

California's Evolving PEV Market

Nov. 19, 2013
2013 Behavior, Energy &
Climate Change (BECC) Conference



Presentation Outline

- Market Overview
- California PEV Owner Survey
- Round 3 Data and Findings
- Next Steps and Future Work

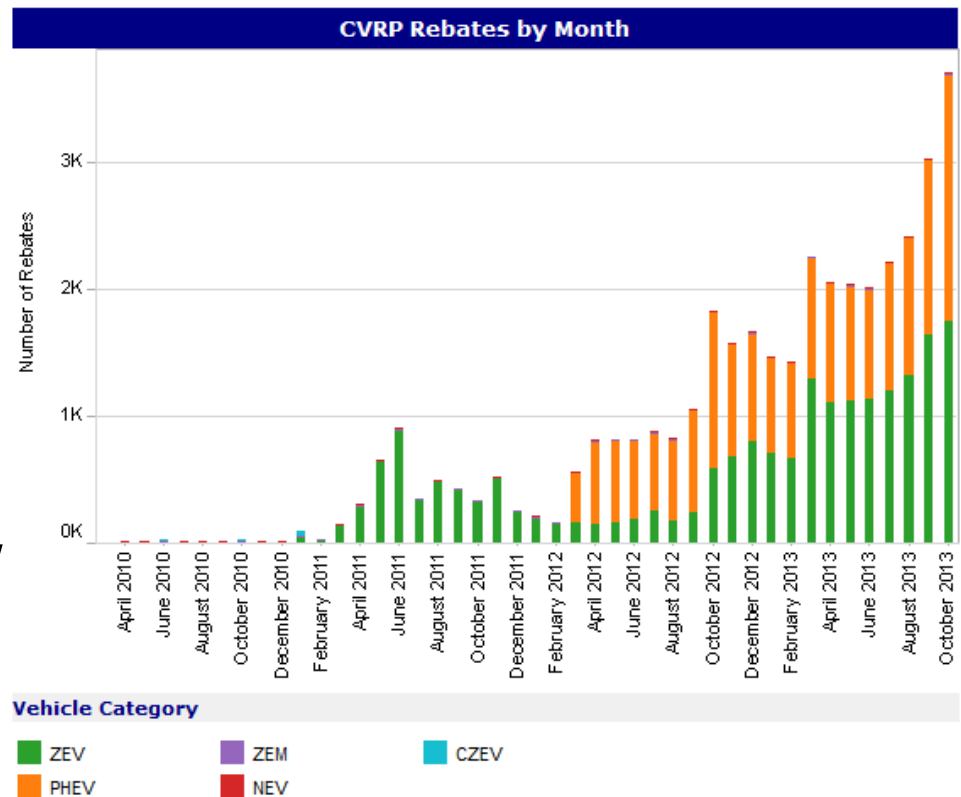
California Market Overview

- PEV sales are growth rapidly
- Policy and Program Support



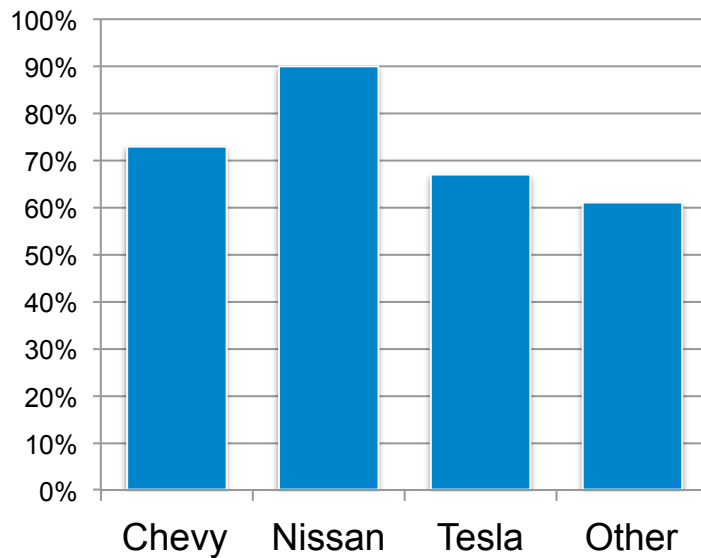
California Market Overview

- ARB – Clean Vehicle Rebate Project (CVRP)
 - ~40K rebates
 - Records in the last 3 consecutive months
 - Over 100 applications/day

