



**Bay Area Air Quality Management District
Mobile Source Committee**

September 25, 2014

**Projects with Proposed Awards over \$100,000 &
Transportation Fund for Clean Air (TFCA)
Waiver Requests**

**Damian Breen
Deputy Air Pollution Control Officer**

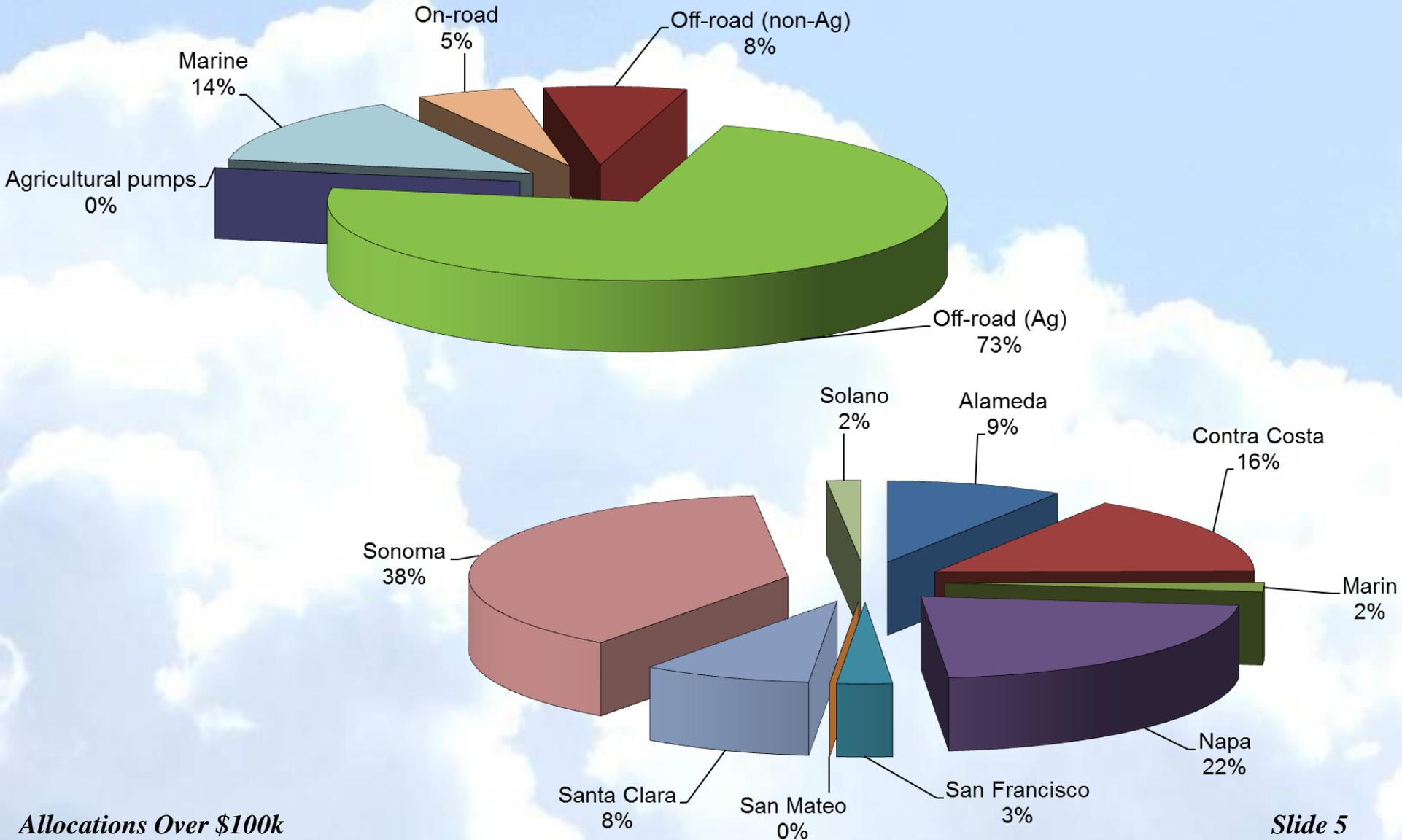
- Background
- Proposed Projects with Awards Over \$100,000
- Proposed TFCA waivers
- Recommendations

- **Carl Moyer Program (CMP)**
 - Created in 1998 to reduce emissions from heavy-duty engines
 - Voluntary program that funds surplus emission reductions
- **Mobile Source Incentive Fund (MSIF)**
 - AB 923 allowed for additional \$2 motor vehicle registration fee surcharge (12/04)
 - CMP and LESBP projects eligible for MSIF funding
- **Transportation Fund for Clean Air (TFCA)**
 - Funding provided by a \$4 surcharge on motor vehicles
 - Statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242

- **On 2/19/14 District Board of Directors:**
 - Approved participation in CMP Year 16
 - Authorized Executive Officer/APCO to execute contracts and amendments with grant awards up to \$100,000
- **CMP Project Recommendations over \$100k**
 - 5 Projects to reduce emissions from: 7 tractors, 2 marine engines, and 3 loaders
 - \$998,145 in total awards
 - Emission reductions: Over 8.3 Tons Per Year (TPY) of criteria pollutants

