This presentation premiered at WaterSmart Innovations

watersmartinnovations.com

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CALIFORNIA
DATA
COLLABORATIVE

How are my programs performing?

A.K.A.

Automating Water Savings Measurements Customized to the Unique Conditions at your Local Water Utility

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WaterSmart Innovations
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CALIFORNIA DATA COLLABORATIVE

What is the California Data Collaborative?

- Launched Jan 2016 by water agencies for water agencies.
- Goal: Leverage modern data science to ensure water reliability
- Operated as a 501(c)(3) public data infrastructure non-profit

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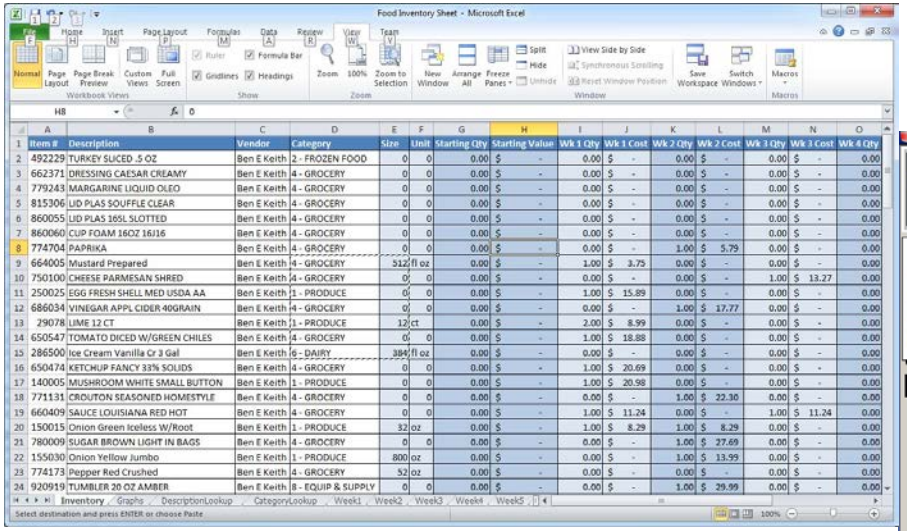
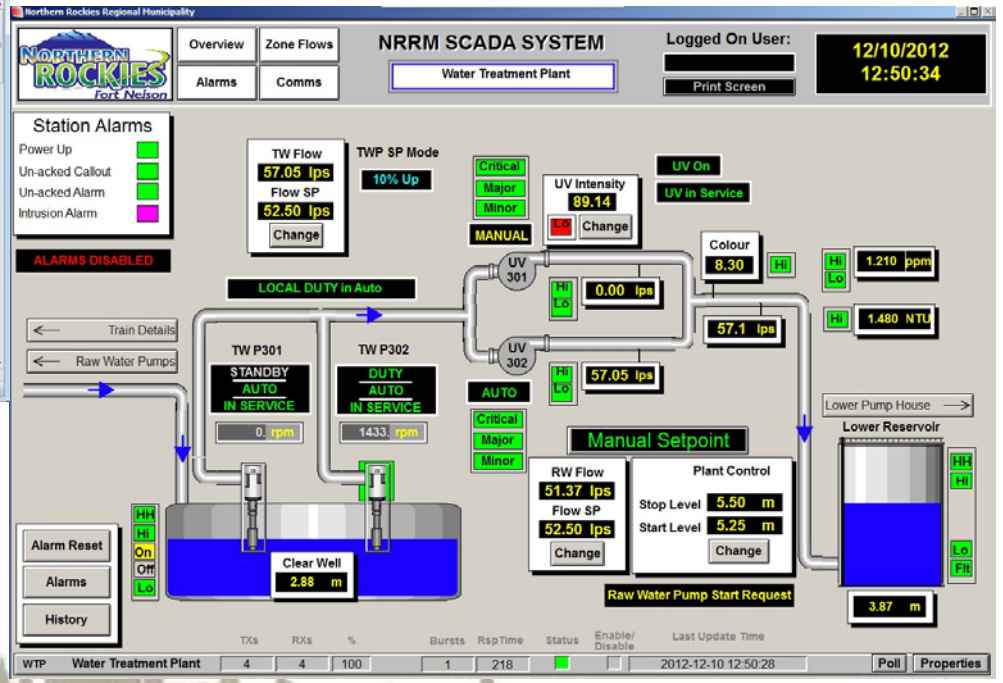
Motivation: Situational Awareness



vs.



