



# Water Forum

## Questions & Answers

### Wednesday, August 9, 2017

Hart Park House Senior Center

The following answers were provided in response to resident questions at the Q&A session held the evening of August 9, 2017 at the Hart Park House Senior Center.

**QUESTION:** Why do I still have brown water?

**ANSWER:** Brown water has been significantly eliminated. For the past year and a half the City has been using local groundwater; we no longer take imported water directly into our pipes. The City now spreads imported water into our basins and allows it to infiltrate through the earth. However, in some areas where water stands for long periods of time it can still get discolored. An example would be cul-de-sacs. It's important that we are made aware when residents experience colored water so we can increase flushing in those areas.

**QUESTION:** What happens to all the water that is constantly running down the Canyon wash?

**ANSWER:** The water you see flowing in the wash is primarily from natural springs via tunnels on each side of Sierra Madre Dam. The majority of water is captured at the Camillo Road diversion structure and piped to our settling basins. However, the amount of water that is captured in this manner is not significant when compared with the daily water needs for Sierra Madre

**QUESTION:** If our aquifer levels recover, will there be no more fines?

**ANSWER:** The Governor of California has created a regulatory division which will evaluate the drought on a year to year basis. Every year the State will give allocations to each and every water agency in the State. The allocation won't be based on the amount of water available to an agency, but instead will be based upon how much water the State believes the agency should use. This may cause enhanced and/or new mandates from the State that local municipalities have to implement. The State will require efficient use of water regardless of how much water is available. At this point it is unclear how the State will mandate these efforts and if fines and penalties will be included in enforcement actions.

QUESTION: Are we currently in winter or summer target levels?

ANSWER: The City currently reads meters 6 times per year for each water account (every 2 months.) The seasons were previously adjusted to match the meter reading, meaning winter runs from December 15th -June 15th for one side of town and November 15th to May 15th for the other side of town. Artificially extending the seasons was an effective way to read meters and enter data but does not make sense in practice or for water rate payers. Moving forward the City will only have summer conservation targets, meaning the lower (winter) conservation targets will be discontinued and meters will be read monthly.

QUESTION: Is Arcadia taking our water?

ANSWER: When pumping restrictions were imposed on the basin, both Sierra Madre and Arcadia's pumping rights were reduced. Arcadia has a right to produce water from the East Raymond Basin just like Sierra Madre. Arcadia is pumping its legally adjudicated amount and no more.

QUESTION: Can we work with Arcadia to improve Sierra Madre's supply situation?

ANSWER: Yes, we have been working with Arcadia to restore the East Raymond Basin, and will continue to do so.

QUESTION: Is the Water District treating Sierra Madre fairly? Do we pay more than other cities for our water?

ANSWER: Sierra Madre pays \$380 per acre foot from the San Gabriel Valley Water District. We do pay more than the other three cities because Sierra Madre receives treated water, whereas the other cities receive untreated or "raw" water. Sierra Madre receives a fair deal on imported water. Agencies importing from the larger Metropolitan Water District (MWD) directly are paying between \$700-\$1000 per acre foot for treated water.

QUESTION: How many gallons are in an acre foot?

ANSWER: There are 325,851 gallons in an acre foot.

QUESTION: Are we still spreading MWD water?

ANSWER: The City currently spreads 300 acre feet per month as of July 1st. Our goal is to spread 1000 acre feet per year and, at a minimum, enough to maintain ground water levels. Once we are able to spread 1000 acre feet we will evaluate groundwater levels to determine if additional spreading is necessary.

QUESTION: Why is there such a loss when we spread?

ANSWER: There is not much water loss as a result of spreading. The City receives a "one for one" credit for spreading imported water. Our basin is confined and water put into the ground stays in our basin until it is pumped out.



QUESTION: Why are we putting water that has already been treated into the ground?

ANSWER: Sierra Madre has limited access to replenishment water. The City utilizes our water district through MWD's upper feeder. Unfortunately it is treated water in the pipeline which does cost more. The City has determined that re-charging the aquifer with this water is much better than supplying the pre-treated water directly through the distribution system as the change in water chemistry adversely affects the City's distribution system.

QUESTION: Are residents charged a premium on purchased water? Is the City making a profit?

ANSWER: By "premium" you may be referring to the tier structure or penalties that are charged on your water bill. There is no "premium" or profit made on the water itself.

QUESTION: What about our pipes? Are the chemicals we put into the water causing more leaks?