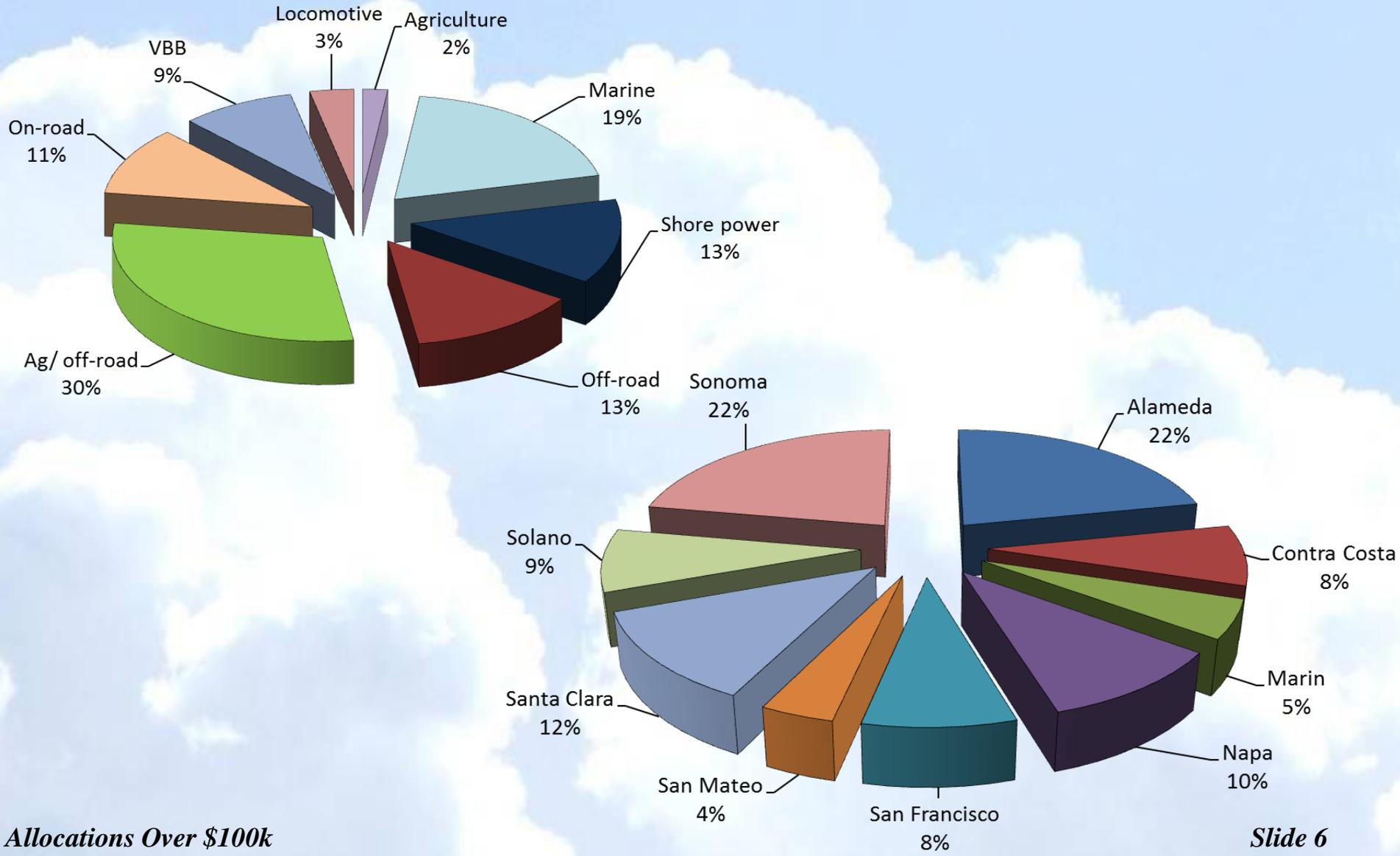
CMP/ MSIF and VIP Funds

Awarded as of 9/8/14



CMP/ MSIF and VIP Funds

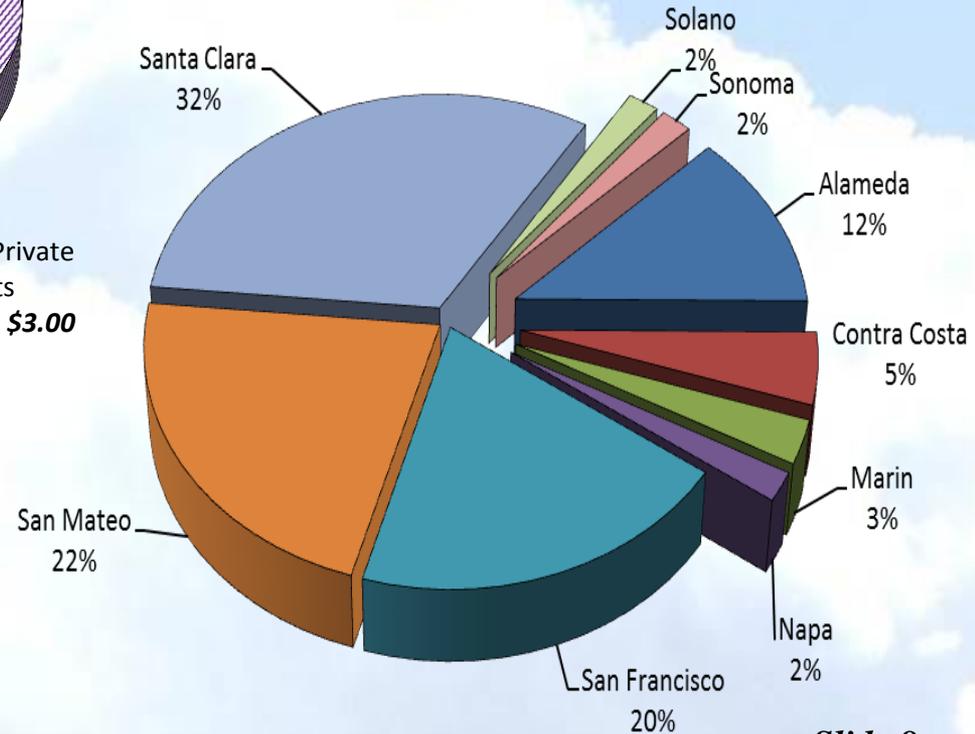
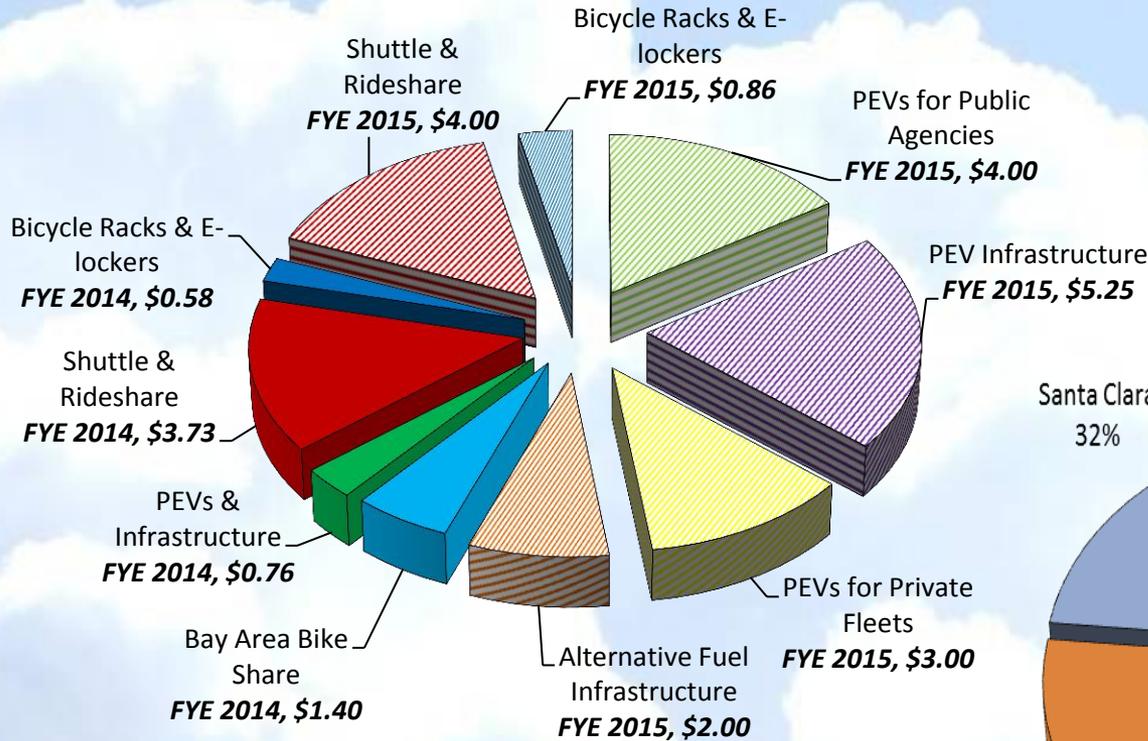
Awarded CMP Years 11-16