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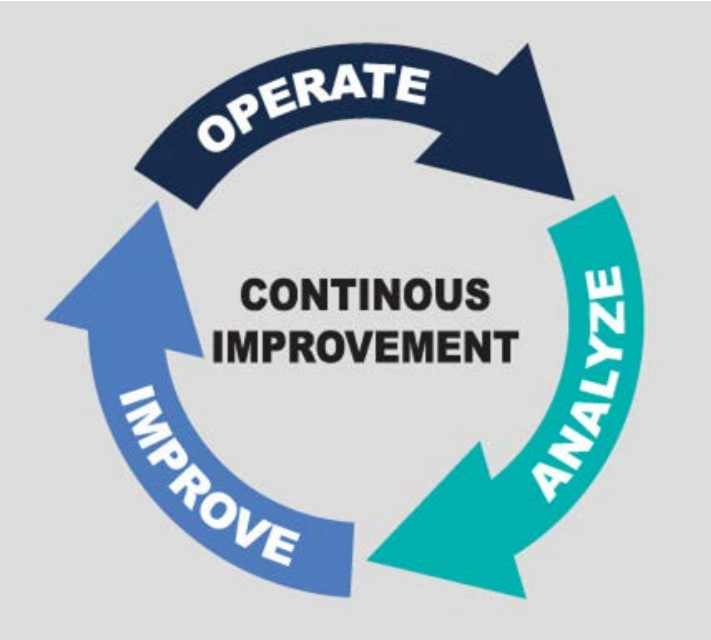
Motivation: Iterate and Improve



- Reallocate funding from low to high-performing programs
- Target outreach to areas with low adoption or above-average savings
- Learn from under and over-performing customers
- Change requirements and eligibility

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Goals

A comprehensive system to monitor program performance

- Automation as a way to simplify (do the work once)
- Track various measures of program success
- Use knowledge gained to iterate and improve

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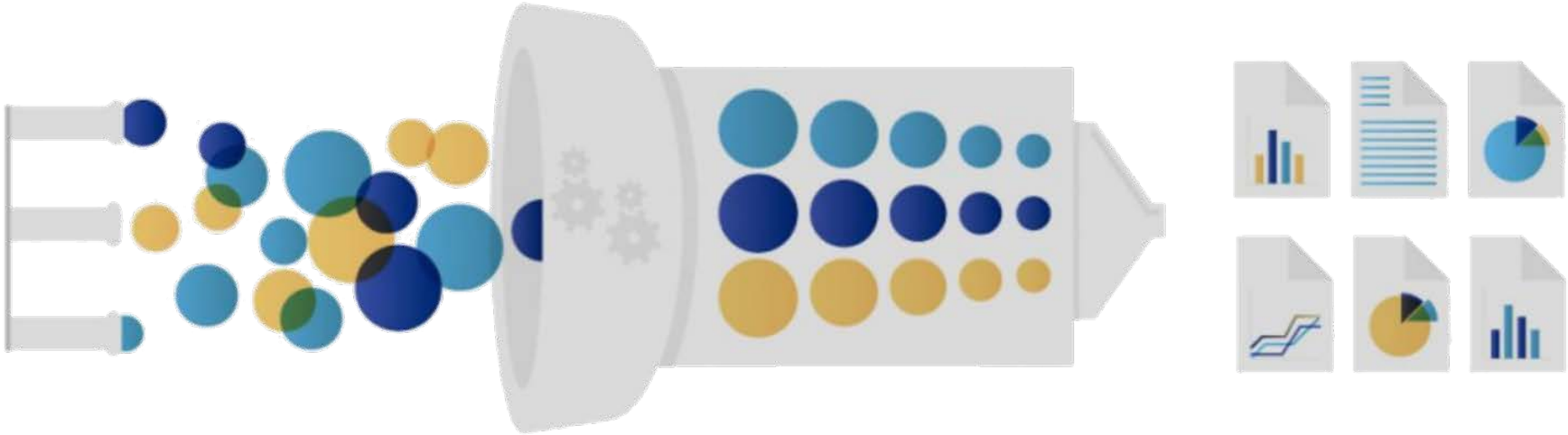
A Data Pipeline