ANSWER: Imported water introduced into the water system in 2013 was treated with chloramines, which is a mixture of chlorine and ammonia. The water also had a slightly different chemistry which caused iron build-up inside the City's pipes to precipitate causing red or brown water. Since December 2015 the City has not taken any imported water directly in the water system. Alternatively, the City decided to infiltrate the imported water into the aquifer where it is allowed to blend. The City then pumps this water out to treat it and place it in the distribution system. The City is not required to add fluoride because it is sufficiently naturally occurring. Currently, as required by the Health Department, the City only adds chlorine to the water.

QUESTION: Can we get handouts of this evening's slides?

ANSWER: Yes, a copy of the presentation will be included as an attachment to this evening's Questions and Answers Forum.

QUESTION: Why do Sierra Madre water customers pay more for their meter charge than other cities?

ANSWER: It is true the meter connection charges in Sierra Madre are more than in our neighboring cities. The meter connection charges include customer-related and meter-related costs.

Customer costs are uniform for all customers and include such costs as meter reading, billing, collecting and accounting, and fire protection for 449 public fire hydrants. Meter service costs include maintenance and capital costs associated with meters and a portion of the capacity related costs. Furthermore, the charges were derived from the last rate study using the American Water Works Association (AWWA) Meter Ratio in calculating the meter component as is industry practice. These costs are assigned based on meter size or equivalent meter capacity.



QUESTION: Did these penalties just go into effect?

ANSWER: The penalties were approved by the City Council in May of 2016 and put into place on bills in October of 2016.

QUESTION: What percentage of the pipes needs to be replaced?

ANSWER: We have identified the top 10 priority water mains to be replaced. The top 10 represent about 80% of the water loss we are experiencing. Three have been completed and we are increasing the pace of repairing the rest. Overall, 28% of the pipes in Sierra Madre need to be replaced in the very near future. Please see Exhibit 1 for more information.

QUESTION: We are only paying the interest of the water bonds, why?

ANSWER: In 2002 the City sold bonds to build water reservoirs. The reservoirs themselves operate very efficiently and have improved the City's water system. In addition to this the Federal Government provided \$6 million in matching funds. However, the debt sold by the City to match the Federal funds was not structured effectively. This bond series is 30 years with 5% interest, and the first 15 years of payments are interest only. The City plans to restructure this debt and will bring a plan forward to the City Council in September of 2017. (Please see the presentation from the Water Forum, attached here, for more information.)

QUESTION: I have lived in Sierra Madre for 35 years and in the same house for 21 years. I have never seen anybody read my meter. I think the readings are being estimated.

ANSWER: The City reads every meter in town prior to sending a bill. If you have not witnessed someone reading your meter it is likely your water meter has been upgraded to radio-read or touch-read. These types of meters do not require employees to physically read the meter, but the information from the meters is still transmitted accurately.

QUESTION: What is the total cost of water operations? What are we doing to reduce this cost?

ANSWER: Since the beginning of Fiscal Year 2018, City staff has reduced overall water operations by \$150,000. Staff will also bring plans to the City Council to reduce operations an additional \$150,000-\$330,000 later this year. (Please see the presentation from the Water Forum, attached here, for more information on future projections of the Water Fund.)

QUESTION: Why is the UUT applied to the penalty portion of the bill?

ANSWER: The City will no longer apply the UUT to penalties.

QUESTION: How are new home owners made aware of their conservation targets?

ANSWER: New water customers are provided a "Welcome Packet" when they sign up for new water service. This packet includes the conservation target.



QUESTION: Why are the targets so random?

ANSWER: Conservation targets are not random; they are based on actual water use for each property from November 2012 through October 2013. If the number of people in the house increases or decreases or occupancy changes from vacant to occupied, or if there is need for additional water based on changes to the lot, the conservation target can be appealed. Here is a link to the appeal form as well as water budget calculation information:

<http://www.cityofsierramadre.com/services/water/Appeal/>

QUESTION: How can we increase supply, trap more water?

ANSWER: Whenever it rains, the goal is to capture and infiltrate water for recharge. The City also has rights to water stored behind the Santa Anita Dam. The City works closely with Los Angeles County Flood Control to allow for this stored water to be delivered to our spreading. However, it is important to note that there are rules about allowing water to go downstream to allow for other jurisdictions to receive water for recharge as well.

QUESTION: Are there any State or Federal funds to apply to Sierra Madre for water?

ANSWER: Staff is consistently reviewing County, State, and Federal programs that may provide financial assistance to address Sierra Madre's water challenges. In fact, staff will be traveling to Washington DC in September in an ongoing effort to receive \$10 million WERTA funding that has been held up for over a decade.

