



Tapping into the power of behavioral science

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What is behavioural science?

A multidisciplinary field that draws from psychology, sociology, public health, and economics to explain complex mechanisms that shape human behaviour.

Social norms constitute a social standard from which people typically do not want to deviate, often unconsciously.

How does it work?

Evidence shows that the need to be within a societal norm is more motivating than many economic incentives



Individual exhibits target behavior

e.g. low water use



Message encouraging normalized behavior moves individual back toward the "crowd."

e.g. "Most people use more water than you."



An injunctive norm is used to counteract this effect

e.g. "low water use is admirable"

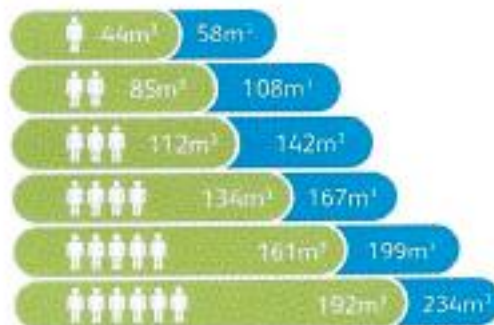
How do we
encourage change?



Step 1: Engage

More questions than answers

Where am I?
Compared to whom?
How did I do?
Is it good or not?
Why is it high?
Do I have a leak?



How do you compare?

You currently use around 1,742m³ (cubic metres) of water a year. Use this table to see how your water use compares with the average household. Using less will help you reduce your water and energy bills, while helping protect future supplies.

For tips visit

How did this compare to previous years?
Am I doing better?
Have my changes made a difference?

Volume used		
	Type of reading	Reading
New reading on 27 October 2016	Actual	2531
Previous reading on 06 May 2016	Actual	1701
Total volume used		830m³

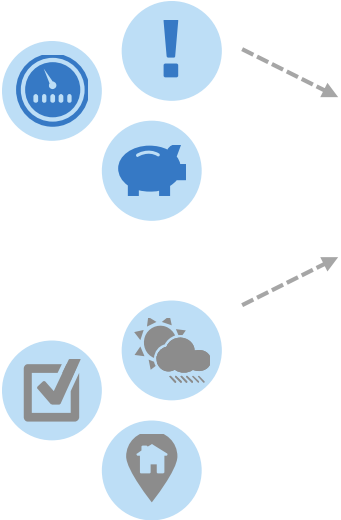
Why did my bill go up so much?
What has changed?
What can I do to save?

Account activity

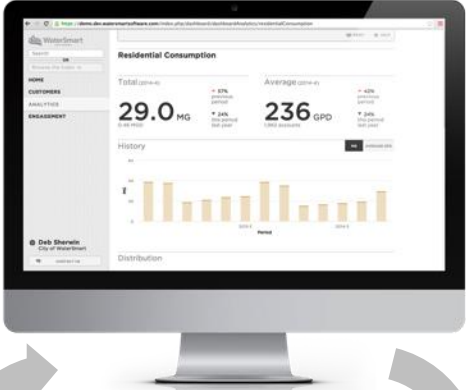
Amount due at last bill (dated 09 May 2016)	<input type="text"/>
Payments made since last bill – thank you	<input type="text"/>
Total new charges for this period	<input type="text"/>
Total amount due	<input type="text"/>

Use the Data!

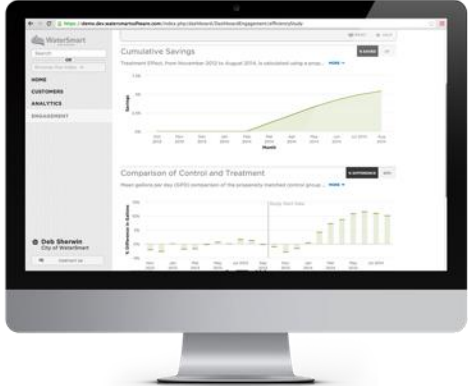
UTILITY DATA
Meters, Programs &
Incentives



ANALYZE
Utility Dashboard



EXTERNAL DATA
Surveys, Property,
Climate



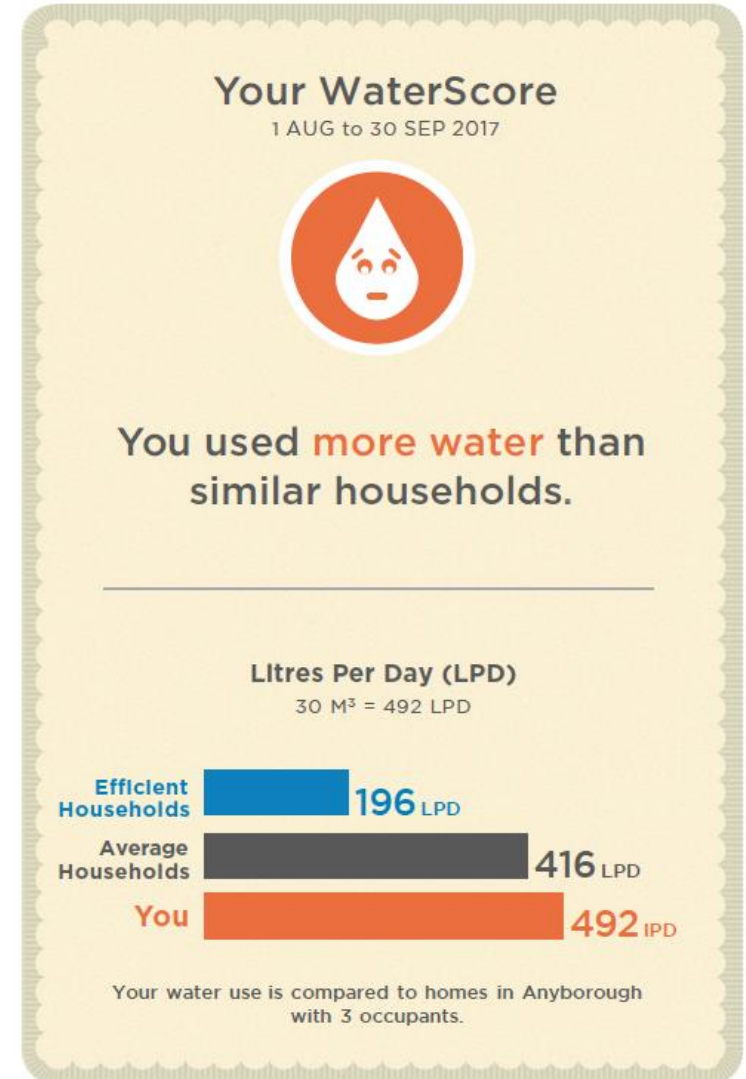
MEASURE
Report results,
outcomes, and trends