Extract

Transform + Load

Analyze

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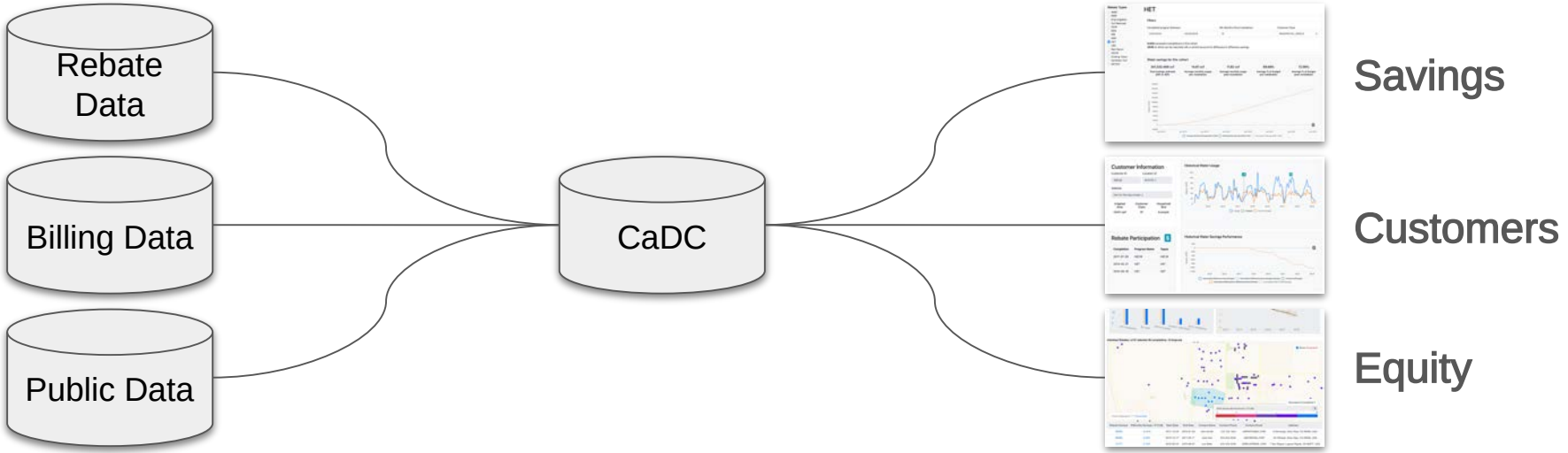
A Water Efficiency Data Pipeline



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Elements of Success

- Water Savings
- Happy Customers
- Equitable and Effective Use of Funds

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Program-level water savings

Rebate Types

- WBIC
- RWR
- Drip Irrigation
- Turf Removal
- CCW
- RSN
- WB
- IMM
- HET
- LRS
- Rain Barrel
- HECW
- Cooling Tower
- Synthetic Turf
- WCTCC

HET

Filters

Completed program between: 01/01/2010 – 04/30/2019

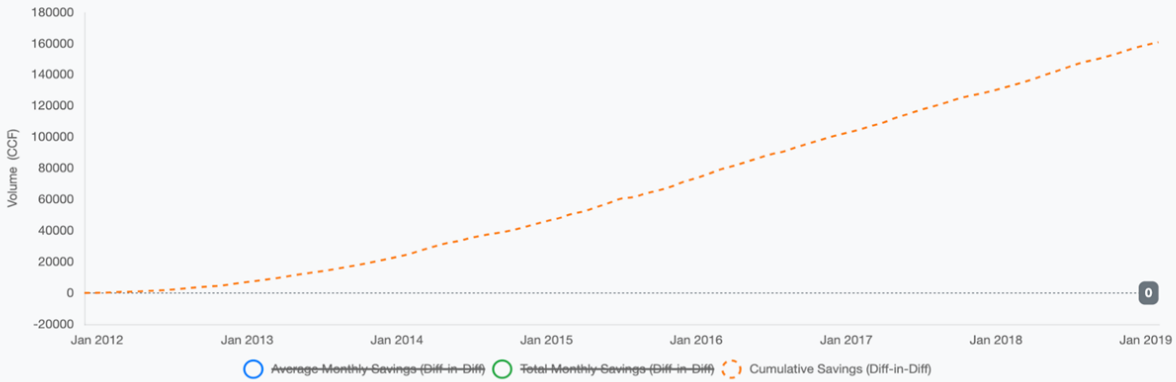
Min Months Since Installation: 12

Customer Class: RESIDENTIAL_SINGLE

5,945 successful completions in this cohort
3049 of which can be matched with a control account for difference in difference savings

