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Using Data to Profile Low-Income High Energy Users

Getting to Know SCE's CARE High Usage Program

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Agenda

1. Introduction to SCE & the CARE Program
2. The CARE High Usage Program
3. Implementing CARE High Usage – Overview
    1. Challenges Associated with High Usage
4. Profiling High Usage CARE customers
    1. Selected Characteristics
    2. Application of Findings
5. Looking to the Future
6. Questions

Introduction to Southern California Edison

- One of the nation's largest electric utilities:
  - Nearly 14 million residents in service territory
  - Approximately 5 million customer accounts
  - 50,000 square-mile service area
- High Low Income Population
  - Approximately 1/3 of residents estimated to be "low-income"

The CARE Program

California Alternate Rates for Energy (CARE) offers income-qualified customers struggling to make ends meet a **discount of approximately 30%** on their monthly electric bills.

SCE has **1.3 Million CARE Households** in it's service territory and administers $385 Million in CARE bill discounts. **Average CARE discount is $24 per month** ($291 per year).

State legislated program, since 1989, with eligibility **self declared** every two years.

Two Ways to Qualify for CARE

- Participation in an eligible **public assistance program** (e.g. LIHEAP and WIC)
- Meet **income guideline qualifications** (approximately 200% of federal poverty income guidelines)

Maximum Household Income Effective June 1, 2015	
Number of Persons in Household	**Total Combined Annual Income**
1 - 2	Up to $31,860
3	Up to $40,180
4	Up to $48,500
Each additional person	$8,320

The CARE High Usage Program

CARE High Usage Overview

1. Identifies low income customers with the highest energy usage in each region.
2. Notifies them of their usage and ways SCE can help
3. Promotes program integrity by ensuring only income eligible customers are enrolled.
4. Disallows CARE discount for continued high usage.
5. Gives customers an opportunity to explain their usage

CARE High Usage Levels

Usage	Percentage of Baseline	Average CARE Discount
High-Low	From **400% up to 600%** of baseline in one month	$148/month $1,771/year
High-High	**At least 600%** of baseline in one month	$304/month $3,646/year

- **Baseline Allocation** is a set amount of kilowatt hours of energy (kWh) for basic services such as lighting, cooking, heating, and refrigeration.
- Baseline Allocation **depends on region** (climate), **season** (winter or summer), and **source of energy** (e.g. electricity only).

CARE High Usage Process for Customers

To continue receiving the CARE discount high usage customers must:

- Income verify with most recent IRS tax transcript
- Participate in the Energy Savings Assistance Program
- Keep usage below 600% of Baseline

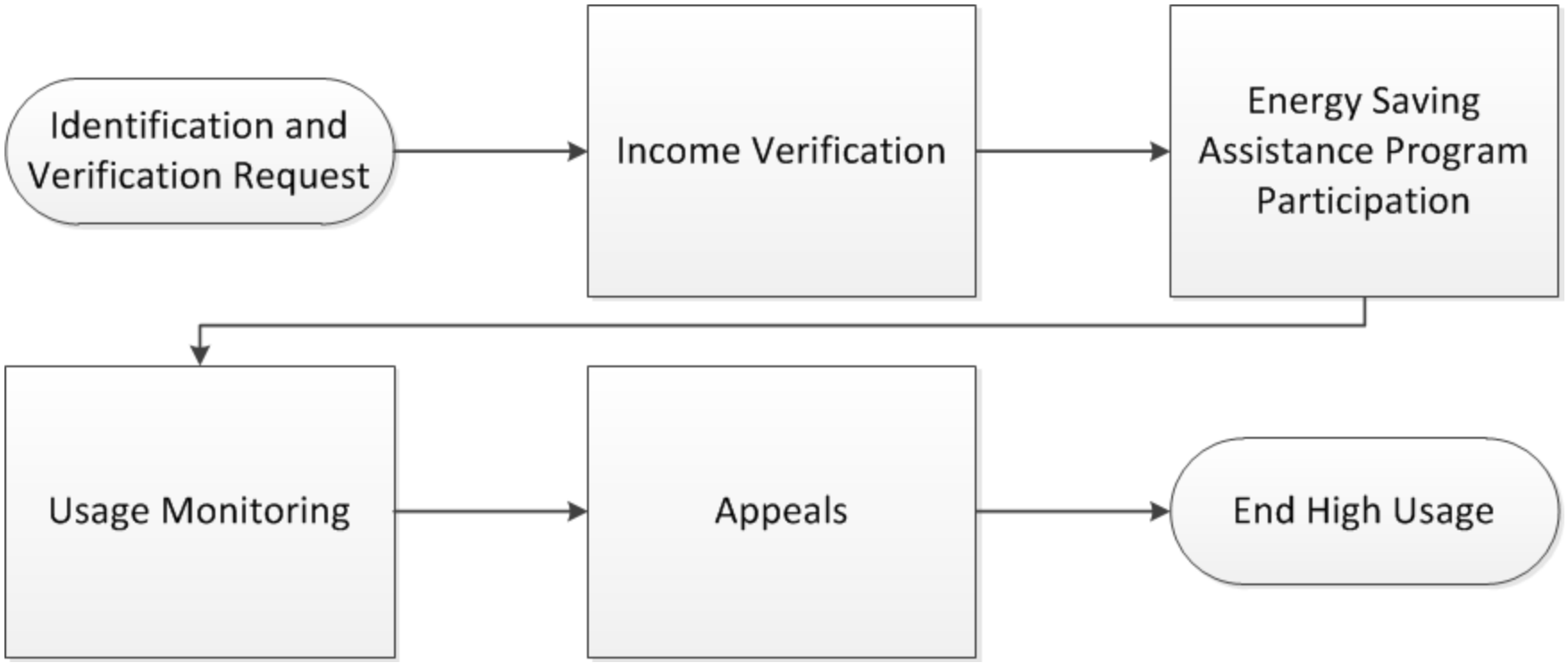
Failure to comply in any of the requirements:

Will result in customer being removed from the CARE program and barred for 24 months.

