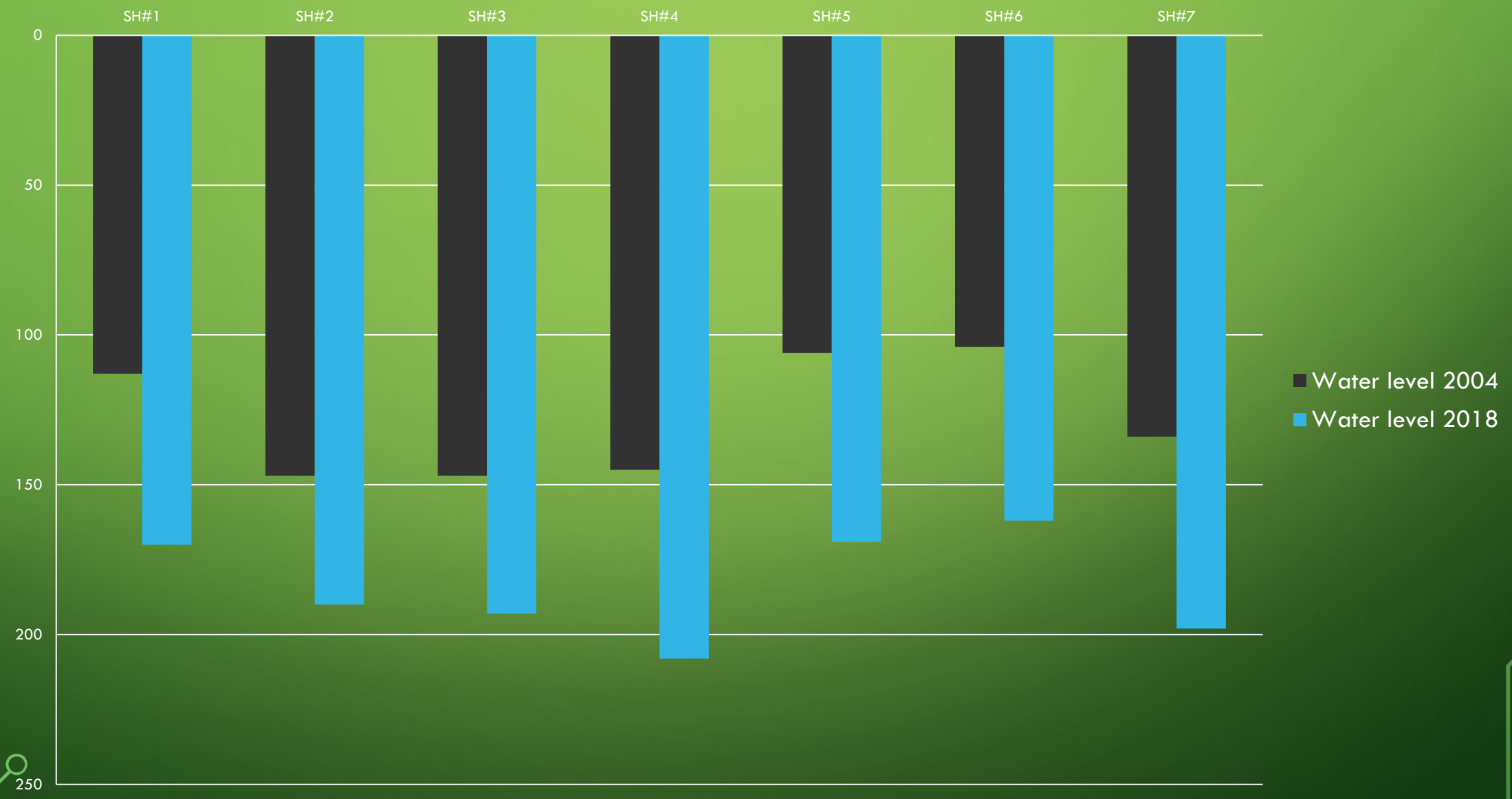
(SEMI) AUTOMATED ANNUAL RESIDENTIAL WATER USE REPORTS

THE WHY, HOW, AND WHAT DID WE GET OURSELVES INTO PRESENTATION

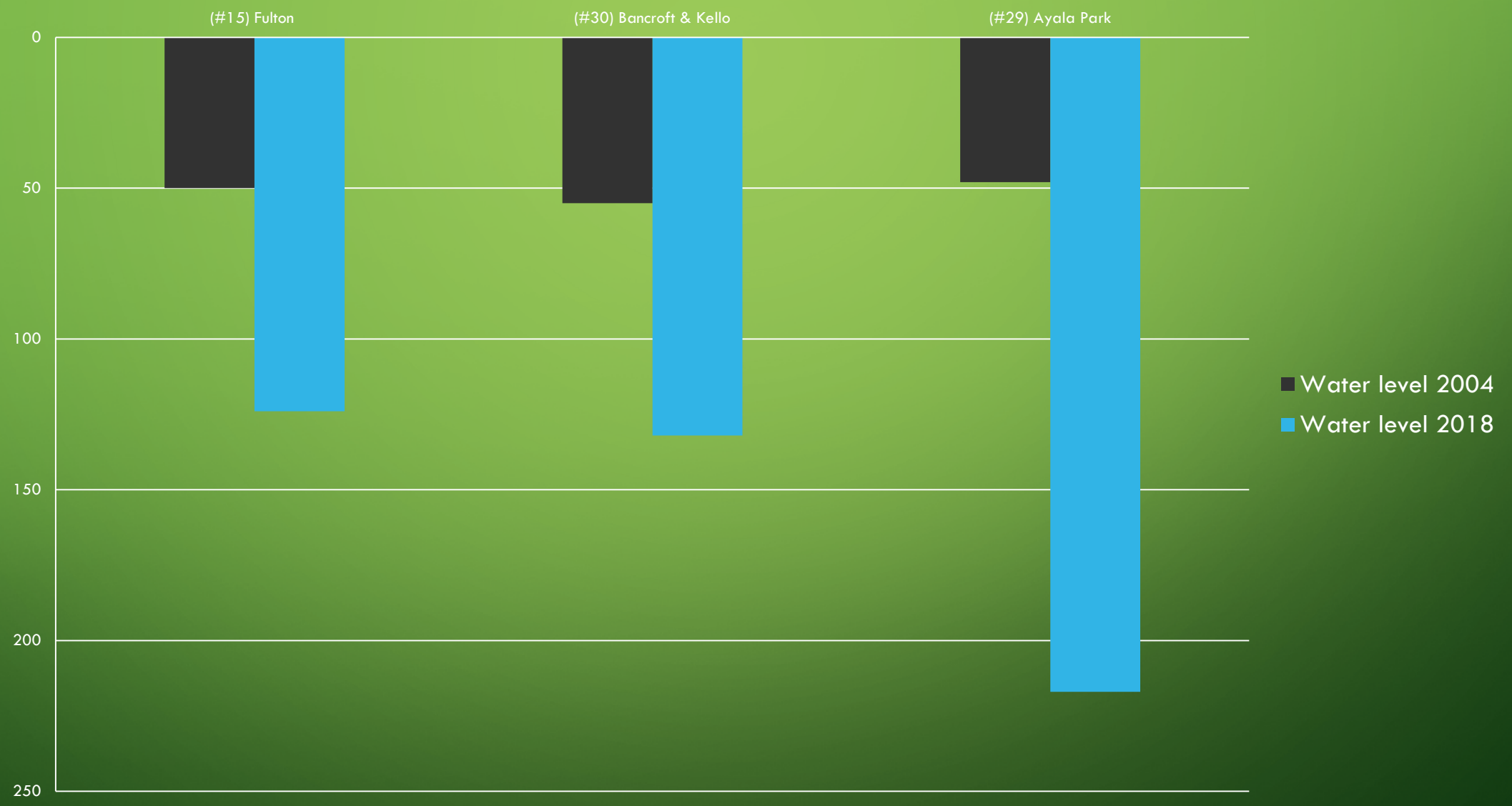
THE WHY

- Water Utility at a glance
  - 7500 Residential customers
  - 1000 Commercial customers
  - Annual water consumption for City of Garden City in 2017 was 2.4 Billion gals.
  - Winter time water demand is typically 2-3 million gals per day.
  - Summer time water demand is 10-12 Million gals per day.