- **On 6/5/13 District Board of Directors:**
 - Authorized funding for eligible Air District-led and Regional Fund project categories
 - Authorized Executive Officer/APCO to execute contracts and amendments with grant awards up to \$100,000
- **TFCA Project Recommendations over \$100k**
 - 3 Projects to install 8 DC fast-chargers and 12 Level-2 chargers
 - \$578,396 in total awards
 - Emission reductions: Over 0.16 (TPY) of criteria pollutants

TFCA Funds

Available and Awarded (by County)
as of 9/8/14



TFCA CPM Waivers

- TFCA County Program Manager (CPM) Fund Policy #3 allows CPMs to seek approval on a case-by-case basis for projects that do not meet all of the Board adopted policies.
- Four CPM projects requesting waivers:
 - Three FYE 2015 TFCA CPM Policy waivers for bicycle sharing projects:
 - Santa Clara Valley Transportation Authority (1 project), and
 - Alameda County Transportation Commission (2 projects)
 - One FYE 2014 TFCA CPM Policy waiver for Alameda County Transportation Commission shuttle project

Recommendations

Request the Committee recommend the Board of Directors:

1. Approve CMP and TFCA projects with proposed grant awards over \$100,000.
2. Authorize the Executive Officer/APCO to enter into agreements for the recommended projects.
3. Approve policy waivers to allow:
 - Santa Clara Valley Transportation Authority and Alameda County Transportation Commission to use FYE 2015 TFCA County Program Manager (CPM) Funds for bicycle sharing projects, and
 - Alameda County Transportation Commission to use FYE 2014 TFCA CPM Funds to fund a shuttle project for the second year at a cost-effectiveness that aligns with the TFCA Regional Fund.

Hydrogen FCEVs in the Bay Area

Briefing: BAAQMD Mobile Source Committee

September 25, 2014





Governor Brown's Exec Order (2012)

2013

ZEV Action Plan

A roadmap toward 1.5 million zero-emission vehicles on California roadways by 2025



Governor's Interagency Working Group on
Zero-emission Vehicles
Governor Edmund G. Brown Jr.
February 2013

- * Directed California to work towards :
 - * 1 million ZEVs by 2020
 - * 1.5 million ZEVs by 2025
 - * Transport related GHG's 80% below 1990 by 2050

- * 100,000 ZEV sold in CA in September 2014!

Why FCEVs and H₂?



- * FCEVs are electric vehicles
- * 250-400 mile driving range
- * 3-5 minute fueling
- * Zero tailpipe emissions
- * GHGs reduced at least 50%
- * Renewable and zero-carbon pathways
- * Scalable to large vehicles



The Bay Area is Crucial

- * The rest of the world is watching California very closely
- * Success is defined at the local level:
 - * Permitting
 - * Education
 - * Consumer adoption (*much of the success of the Prius can be attributed to the Bay Area*).
- * The momentum is real – but - we need help sustaining and building it.

Driving change

- Achieve health-based ambient air quality standards for ozone
- Reduce GHGs 80% by 2050
- Transportation is biggest emitter
- For light-duty vehicles: hybridization and electrification (batteries and fuel cells)
- For heavy-duty vehicles: ultralow NOx, hybrids, and electrification (batteries and fuel cells)



FCEV market launch: 2014-2015



Fuel cell buses in service

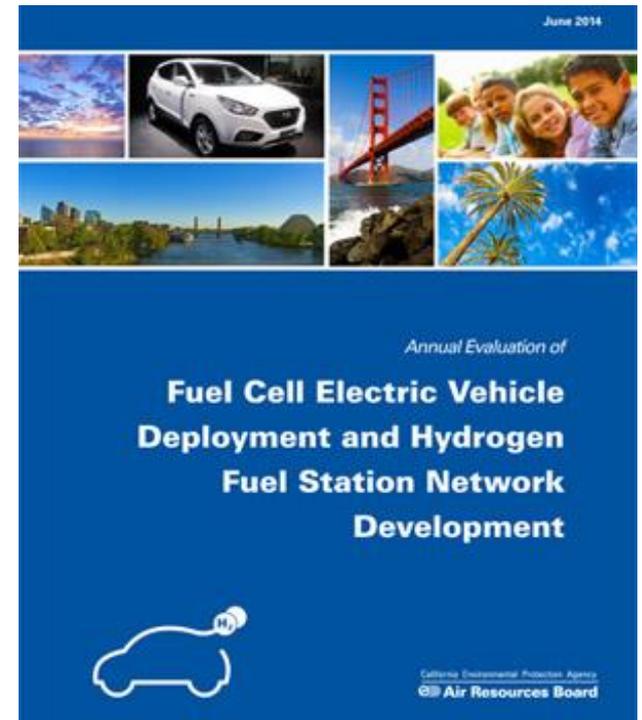
- 16 fuel cell buses
- > 1.5 M miles in service
- > 2.5 M passengers
- FCEB roadmap
 - 40 bus fleets
 - 12-year operation
 - <\$1M per bus