Appeals Process:

Customer may appeal usage as Basic, Necessary and Legitimate (e.g. Medical Equipment, Water Wells).

Overview of CARE High Usage Process



Identification and Verification Request

7% of all CARE customers are selected for income verification annually

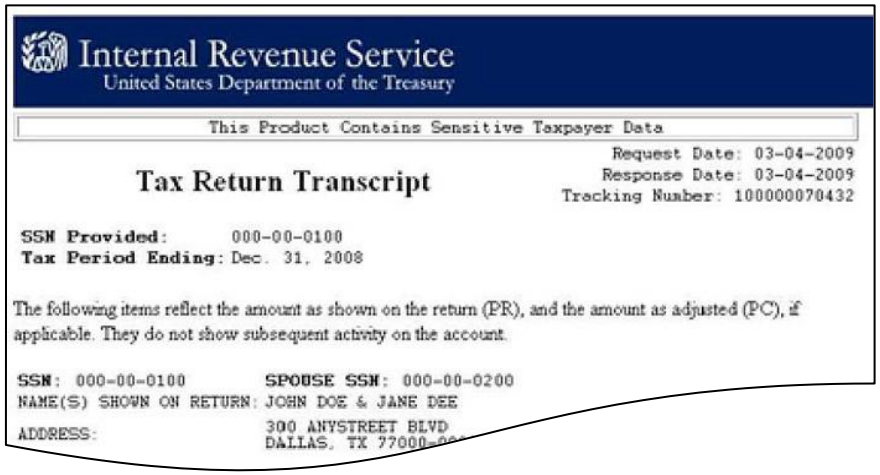
Measurement and Evaluation (M&E) identifies accounts to be income verified:

- High Usage (usage ≥400% of baseline)
- Disproportionate Stratified **Random** Sample Model

High Usage verifications are given priority over random.

High Usage Income Verification

- Federal Tax Transcript must be provided for each adult member of the household
  - (Or other approved documentation e.g. Transcript of Non-Filing from IRS or Affidavit of Zero Income)
- Categorical documentation not accepted



Internal Revenue Service
United States Department of the Treasury

This Product Contains Sensitive Taxpayer Data

Tax Return Transcript

Request Date: 03-04-2009
Response Date: 03-04-2009
Tracking Number: 100000070432

SSN Provided: 000-00-0100
Tax Period Ending: Dec. 31, 2008

The following items reflect the amount as shown on the return (PR), and the amount as adjusted (PC), if applicable. They do not show subsequent activity on the account.

SSN: 000-00-0100 **SPOUSE SSN:** 000-00-0200
NAME(S) SHOWN ON RETURN: JOHN DOE & JANE DEE
ADDRESS: 300 ANYSTREET BLVD
DALLAS, TX 77000-00

Energy Savings Assistance Program

The Energy Savings Assistance Program (ESAP) helps **income-qualified households** conserve energy and reduce their electricity costs

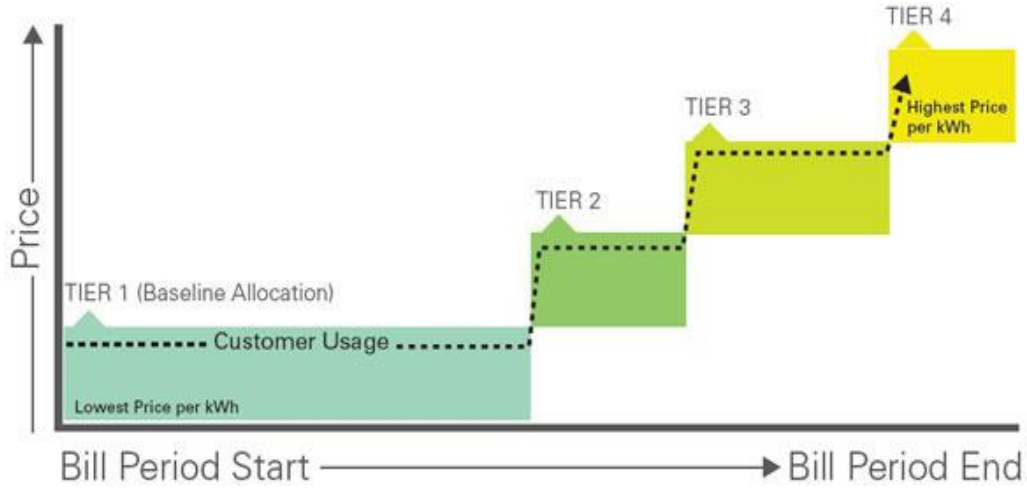
- The program replaces old inefficient appliances with new energy-efficient ones
- SCE pays all the costs of purchasing and installing the measures, which are free to eligible homeowners and renters

- **In-Home Energy Education**
- **Lighting**
- **Refrigerator Replacement**
- **Pool Pump Replacement**
- **Weatherization**
- **Air Conditioner Replacement**

Usage Monitoring

- SCE will monitor the customers account for 24 months (after 90 day grace period) to ensure usage remains below 600% of baseline.

- If usage exceeds 600% (after their grace period) customer will be removed from CARE and will be barred for 24 months.



Appeals

- Written Appeal demonstrating usage as "necessary, basic and legitimate household energy usage."
- Decision by SCE Appeal Review Board (cross functional/departmental team)
  - If approved, the customer will be placed back on CARE, is exempt from Usage Monitoring for 24 months and may be credited for their time of the program.
  - If denied, customer is offered opportunity to appeal with the Energy Division (ED) of the California Public Utility Commission (CPUC).

