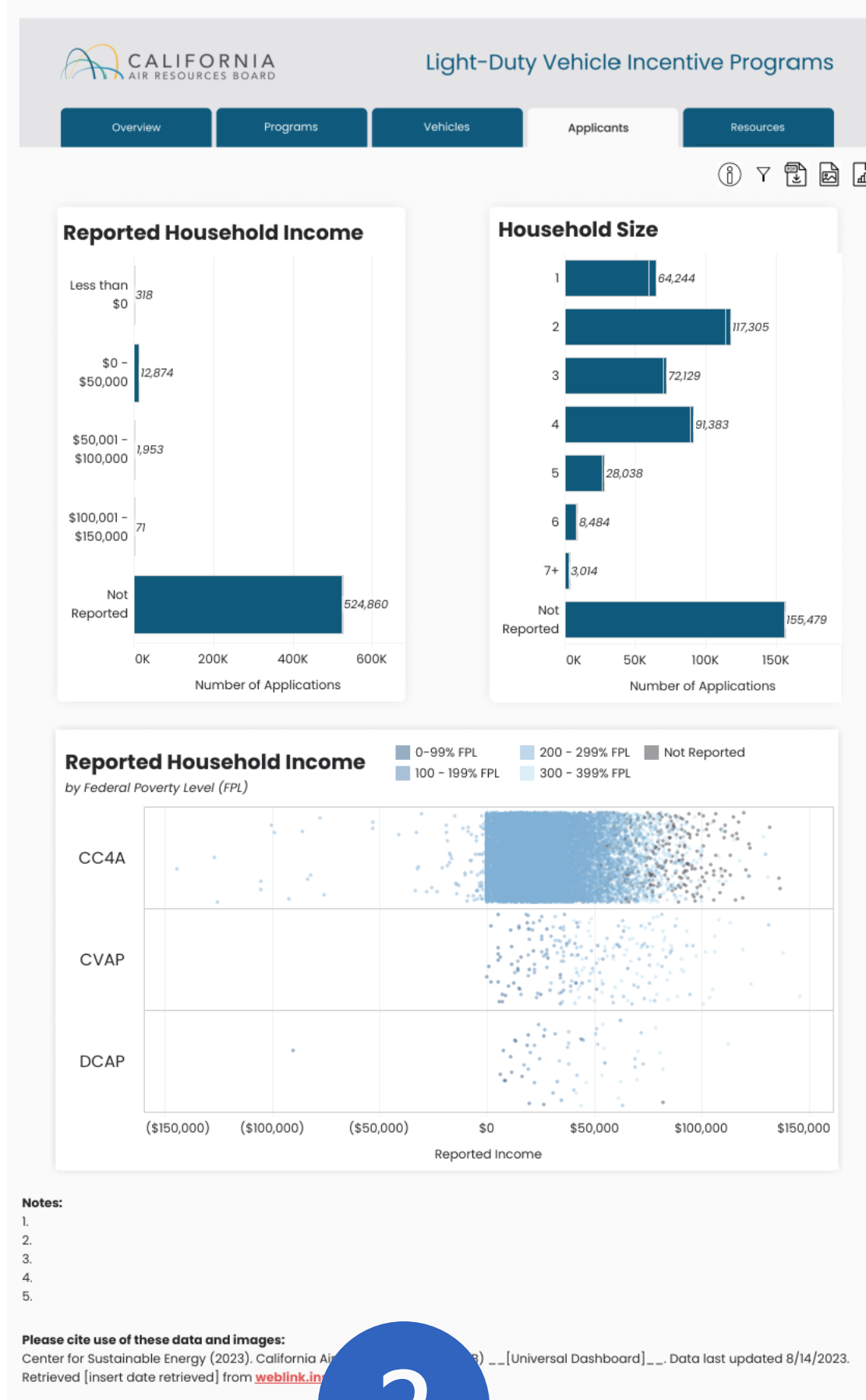
- 1 Total Rebates by Vehicle Type
- 2 Descriptive data, including:
  - Vehicle MSRP by Vehicle Type
  - Vehicle Model Years
- 3 Most popular Vehicle Make, Model and Type