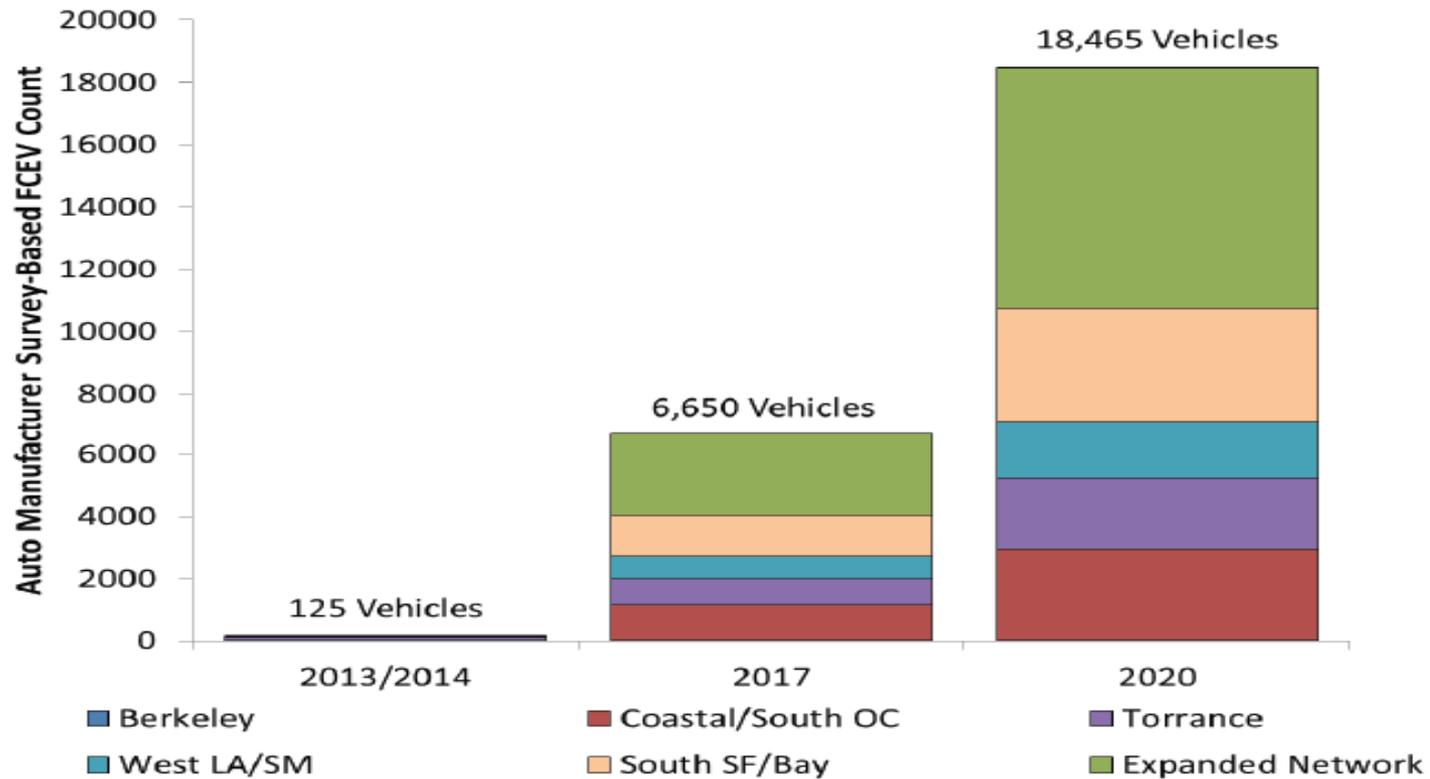
Current Status: June 2014 AB 8 report

Major findings:

- * FCEV fleet poised to grow rapidly
- * Funding supports early launch and market growth
- * Innovative funding draws investors
- * 5 clusters need additional development (esp. Berkeley)
- * Continued incentives essential to early market success
- * Station performance testing & validation needed for retail market