Notable Cases

- Medical Needs
- Electric Vehicles
- Home Businesses
- Space Heaters
- Well Pumps
- Large Households

Profiling CARE High Usage Customers

Profiling Goal

To better understand CARE high usage customers

- Will improve identification accuracy
- Increase operational efficiency

By creating a "High Usage" profile

- Socioeconomic Data
- Demographic Data

Using an appropriate customer account data sample set

- Study individuals issued income eligibility verification between Jan to Dec 2014
- Compare regular users to high usage users – Bivariate & Multivariate Study

The Seven Variables

- Categorical Programs Participant
- At Least 24 months on the CARE Program
- Household Size
- Low Income PRIZM Segments
- Low Income Based on CARE Eligibility
- Enrollment Channel
- Residential Use
- Climate Zone

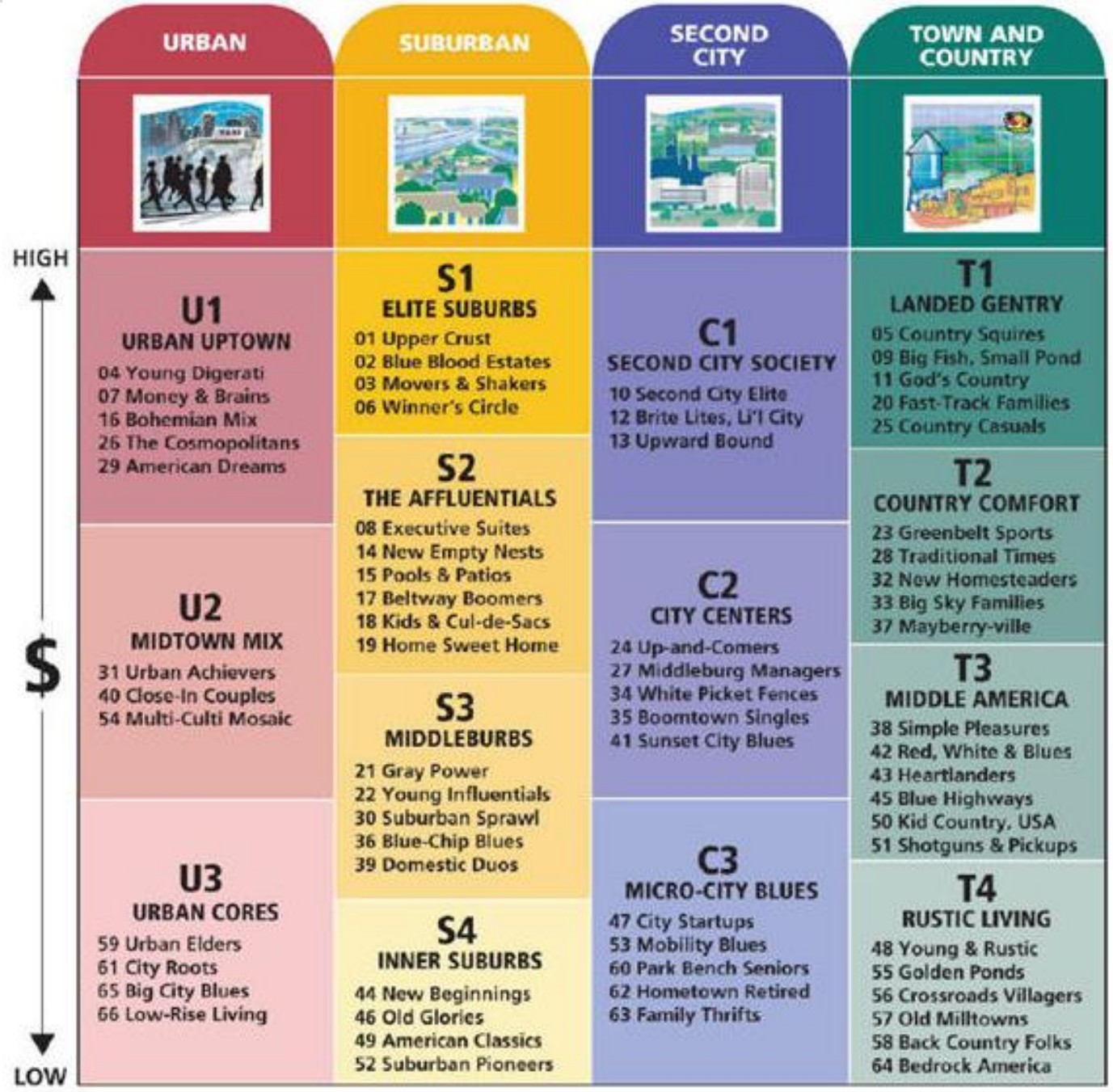
Using PRIZM Data

What is PRIZM

- **PRIZM** is a Nielsen market segmentation system
- Combines 66 demographic and behavioral segments
  - 14 social groups based on affluence and urbanization
  - 11 lifestage groups based on affluence and lifestage
- **BENEFITS**: Uses more socioeconomic and demographic variables to profile high usage customers

Relevant Variables

- Age of household head
- Education
- Employment
- Race and ethnicity
- Household income
- Household composition
- Home owner or renter
- Income producing assets,
- Urban/rural geography including such categories as lifestage group and social group



Zip Code Based

Age

Income Level

Lifestyle

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Bivariate Analysis

- Compare Traditional to High Usage
  - **"Non-High Usage" Definition**: Customers less than 400% of baseline
  - **"High Usage" Definition:** Customers over 400% of baseline

