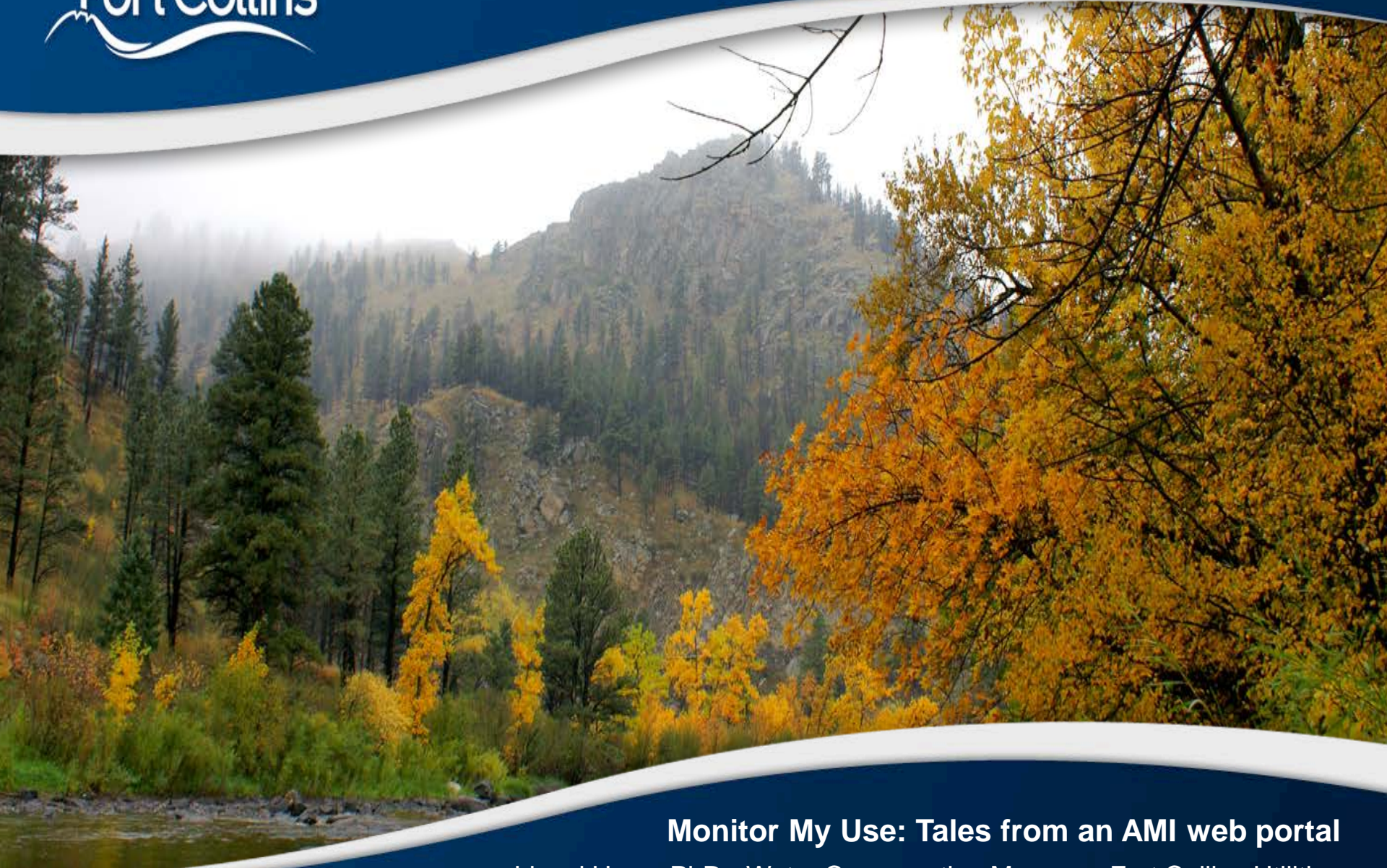


This presentation premiered at WaterSmart Innovations

watersmartinnovations.com

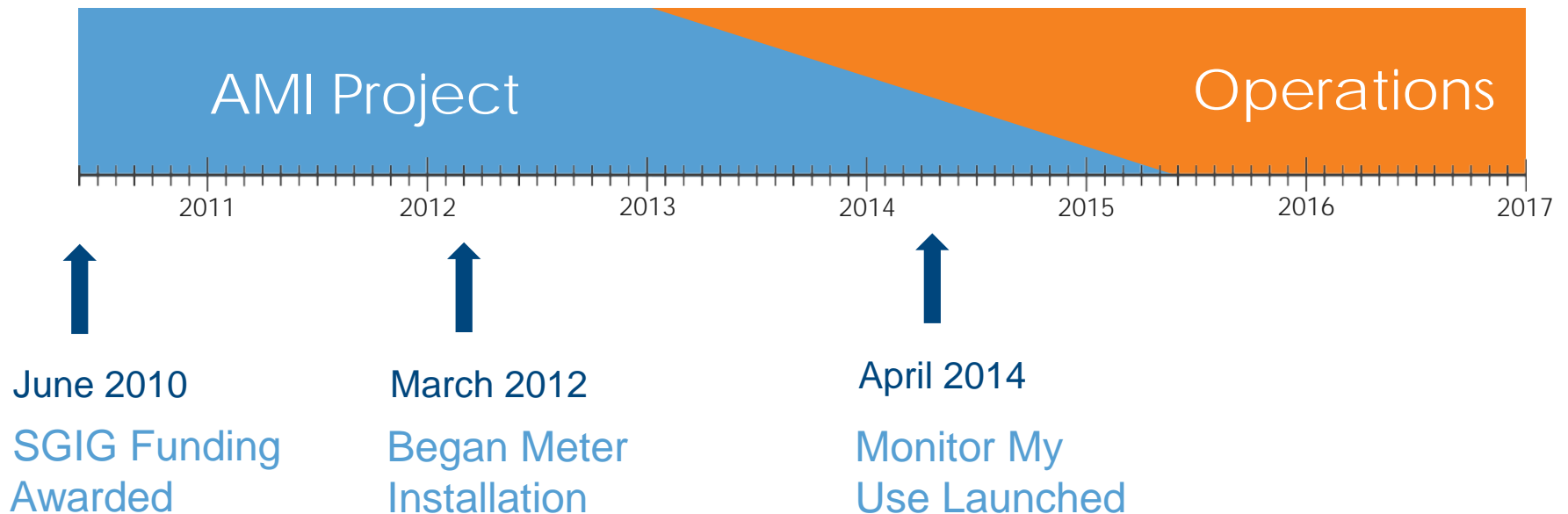




Monitor My Use: Tales from an AMI web portal

Liesel Hans, PhD - Water Conservation Manager, Fort Collins Utilities

Advanced Meter Infrastructure: Enables two way communication between customer and utility



- Improved information about high and irregular use
- Help with resource conservation goals
- Provide early water leak detection
- Provide enhanced voluntary programs
- Read meters remotely
- Quick start/stop of service





www.timoelliott.com

*"Let's say you want to save millions of dollars —
you just push this button here..."*





Community Education ▶

Lifelong learning.
Education for all.

Account #: 657536_92337

Current Bill Period ends:
OCT 1

Data current through:
SEP 25 1:15 PM

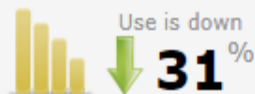
Electric Costs



[Details](#)

Your rate plan is Residential Energy.

Electric Use



[Details](#)

Current average daily use compared to last bill period.

Environmental Impact



[Details](#)

Your average daily impact equals the exhaust produced by this many cars driving 20 miles each for a day.

Cut Costs

Block incoming sunlight on hot days

Heat from the sun can raise indoor temperatures and make

Be Efficient

Manage usage with power strips

Stand-by and sleep modes waste power. Use power strips

Reduce Your Impact

Improve your home's insulation level

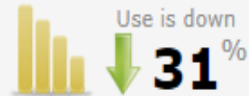
Insulation is your primary defense against energy loss

Cost

Use

Impact

Electric Use



Current average daily use compared to last bill period.