ENGAGE
Customer Portal,
Outbound Comm.

Social norm comparison

Injunctive
norms convey
what is,
or is not,
socially accepted



Countering the Boomerang Effect

Affirmative messages can keep already-compliant individuals focused on the target behavior.



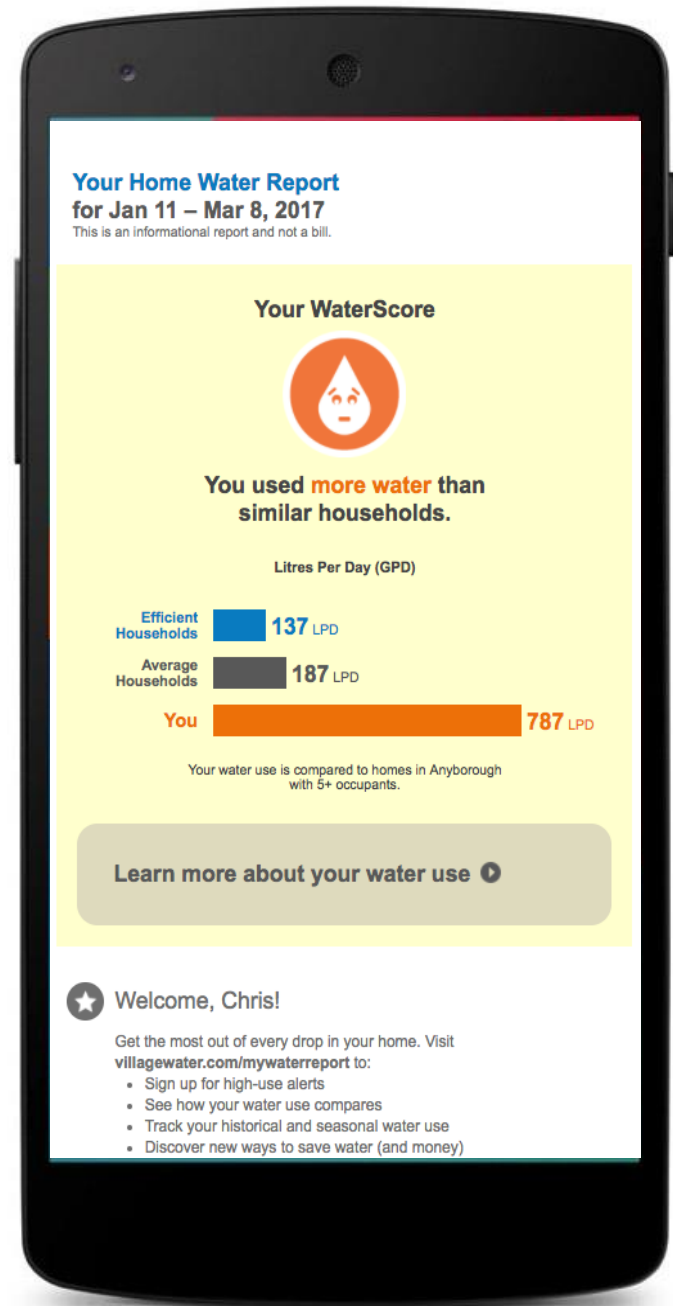
Form relevant reference groups



Compare individuals to others that are
as similar as possible

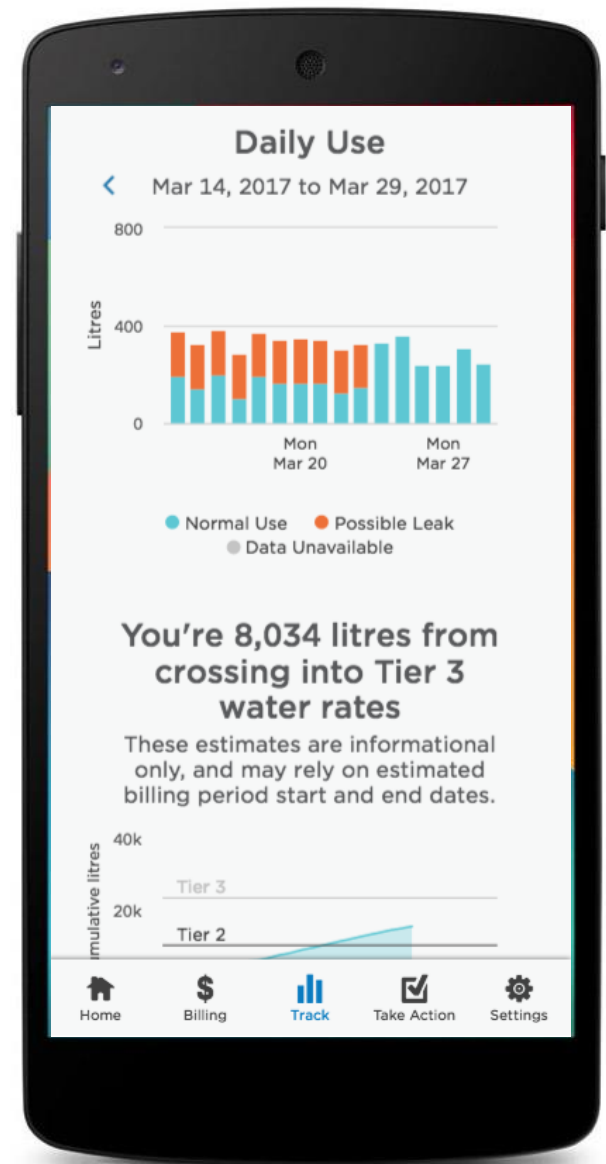
Push Water Report

- Injunctive norms