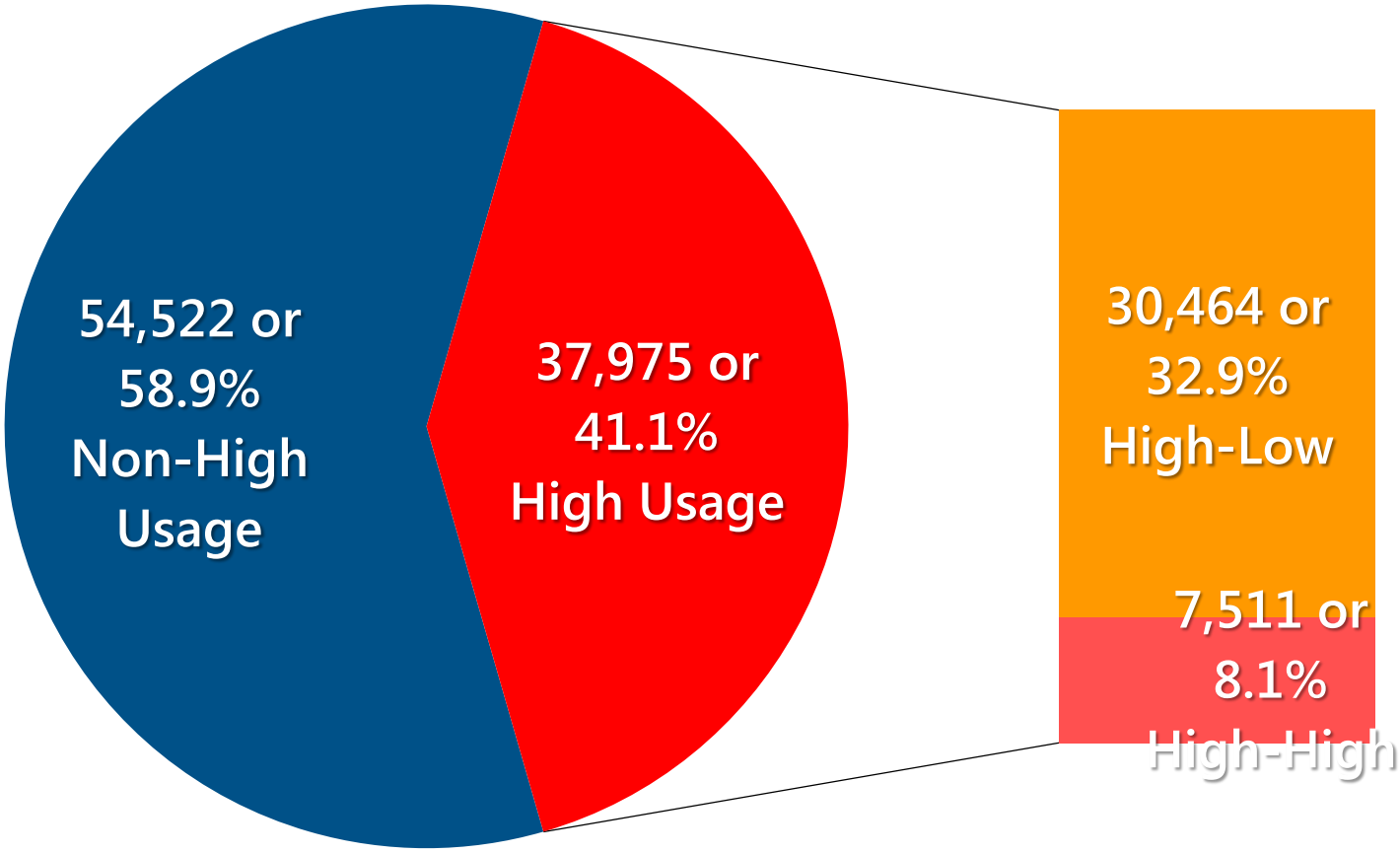
- Differentiate between traditional and high usage customers on each of the seven variables

Bivariate Analysis Example

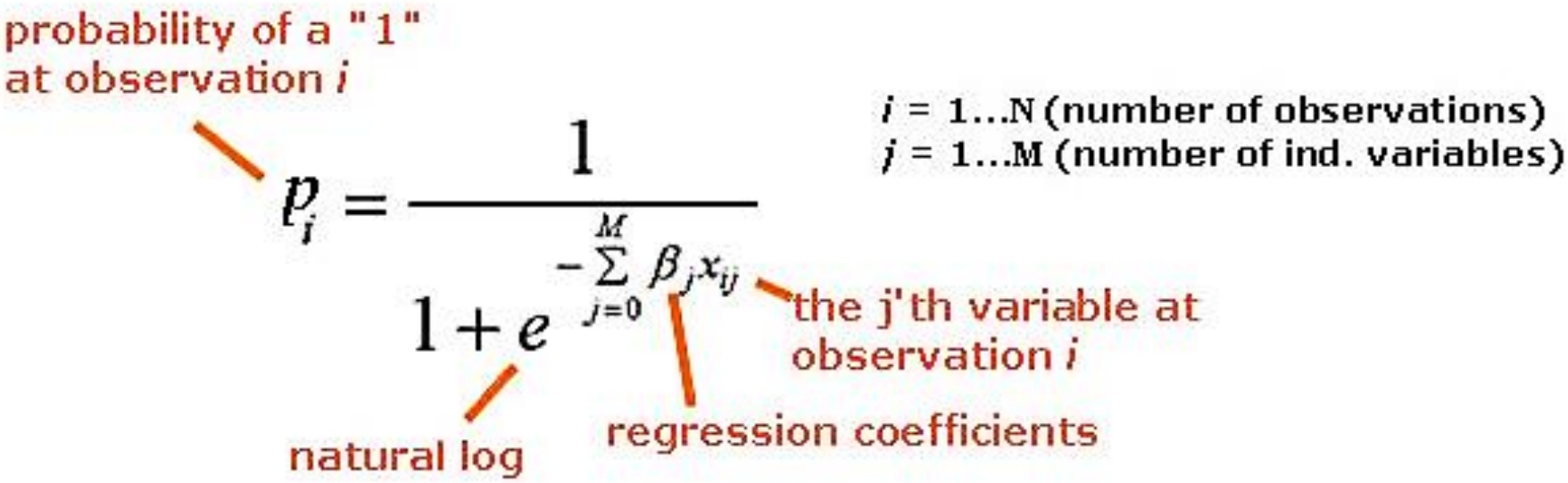
HOUSEHOLD SIZE
Traditional vs High Usage