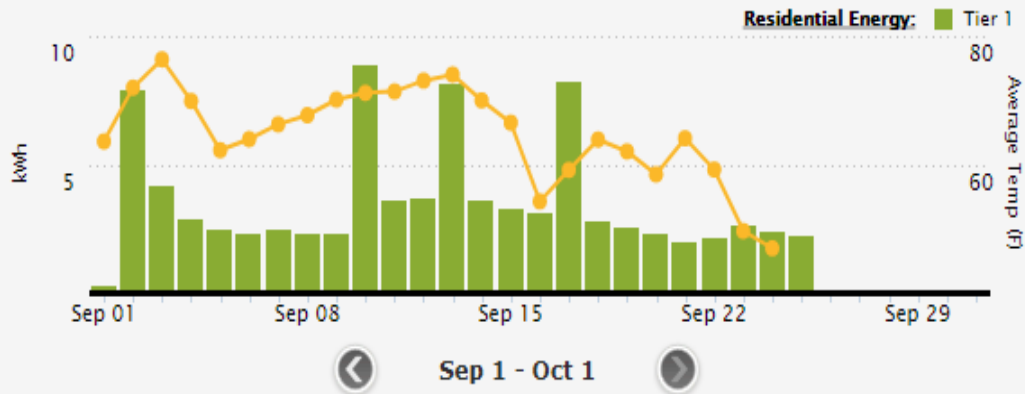
What should I be looking for?

Use the detail graph below to zoom out to view your use over multiple bill periods. Need help? See [FAQs](#) or [Info Page](#).

My Use Details

Weather: Temp Off

Zoom: 1 Day 1 Bill 1 Year

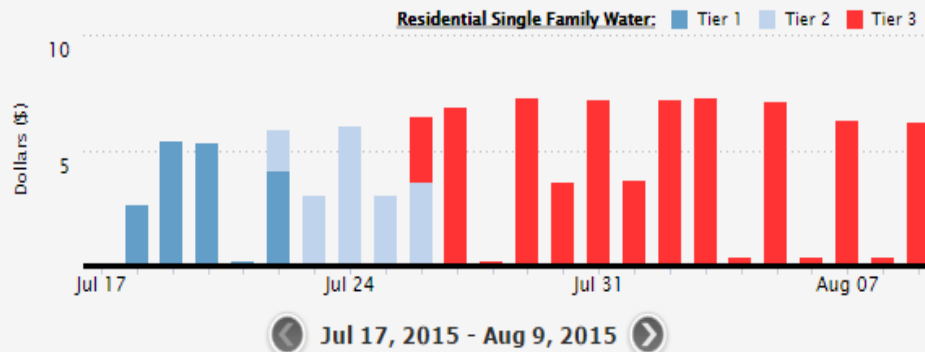


Date	0 - 500 kWh	Total	Temperature
09/01/17 - 10/01/17	89.032	89.032	65° F (average)

My Cost Details

Weather:

Zoom:



Date	0 - 7,000 GAL	7,001 - 13,000 GAL	> 13,000 GAL	Total
07/17/15 - 08/09/15	\$17.70	\$17.44	\$66.93	\$102.07
Total with Base Charge				\$118.40

Note: Totals may not add up due to rounding.

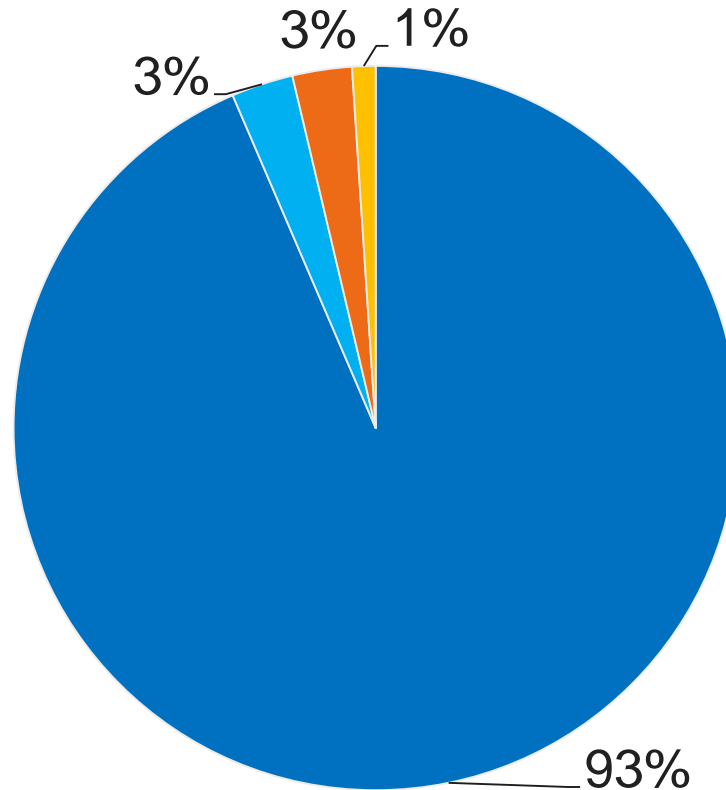
 [Download](#)



[More Details](#)

Water customer accounts

■ Single Family ■ Duplex ■ Commercial ■ Multifamily

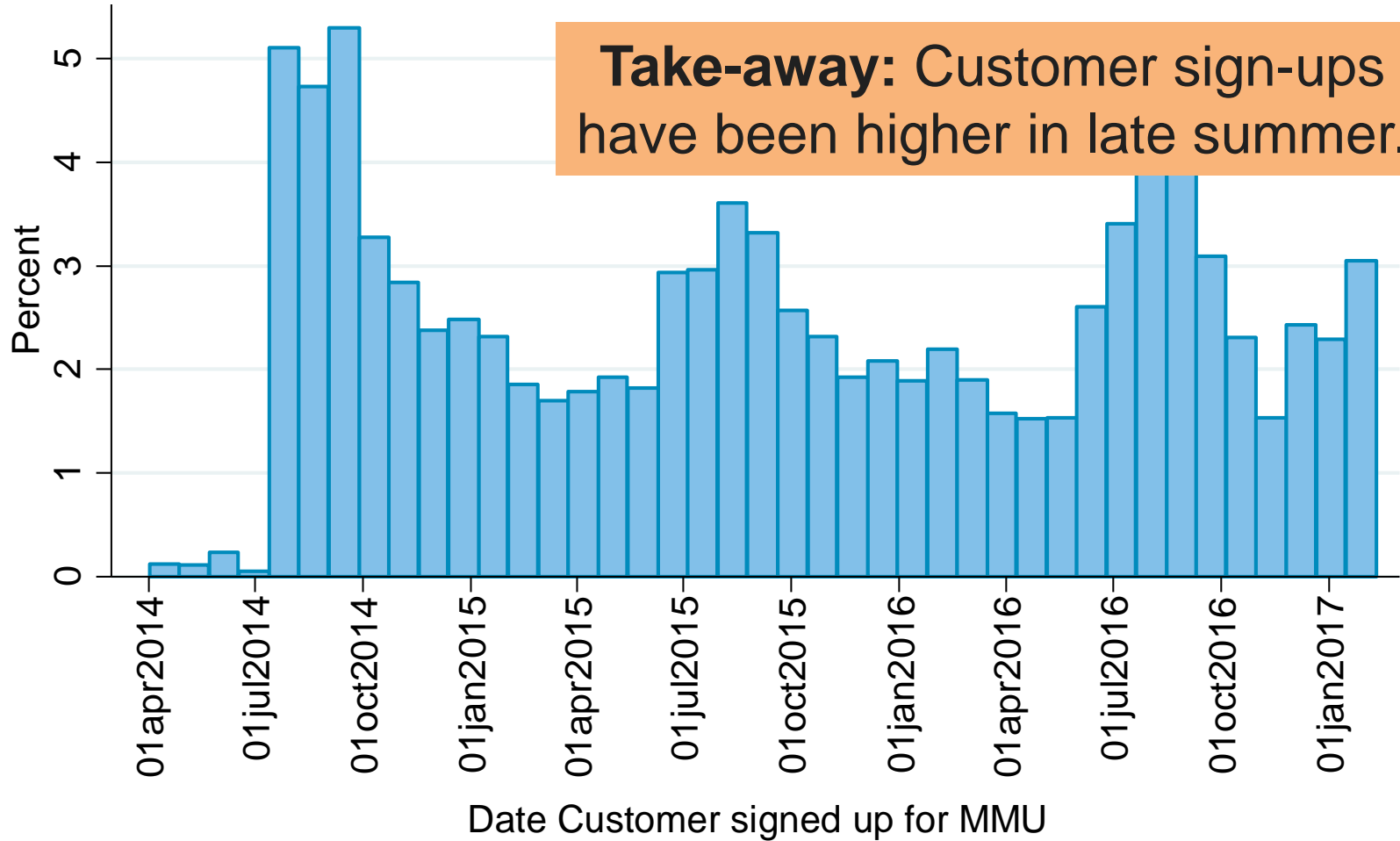


93% = ~6,000 customers

20% of all eligible customers have created an account.