SANDHILLS STATIC WATER DEPTH LEVELS

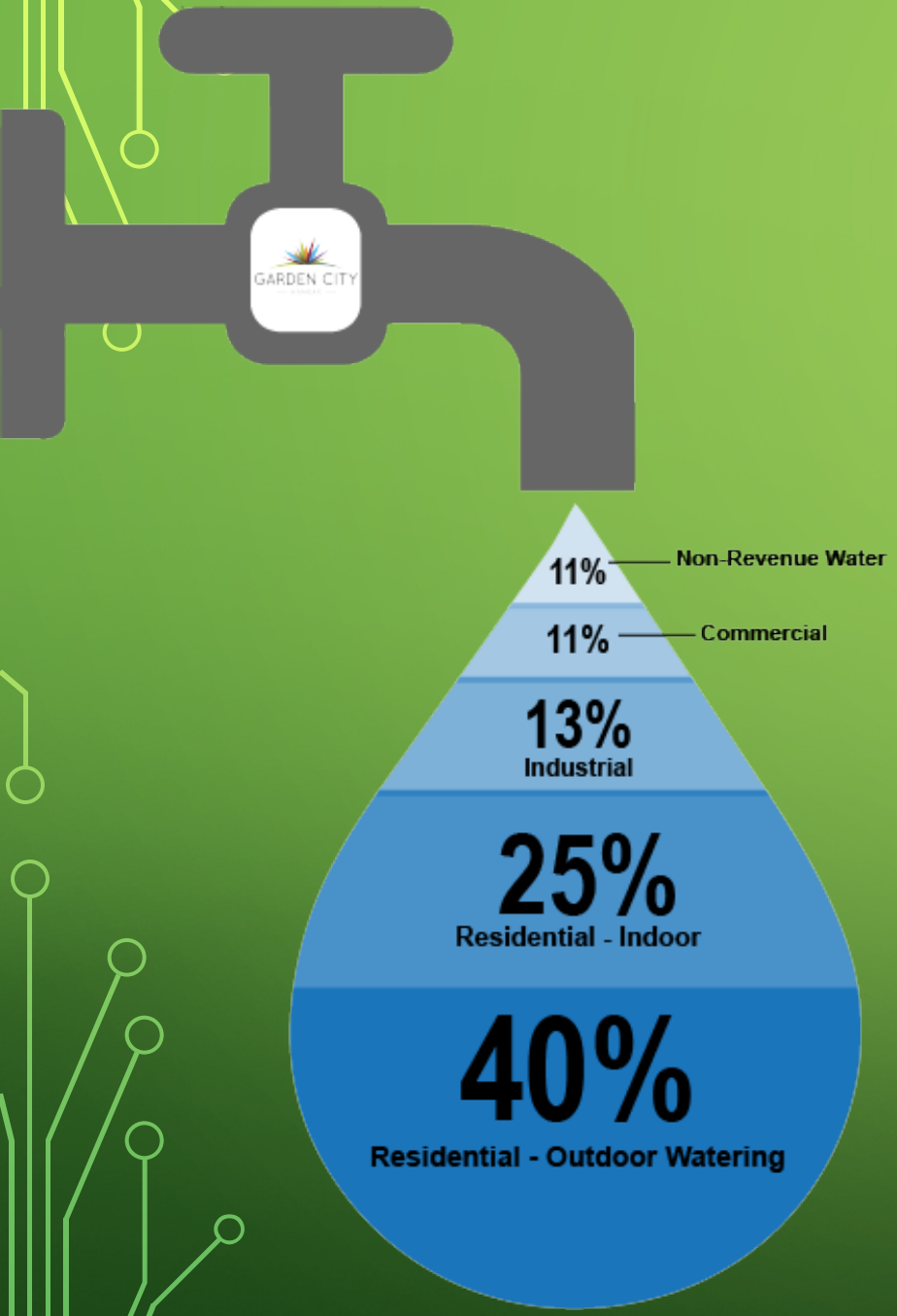


GARDEN CITY SOURCE WELL STATIC WATER DEPTH LEVELS



THE WHY (CONT.)

- Automated Metering Infrastructure (AMI)
  - Utility can monitor in real time
  - Notify metering issues
  - Notify customer issues
  - Can combine input/output metering to trouble shoot issues with wells