HOUSEHOLD SIZE	SAMPLE TYPE ISSUED VERIFICATIONS JAN to DEC 2014			STATISTICAL TESTS
	TRADITIONAL DSRS (n=54,522)	HIGH USAGE (n=37,975)	Total (n=92,497)	
UNKNOWN	14.8%	12.9%	14.0%	X^2=3,919.9 p<.01
ONE TO TWO	29.1%	16.7%	24.0%	
THREE TO FIVE	44.1%	44.8%	44.4%	
AT LEAST SIX	11.9%	25.7%	17.6%	
Total	100.0%	100.0%	100.0%	
Mean Household Size	3.5	4.5	3.9	F=4,865.9 p<.01

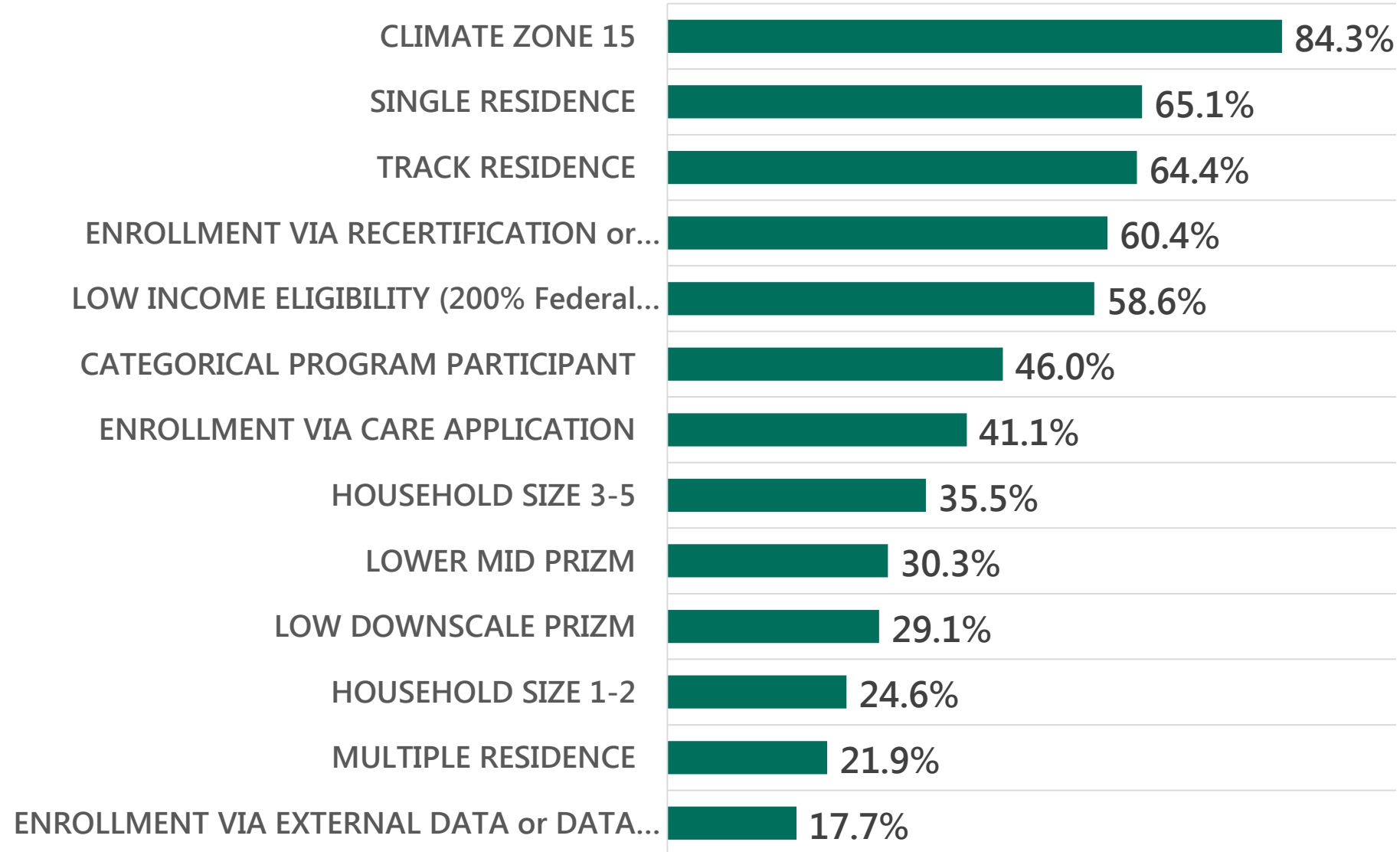
2014 Issued Verifications (n=92,497)