Histogram of MMU sign-ups over time

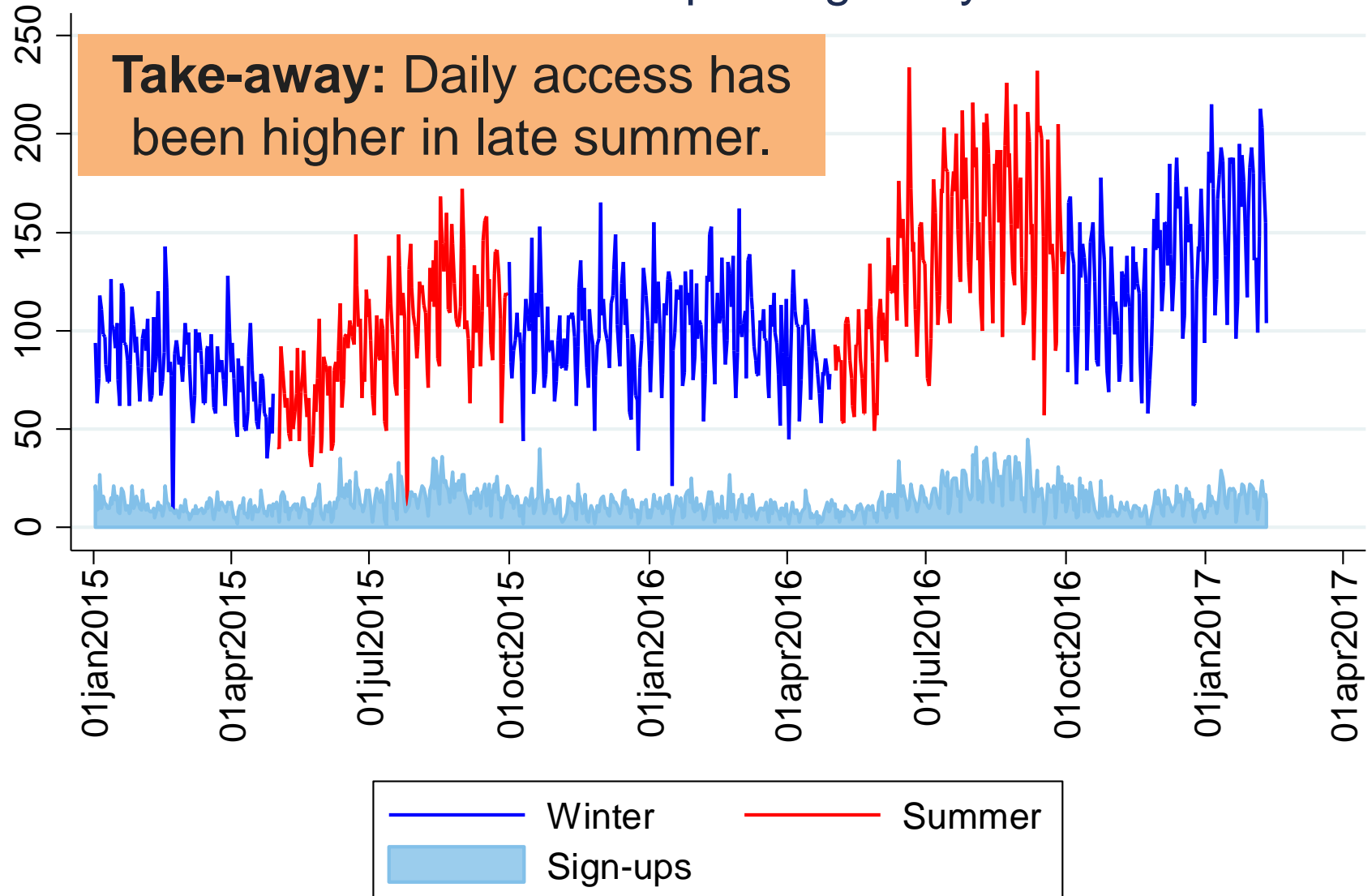
Fort Collins Utilities, as of 2/10/2017



Take-away: Customer sign-ups have been higher in late summer.

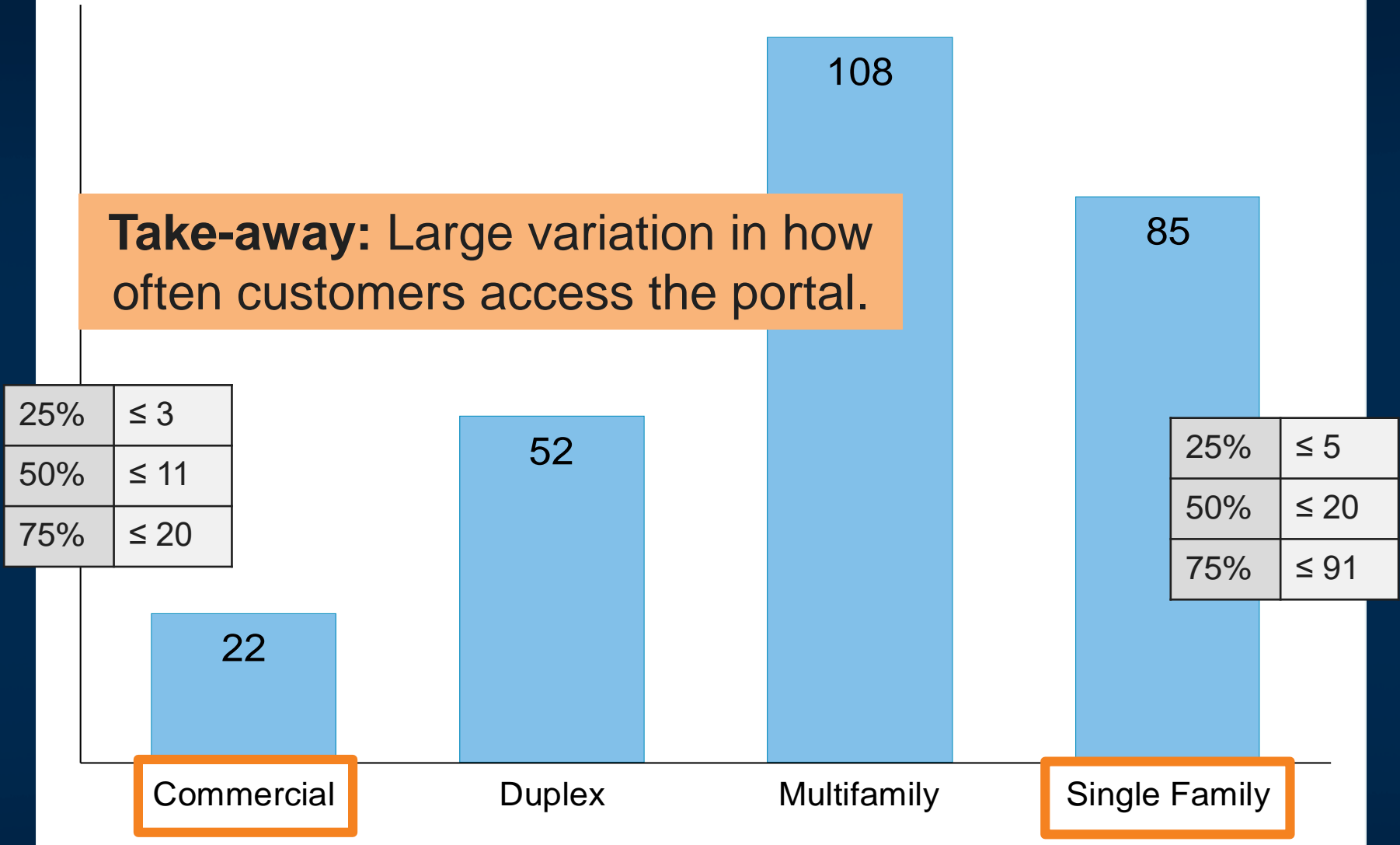
Total = 12,622 premises

Number of Unique Logins by Date



Average Days of Access by Customer Type

Take-away: Large variation in how often customers access the portal.