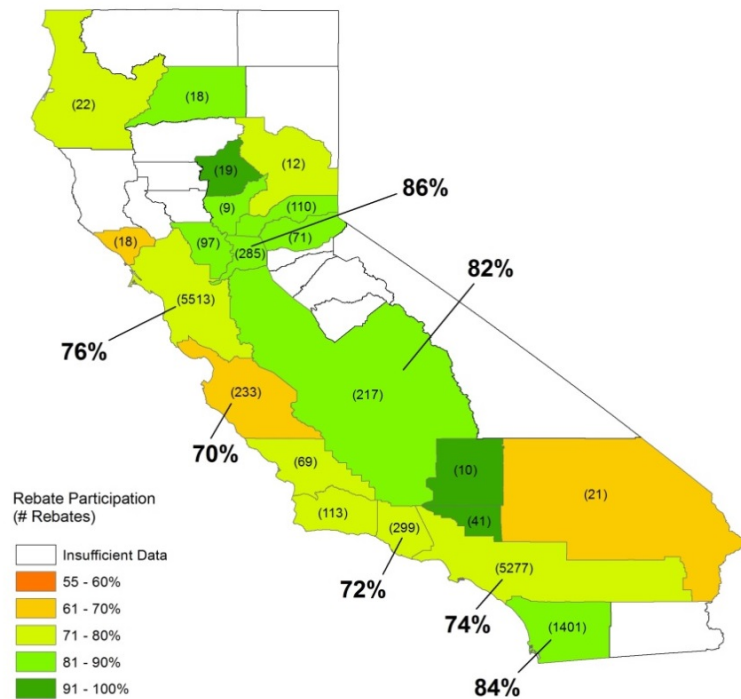


CVRP Participation

Participation Rate for Q1 2013



California Rebate Participation for All Vehicles

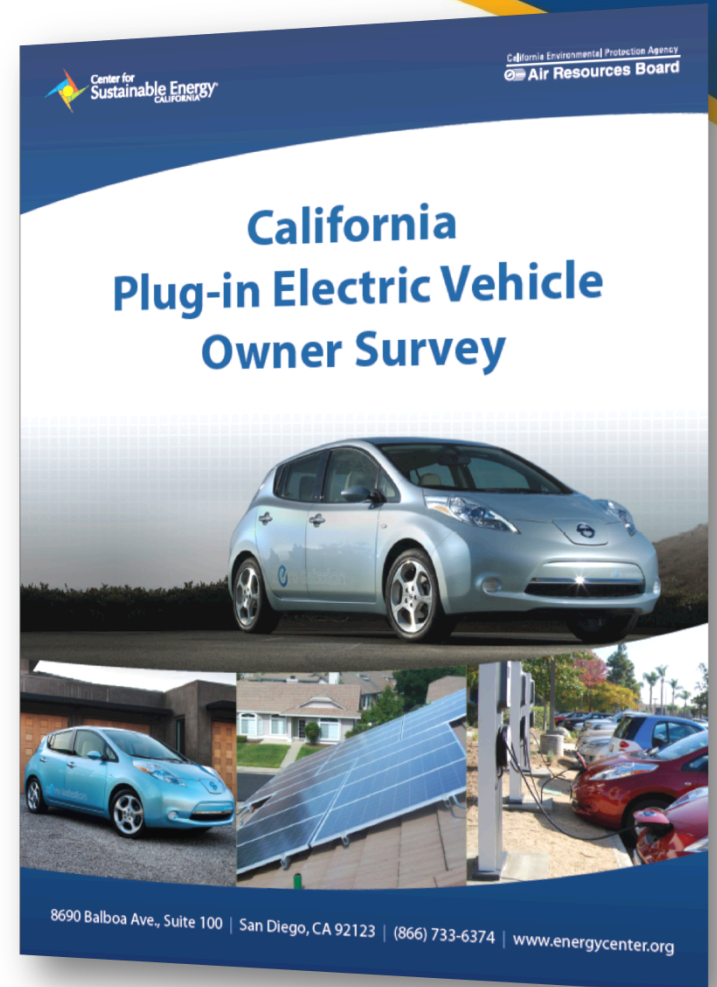


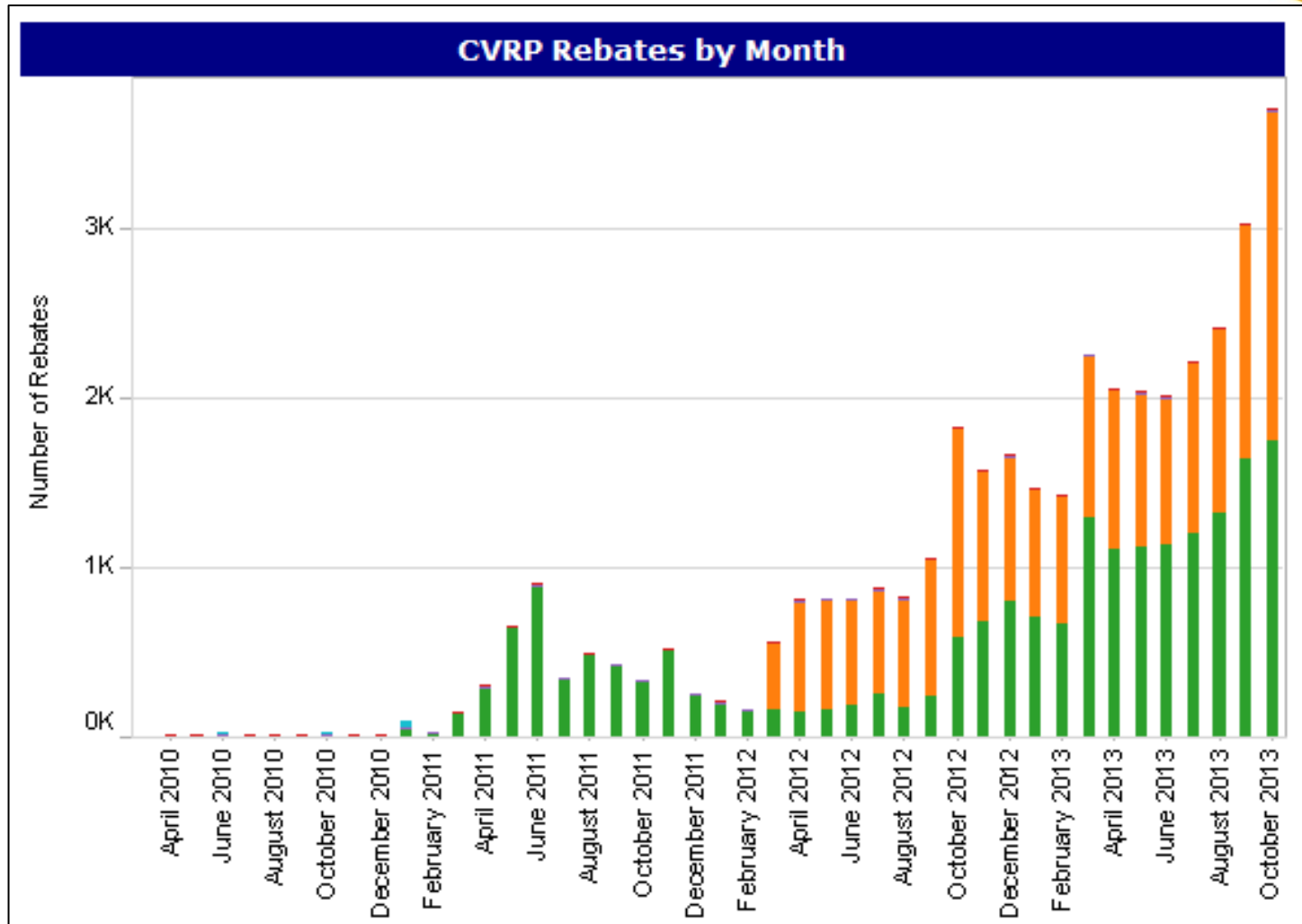
~76% CVRP Participation Rate

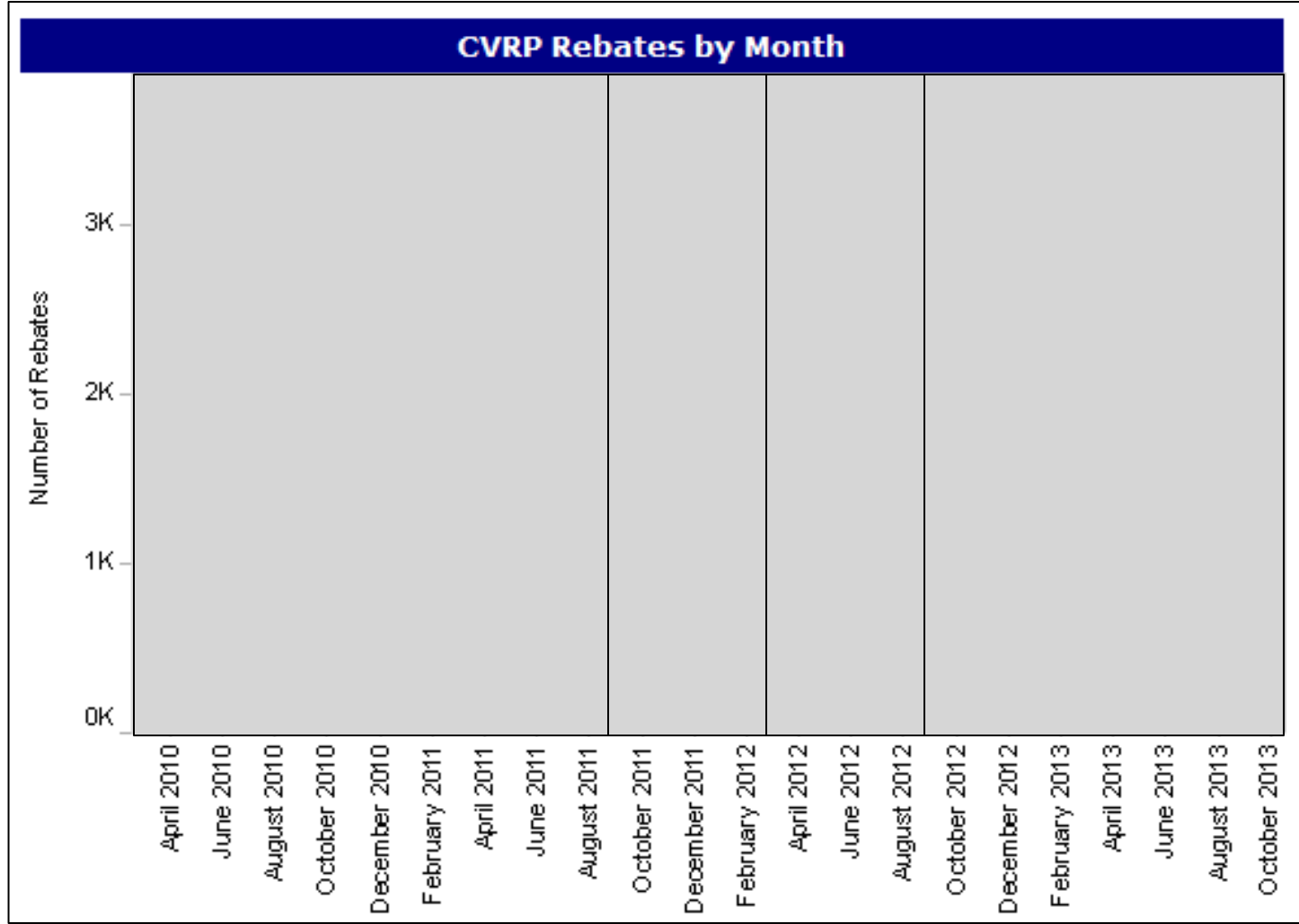
- Ineligible 24-mo leases (5-10% of market)
- Eligible consumers who do not apply