QUESTION: Can we subcontract the installation of the AMI meters?

ANSWER: Each AMI meter costs approximately \$300. The City is currently looking at options to install AMI meters to each resident that requests one. More information on this program will be made available in the near future.

QUESTION: What percent of water is used by commercial or non-residential uses? What percent of the overage are they?

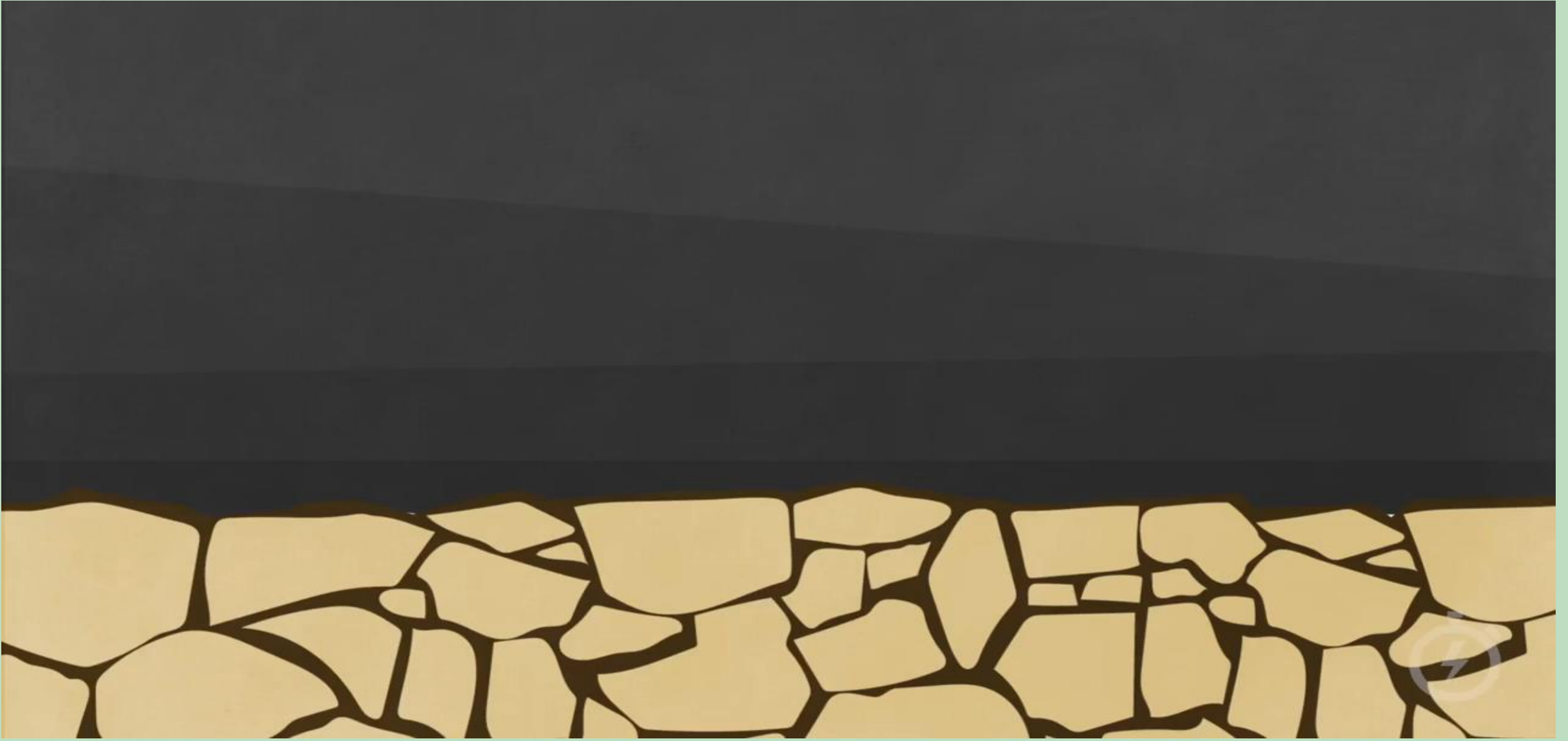
ANSWER: In May and June of 2017 commercial use of total water consumed was 6.65%. Commercial users comprised 4.7% of total utility accounts during this reading period.