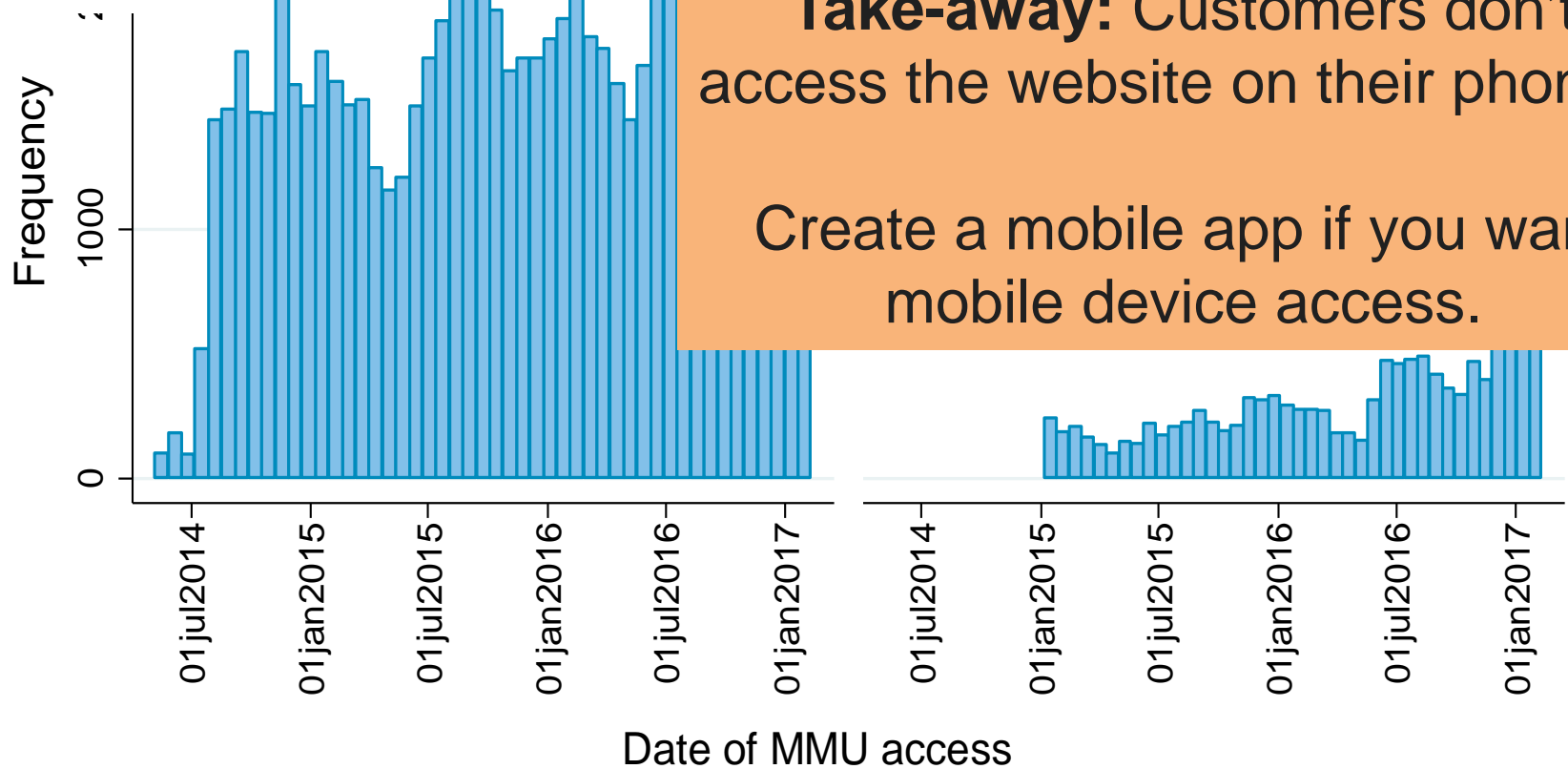
Desktop

Mobile



13%

87%



Take-away: Customers don't access the website on their phones. Create a mobile app if you want mobile device access.

Graphs by Access type: Desktop or Mobile

Savings Alerts

Alert Me

My metered

Enter a budget and

Note: To receive a

0

No dollar sign need

Email

SMS/Text

My daily use

Sign up to receive

Note: To receive a

Email

SMS/Text

Save

Cost Use Impact

Electric Use



Current average daily use compared to last bill period.

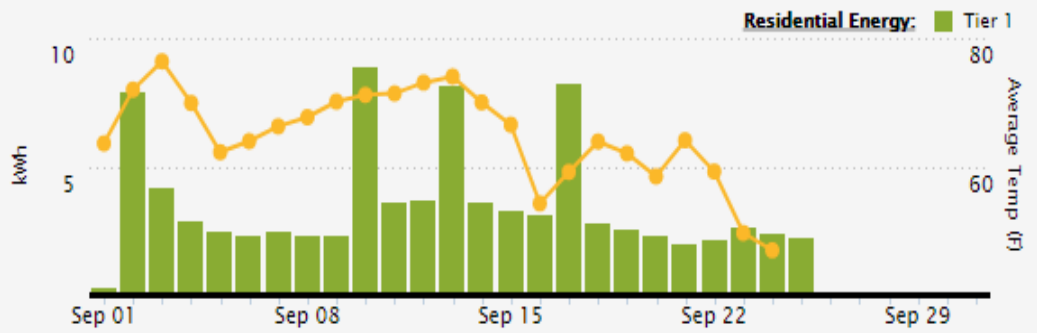
What should I be looking for?

Use the detail graph below to zoom out to view your use over multiple bill periods. Need help? See [FAQs](#) or [Info Page](#).

My Use Details

Weather: Temp Off

Zoom: 1 Day 1 Bill 1 Year



Sep 1 - Oct 1

Date	0 - 500 kWh	Total	Temperature
09/01/17 - 10/01/17	89.032	89.032	65° F (average)

mount
mount.

Alert Settings

Alert History

Savings Alerts

Summary Reports

Delivery Settings

Email – 65%
Text – 35%

Send Me a Summary...

Every seven days and at the end of the bill period

Send me a report with my Cost, Usage, and Environmental impact.

Note: To receive alerts, be sure to set up your delivery settings in the tab above.

Email

Just at the end of a bill period

Send me a report at the end of my bill period with my Cost, Usage, and Environmental Impact.

Note: To receive alerts, be sure to set up your delivery settings in the tab above.

Email

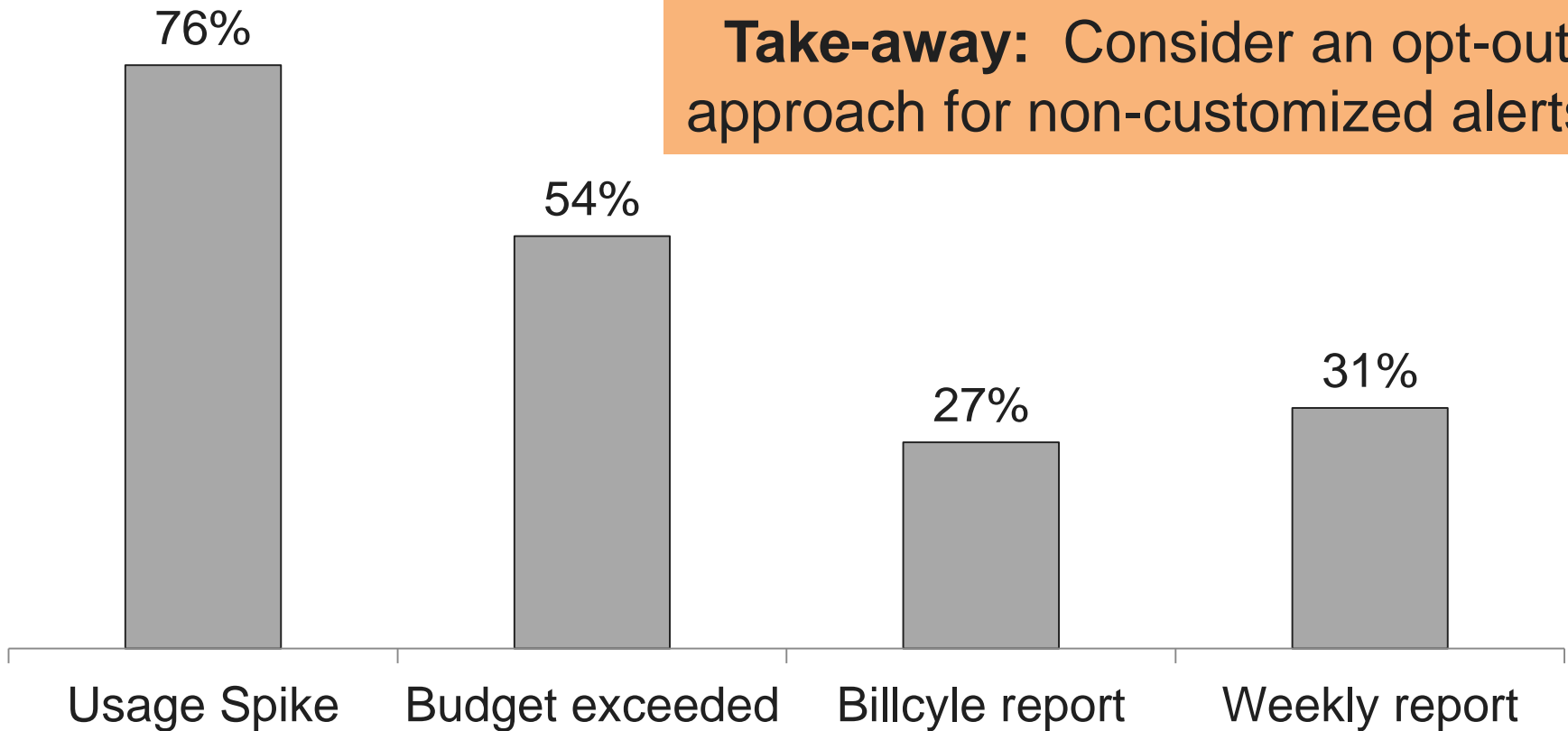
Save

845 customers as of 2/17

Alert Sign-ups

Only 55% signed up on date of portal enrollment

Take-away: Consider an opt-out approach for non-customized alerts.