- Empathetic Gauge
- Liters Per Day



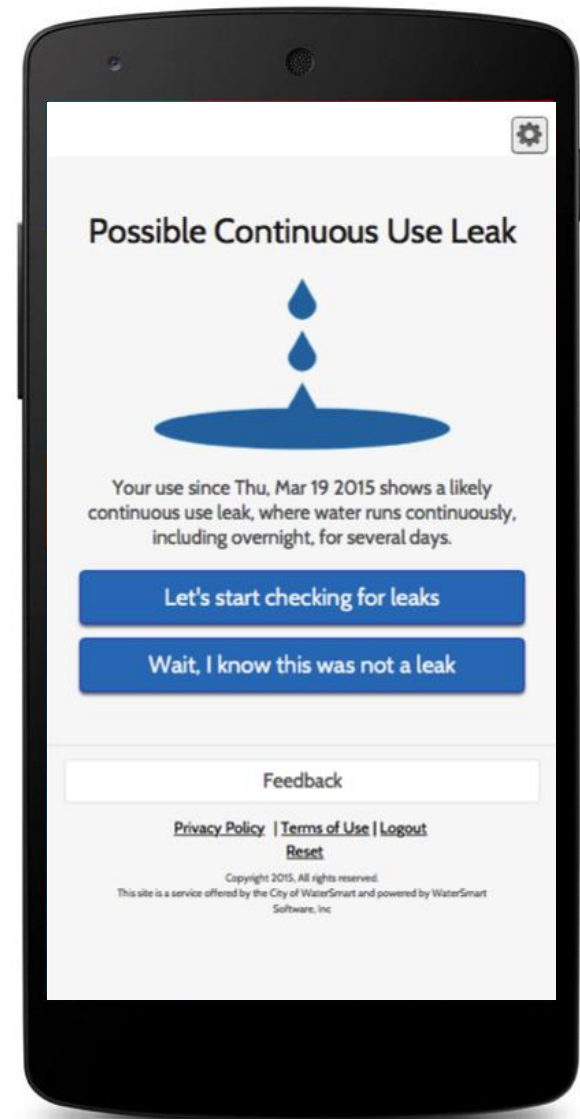
More frequent consumption data

- Interval consumption data
- Animated bar chart
- Leak alerting



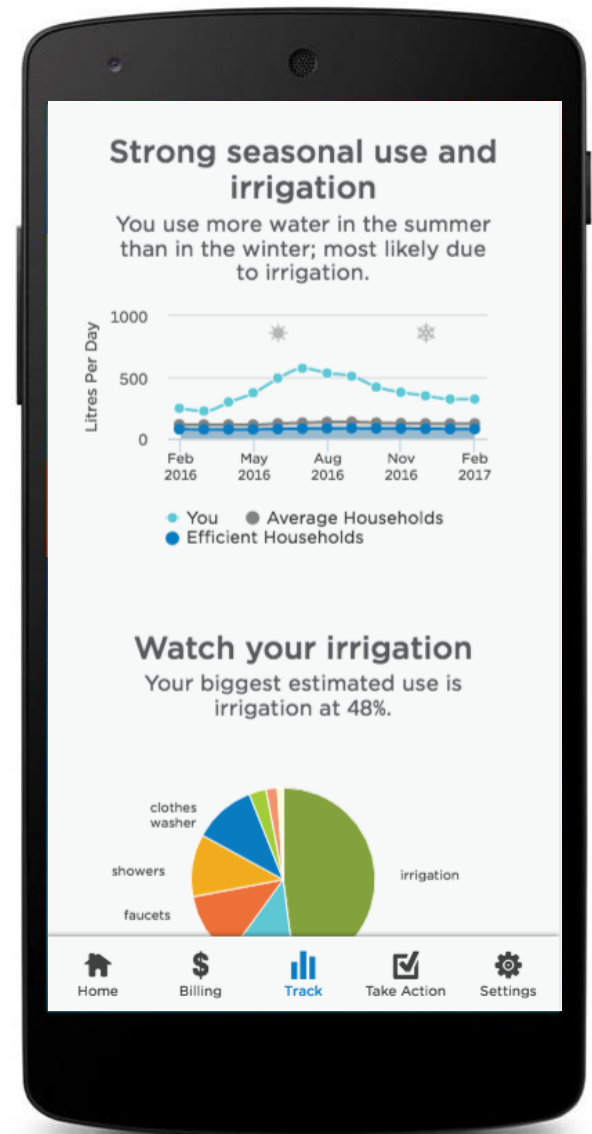
Leak identification & solutions

- Easy-to-understand leak identification process
- Plain language explanation of why a leak is suspected
- Leak detection check list and interactive video content
- Leak alert dismissal button
- Learning enabled