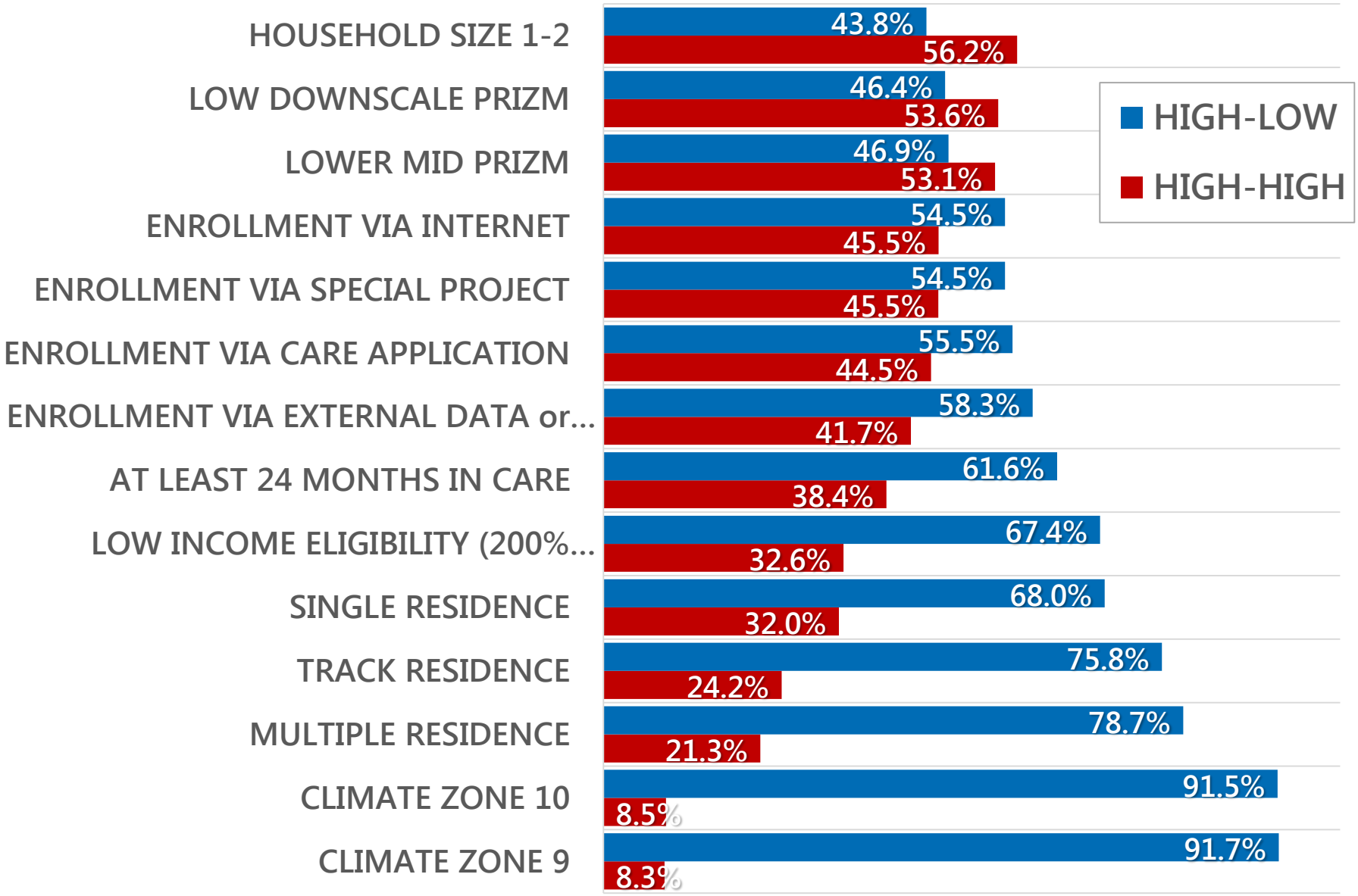
Multivariate Analysis: Binary Logistic Regression



Probability of Being High Usage



Probability of Being High-High or High-Low



Implications of the Findings

Question Asked:

What are their socioeconomic and demographic characteristics of our High Usage vs. Traditional energy users? Are they different?

Findings: High Usage and Traditional customers DO differ

- High-High and High-Low DO differ

More effective programs and policies

- Based on energy usage level and related customer characteristics

Challenges in Implementation

- Veracity of self-reported information
- Absence of socioeconomic and demographic information on customers referred by external data sources or data sharing
- Lack of information on relevant physical infrastructure factors
  - e.g. square footage of residence, number of rooms, number of floors, and other related variables can potentially influence customer usage levels
- Highly dynamic nature of the CARE population
  - People moving in and out of SCE territory
- Seasonality of usage levels

Looking to the Future

Next Level Analysis

Analyze Results of CARE High Usage

- Over 90% of CARE HU customers are de-enrolled through the HU process.
- Understand which segments pass/fail/do not respond and why.

Create Holistic View of Low Income/High Usage Customers

- Leverage Complied Data
- Customer Appeals Testimony
- Focus Groups and Surveys with Low Income/High Usage population

Continuous Improvement & Integration

Improve/Refine HU Process

- Communications (Letters/Forms/Call Center interactions)
- Efficiencies (reduce/remove/review Pain Points)
- Web Portal specialized for CARE High Usage

Customized/Preemptive Offerings

- My Account/Bill Assistance (set usage and spending goals)
- Medical Baseline Program (additional baseline allocation for medical needs)
- LIHEAP referrals
- Energy Assistance Fund referrals (SCE's non-profit bill assistance grant program)
- Cool Centers/Stations (during extreme heat)

Conclusion

By looking at Low Income Customers with High Usage you can:

Verify eligibility and promote program integrity

- Estimated $10 million in subsidy saved in 2014.
- 2015 subsidy savings estimates are up to $25M.
- Subsidy savings are returned to ratepayers.

Help customers alleviate their energy burden through integrated offerings

- Energy Efficiency
- Energy Education

Develop customer profiles of High Usage

- Customized/Preemptive Offerings
- Continuous Improvements

Appendices

VARIABLES (1 of 4)

VARIABLE	DEFINITION/CATEGORIES	COUNT	%
CATEGORICAL PROGRAM PARTICIPANT	Categorical eligibility for the CARE program means, if any permanent household member is enrolled in an SCE-approved local, state, or federal assistance program that has income guidelines equal to or lower than the Program guidelines, the applicant only needs to provide documentation of participation in the other program to qualify for the Program.	48,913	52.9%
AT LEAST 24 MONTHS ON CARE PROGRAM	Program participants are subject to recertification every two years and previous analyses on verification results show that those who have been on the program for less than 24 months tend to have a greater propensity to fail income eligibility verification	42,930	46.4%
HOUSEHOLD SIZE	One to two	22,208	24.0%
	Three to five	41,049	44.4%
	At least six individuals in household including unknown	29,240	31.6%