Water savings for this cohort

341,532.488 ccf	14.81 ccf	11.82 ccf	89.68%	72.96%
Total savings estimate (diff-in-diff)	Average monthly usage pre-installation	Average monthly usage post-installation	Average % of budget pre-installation	Average % of budget post-installation



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Program-level water savings

Rebate Types

- ○ WBIC
- ○ RWR
- ○ Drip Irrigation
- ◉ Turf Removal
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Turf Removal

Filters

Completed program between: 01/01/2010 – 04/30/2019

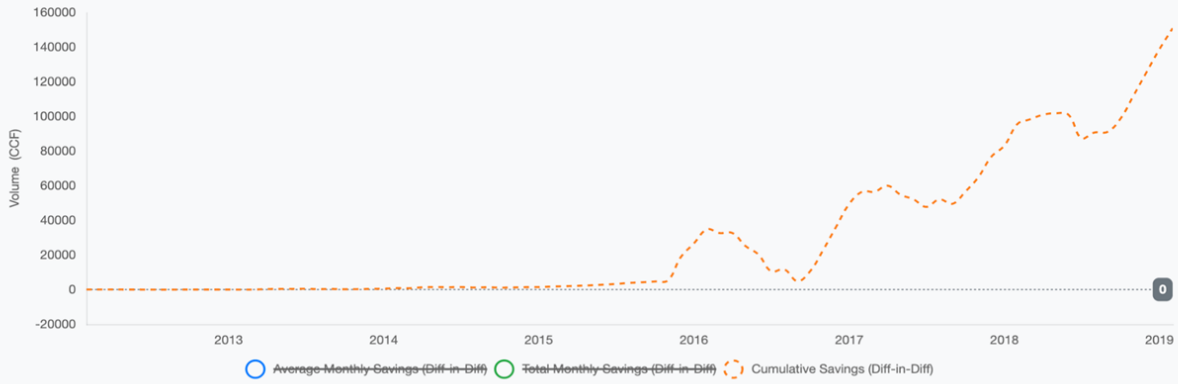
Min Months Since Installation: 12

Customer Class: RESIDENTIAL_SINGLE

1,584 successful completions in this cohort
598 of which can be matched with a control account for difference in difference savings

Water savings for this cohort

481,286.88 ccf	15.78 ccf	11.91 ccf	111.78%	86.88%
Total savings estimate (diff-in-diff)	Average monthly usage pre-installation	Average monthly usage post-installation	Average % of budget pre-installation	Average % of budget post-installation



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Synthetic Turf

Filters

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Min Months Since Installation: 12

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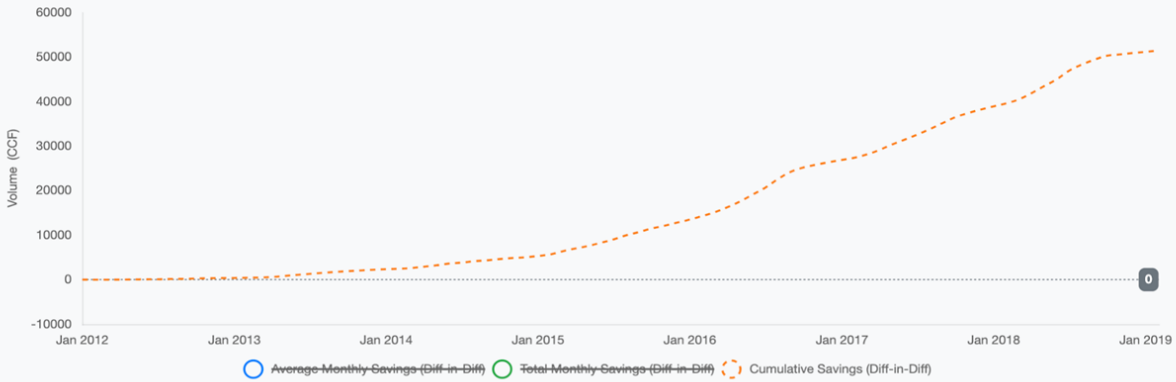
Water savings for this cohort