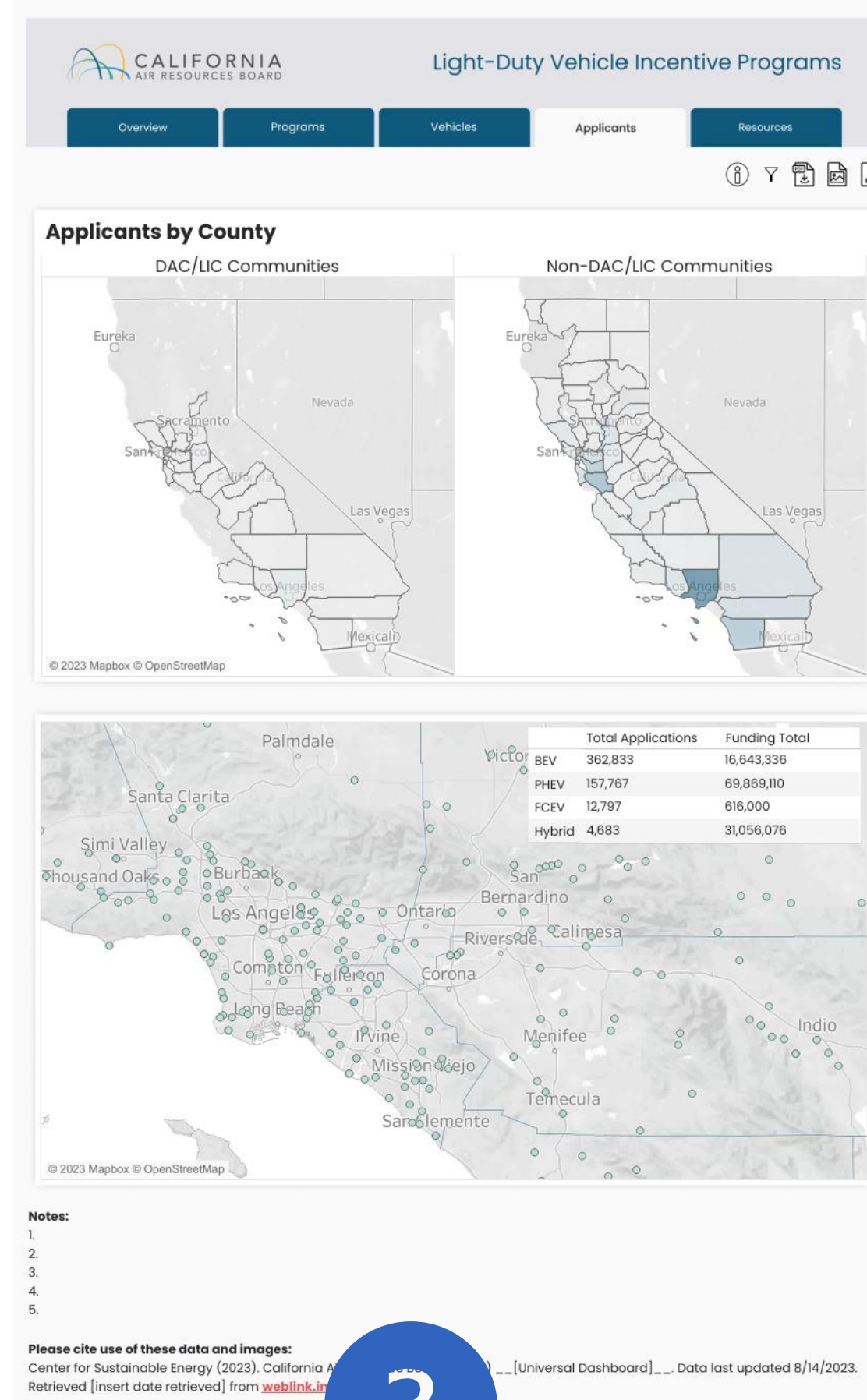
# Dashboard Preview – Applicants Tab



1



2



3

## Purpose

Provides an overview on program applicant information

## Sub Tabs

- 1 Demographics
- 2 Household Information
- 3 Geographies



# Dashboard Preview – Resources Tab

## Purpose

Provides program descriptions, important assumptions and external links to program websites

## Prioritized KPIs

- Program Information
- Program Eligibility Criteria
  - Income Eligibility
  - Eligible Vehicles



**CALIFORNIA AIR RESOURCES BOARD** Light-Duty Vehicle Incentive Programs

Overview Programs Vehicles Applicants Resources

**[1] Clean Vehicle Rebate Project (CVRP)** promotes eco-friendly vehicle use through rebates. Key goals of the program include:

- Incentives for Clean Vehicles: CVRP offers financial incentives ranging from several hundred dollars to thousands of dollars, depending on the type of vehicle and the applicant's eligibility. These rebates help make clean vehicles more affordable and accessible to a broader range of consumers.
- Different Vehicle Types: CVRP supports a variety of clean vehicles, including battery-electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), and fuel-cell electric vehicles (FCEVs). This diverse offering ensures that individuals can choose the clean vehicle that best suits their needs and preferences.
- Income-Based Rebates: CVRP provides additional benefits to lower-income consumers, recognizing that financial assistance is crucial for promoting clean vehicle adoption among disadvantaged communities. Lower-income individuals and households may be eligible for higher rebates.
- Environmentally-Friendly Impact: By encouraging the use of clean vehicles, CVRP plays a significant role in reducing greenhouse gas emissions, combating climate change, and improving local air quality.

If funds are not available at the time of your application, you may still apply and be placed on a rebate waitlist.

For specifics, refer to the CVRP [Income Eligibility](#), [Eligible Vehicles](#), and [FAQ pages](#) respectively.

**[2] Driving Clean Assistance Program (DCAP)** are for the Residents of Sacramento, Yolo, Santa Cruz, and Bay Area counties, and certain California Native American tribes can get help buying or leasing a new or used electric vehicle, including up to \$7,500 off, a loan with affordable interest rates, and money for home or public charging. To be eligible for this program, applicants must live within a tribal region or disadvantaged community (DAC). For specifics, refer to the [Income Eligibility and Requirements](#)

**[3] Clean Vehicle Assistance Program (CVAP)** is an initiative that aims to support and incentivize the transition to low-emission and electric vehicles for individuals and families with limited financial means. By offering financial assistance and various incentives, CVAP seeks to reduce greenhouse gas emissions and improve air quality while making clean transportation accessible to a broader range of people. This program is currently closed.

Several significant changes have been introduced since its inception to enhance the program's impact and reach:

- Increased Financial Assistance: Recognizing the importance of making clean vehicles affordable for all, the program has received additional funding, enabling an increase in the financial assistance provided to eligible applicants.
- Expanded Eligibility Criteria: To reach a more diverse audience and address the transportation needs of various communities, the program's eligibility criteria have been broadened.
- Collaborative Partnerships: The Clean Vehicle Assistance Program has forged new partnerships with local dealerships, manufacturers, and charging infrastructure providers.
- Outreach and Education: Recognizing the importance of raising awareness and educating the public about the benefits of clean vehicles, the program has invested in outreach campaigns and educational workshops.
- Pilot Programs for Emerging Technologies: In keeping with the commitment to staying at the forefront of sustainable transportation, CVAP has launched pilot initiatives for emerging clean vehicle technologies. This includes exploring the feasibility ..

**[4] Clean Cars 4 All (CC4A) program** currently operates in five air districts (Bay Area, San Diego, South Coast, San Joaquin, and Sacramento). CC4A aims to focus the benefits of the program on low-income and disadvantaged communities and has a heavy emphasis on consumer protections, education of new technologies, and coordination with other clean transportation programs. More detailed information can be found on the [Clean Cars 4 All \(CC4A\) Statewide Expansion](#)

**[5] California Clean Fuel Rewards (CFR)** program is an initiative aimed at promoting the adoption of [clean vehicles](#) across the state. Through this program, California residents can earn rewards for driving electric and plug-in hybrid vehicles, reducing their carbon footprint, and contributing to cleaner air and a sustainable future. By participating CFR, eligible vehicle owners can earn rewards points for each mile driven using clean fuels. These points can then be redeemed for various benefits, such as discounts on charging services, maintenance, and even cash-back offers at partnering retailers. The program not only encourages the use of clean fuels but also supports the growth of the electric vehicle charging infrastructure. CFR is currently out of funds; for more information, refer to [Clean Fuel Reward](#)

\*CFR is currently not included in the dashboard due to limited access to program data

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**Please cite use of these data and images:**  
Center for Sustainable Energy (2023). California Air Resource Board (CARB) \_\_[Universal Dashboard]\_\_\_. Data last updated 8/14/2023. Retrieved [insert date retrieved] from [weblink.insert.here](#).