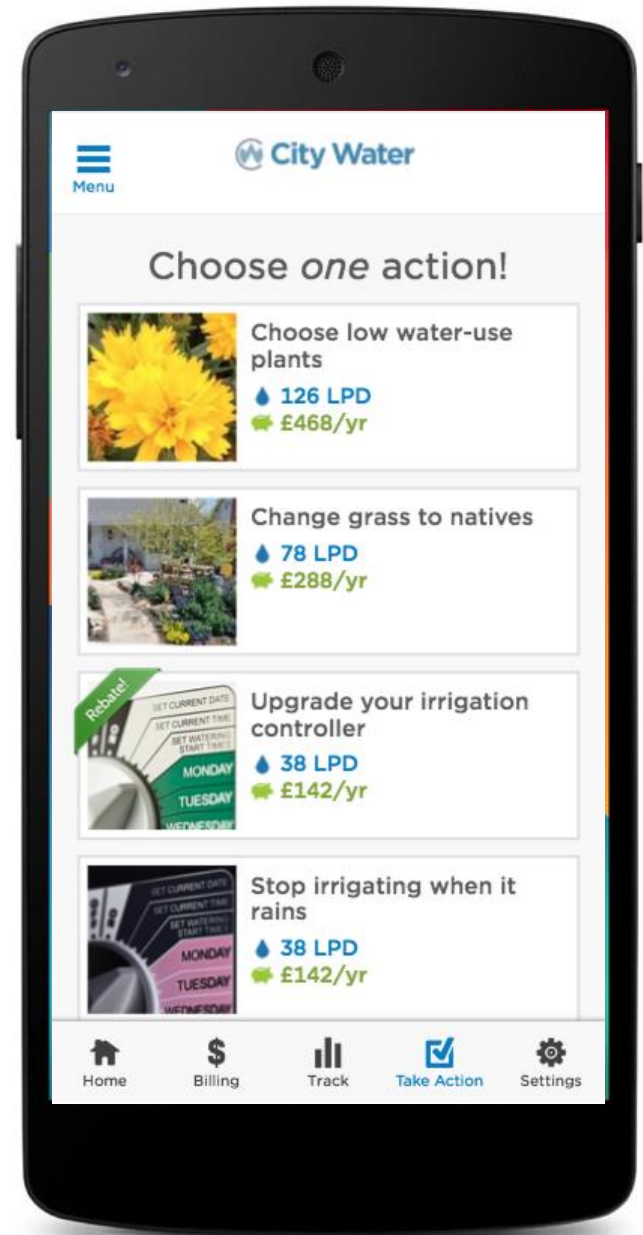
Seasonal & disaggregated usage

- Seasonal consumption graph
- Disaggregation pie chart
- Highlights largest use
- Interactive pie chart
- Animation on touch



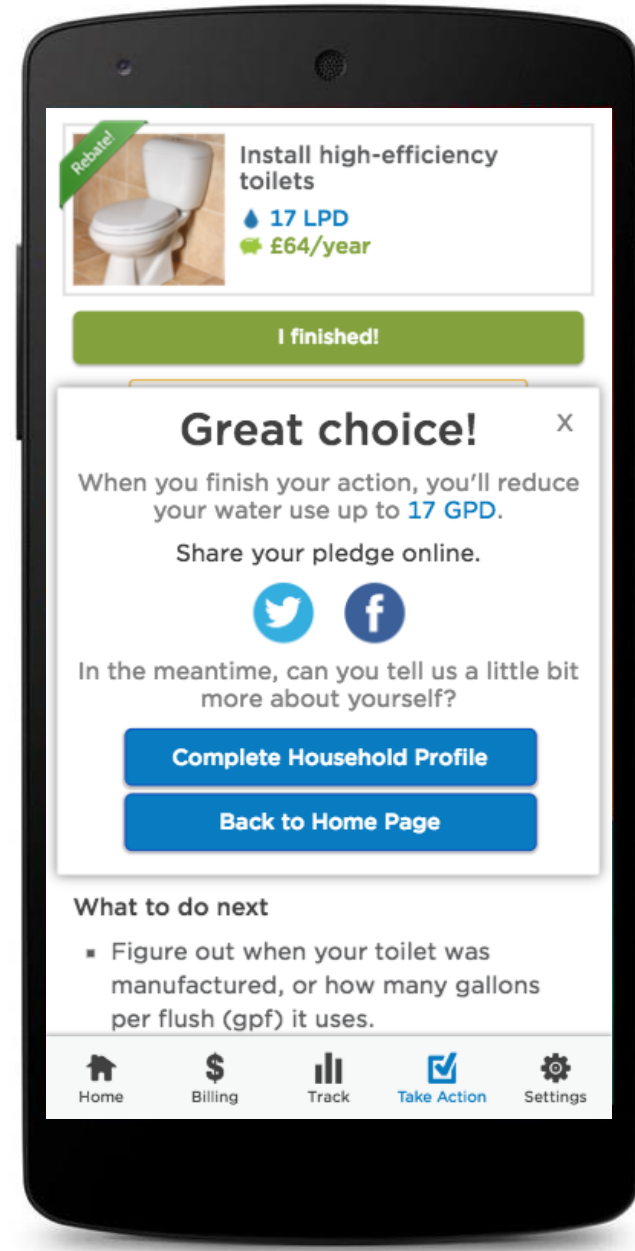
Saving actions

- Household specific water saving recommendations
- Personalized & Targeted
- LPD and £/year estimates
- Progress status indicator
- Special offer flags