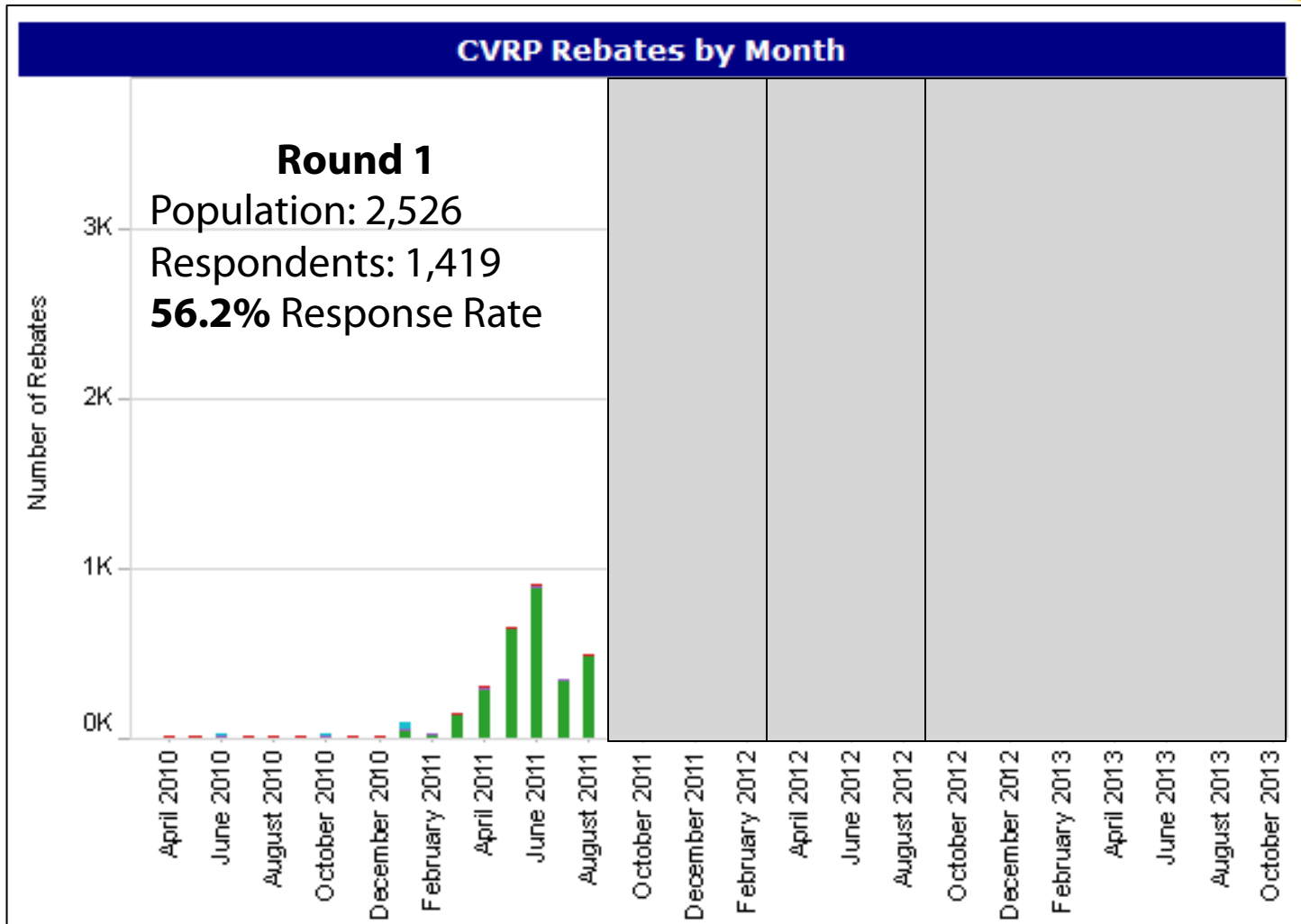
CA PEV Owner Survey

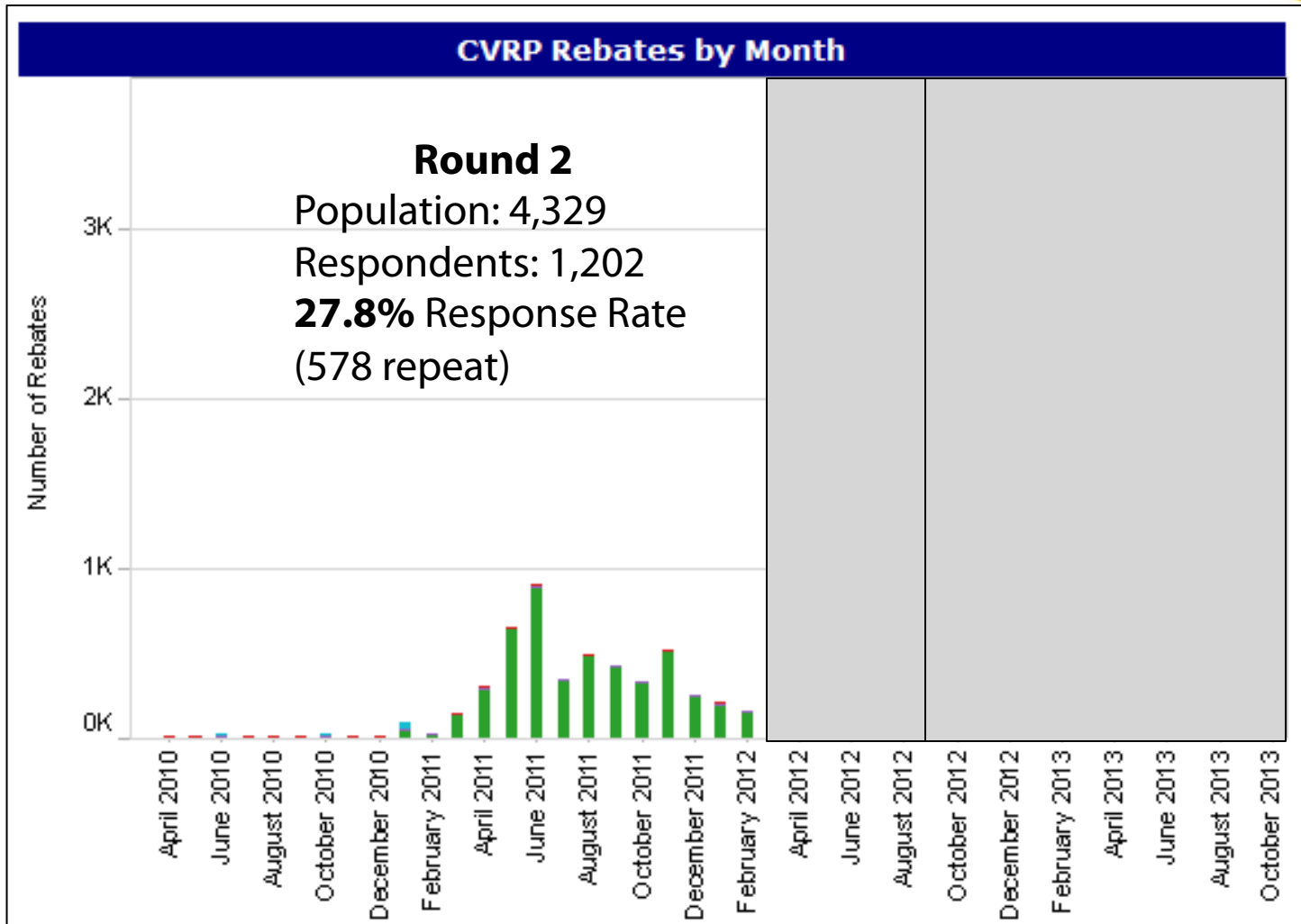
- Longitudinal study of PEV owners in California.
- Partners UC Davis & UT Austin
- Focus on use, charging infrastructure and behavior, technology diffusion.