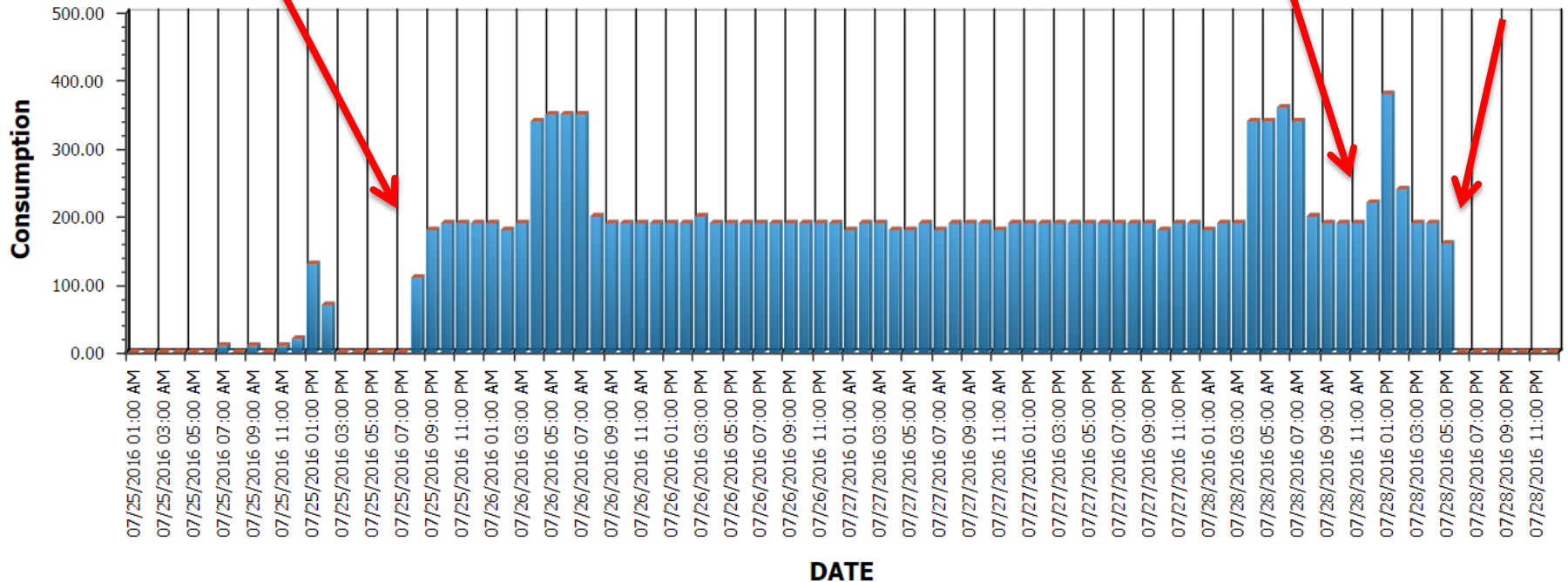
Continuous Consumption

Leak started

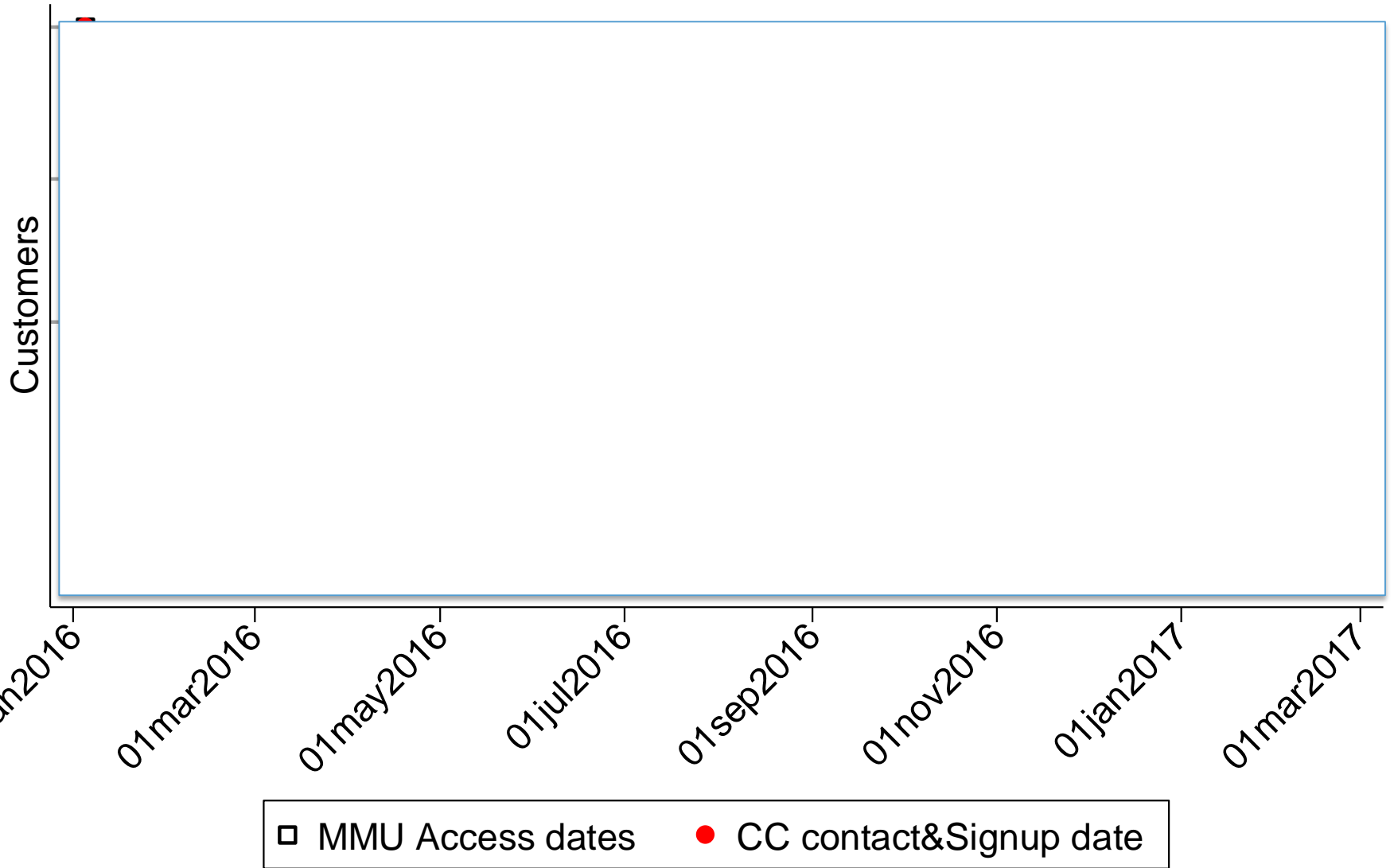
On 7/28: staff called & left a vm, Customer signed up for MMU