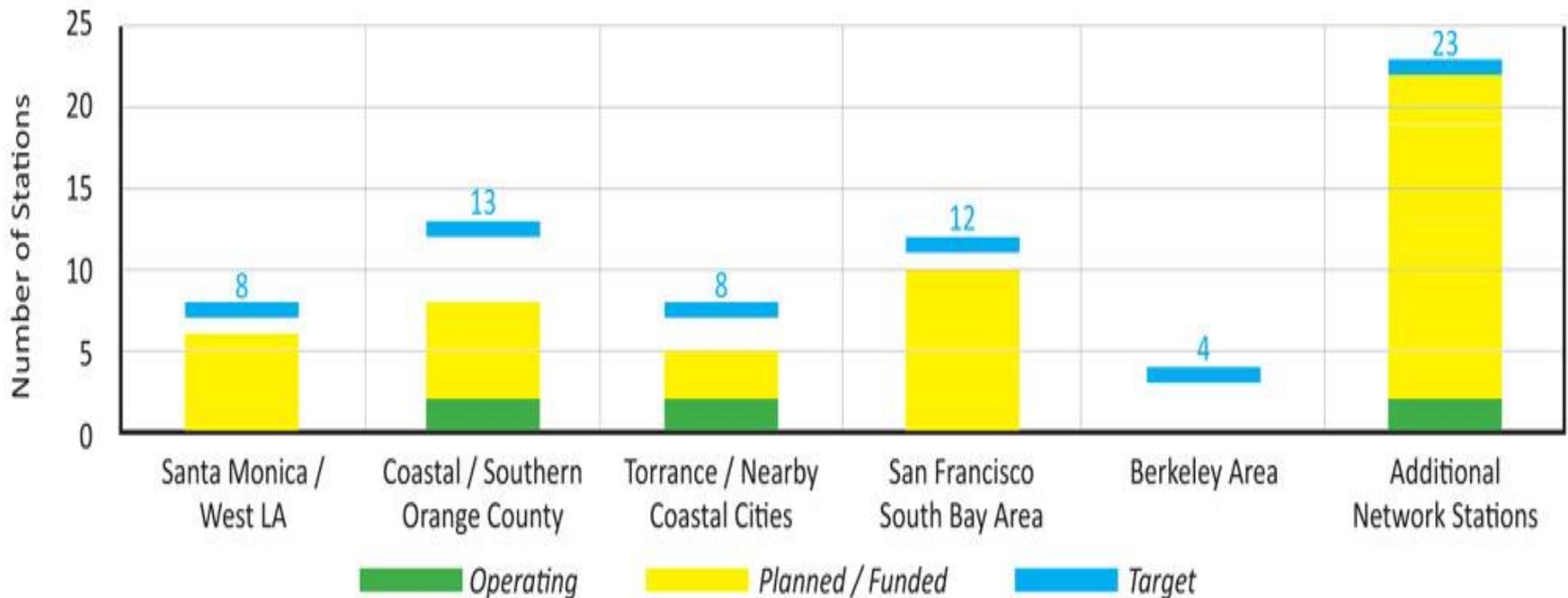
Projected FCEV growth



Progress to plan

Hydrogen Station Network

Current Progress to Plan (By Cluster)





Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) AB 118

Up to \$150 Million in Annual State Funding

- * California Energy Commission receives \$100 million/year to implement the ARFVT Program: fuel production, infrastructure, trucks
- * CARB receives \$50 million/year for *Enhanced Fleet Modernization and Air Quality Improvement*: light duty vehicles, buses, trucks



ARFVTP Funding Summary: 2009-2014

Investment Areas	Funding Amount (\$ millions)	Percent of Total (%)	Number of Awards
Biofuels	154.8	29	55
Electric Drive	163.2	30	128
Natural Gas and Propane	86.2	16	184
Hydrogen	93.4	17	25
Workforce Development	25.2	5	55
Market and Program Development	14.1	3	15
Total	536.9	100	462



**2009 Funding Op:
PON-09-608**

\$15.1M total funding
10 stations (incl. 2
upgrades)

**2012 Funding Op:
PON-12-606**

\$12 M total funding
7 stations

**2013 Funding Op:
PON-13-607**

\$46.6 M total funding
28 stations plus 1 mobile
refueler plus partial O&M
funding support

May 2014

Northern CA Hydrogen Stations

● Open

Emeryville – AC Transit

● In Development

Cupertino
Foster City
Mountain View
*West Sacramento

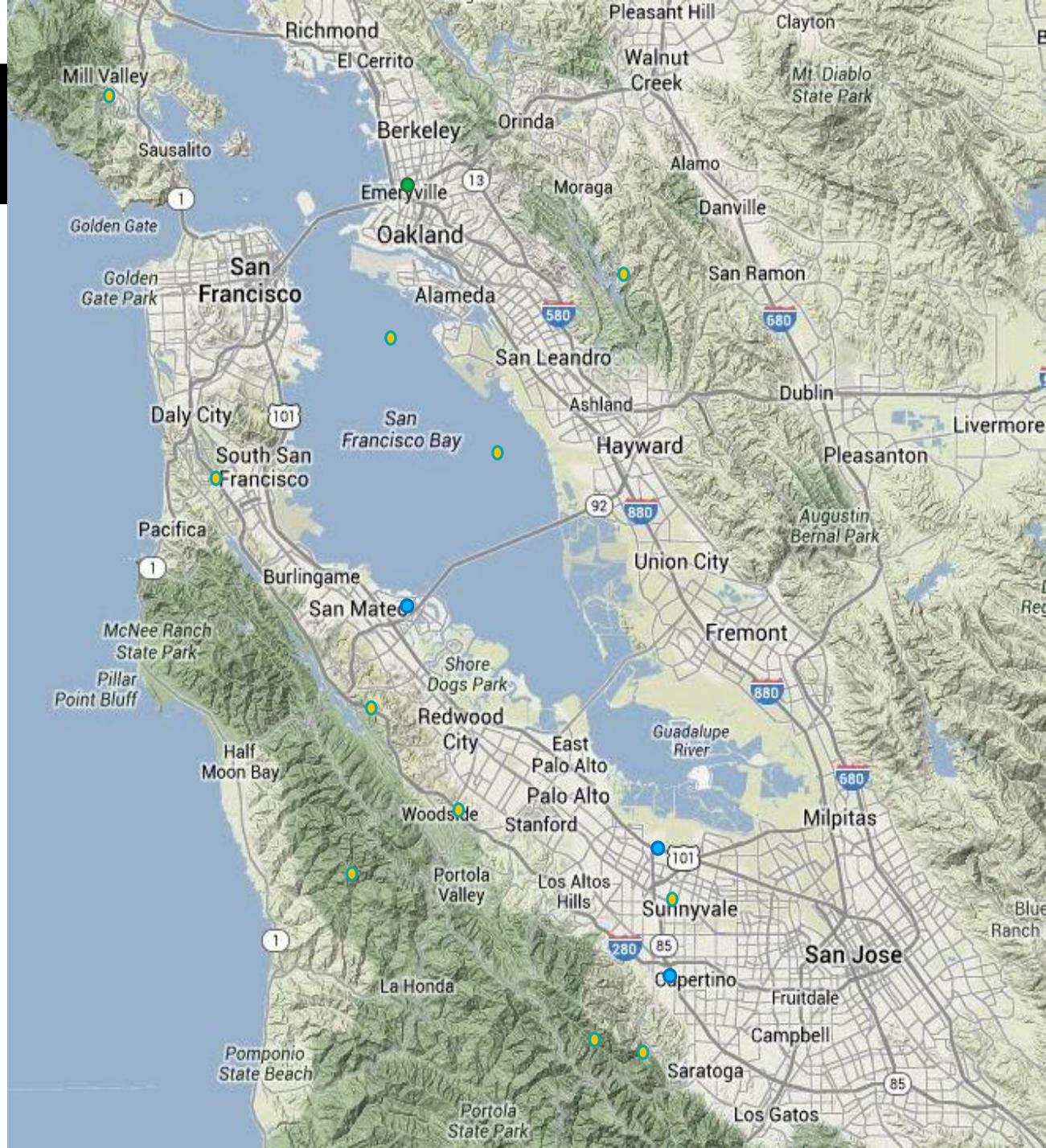
● Announced

Campbell
Hayward
Mill Valley
Oakland
Palo Alto
Redwood City
*Rohnert Park
San Jose
San Ramon
Saratoga
South San Francisco
*Truckee
Woodside