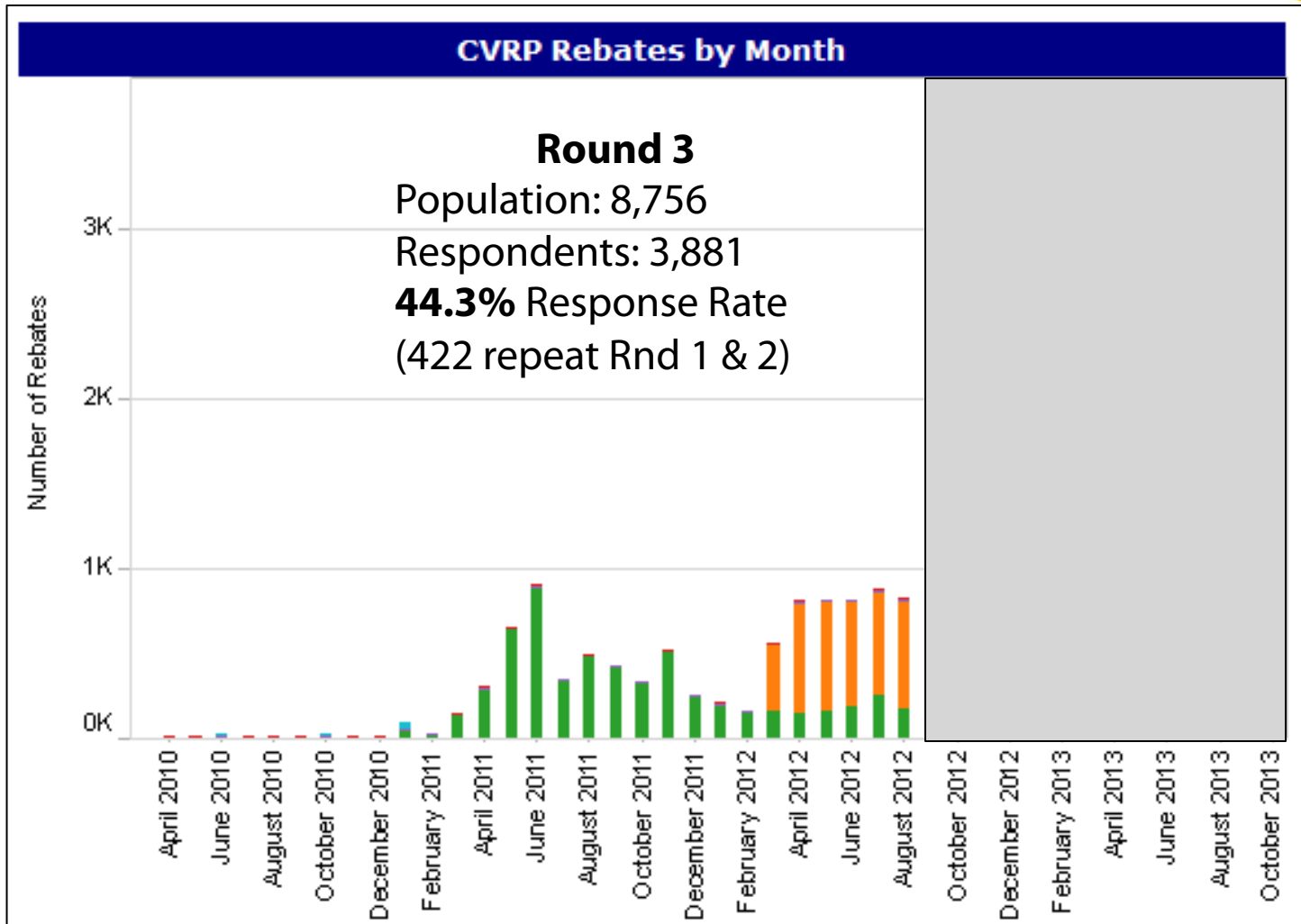












Distribution of Respondents

Survey population

PEV drivers for six months or longer as of October 2012

8,756

Total respondents

3,881

Nissan Leaf



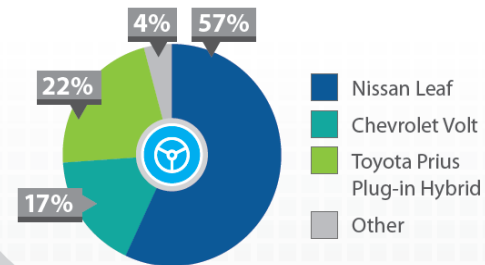
Chevrolet Volt



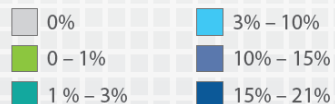
Toyota Prius Plug-in Hybrid



Top three vehicle types driven by respondents



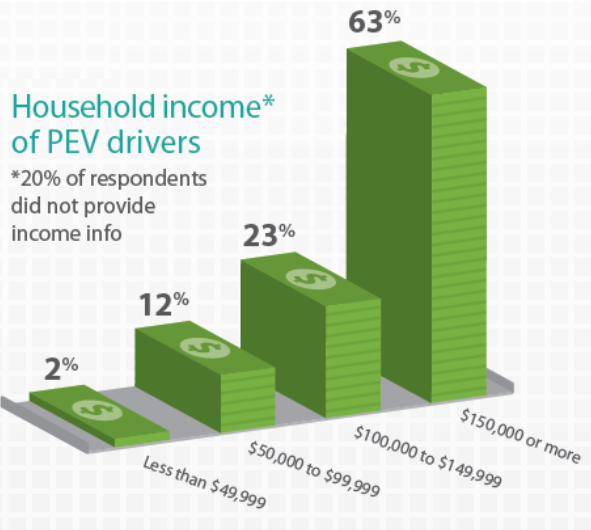
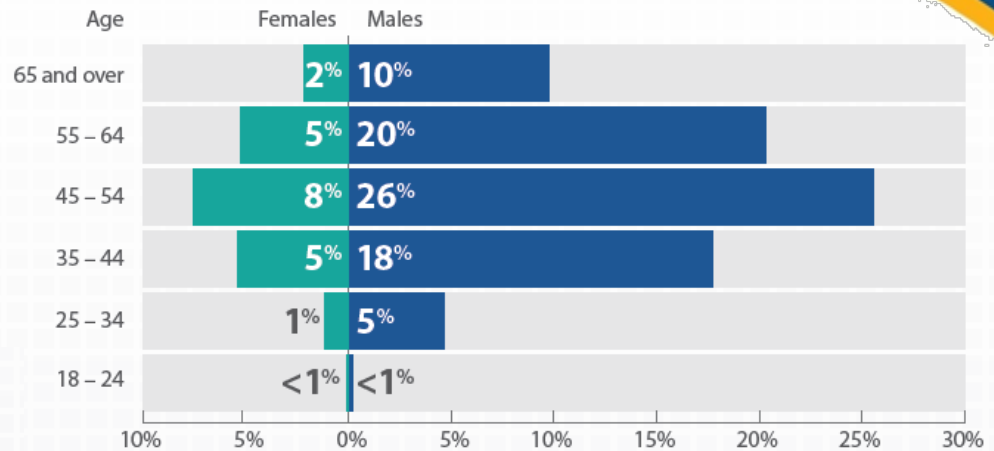
Distribution of survey respondents by county