Leak stopped before end of day

NOT TO BE CONSIDERED AN EXACT REPRESENTATION OF BILL OR CONSUMPTION

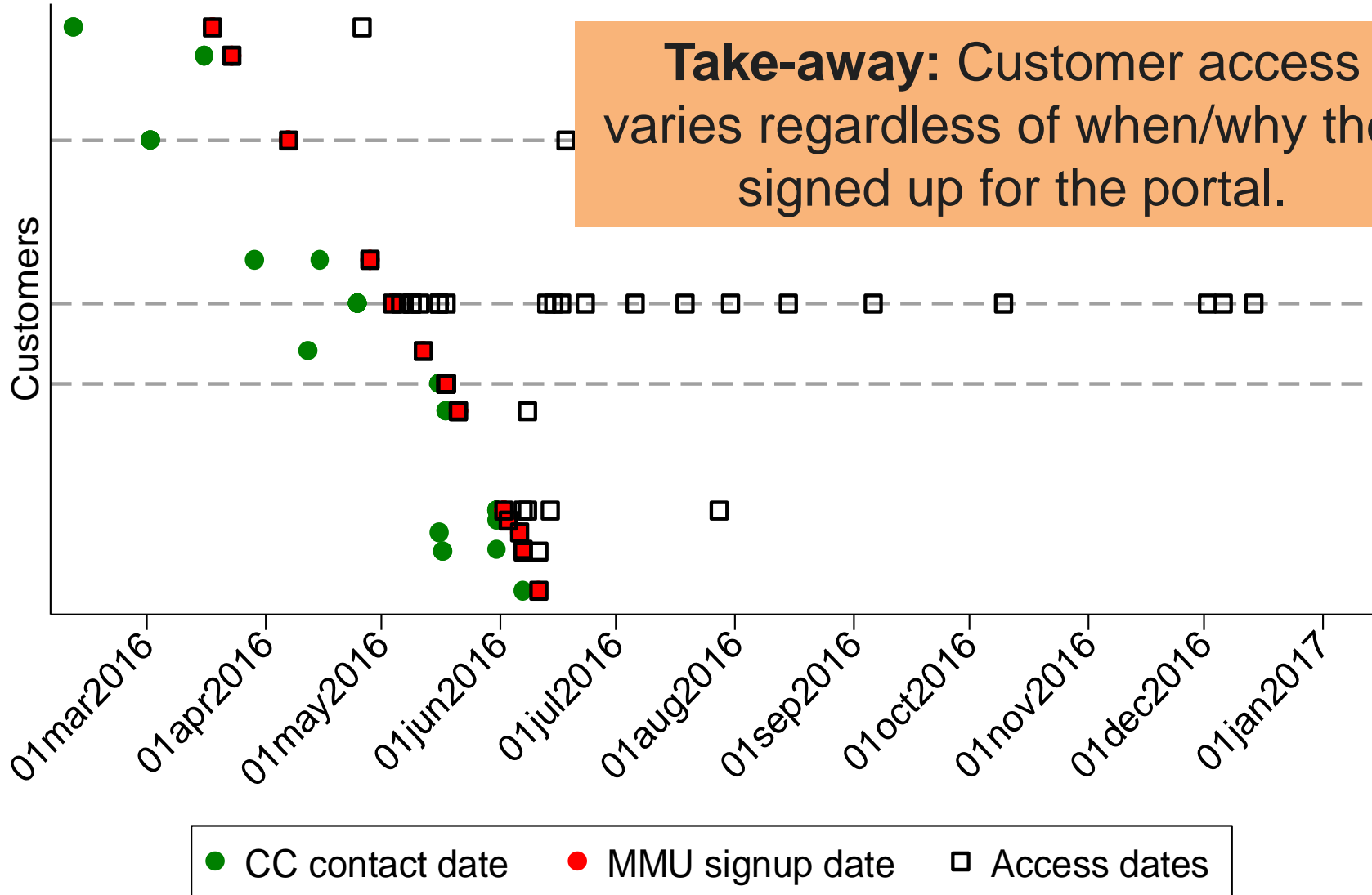


MMU access patterns



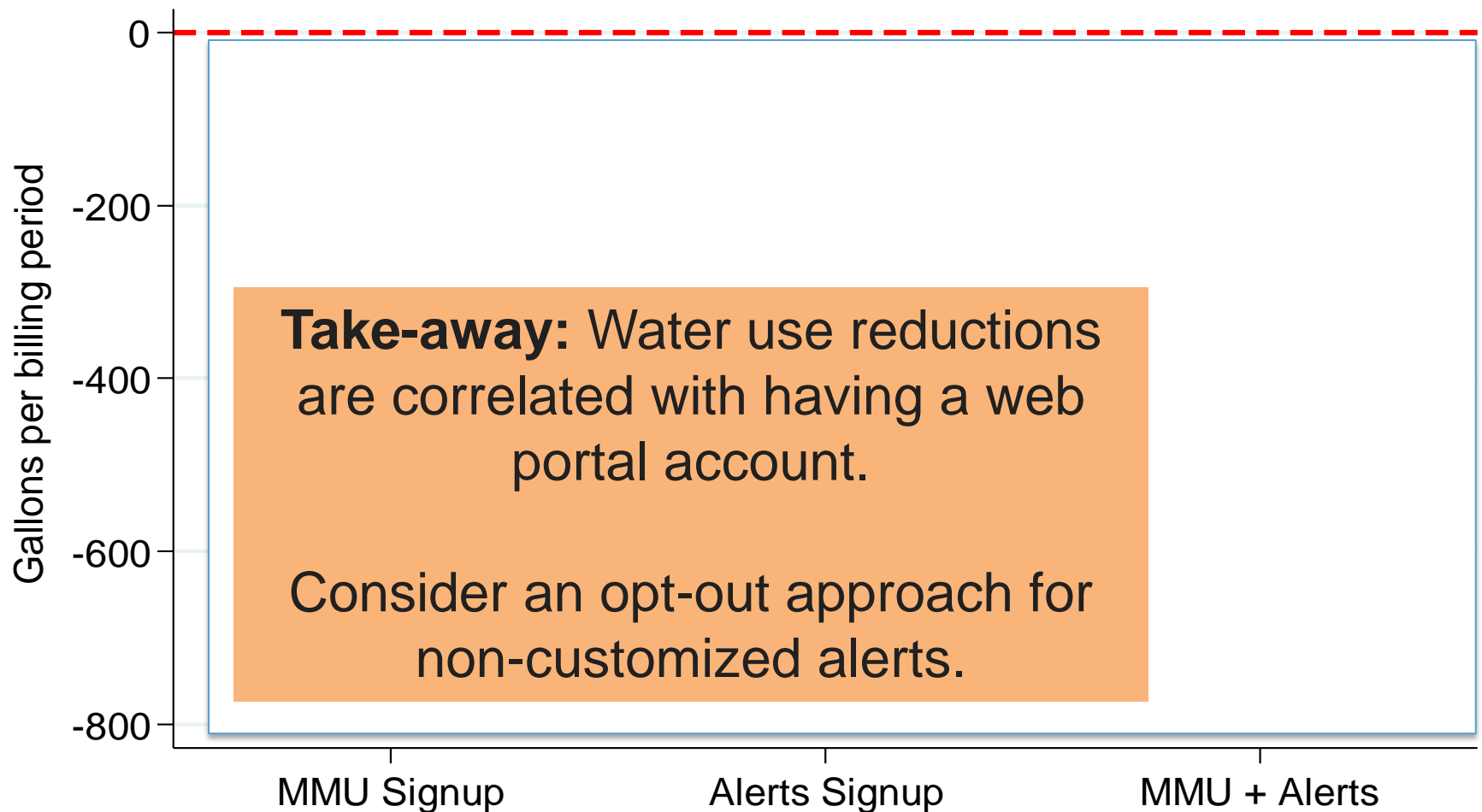
Subset of customers contacted for Continuous Consumption in 2016

MMU access patterns



Subset of customers contacted for Continuous Consumption in 2016

Effect of MMU Enrollment on Water Use



Signups from September 2014 to December 2016

Regression controls for weather, prior usage, and billing period days of service

Average use is 7,300 gallons per billing period

Program analysis example

everyday,
7am, 7pm, 1am,
280gph each cycle

Monday: 190 gph

Tuesday...