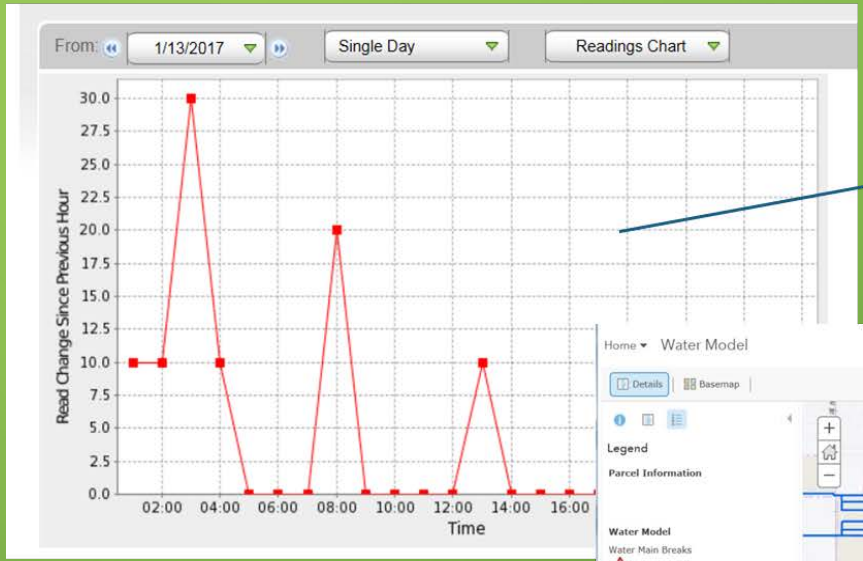


THE WHY

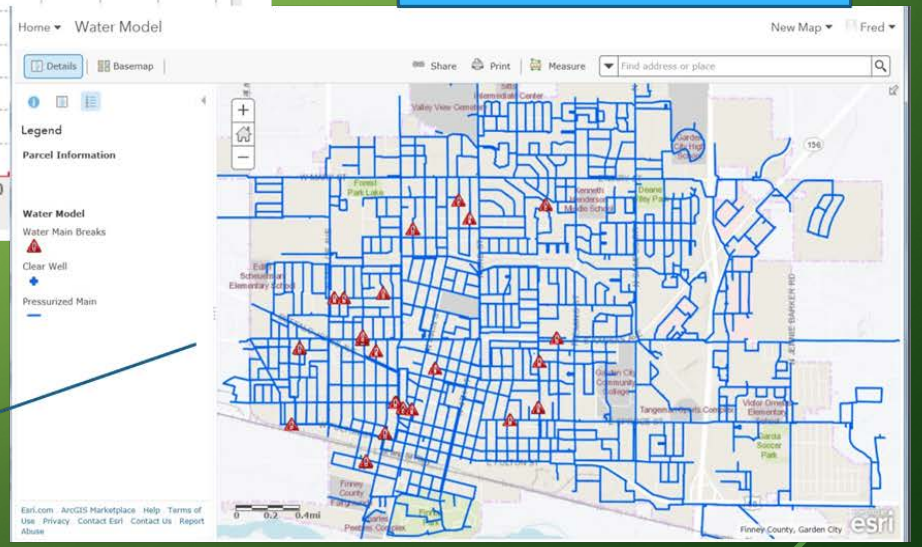
- We know how water is used in the community, but do our customers?
- How can we give our customers something "relatable" regarding their water use?
- How can we better develop policies to promote conservation and ensure resource availability for projects that will convert water consumption into economic impact?

THE WHY (CONT.)

- Communities are investing in data collection but not necessarily data analysis.
- Any Community, can probably provide more "relatable" data to their customers with some planning.



AMI: Automated Metering Infrastructure: Every water meter is read electronically every hour.

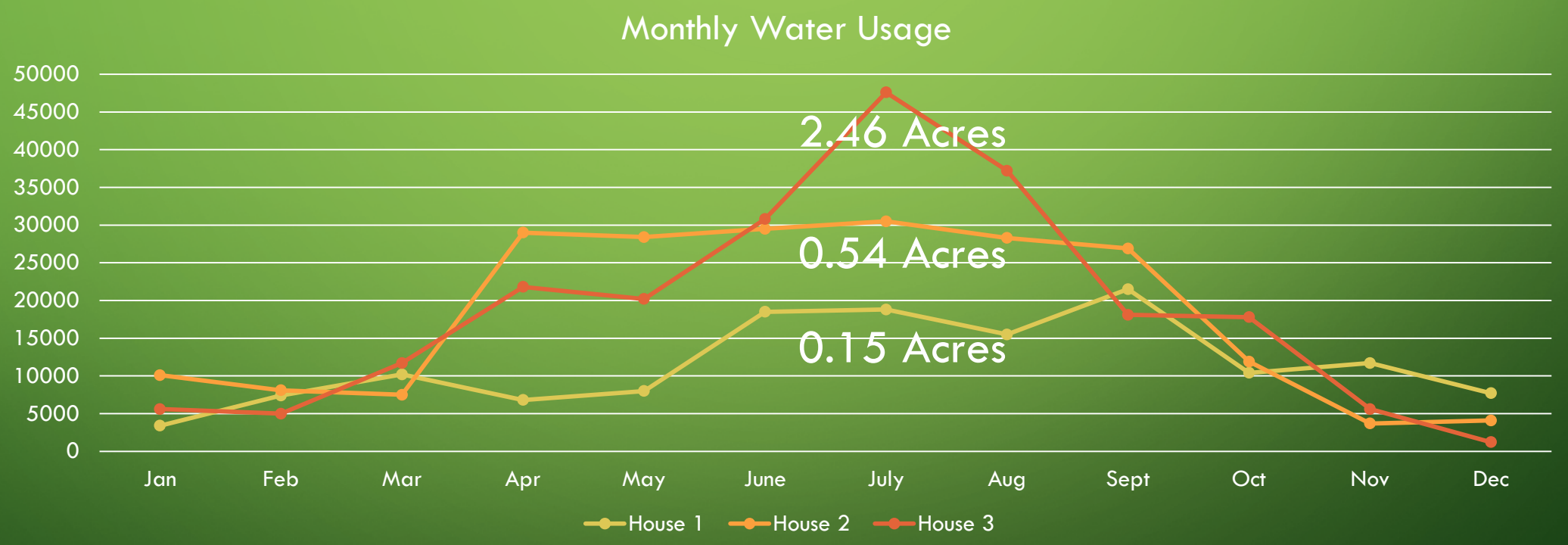


GIS: Geographic Information System Infrastructure Location, Structure Dimensions, Property Information

THE HOW

- What does reduction in residential water use mean at a house level? (Or is it right to tell someone with a grassy two and a half acre lot that they are doing a good job with water conservation?)

WHO IS BEING A GOOD STEWARD OF WATER?