# 2017 Water Forum August 9, 2017





# Sierra Madre's Water Sources

- Adjudicated Rights
- Ground Water
- Imported Water
- Groundwater Re-charge
- Current Groundwater Elevation



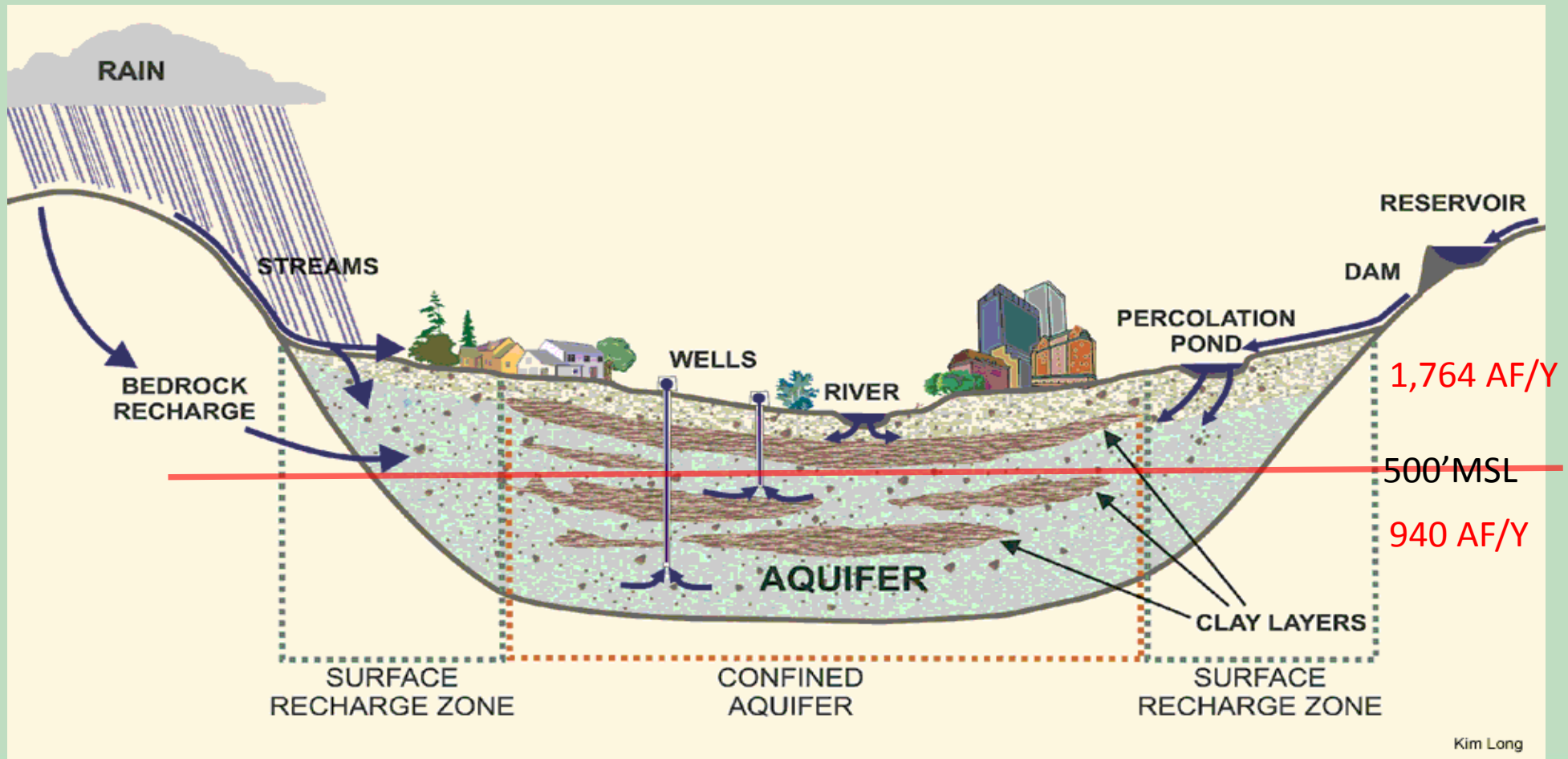


## Groundwater Rights and the 500' Rule

Above 500' MSL pumping rights = 1764 AF/Y

Below 500' MSL pumping rights = 940 AF/Y

City annual demand 2,000 AF/Y



# June 2016 Data

- The average user does not exceed the water target
- The average June target was 29 units, average use was 29 units
- The median June target was 21 units, median use was 20 units
  