Social pledges

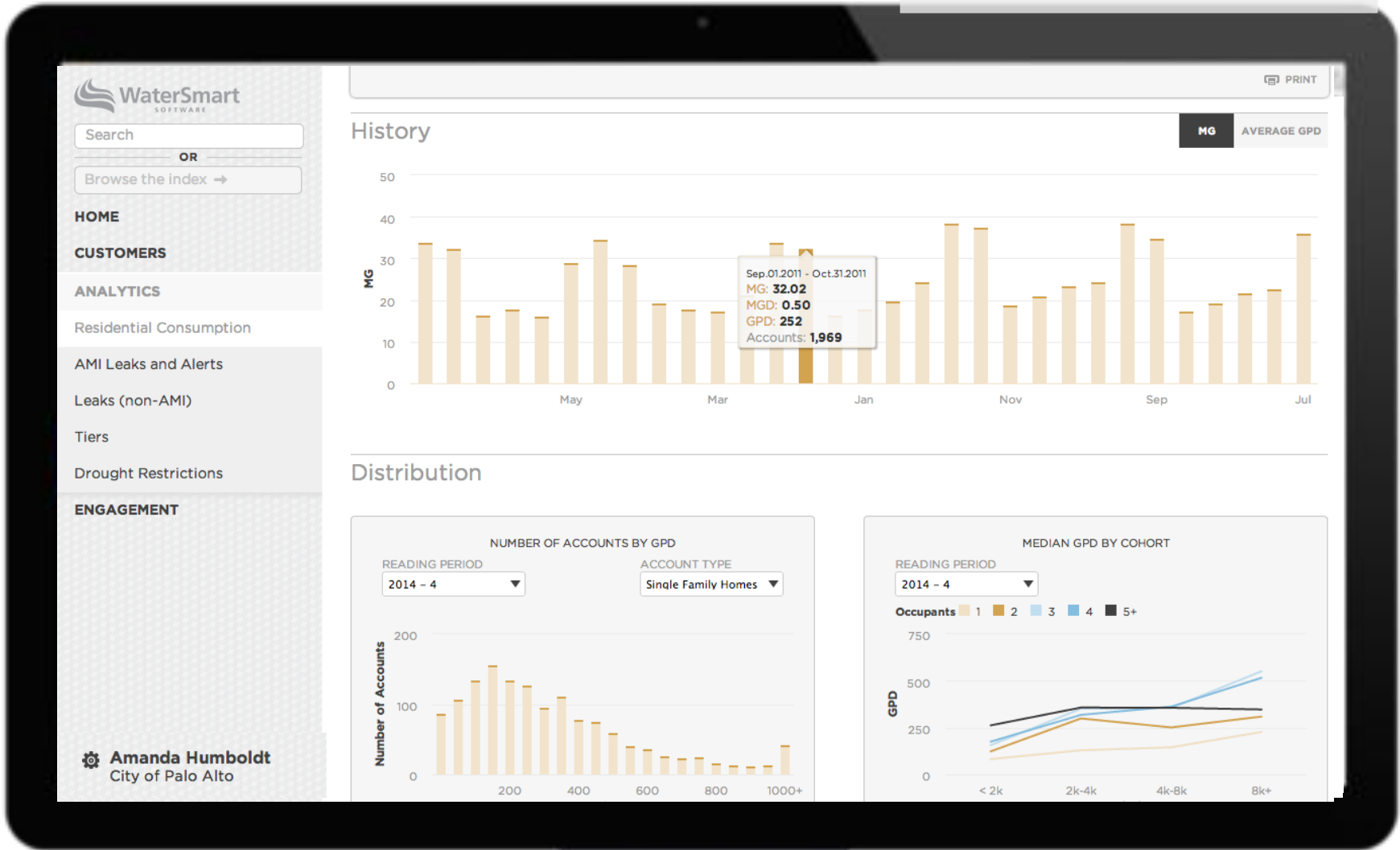
- One-click posting of pledge to Twitter and Facebook
- Public commitment increases likelihood of completing action
- Social pledge reinforces benefits among local community



Analysis

Utility Dashboard

- Improve customer support
- Measure program effectiveness
- Promote conservation
- Streamline reporting



WaterSmart
SOFTWARE

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CUSTOMERS

ANALYTICS

Residential Consumption

AMI Leaks and Alerts

Leaks (non-AMI)

Tiers

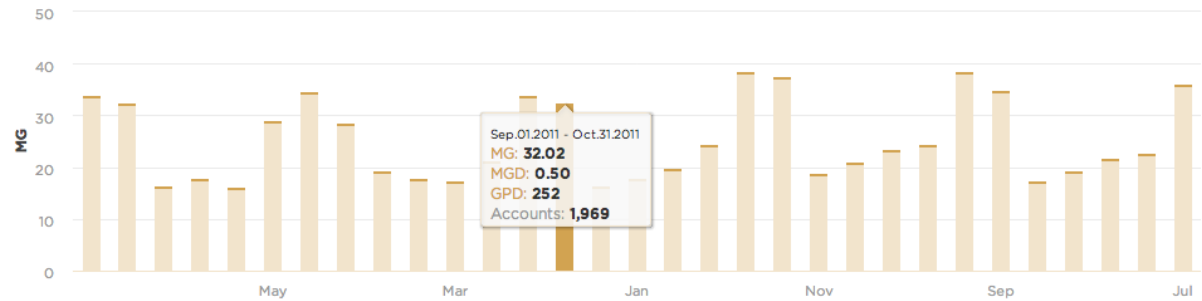
Drought Restrictions

ENGAGEMENT

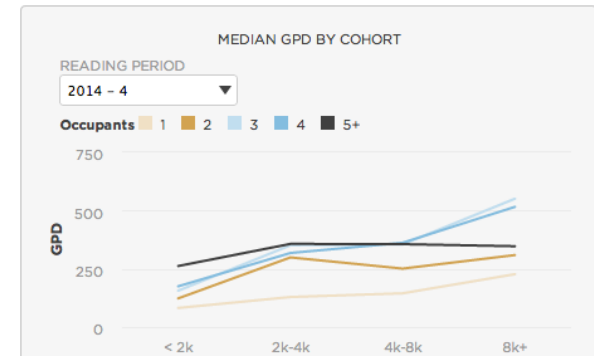
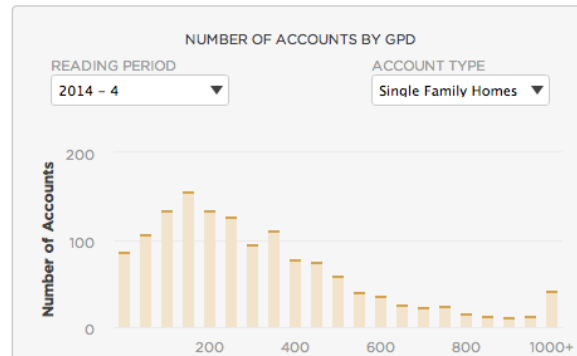
Amanda Humboldt
City of Palo Alto