96,752.291 ccf	15.53 ccf	12.6 ccf	105.55%	87.26%
Total savings estimate (diff-in-diff)	Average monthly usage pre-installation	Average monthly usage post-installation	Average % of budget pre-installation	Average % of budget post-installation



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Customer-level rebate participation and savings performance

Customer Information

Customer ID: 58028

Location ID: 810116-1

Address: Not for the big screen ;)

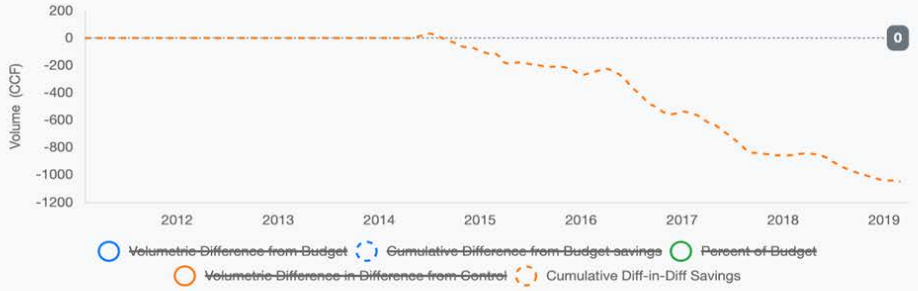
Irrigated Area	Customer Class	Household Size
13351 sqft	*R1*	*6 people*

Historical Water Usage

Rebate Participation $

Completion	Program Name	Types
2017-07-28	HECW	HECW
2014-05-21	HET	HET
2014-06-18	HET	HET

Historical Water Savings Performance



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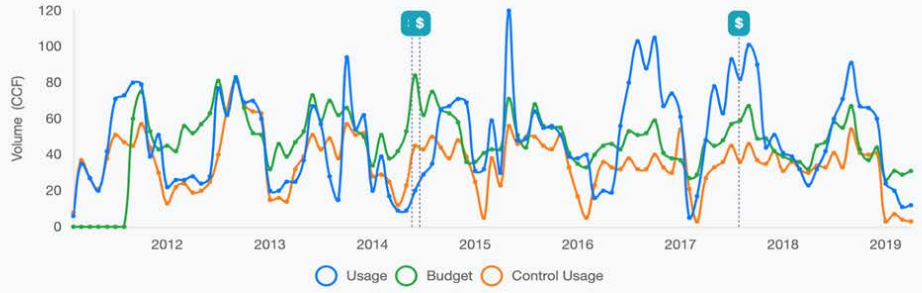

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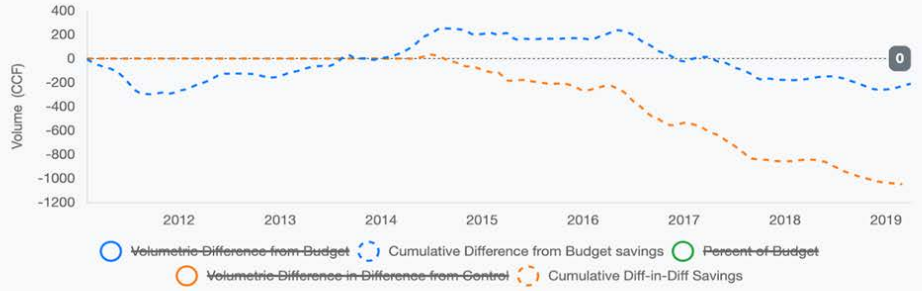