- The median June “overage” was 9
- The average June “overage” was 18.21



# June 2016 Data (cont.)

## Super Users:

- The top 3.1% of users are responsible for 48% of all the water consumption over target
- The top 8.9% of users (172 accounts, 19 units over) are responsible for 70% of all water consumption over target
- The median user who went over target combined, results in 89.1% of all water consumption over target
- 36% of water users use 60.6% of the water and 100% of the overage



# June 2017 Data

- The average user does not exceed the water target
- The average June target was 31 units, and the average use was 30 units
- The median June target was 22 units, and median was use 21 units
  
- The median June “overage” was 8
- The average June “overage” was 15.1



# June 2017 Data (cont.)

## Super Users:

- The top 1.9% of users use 10.3% of all water and 17.3% of all overage
- The highest users (3%) averaged 71 units over consumption target
- The second highest users (12%) averaged 36 units over consumption and use 25% of all water over consumption
- 39% of users used 59% of water and 100% of overage





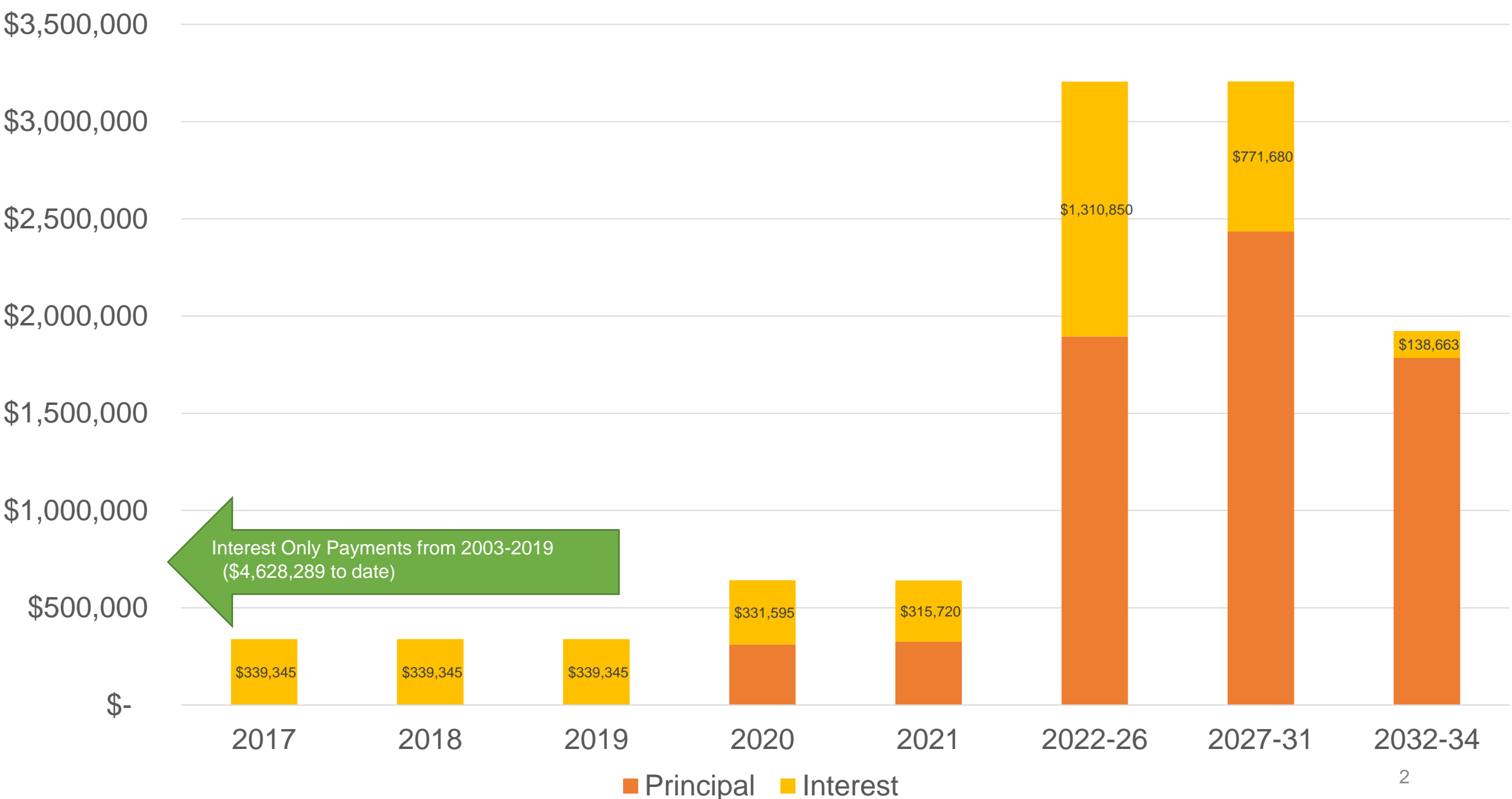
# Questions?