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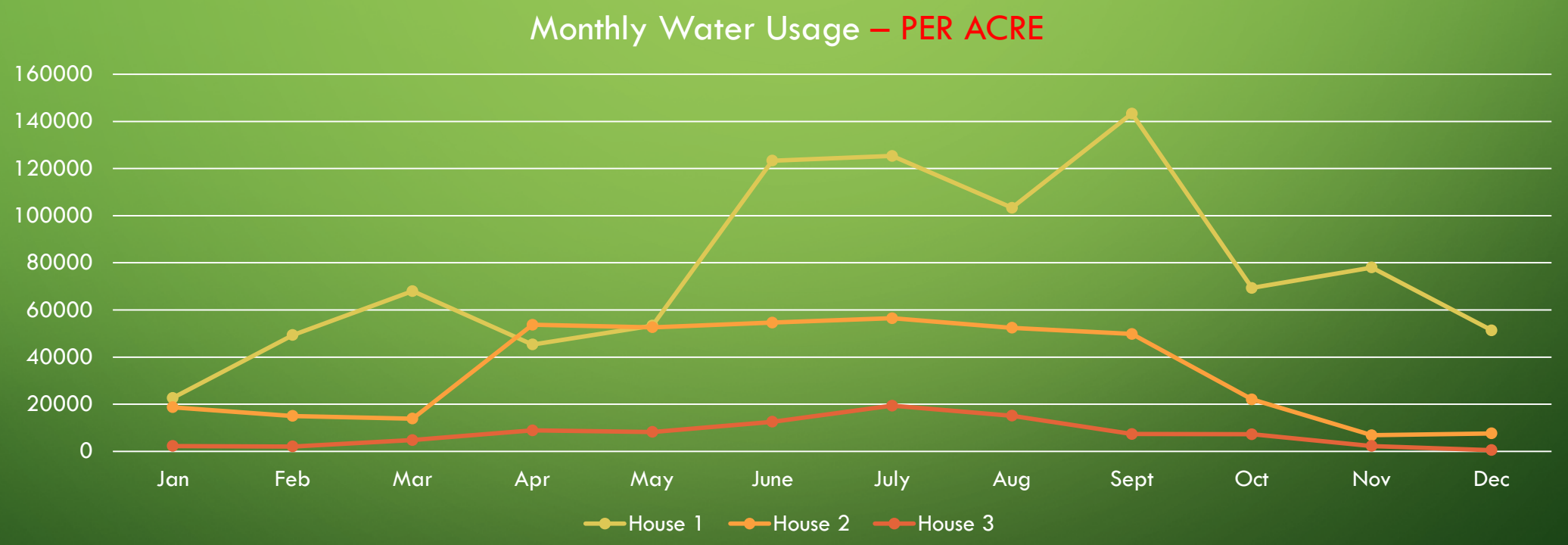


THE HOW (CONT.)

- We needed to collect this data and tie it together:
  - Meter Data
  - Parcel Data

THE HOW (CONT.)

- How did we look at this data
  - How do we make “comparable” houses?
  - Why did we decide to look at future use instead of past use?
  - How did we handle “zeros or near zeros” in the data?

THE HOW (CONT.)

- How did we report the analysis?
  - How can we make the data relatable?
  - How can we make customized charts?
  - How can we make an auto generating report?

Water Report for 000 S Main St
January 1, 2017 - January 1, 2018

21%
Less Water

Based on your water usage in 2017, you are projected to use **21% Less Water** per day in 2018 than similar households in Garden City. Your annual water cost for 2018 could be **$50 Less** than similar households.

How Does Your Home Compare?

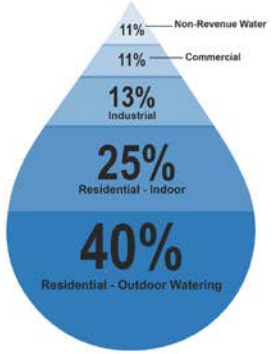
Here's how your average daily water usage stacked up against households like yours in the past year.

Your Household	239 Gallons
Similar Households	299 Gallons

How Much Water is Your Sprinkler System Really Using?

Over **60%** of residential water consumed in Garden City is used for outdoor watering. That is over **1 Billion Gallons annually!** Homes with clock timer controlled irrigation systems use about **50% more water** outdoors than homes without irrigation systems. Experts estimate that as much as half the water used is wasted due to over-watering and poorly maintained sprinkler systems. Consider changing your landscape or purchasing a WaterSense labeled weather-based irrigation controller to take the guesswork out of programming your controller.