# Dashboard Preview

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Please note that the dashboard is still under development and minor adjustments may be made that differ from the screenshots shared previously

Open for feedback and  
comments

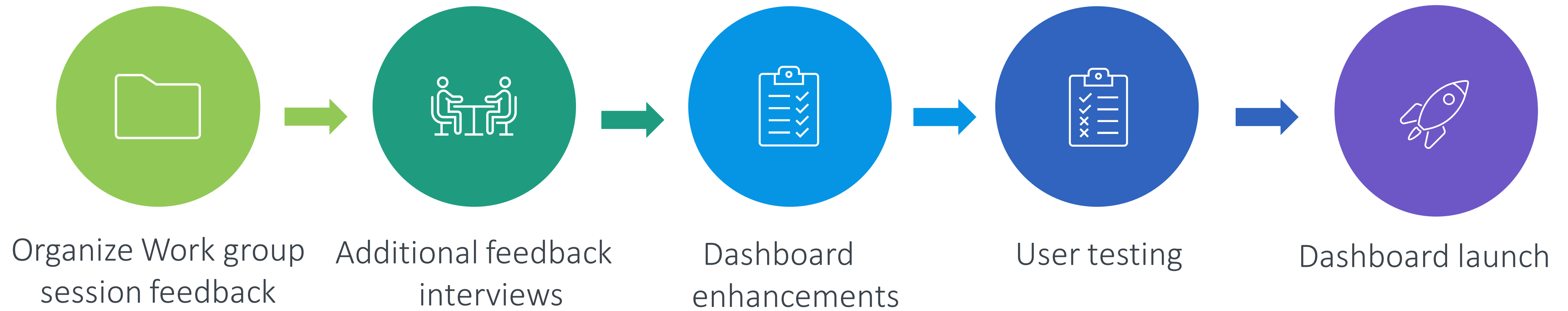
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# Next Steps



# Meghna Eluganti

Meghna.eluganti@energycenter.org

EnergyCenter.org



## HEADQUARTERS

3980 Sherman Street  
Suite 170  
San Diego, CA 92110



## TELEPHONE

858-244-1177

# Reference Slides

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# Interview List

- A total of 64 interviews were conducted to identify KPIs

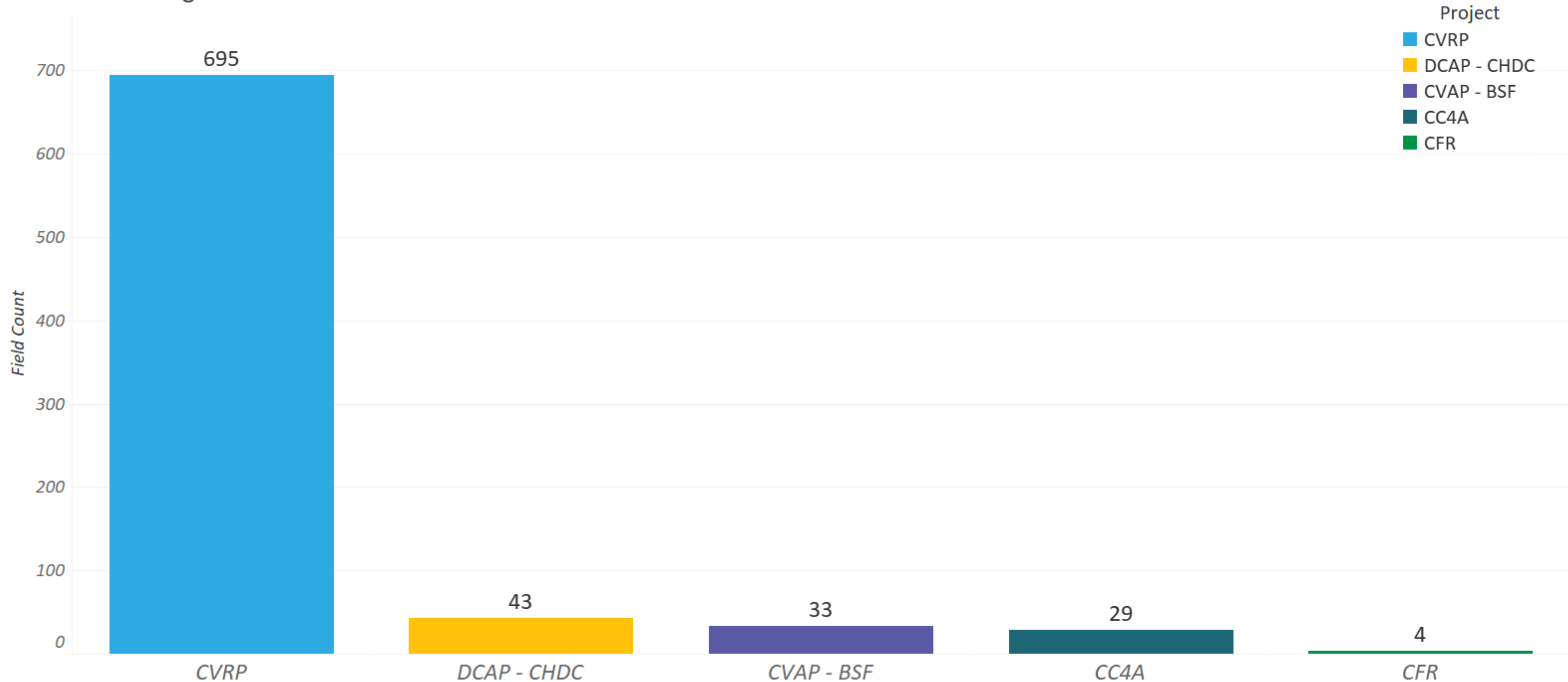
Primary Groups	Interviews Conducted
Administrators	5
CARB	11
CSE	12
CBOs	12
Legislative Staff	3
Local Govt.	6
NGOs	2