Reduced from 840 to 380
gallons per run day

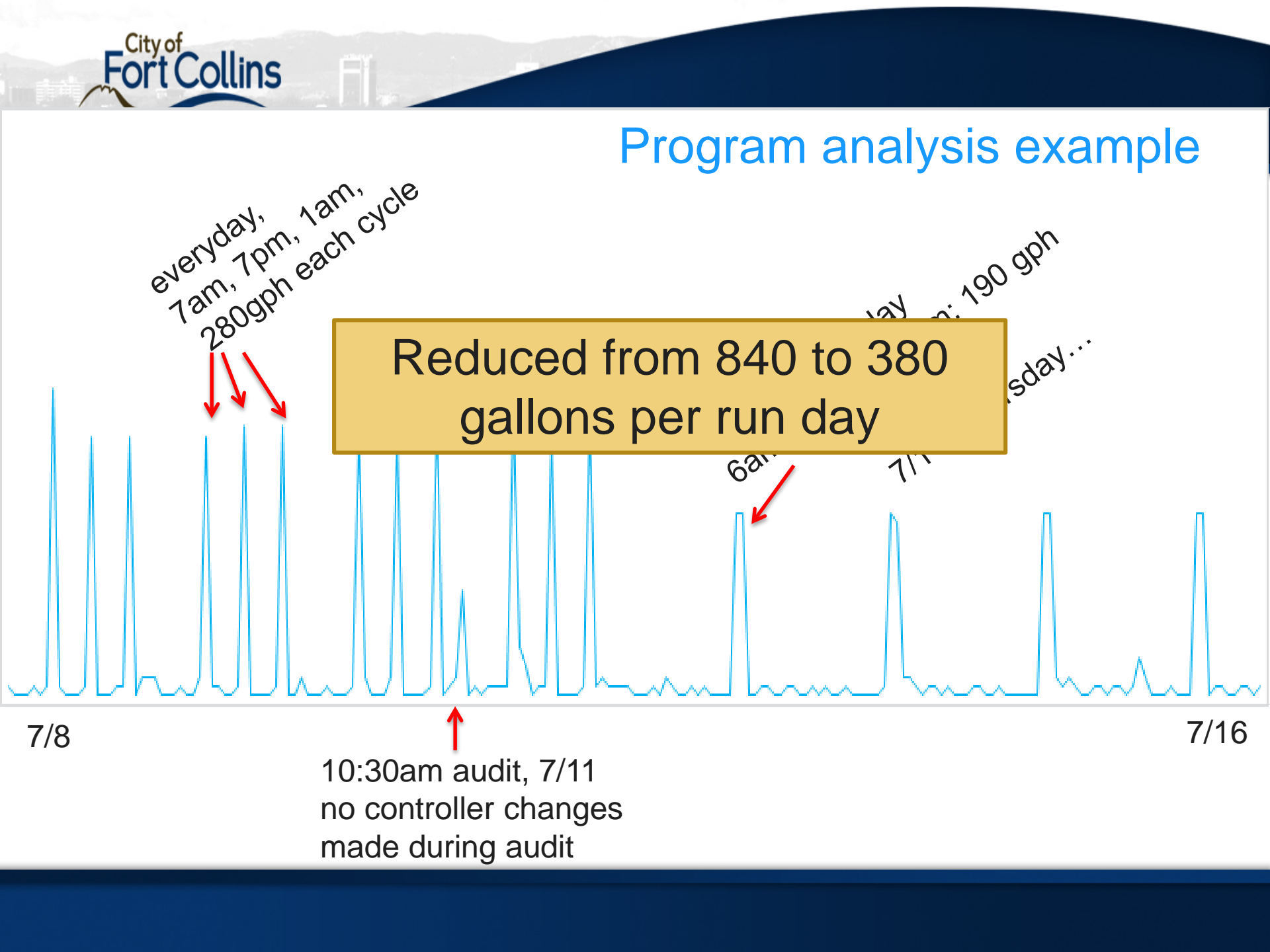
6am

7/11

7/8

7/16

10:30am audit, 7/11
no controller changes
made during audit



3 cycles per day, everyday

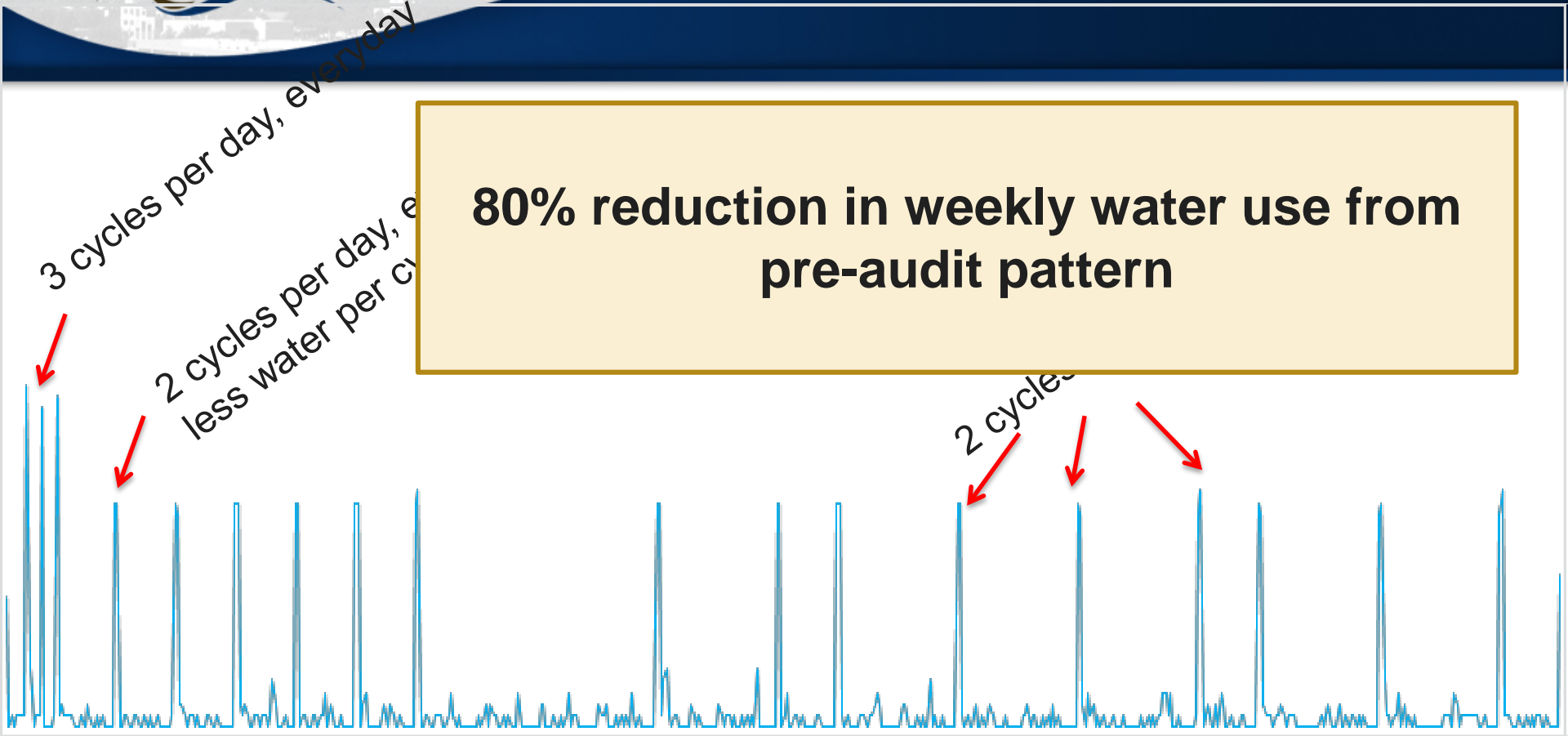
2 cycles per day, e
less water per cy

**80% reduction in weekly water use from
pre-audit pattern**

2 cycles

7/11,
audit

8/6



Single sign-on = great, but overall accessibility is a bit clunky

Access habits = reduction in usage?

Need to easily combine AMI data with other data sets

Useful for program analysis

Potential to be very useful to customers...



Take-away: Make it easy and intuitive. Digest the data into actionable notifications and insights.

Message convenience and value around potential pain points.



The image is a composite of two parts. On the left is a utility company advertisement for 'YOU ARE IN CONTROL'. It features the text 'with Utilities' FREE online tool...' at the top left, a green bar chart icon with the text 'Monitor | Control | Conserve' below it, and a list of three bullet points: '▶ Monitor Your Use', '▶ Control Your Costs', and '▶ Conserve Our Resources'. A large blue arrow points to the right. On the right is a photograph of a dog, possibly a husky, sitting on a couch and looking at a smartphone held by a person's hand. A watermark 'SENORGIF.COM' is visible at the bottom of the photo.

with Utilities' FREE online tool...

YOU ARE IN CONTROL

Monitor | Control | Conserve

- ▶ Monitor Your Use
- ▶ Control Your Costs
- ▶ Conserve Our Resources

SENORGIF.COM

Chase Mobile® Banking

Banking at your fingertips – virtually anywhere

Peace of mind with real-time alerts.