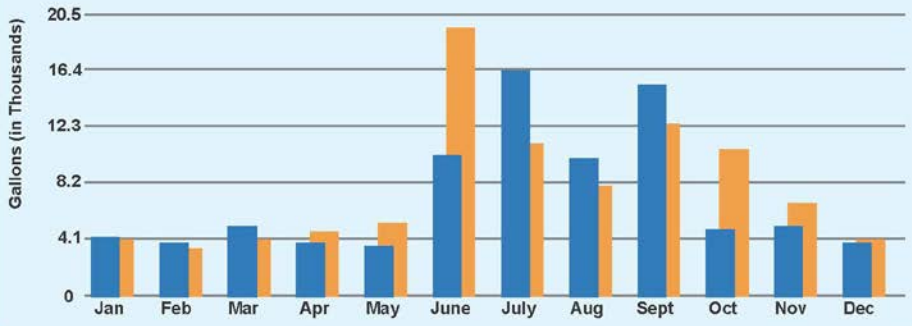
Where Does Our Water Go?



Was this information helpful? Please take our online survey by scanning the QR Code by following the URL:
https://www.surveymonkey.com/r/GCwater

Water Usage Over Time

Your average daily water usage in **2016** compared to your average daily water usage in **2017**.



Take Action!

Follow these tips to help you save water and money!

Energy Star

Older washers use up to **45 gallons per load** of laundry! High efficient energy star rated washers use about **15-30 gallons per load**. Consider replacing older washers with Energy Star rated washers with a low integrated water factor.

Smart Irrigation

The average home sprinkler system uses up to **3,000 gallons per cycle**! WaterSense labeled controllers can automatically adjust to weather events and save significant amounts of water. Some can even be controlled by your smartphone!

Flushes Count

Did you know that older toilets can use **3-7 gallons of water per flush**? If your home was built before 1992, consider replacing your toilets with WaterSense labeled toilets, which use on average **1.2 gallons per flush**!

GARDEN CITY KANSAS
City of Garden City
Utility Billing
301 N 8th Street
Garden City, KS 67846-0998

Current Resident
000 S Main St
Garden City, KS 67846

Water Report for 000 Main St
January 1, 2017 - January 1, 2018

44%
More Water

Based on your water usage in 2017, you are projected to use **44% More Water** per day in 2018 than similar households in Garden City. Your annual water cost for 2018 could be **$110 More** than similar households.

How Does Your Home Compare?

Here's how your average daily water usage stacked up against households like yours in the past year.

Your Household	405 Gallons
Similar Households	281 Gallons

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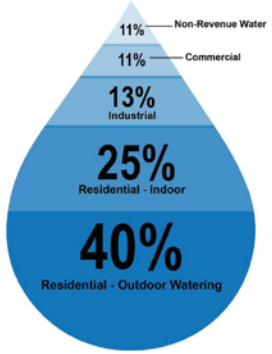

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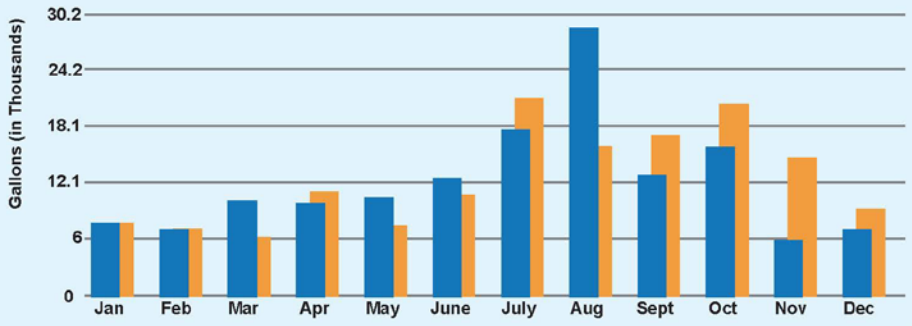