Demographic Composition

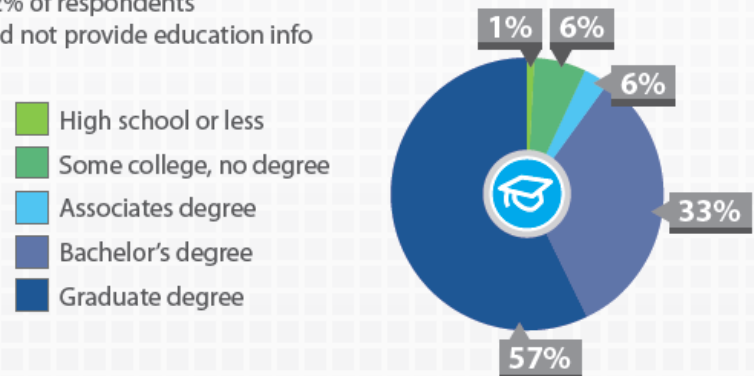
- Owner demographics are consistent across vehicle models

Age and gender of PEV drivers



Educational level* of respondents

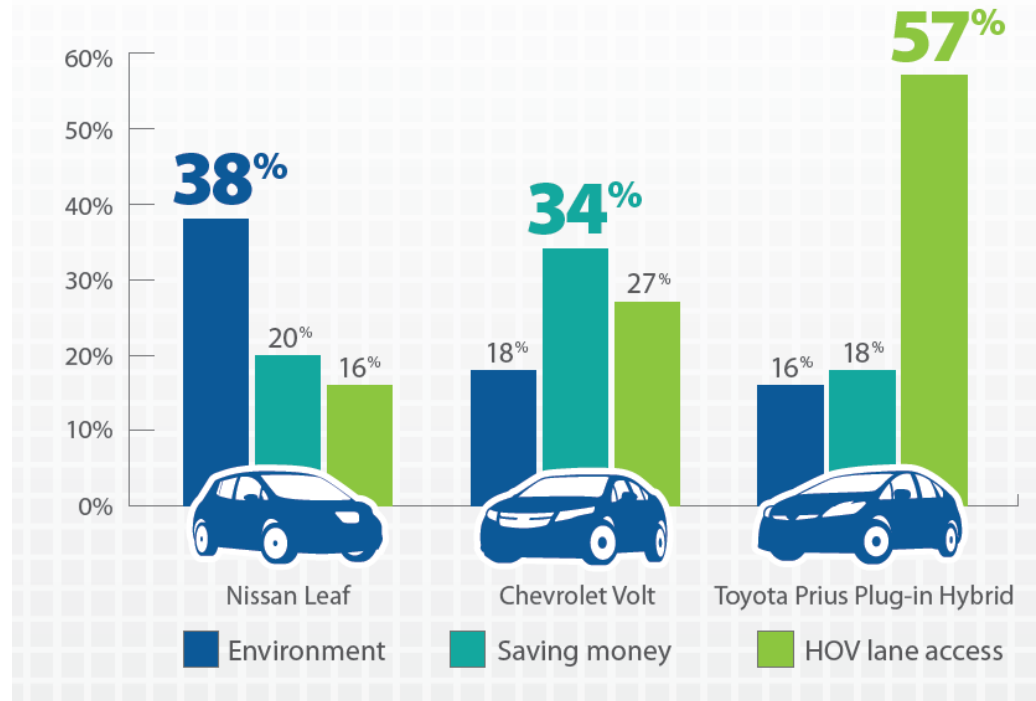
*2% of respondents did not provide education info



Motivation for Purchase

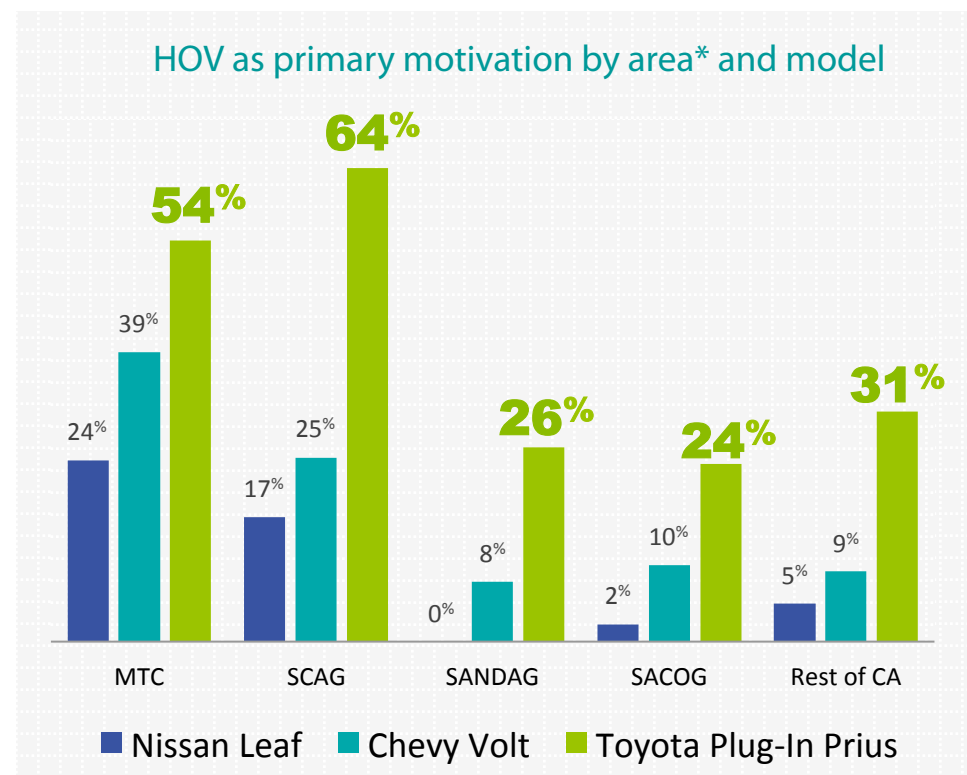
- Owners selected from ten options
- Three consistently ranked highest
 - Environmental impact
 - Save money on fuel
 - HOV lane access

Top three motivators for purchase



Motivation for Purchase

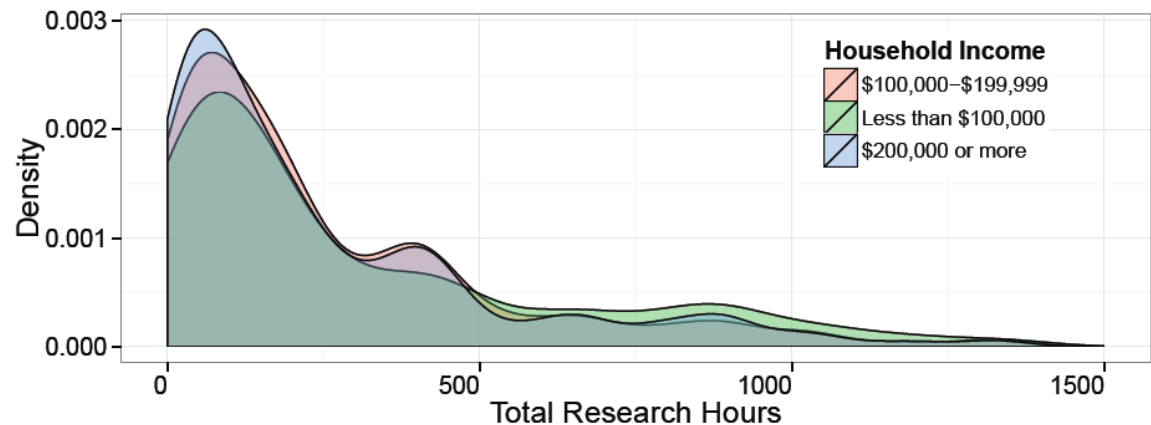
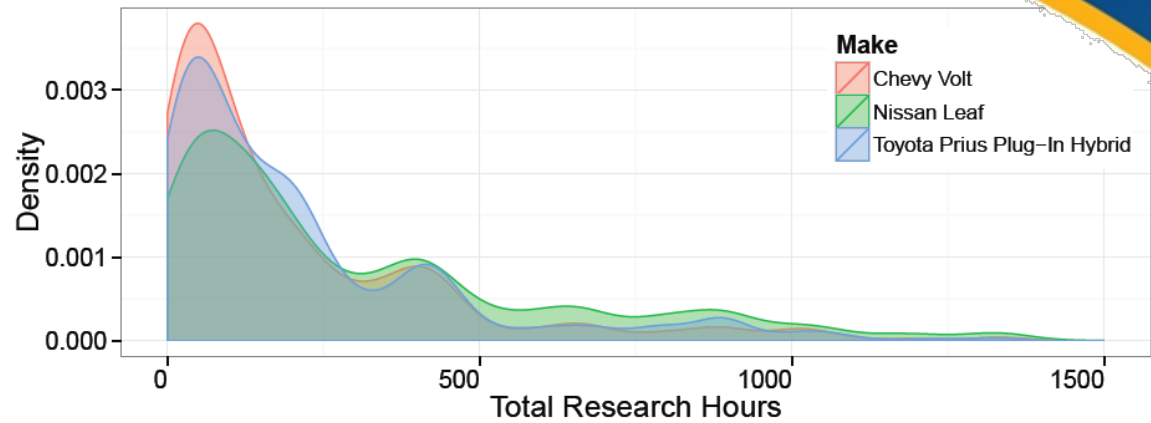
- Geography of HOV
 - Prius owner preference for HOV is consistent across the state