PRINT

History



Distribution



Efficiency Results

PRINT HELP



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CUSTOMERS

NEW

ANALYTICS

ENGAGEMENT

Mailings

Group Messenger

Portal Registrations

Portal Visits

Customer Intelligence

Efficiency Study

Efficiency Study

JUN 2014—OCT 2015

INFO

Participants

SEE ALL

- Water Report recipients
7,691 residential accounts
- Treatment
7,691 residential accounts
- Control
4,998 residential accounts

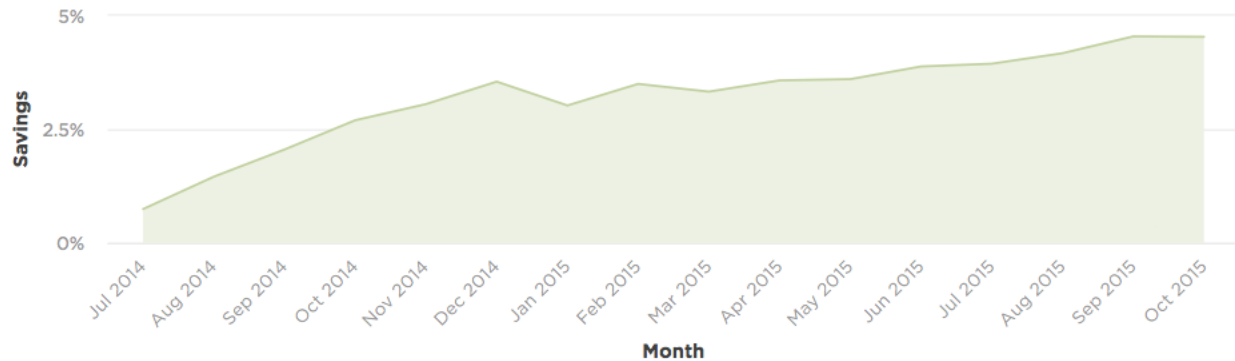
Treatment Effect

4.5%
1,181 AF saved 514,536 CCF

Cumulative Savings

% SAVED AF


The Program Impact on Water Consumption (Treatment Effect), from Jun 2014 to Oct 2015... MORE



WaterSmart Support
City of WaterSmart



Leak Alerts and Resolution

 WaterSmart
SOFTWARE

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CUSTOMERS NEW

ANALYTICS

Consumption

Leak Detection

Tier Consumption

Drought Restrictions

ENGAGEMENT

Leak Detection

ABOUT

Detection

8,402 DETECTED

In the past year

 8,402

Alerts

VIEW NOT ALERTED

939

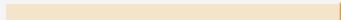
ACCOUNTS ALERTED

In the past year

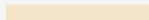
@ 925 📱 26 🗨️ 2

RATES OF ENGAGEMENT AS A PERCENT OF ALERTS SENT


Opened

 61%

Clicked

 27%

Resolved

 16%

Biggest Open Leaks

Biggest Open Leaks **17 results**

TABLE VIEW MAP VIEW

This list contains a list of open AMI leaks. Burst leaks show usage of 74.8 gallons or more in each of the last 6 hours. Continuous leaks show usage of 1 gallon or more in each of the last 144 hours.

SEARCH ACCOUNT

METER CLASS



UPDATE

ACCOUNT	VOLUME (GALLONS)	RATE (GPH)	START	ALERT & STATUS	MOST RECENT NOTE	MORE COLUMNS
Arran Hsy 7554 Dominica Ct 909182990105	18,069	183	Oct 12	Email Alert Sent	Sep 22 Quest jkhkhc MORE	Download to see all columns: <ul style="list-style-type: none"> Account Volume (gallons) Rate (GPH) Start Leak Type Alert & Status Email Mobile Phone Home Phone Note Date Note Reason Note Contents DOWNLOAD
Arnulfo Confalone 9832 Emiliano Ave 705911259805	7,274	92	Oct 14	Checking for Leak	MORE	
Armandina Dimitri 1305 Delphine Blvd 604366295206	7,049	7	Sep 7	Found Leak	MORE	
Abia Goold 68 Rowena Blvd 806427670505	4,980	30	Oct 12	Email Alert Opened	Nov 20 Quest Concerned about... MORE	
Anamaria Worst 265 Vesta St 807206000007	3,652	22	Oct 12	Not Alerted	MORE	



Leaks Located on Map

WaterSmart SOFTWARE HELP MESSAGE DOWNLOAD CLOSE

Leaks 31 results TABLE MAP CONSUMPTION

This report shows all leaks identified by WaterSmart's leak detection algorithms. A reading must be abnormally high, compared to historical usage for the account, to qualify as a leak. Non-AMI readings must meet two criteria. First, it must be at least 1500 GPD. Second, it must be at least 2.0 times as high as the previous highest reading in the past 2 years, or must exceed the previous highest by at least 1500 GPD. Accounts must have at least 2 years of usage history in order for leaks to be detected. For AMI readings, burst leaks show usage of 74.8 gallons or more in each of the last 6 hours, while continuous leaks show usage of more than 0 gallons or more in each of the last 144 hours. This Report is limited to accounts that currently have Active status.