*Not shown on map



Managed by BKi





2012

2014

Location	Cap-X Funding	O&M Funding
Mountain View, 830 Leong Dr.	\$1,500,000	\$300,000
Foster City, 390 Foster City Blvd.	\$1,500,000	\$300,000
Cupertino, 21530 Stevens Creek Blvd.	\$1,500,000	\$300,000
Campbell, Winchester Ave.	\$1,451,000	\$300,000
Hayward, West A St.	\$1,451,000	\$300,000
Mill Valley, Redwood Hwy.	\$1,451,000	\$300,000
Oakland, Langley St.	\$2,125,000	\$300,000
Redwood City, Veterans Blvd.	\$1,451,000	\$300,000
Rohnert Park, Redwood Dr.	\$1,768,938	\$300,000
Palo Alto, El Camino Real	\$2,125,000	\$300,000
San Jose, North First Street	\$1,451,000	\$300,000
Saratoga, Saratoga Avenue	\$1,451,000	\$300,000
South San Francisco, South Airport Blvd.	\$1,451,000	\$300,000
Woodside, Skyline Blvd.	\$2,125,000	\$300,000

Thank You

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AGENDA: 6

**Bay Area Air Quality Management District
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September 25, 2014

**Update on the Plug-in Electric Vehicle (PEV) and
Infrastructure Program**

Damian Breen

Deputy Air Pollution Control Officer

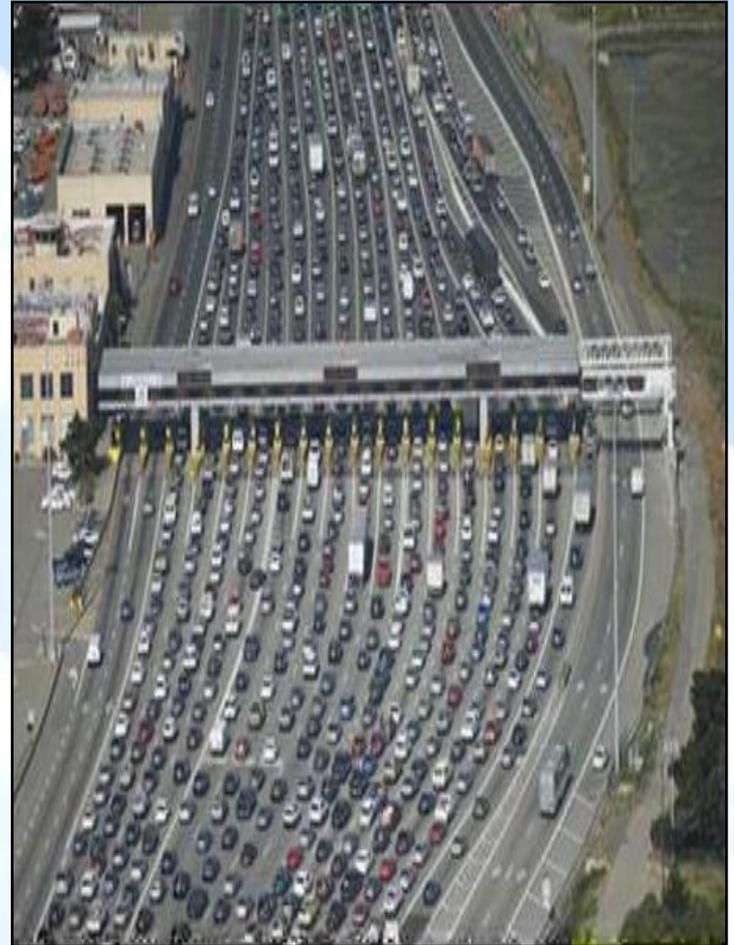
- Background
- Bay Area PEV Adoption and Targets
- Update on the PEV and Infrastructure Program



Background

Why clean transportation matters?

- Bay Area Population of 5.5 million on-road vehicles
- Region occasionally exceeds state and federal air quality standards
- Mobile sources account for more than 50% of harmful air pollutants and nearly 40% of GHGs in the region
- Population, goods movement, vehicle ownership expected to grow through 2020