*Metropolitan Transportation Commission (MTC) covers the Bay area, Southern California Association of Governments (SCAG) includes LA County and Orange County, San Diego Association of Governments (SANDAG) includes San Diego County only, and Sacramento Area Council of Governments (SACOG) includes Sacramento County.

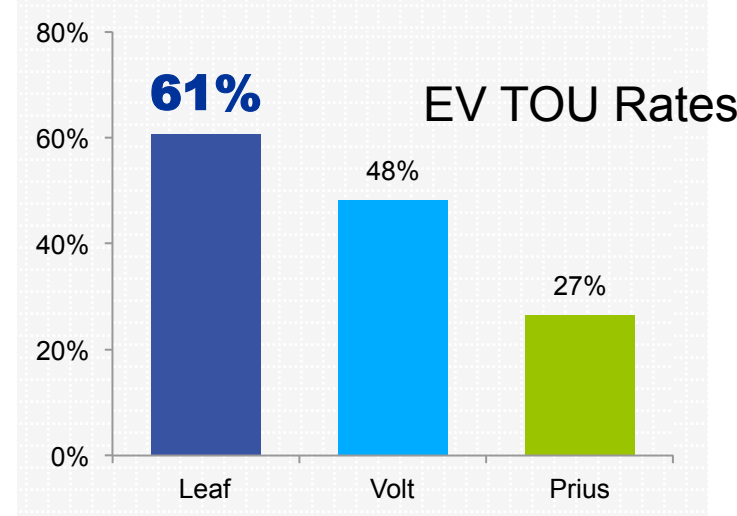
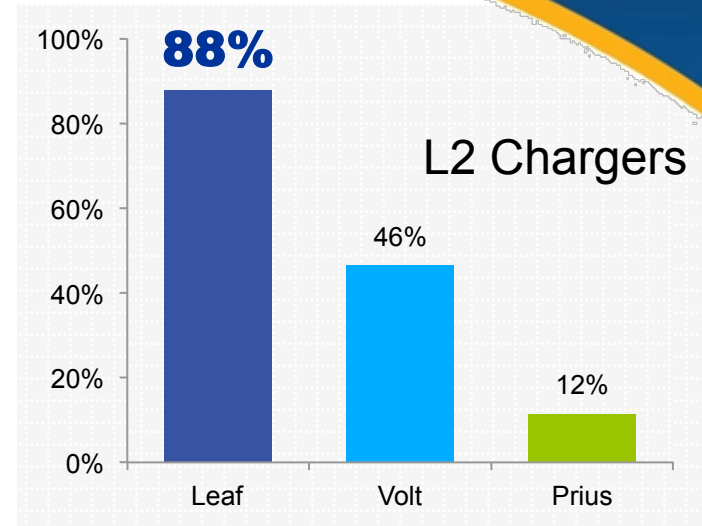
Decision Period & Research Time

- Data shows variability in the time required by owners to collect info on PEVs
 - Vehicle Model
 - Household Income



Residential Charging

- Residential Level 2 charger installation and TOU rate adoption varies with battery size

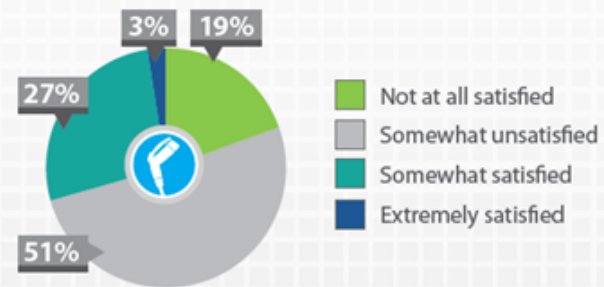


		EV TOU		
		No	Yes	Total
Level 2	No	17.3%	7.6%	24.9%
	Yes	29.0%	46.1%	75.1%
	Total	46.3%	53.7%	