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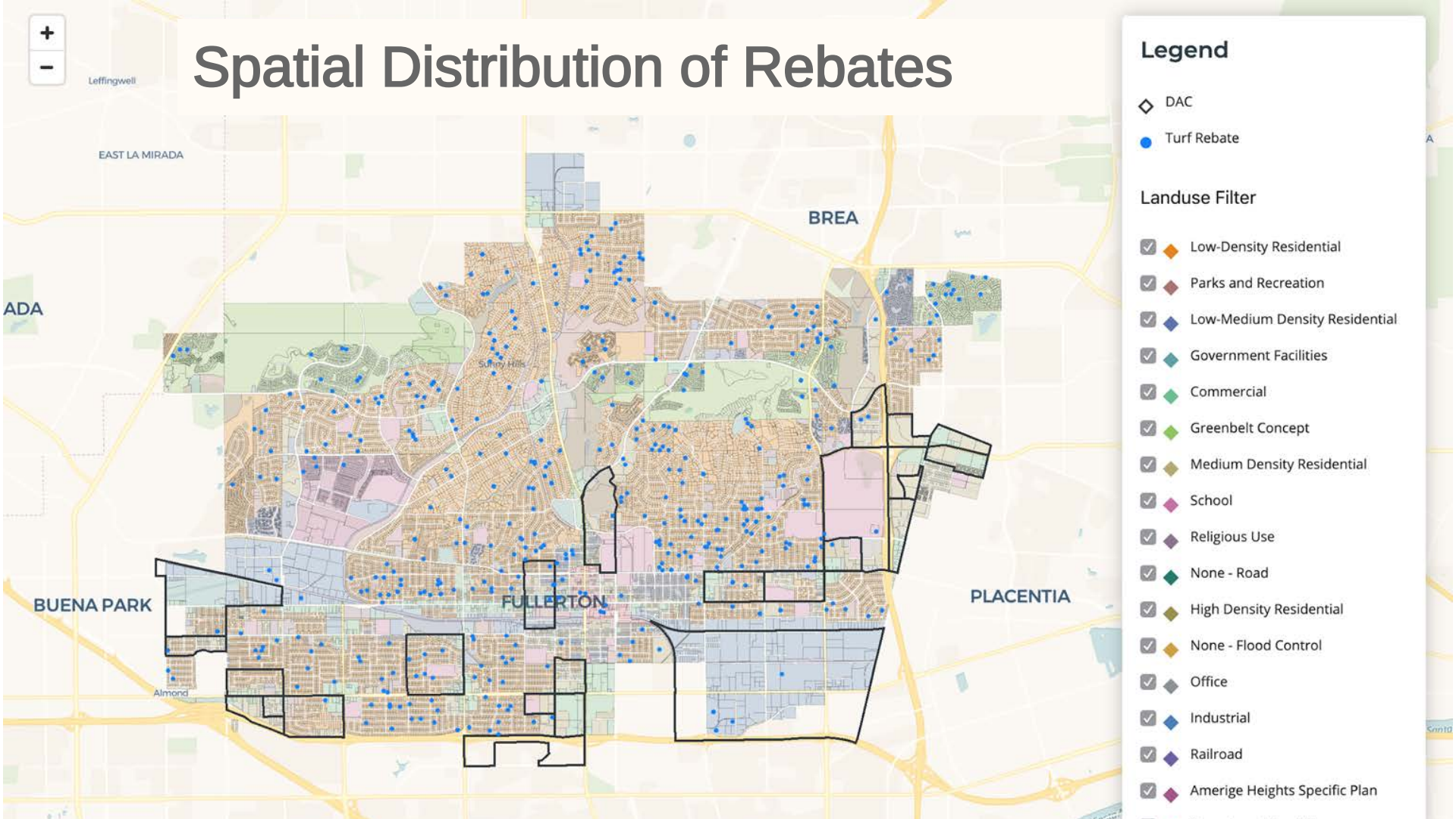
Spatial Distribution of Rebates