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VARIABLES (2 of 4)

VARIABLE	DEFINITION/CATEGORIES	COUNT	PERCENT
LOW INCOME PRIZM SEGMENTS (at ZIP9 level and as of November 2014 Prizm tabulations)	Low or Downscale Prizm	9,514	10.3%
	44 New Beginnings	554	0.6%
	46 Old Glories	451	0.5%
	47 City Startups	500	0.5%
	49 American Classics	508	0.5%
	52 Suburban Pioneers	595	0.6%
	53 Mobility Blues	513	0.6%
	55 Golden Ponds	199	0.2%
	56 Crossroads Villagers	320	0.3%
	57 Old Milltowns	406	0.4%
	58 Back Country Folks	300	0.3%
	59 Urban Elders	2,193	2.4%
	60 Park Bench Seniors	711	0.8%
	61 City Roots	953	1.0%
	62 Hometown Retired	679	0.7%
	64 Bedrock America	632	0.7%
	Lower Midscale Prizm	19,864	21.5%
	31 Urban Achievers	2,880	3.1%
	35 Boomtown Singles	588	0.6%
	38 Simple Pleasures	295	0.3%
	40 Close-In Couples	2,447	2.6%
	41 Sunset City Blues	1,337	1.4%
	48 Young & Rustic	325	0.4%
	50 Kid Country, USA	864	0.9%
	54 Mutli-Culti Mosaic	2,862	3.1%
	63 Family Thrifts	2,653	2.9%
	65 Big City Blues	2,591	2.8%
	66 Low-Rise Living	3,022	3.3%

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VARIABLES (3 of 4)

VARIABLE	DEFINITION/CATEGORIES	COUNT	%
LOW INCOME BASED ON CARE ELIGIBILITY ESTIMATES (200% Poverty Level, as of February 2014 estimates)	LOW INCOME RESIDENTIAL AREA (i.e. RESIDENCE in AREA with proportion CARE eligible households of at least median level for all customers)	39,755	43.0%
CHANNEL of ENROLLMENT	Recertification or verification	38,969	42.1%
	CARE application	10,501	11.4%
	Special project	10,226	11.1%
	Internet	9,773	10.6%
	External data (e.g. external organizations providing referrals)	5,038	5.4%
	Other channels of enrollment	17,990	19.4%
RESIDENTIAL USE	Single	41,733	45.1%
	Multiple	18,124	19.6%
	Track	23,590	25.5%
	Other residential use including unknown	9,050	9.8%

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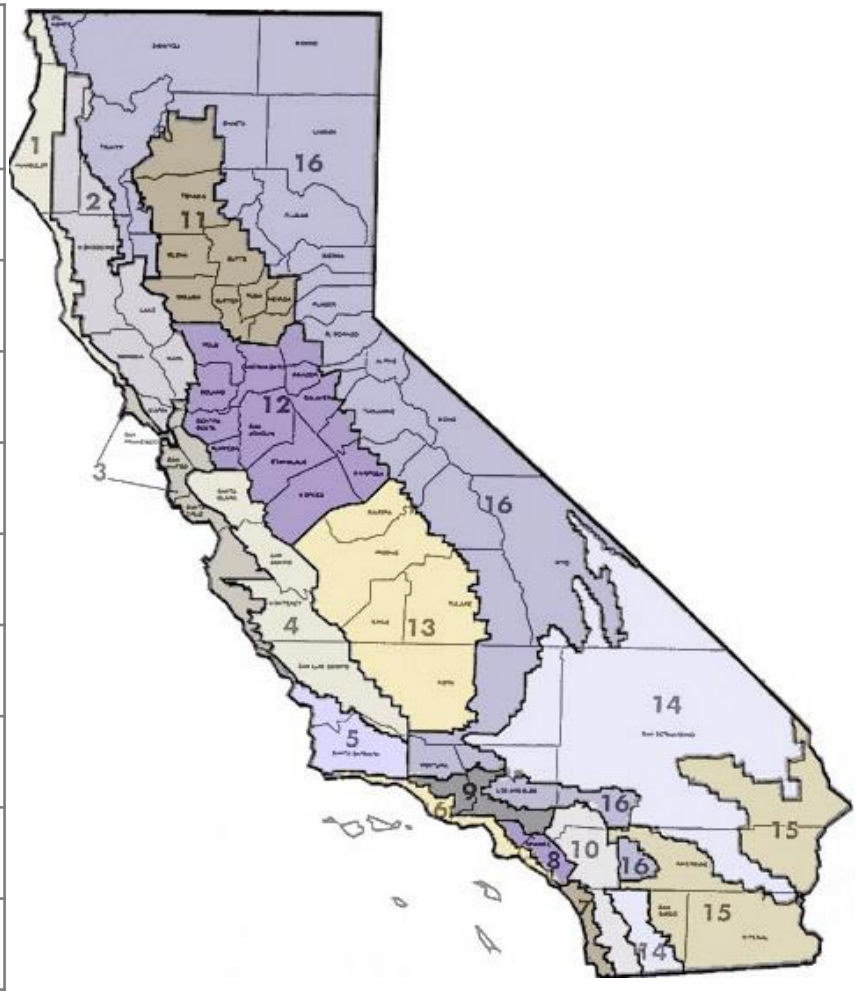
VARIABLES (4 of 4)

VARIABLE	DEFINITION/ CATEGORIES	COUNT	%
TITLE 24 CALIFORNIA CLIMATE ZONES	Climate zone 6/ Los Angeles (LAX)	10,757	11.6%
	Climate zone 8 (Long Beach)	22,498	24.3%
	Climate zone 9 (LA Civic Center)	19,158	20.7%
	Climate zone 10 (Riverside)	22,512	24.3%
	Climate zone 13 (Fresno)	3,643	3.9%
	Climate zone 14 (Barstow)	7,919	8.6%
	Climate zone 15 (Brawley)	4,546	4.9%
	Climate zone 16 (Bishop)	1,454	1.6%
	Other climate zones	10	0.0%