DATE RANGE: Feb 07, 2017 — Mar 09, 2017 SEARCH ACCOUNT ALERT STATUS: Not Alerted LEAK STATUS: Ongoing UPDATE

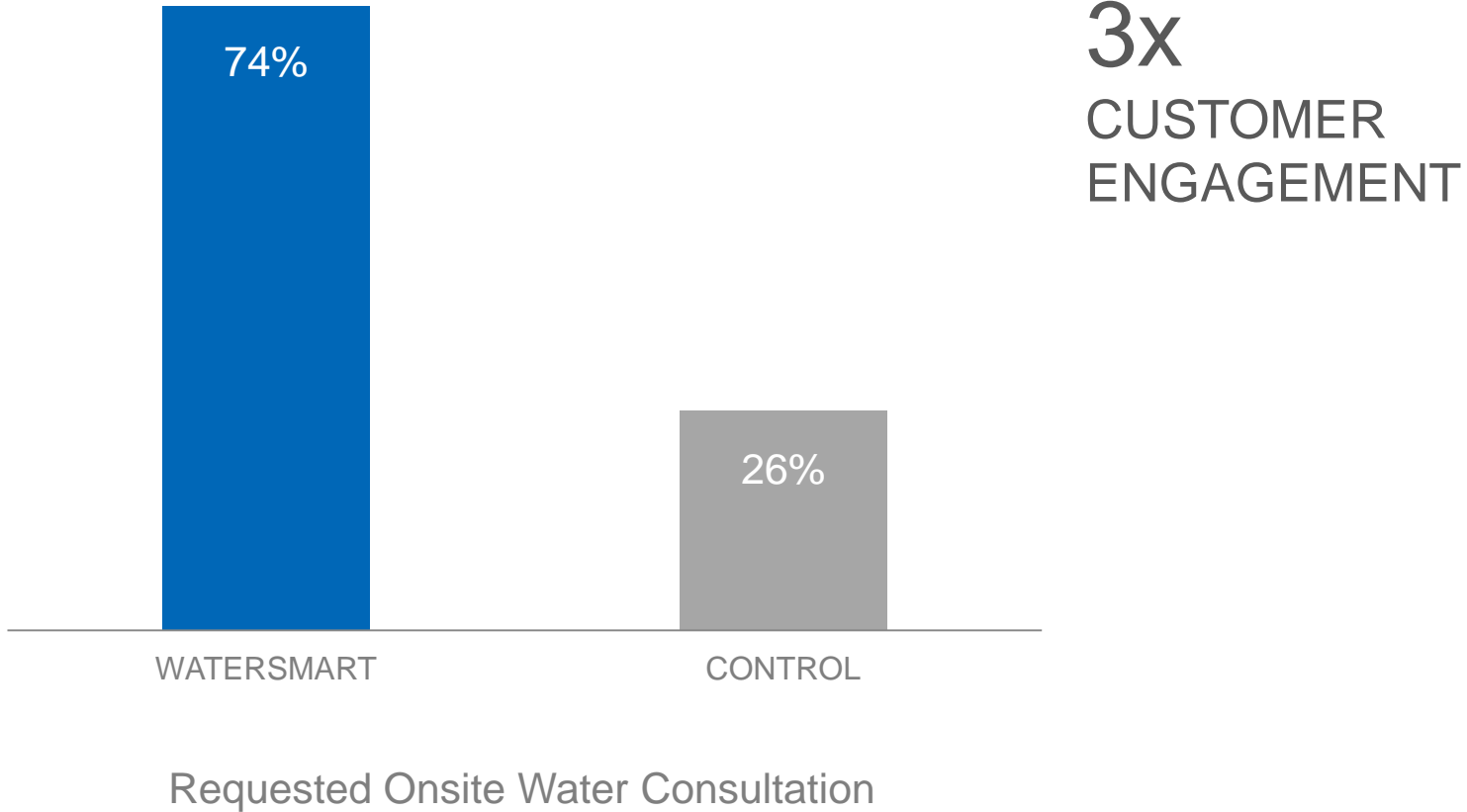
METER CLASS: All

Map Satellite Google Imagery ©2017 NASA, TerraMetrics 10 km Terms of Use Report a map error

WaterSmart Support City of WaterSmart Sanjay Smillie 1236 Sammie Ln 707355394100 Not Alerted Feb 26, 2017 read