Other Groups	Interviews Conducted
Dealership (CA New Dealers Association)	1
EV advocates	1
EV Charging Companies	4
Manufacturers	2
Media	1
Researchers	3
Utilities Companies	1



## A vast majority of KPI designations come from CVRP data, and this is expected since the CVRP data collected comes from 12 Salesforce tables

KPI designation counts include duplicate fields to account for those which fall into multiple categories, and KPI designations are limited to three per field. CVRP counts may also be artificially inflated due to fields referenced in multiple tables. Regardless of these multiple references, CVRP still holds the largest amount of relevant fields.



<u>Parent KPI</u>	<u>Child KPI</u>	<u>Number of mentioned interviews</u>	<u>Data Coverage</u>	<u>CVRP</u>	<u>DCAP</u>	<u>CVAP</u>	<u>CC4A</u>	<u>CFR</u>
Geography	DAC (Disadvantaged Community)	13	4	1	1	1	1	
Characteristics of EV	Vehicle Technology	11	5	1	1	1	1	1
Characteristics of EV	Vehicle Make	10	4	1	1	1	1	
Characteristics of EV	Vehicle Model	9	4	1	1	1	1	
Customer Demographics	Income	9	3	1	1	1	1	
Funding	Program Spending	9	0					
GHG	Avoided Emissions	9	0					
Incentives Program	Program Eligibility	9	0					
Characteristics of EV	Purchase Price (MSRP)	8	3	1	1	1		
Funding	Funds Available	8	2		1	1		
Geography	LIC (Low-income Community)	8	4	1	1	1	1	
Rebate	Rebate Level	8	4	1	1	1	1	
Dealership	MSRP	6	3	1	1	1		
Outreach Partners	CBO Activity	6	0					
Application Process	Application Timeline	5	3	1	1	1		
Characteristics of EV	New vs. Used	5	0					
Customer Demographics	DAC Status	5	3	1	1	1	1	
Dealership	Dealership Location	5	1	1				
Dealership	Stock of EVs	5	0					
EV Adoption	Total EVs from Program	5	1				1	
EV Adoption	Total EVs Registered	5	0					
Geography	County	5	4	1	1	1	1	
Geography	Zip Code	5	4	1	1	1	1	
GHG	Air Quality Data	5	0					
Incentives Program	Count of Participants per Program	5	5	1	1	1	1	1

## Most data fields fall into these five KPI categories: Customer Demographics, Dealership, Geography, Application Process, and Characteristics of EV

It is worthy to note that there are three KPI categories missing from the dataset: Updates, GHG, and EV Adoption. Updates and EV Adoption can most likely be fleshed out through reassigning fields in the Application Process and Characteristics of EV KPI designations, but we are still missing fields under GHG; assigning GHG designations will require a review of all current fields, but it is still possible that this metric is not represented in any dataset.