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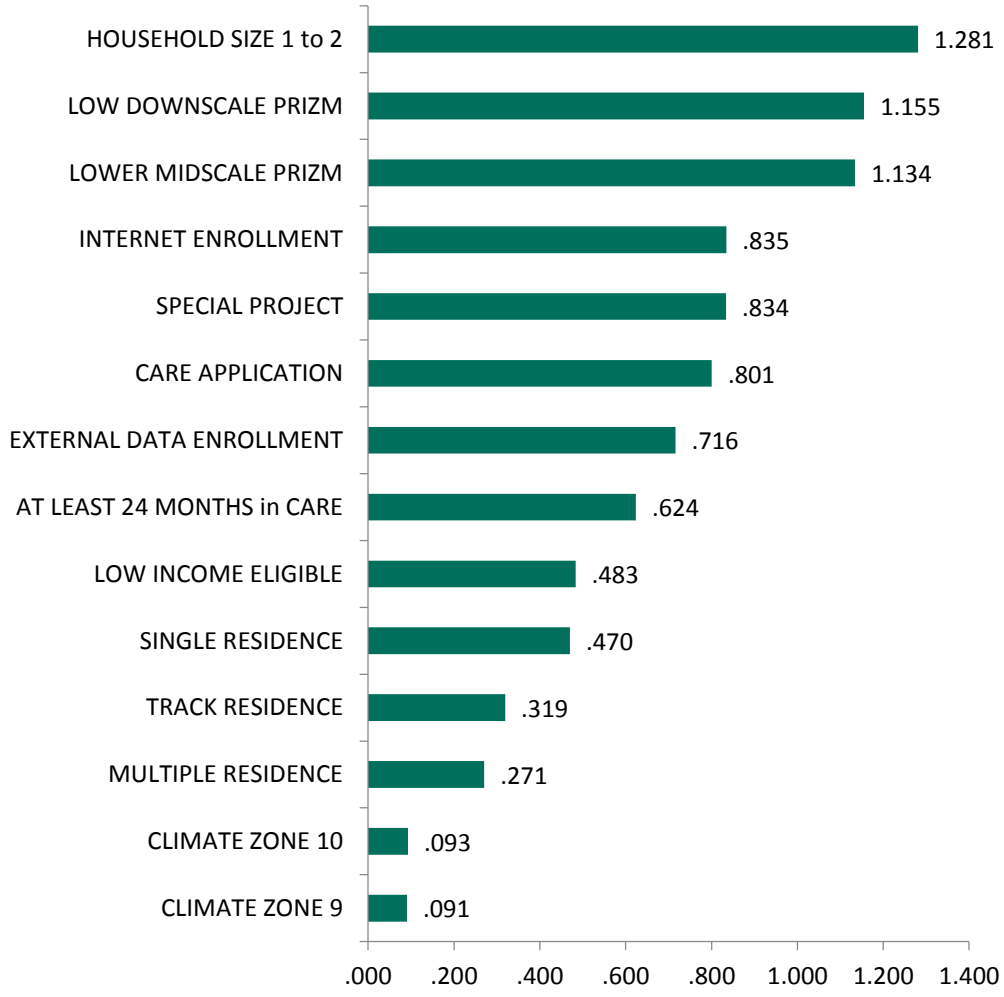
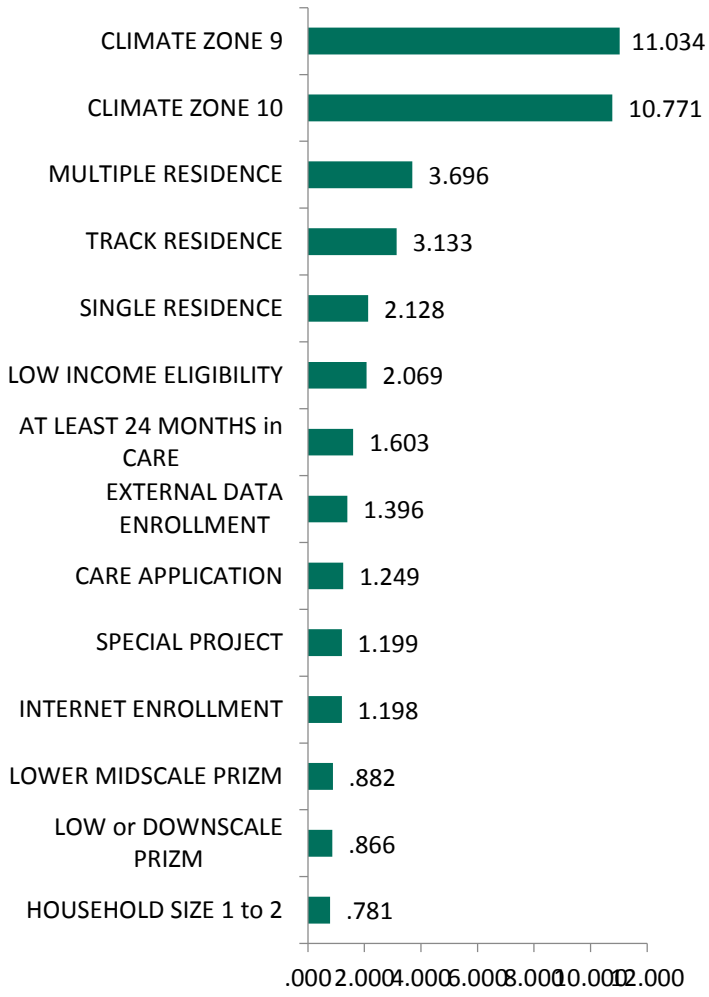
HIGH-HIGH



HIGH-LOW