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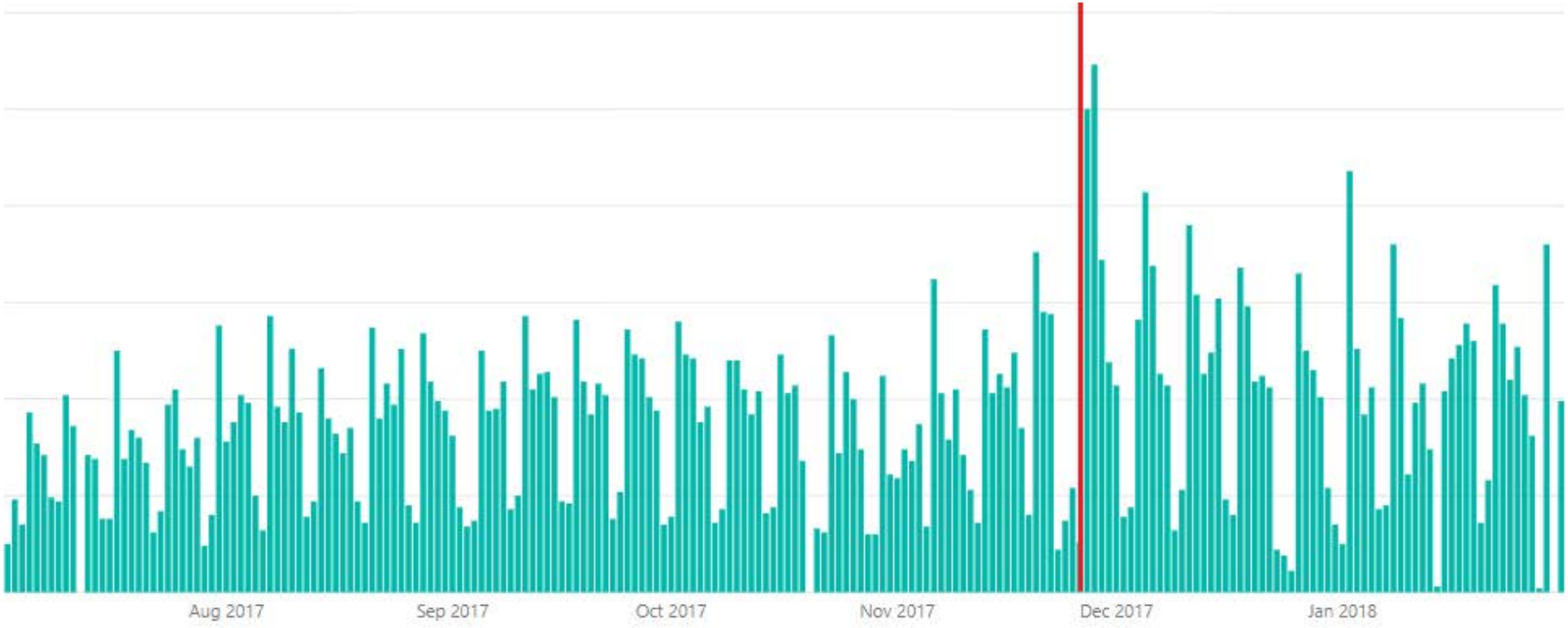
Impact of Marketing and Outreach



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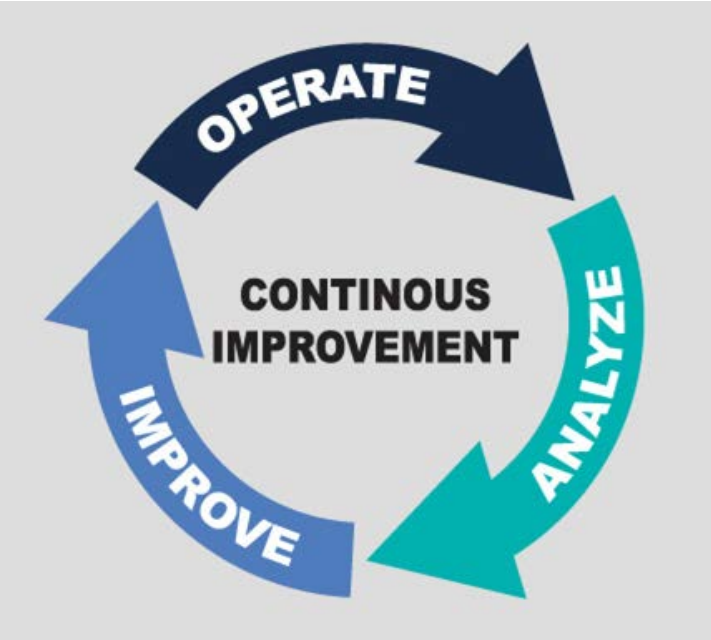
Iterate and Improve



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More info:
http://CaliforniaDataCollaborative.org