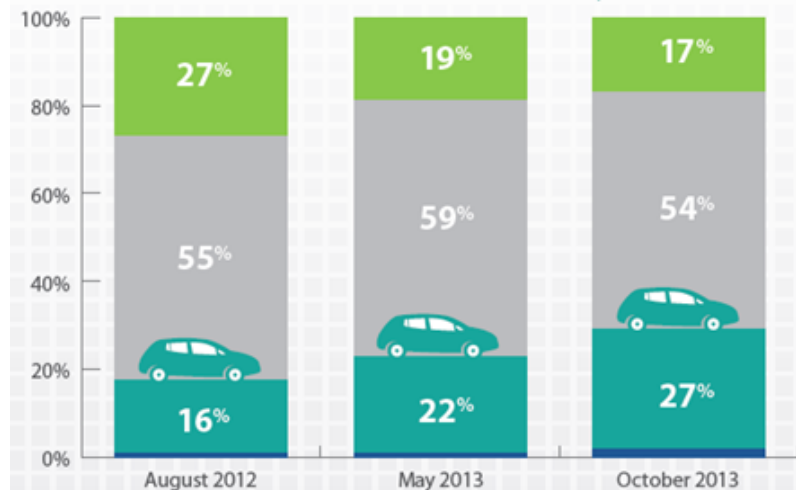
Public Charging Satisfaction

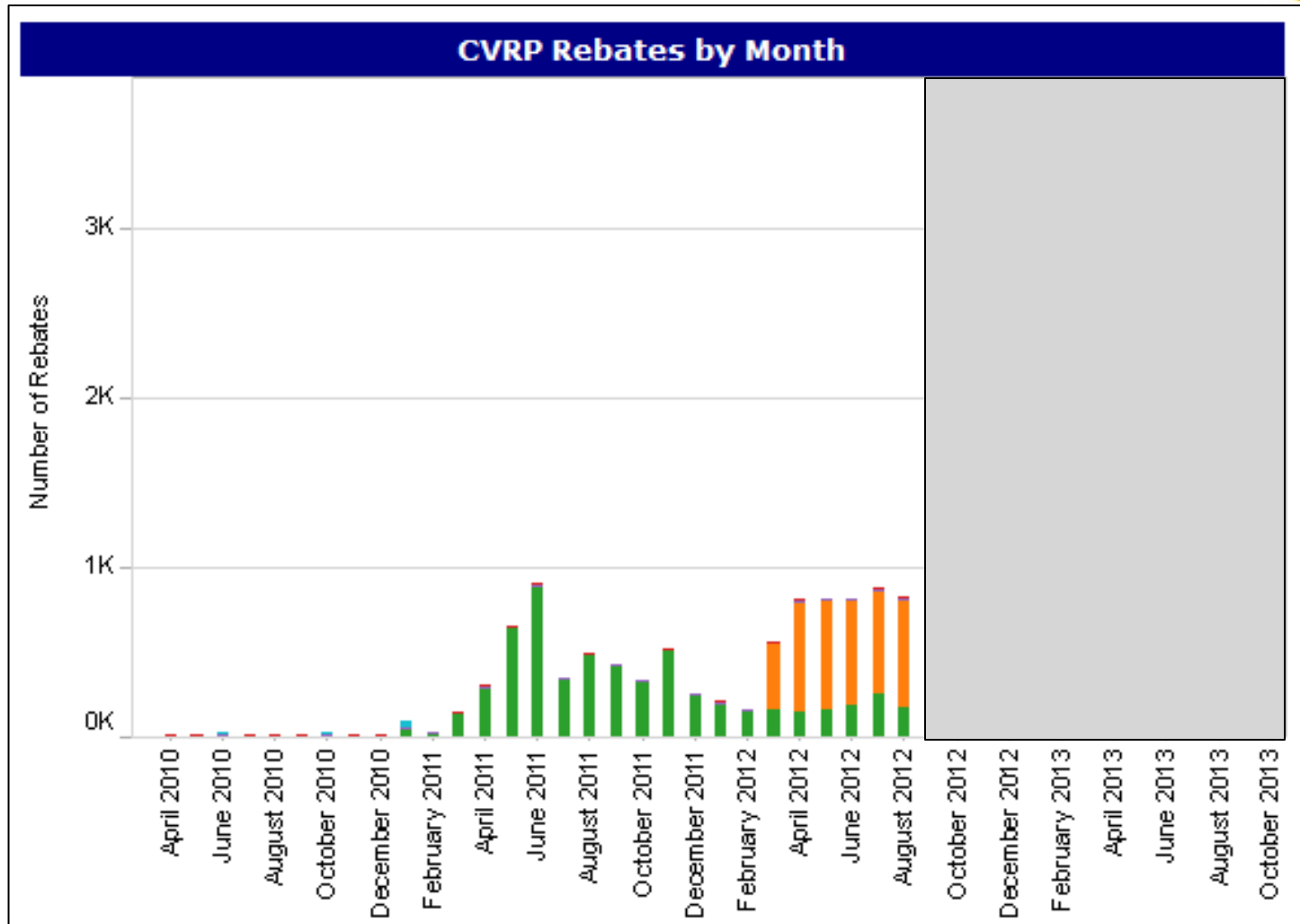
- Satisfaction with public infrastructure remains low, but is showing measurable improvement among Leaf owners

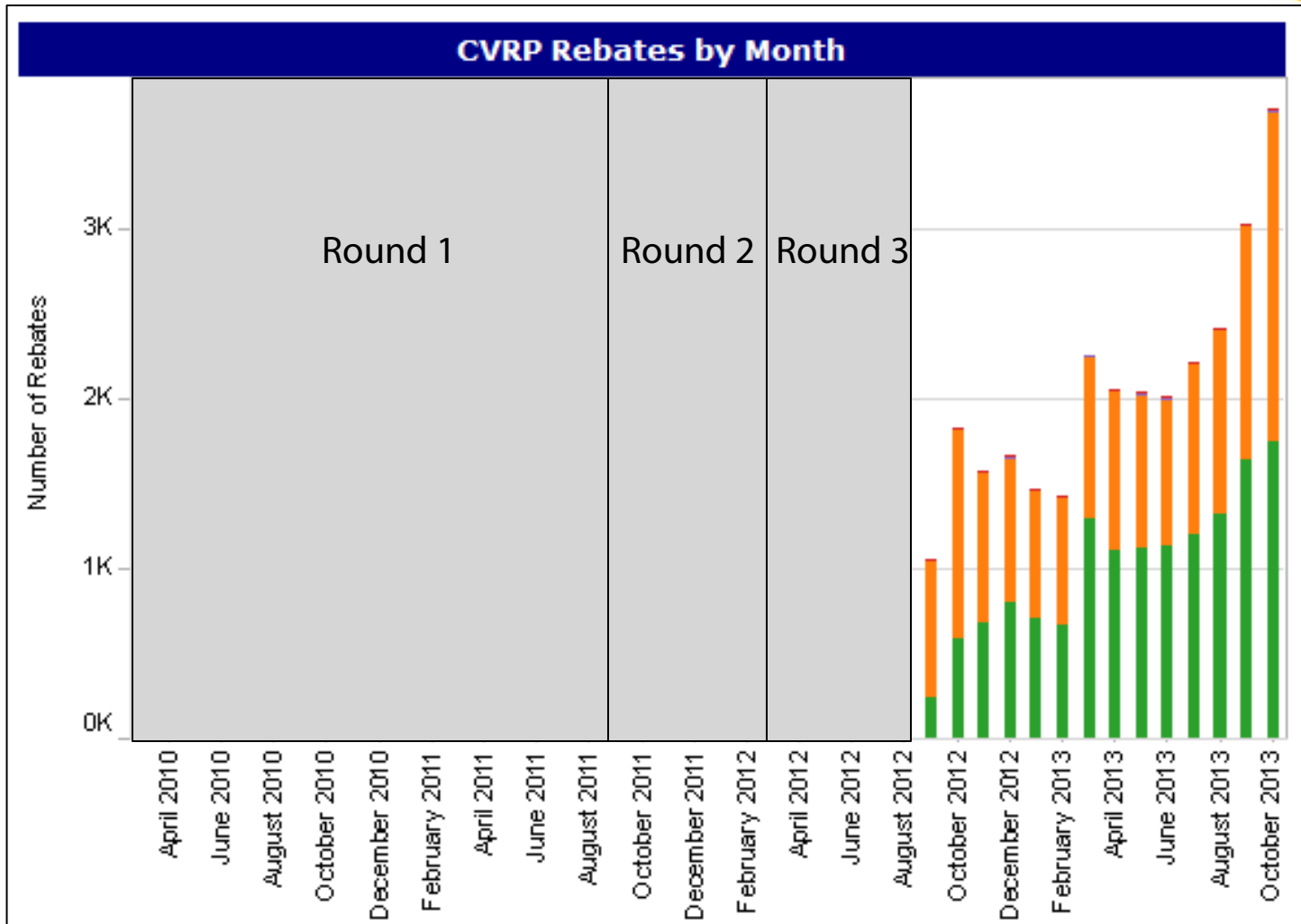
70% expressed some level of dissatisfaction with public charging infrastructure