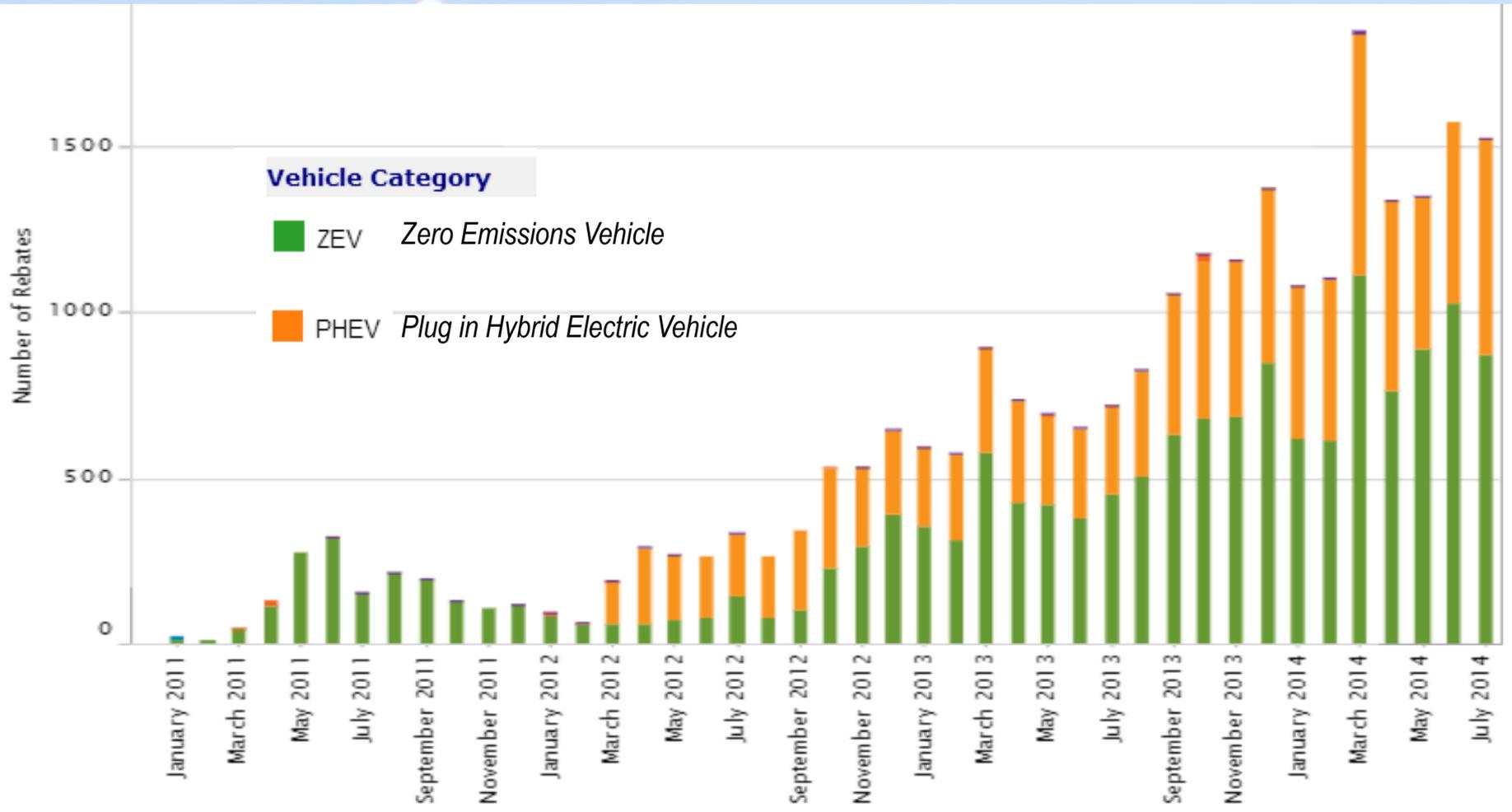
Background

PEV investments and allocations

- Since 1990s, Air District is a leader in the promotion of PEVs.
- August 2010 – Air District allocated \$5 million to deploy approximately 200 publicly available Level 2 charging stations and 1,500 residential home charging stations.
- 2013-2014, the Air District’s Board of Directors authorized and committed \$12.75 million in funding for PEVs through 2016.
- Funding provided by TFCA, which collects \$4 surcharge on motor vehicle registrations.
- Statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code Sections 44241 and 44242.

Bay Area PEV Adoption & Targets

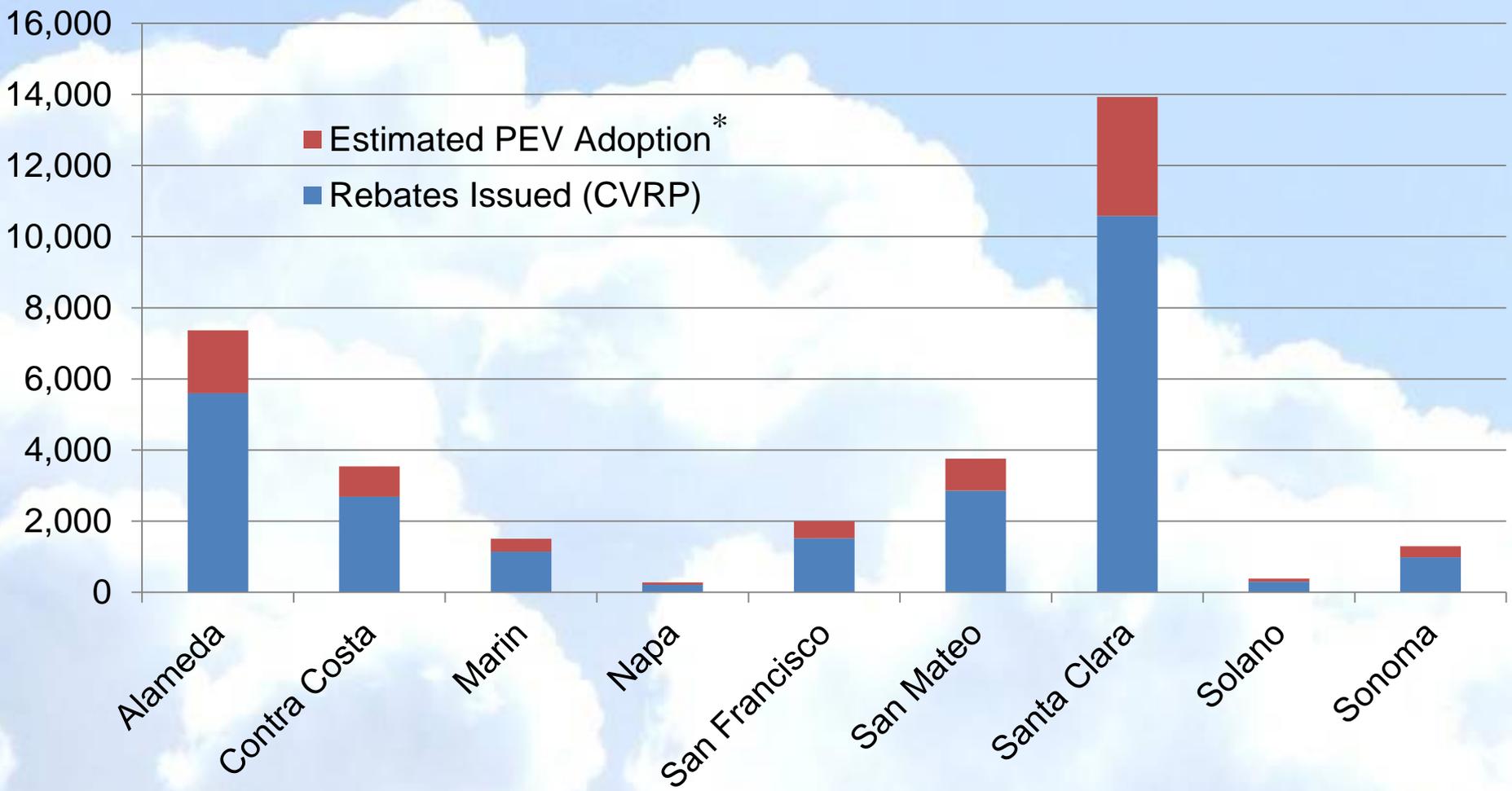
Rebates issued as of July 31, 2014



Source: Center for Sustainable Energy (2014). California Air Resources Board Clean Vehicle Rebate Project, Rebate Statistics. Data last updated September 9, 2014. Retrieved September 22, 2014 from <http://energycenter.org/clean-vehicle-rebate-project/rebate-statistics>.