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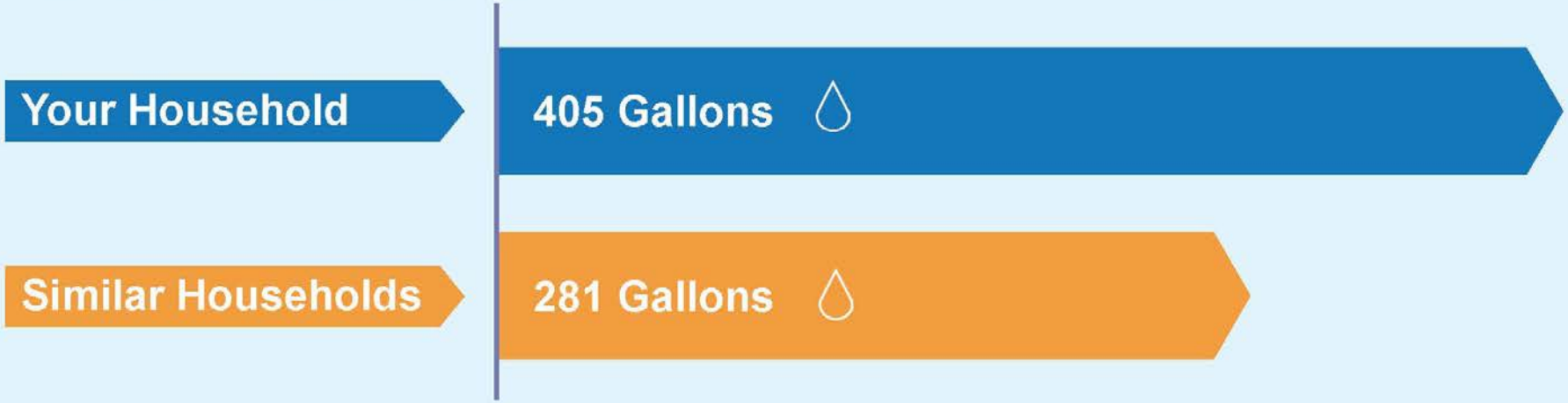
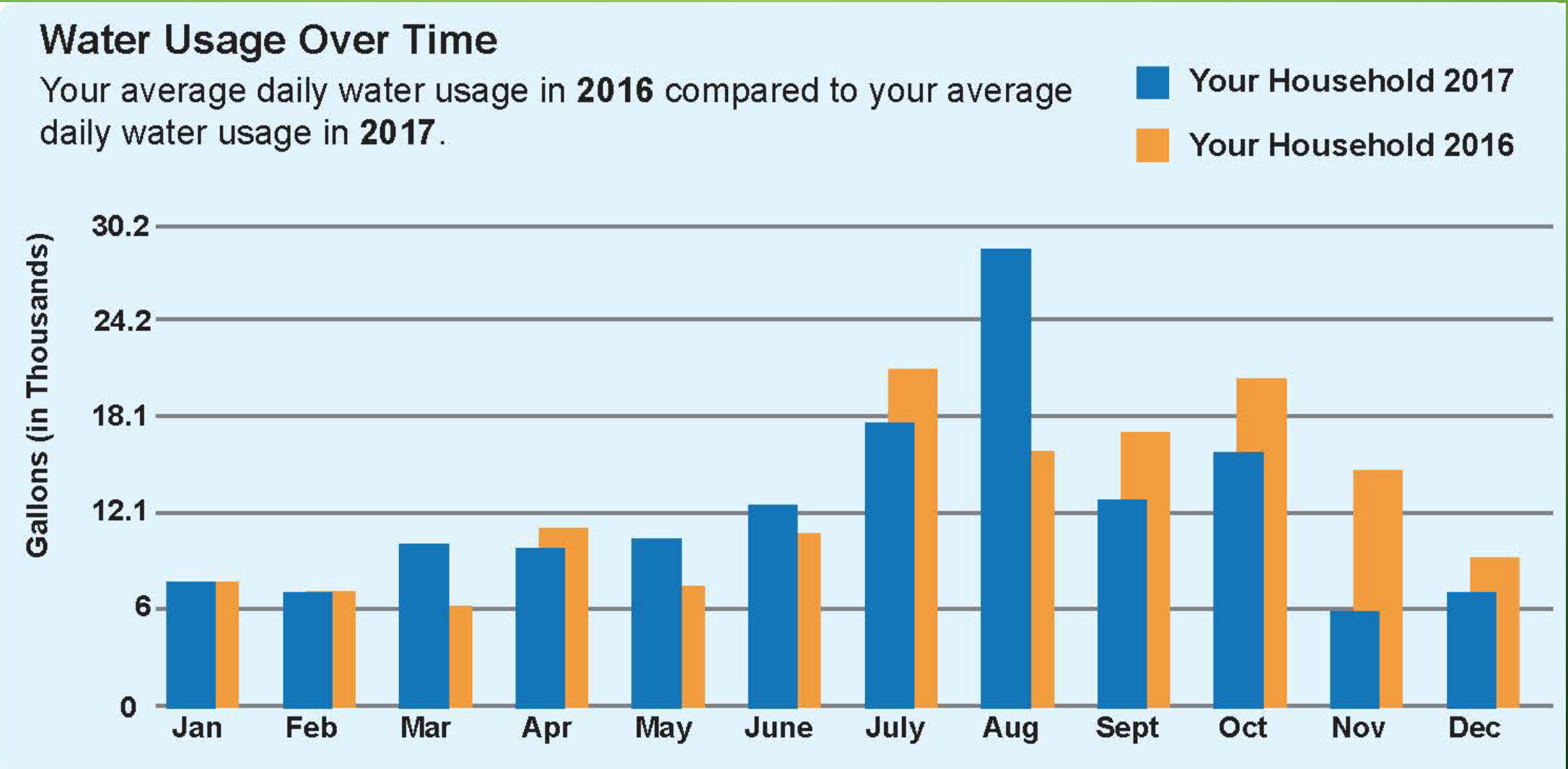
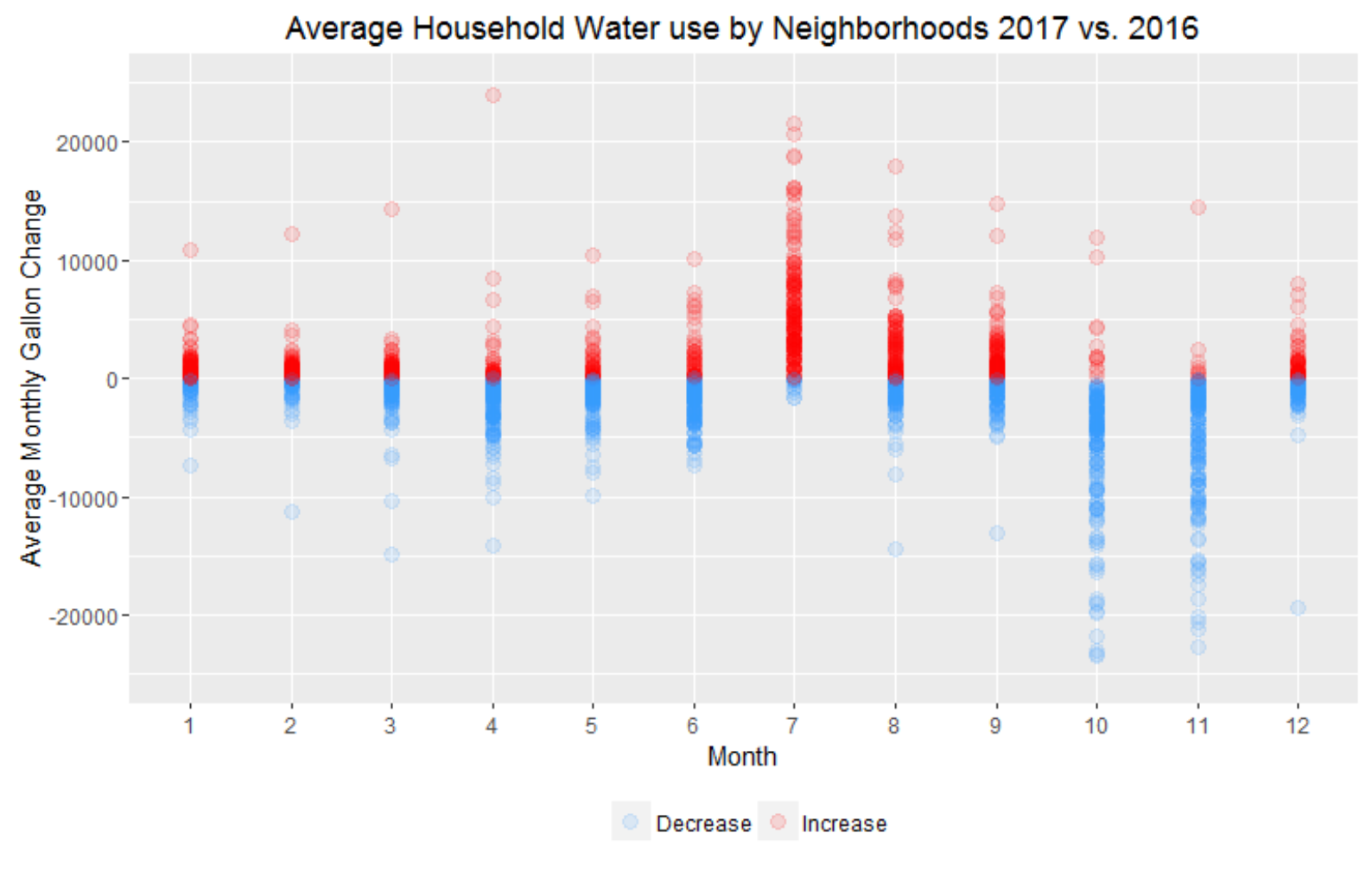



Water Usage Over Time
Your average daily water usage in 2016 compared to your average daily water usage in 2017.
Your Household 2017
Your Household 2016
Gallons (in Thousands)
30.2
24.2
18.1
12.1
6
0
Jan
Feb
Mar
Apr
May
June
July
Aug
Sept
Oct
Nov
Dec

THE HOW

- Other neat things we can do with the data now that we have a process going:
  - Heat maps of water usage by acre for internal use
  - Planning for future development's water used based on similar neighborhoods
  - Implement targeted campaigns to help high water users reduce their usage

EXAMPLE: ANNUAL RESIDENTIAL NEIGHBORHOOD WATER REPORT



THE WHAT DID WE GET OURSELVES? (CHALLENGES)

- Linking meter, GIS parcel, and customer mailing addresses.
- Needing to au hree weeks of work)
- Complete plar ed output doesn't creep in
- Reporting in a tory.

HOW DID IT GO?

- Do we want to talk about the response, what we learned?

THANKS! – ANY QUESTIONS?

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GARDEN CITY
KANSAS

Finney County
Economic Development Corporation