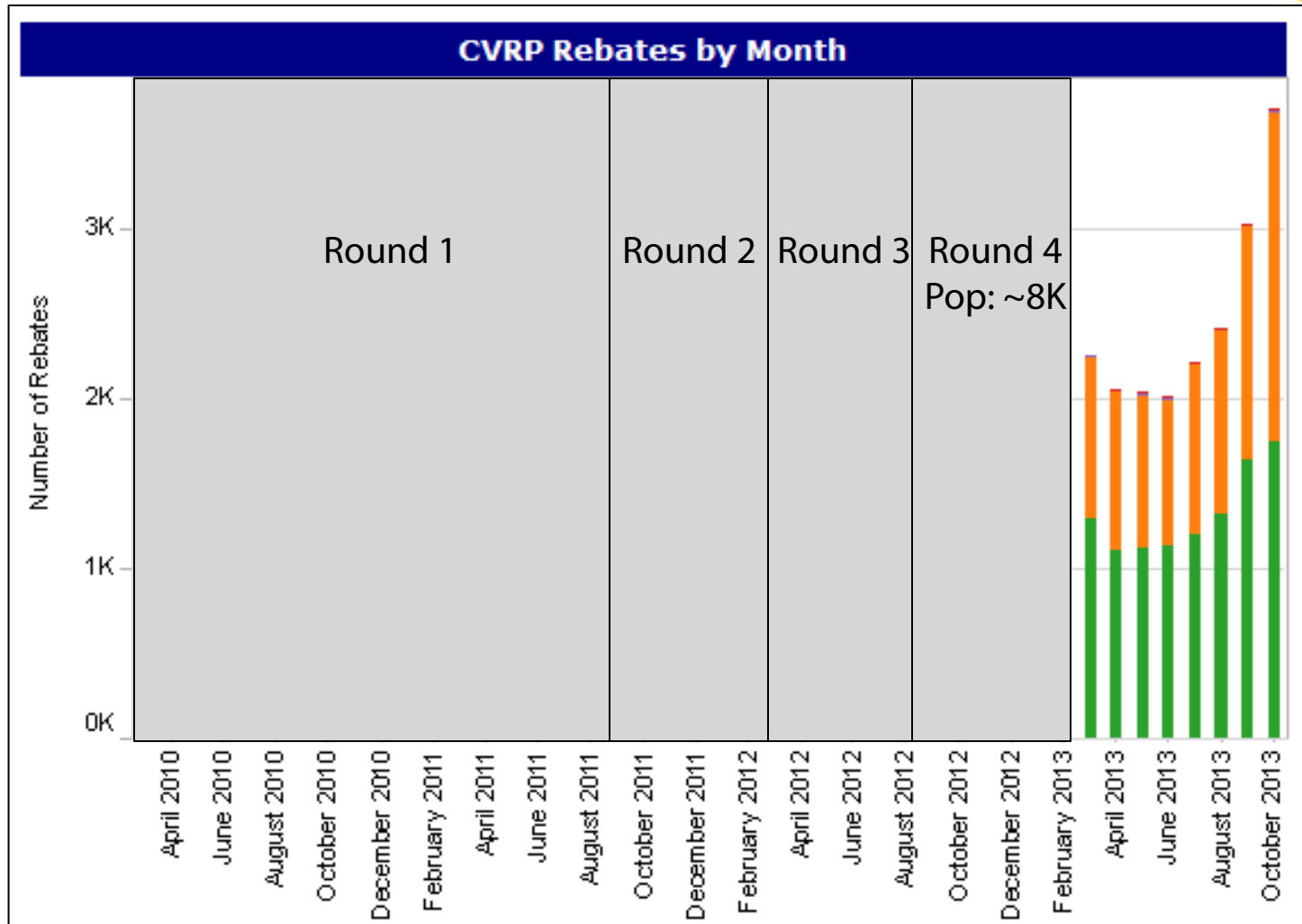


Satisfaction with public charging infrastructure (Nissan Leaf drivers only)



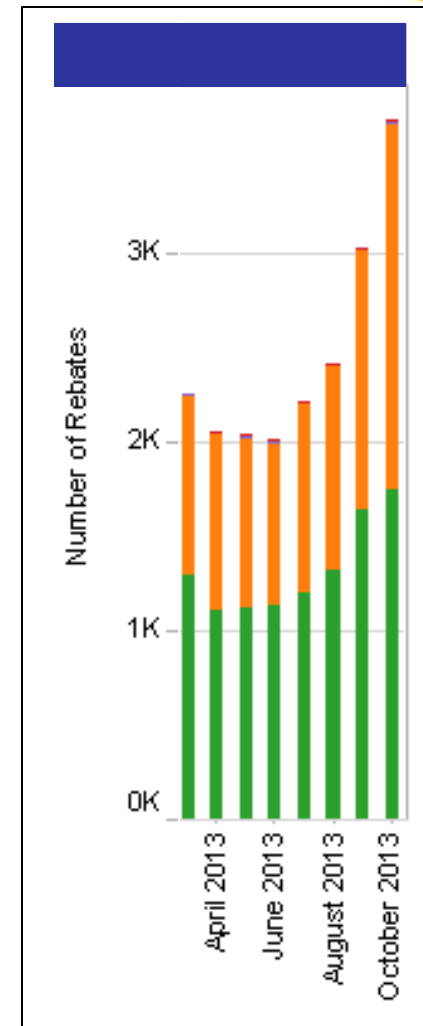






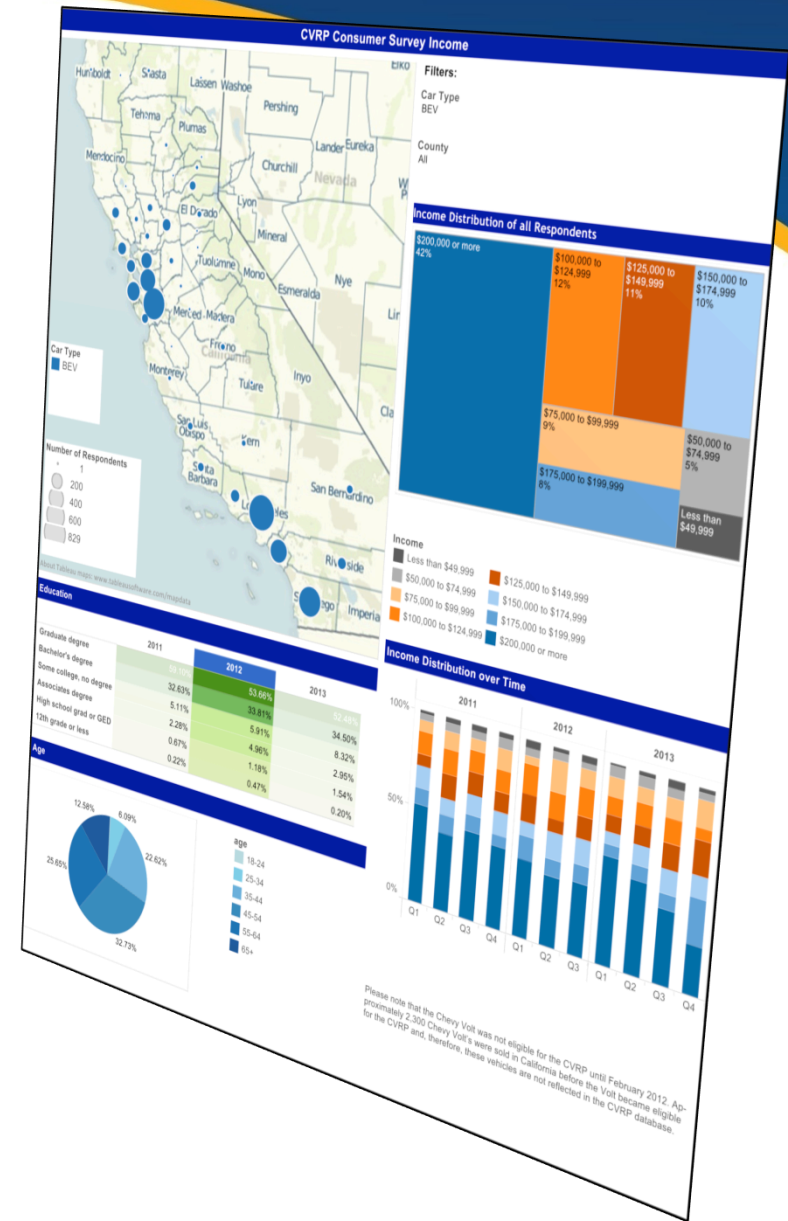
Survey Moving Forward

- Semi Real-Time Data
 - Surveyed at time of rebate approval/check distribution
 - Shorter Instrument
 - Focus Areas:
Demographics, Info channels, Dealer experience
- Initial blast of 15,400 surveys
 - Response rate ~18%
 - Future Population ~700/wk



Demo/Diff Dashboard

- Interactive Dashboard of Demographic data
- Semi-real time updates integrated with application process
- Anonymized raw data downloads



Conclusions/Takeaways

- California's PEV market is growing rapidly, both in size and complexity;
- The motivations driving PEV adoption are diverse, creating opportunities and challenges for OEMs and policymakers
- Longitudinal data and real-time updates are key to understanding and responding to market dynamics

Thank you

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