Bay Area PEV Adoption & Targets

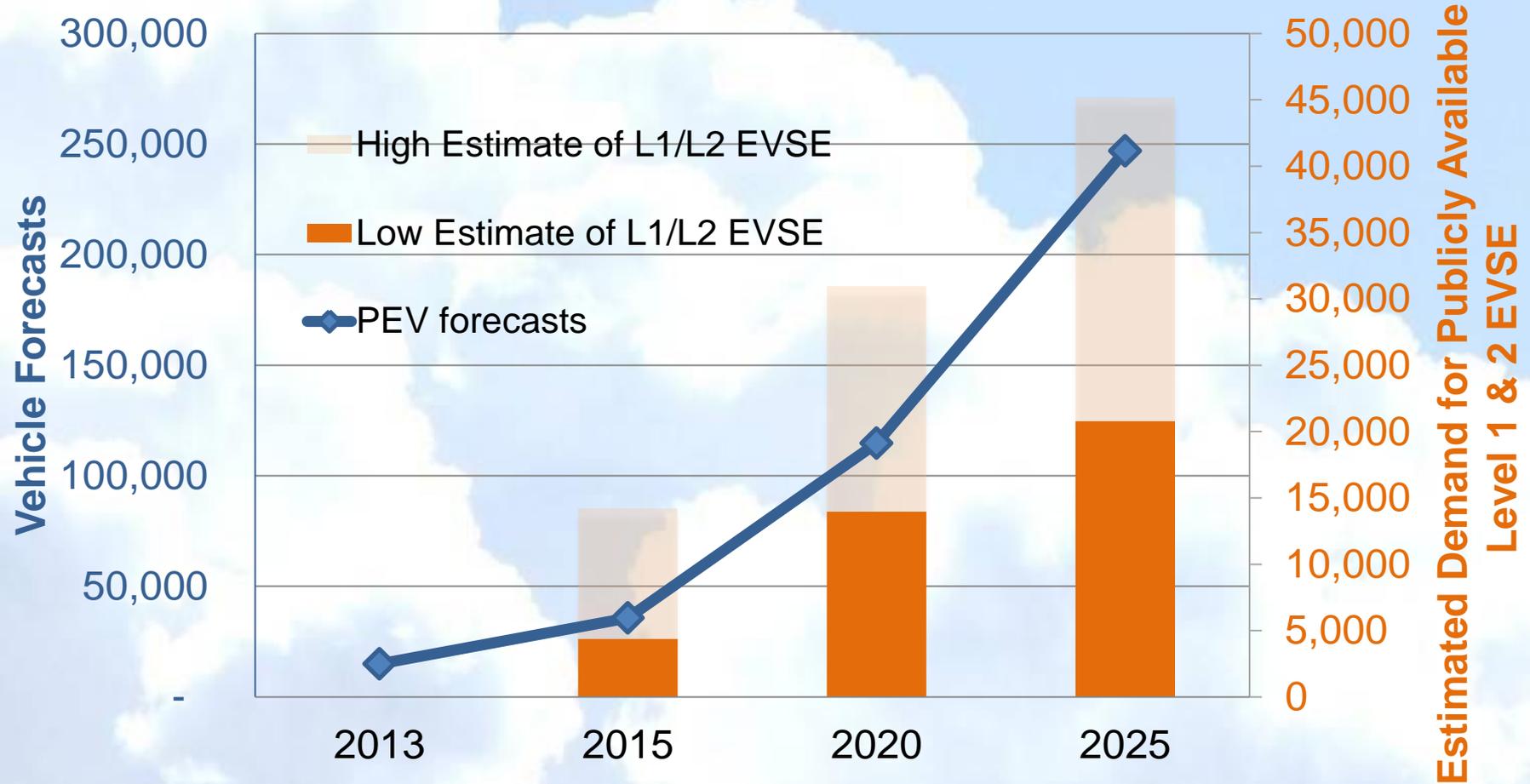
By County, as of July 31, 2014



*Based on reported CVRP data as of July 31, 2014 and assumed 76% of PEV drivers obtained a rebate based on the CVRP Final Report FY 12/13 (CCSE 2013).

Bay Area PEV Adoption & Targets

PEV forecasts and associated infrastructure estimates



Estimated demand for DCFC: 75-150 chargers at 35-50 locations by 2025

- **Air District (\$12.75 million*):**

- PEV Rebate Program for Public Agencies – Open
- PEV Infrastructure/Chargers – *November/ December 2014*
- PEV Grants for Private Fleets – *December 2014*
 - Heavy-duty vehicles
 - High-mileage light-duty vehicles

** Includes \$500,000 awarded by CEC in August 2014*

- **State**

- ARB – Light-Duty Vehicles (CVRP) - \$116 million – Open
- ARB – Heavy-Duty Vehicles (HVIP) - \$15 million – Open
- CEC – Charging Infrastructure - \$15 million – *Early 2015*

Air District PEV and Infrastructure Incentives

Funding awarded to date

\$184,911 Approved PEV Projects

\$60,000 Rebates for 24 PEVs in Alameda County

\$40,000 2 DC Fast Chargers in Redwood City

\$84,911 2 DC Fast Chargers in the City of Alameda*

\$578,396 Pending Approval (PEV Chargers)*

\$763,307 Total

** Includes \$449,708 in California Energy Commission (CEC) funding*

PEV and Infrastructure

Education and Outreach

- Bay Area PEV Readiness Plan
- Webinars
- Events
- Website Resource
- California PEV Collaborative
 - Multi-Family Unit Dwellings (MuDs)
 - Workplaces
- Bay Area EV Strategic Council
- MTC Experience Electric Campaign



Implement Bay Area Readiness Plan Guidance

- Develop additional incentive programs;
- Provide education, outreach, and assistance to Local Government Agencies, MuDs, and employers;
- Monitor and report Bay Area PEV adoption;
- Participate in local and state workgroups; and
- Apply for State and Federal funding to augment/leverage local funding.





Photo credit: Brian Kimball, Kimball Stock Photography