**Freeze ItSM takes the worry
out of a misplaced card**

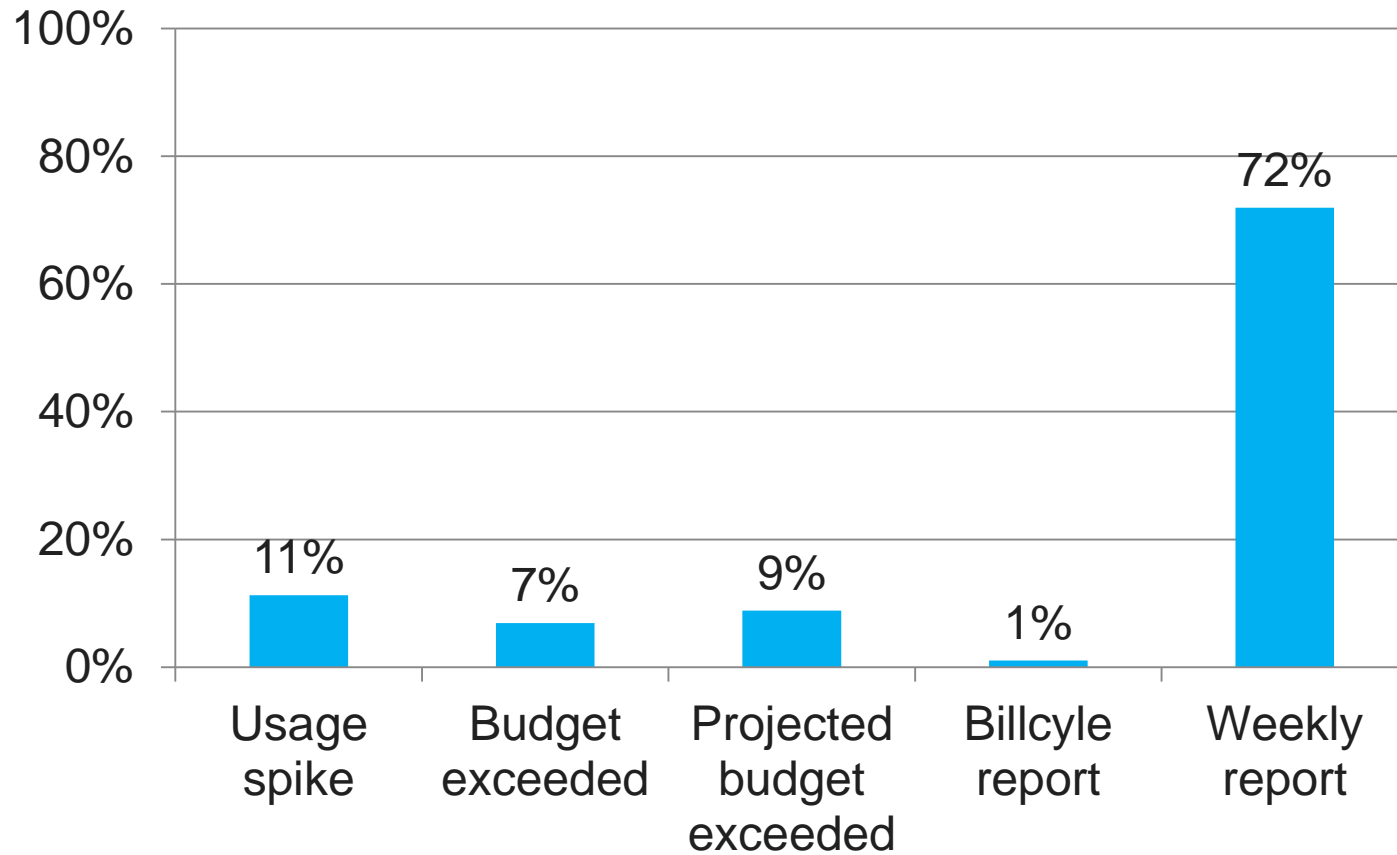
Just Freeze ItSM from our mobile app to prevent new purchases, cash advances and balance transfers. Then, unfreeze your account when you find your card.²



Thank you!

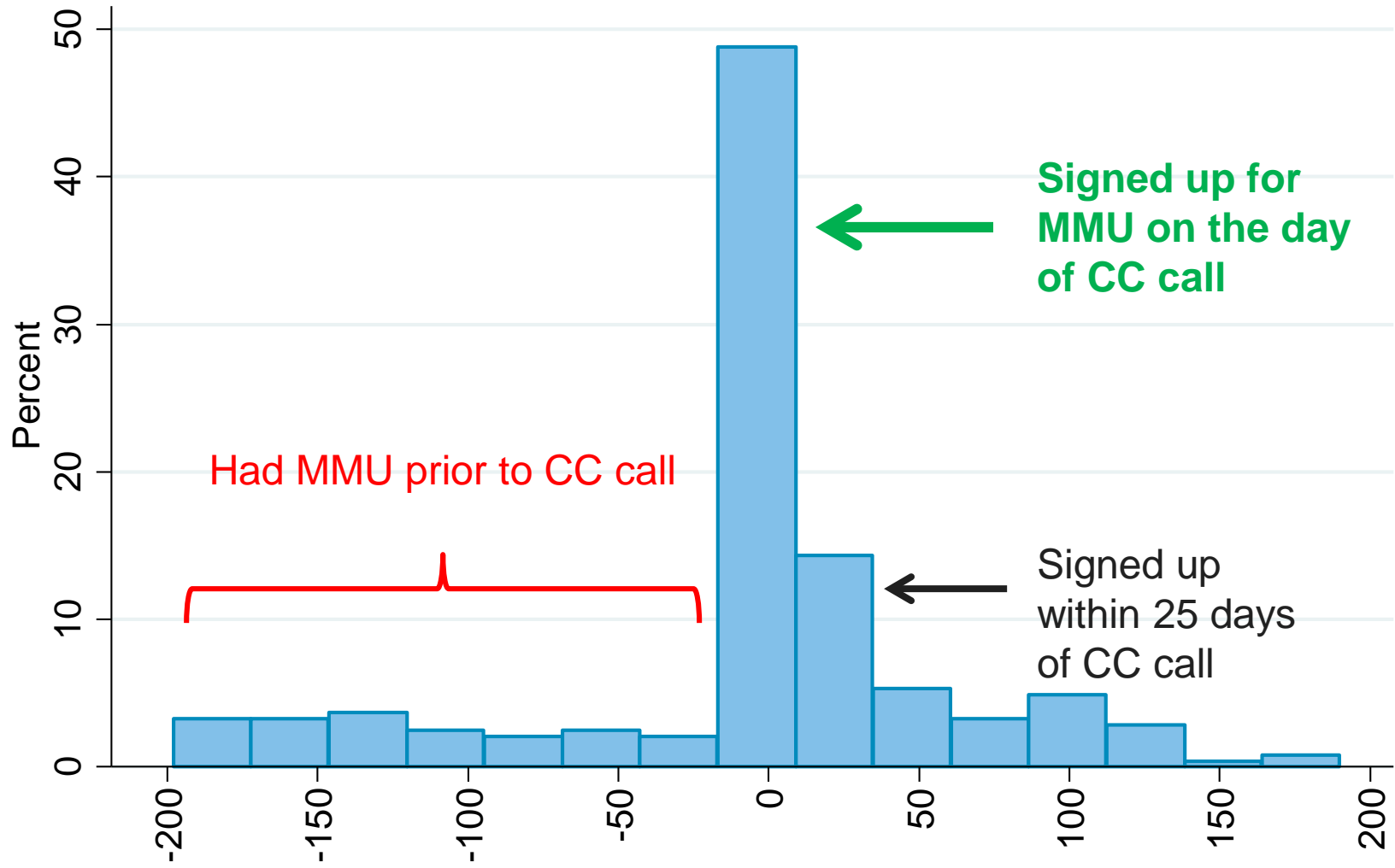
**Liesel Hans
lhans@fcgov.com**

Alerts Sent



<https://www.youtube.com/watch?v=R88fxkrNDtc>

Days between CC call and MMU sign up



Of the notified customers in 2016 with MMU accounts

Service Type	unique premises with MMU account	percent of unique by type	percent of total
Elec & Water	5,689	20.2%	7.4%
Electric only	6,542	18.6%	8.5%
Water only	353	8.8%	0.5%
TOTAL	12,584		19%

Type of Alert	Freq.
USAGE_SPIKE	3,691
BUDGET_EXCEEDED	2,280
PROJECTED_BUDGET_EXCEEDED	2,951
BILLCYCLE_REPORT	204
WEEKLY_REPORT	14,400

- Population about 155,400
- Customers:
 - ~68,000 electric;
 - ~34,000 water;
- Educated community
- High rental community
- Median Household Income - \$53,359
- Persons 18 to 64 years - 71.34%