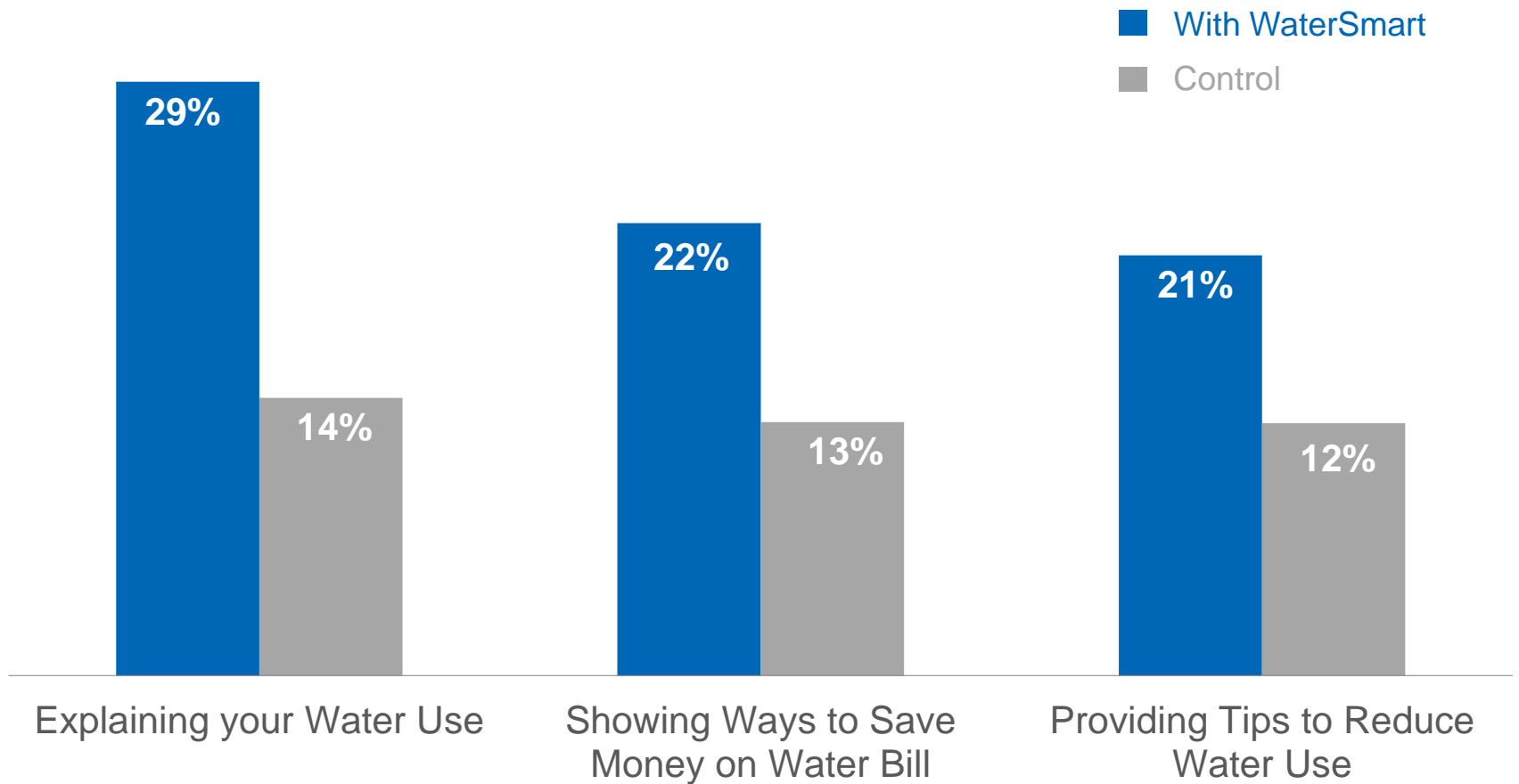
OUTCOME 1

Positive engagement



OUTCOME 2

Satisfied customers



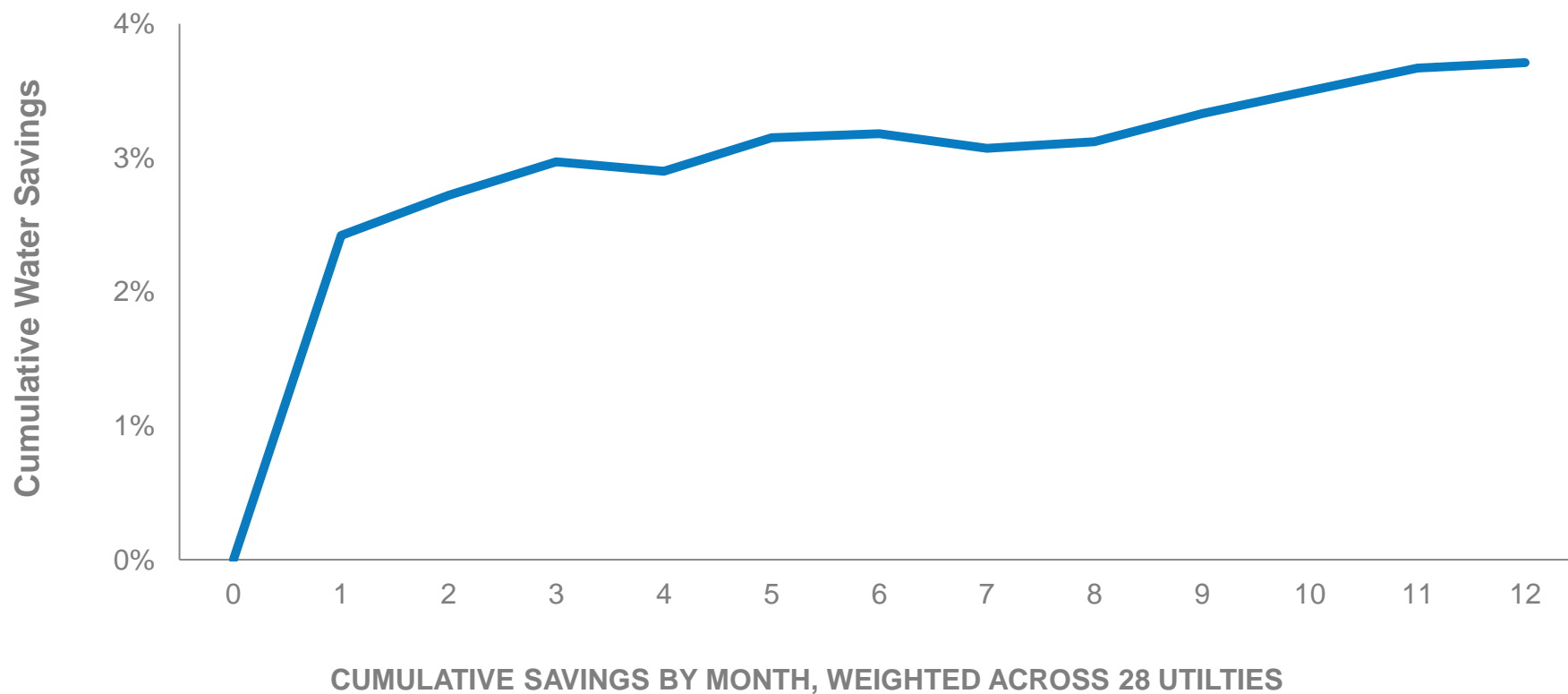
% CUSTOMERS WHO RATED THE UTILITY "EXCELLENT"

OUTCOME 3

Increase water-use efficiency

2–5%

PROVEN SAVINGS



Step 1: Engage customers

Step 2: Make it easy

Step 3: Create evidence

For more, download the white paper at:
Watersmart.com/media/tapping-behavioral-science/

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