# Future Budget Concerns

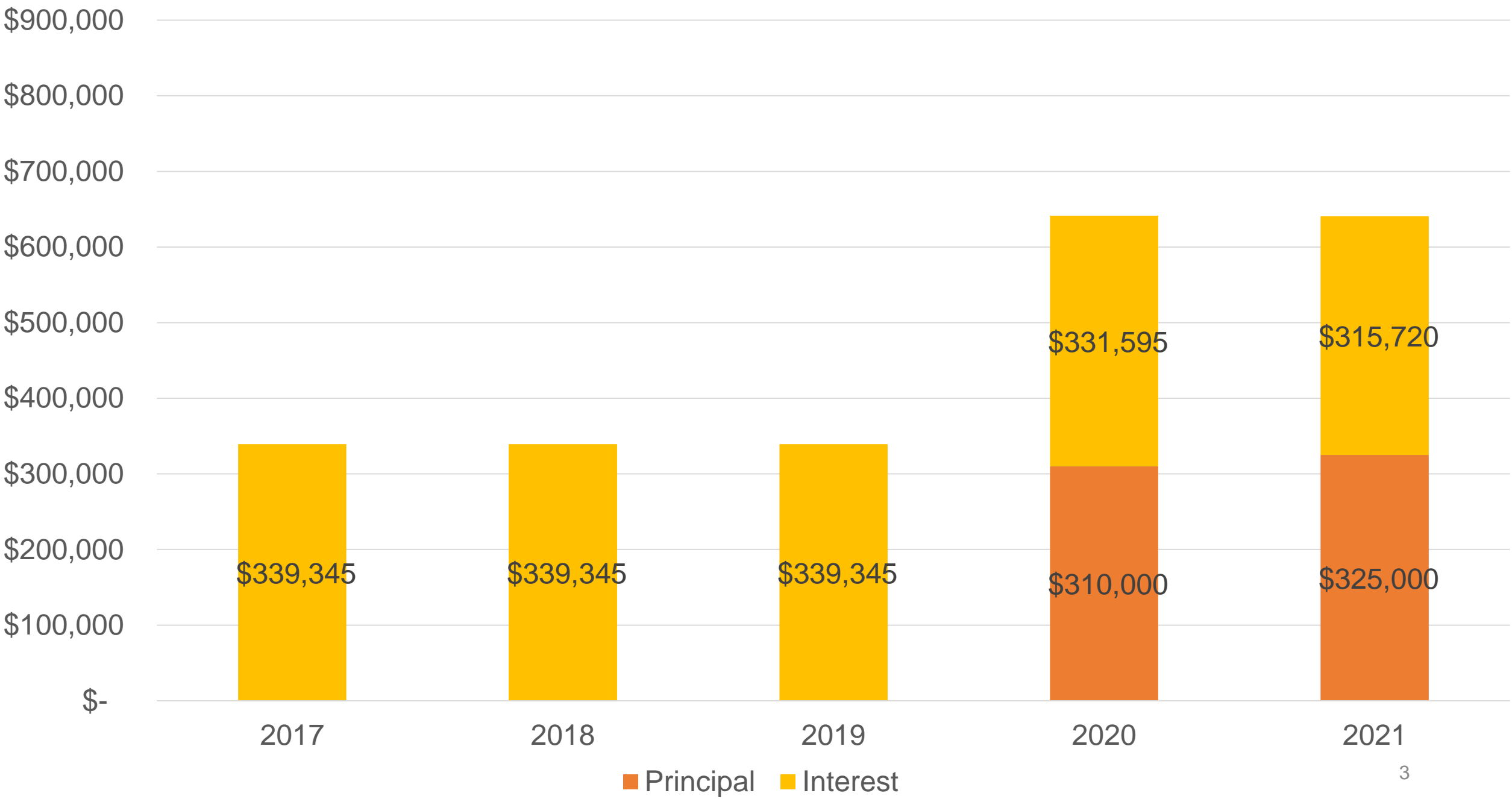
- 1. Debt Obligations & Loans in Water Enterprise**
2. Water Utility Operations

Sierra Madre Water Revenue Parity Bonds, Series 2003 - Original Issue \$6,750,000

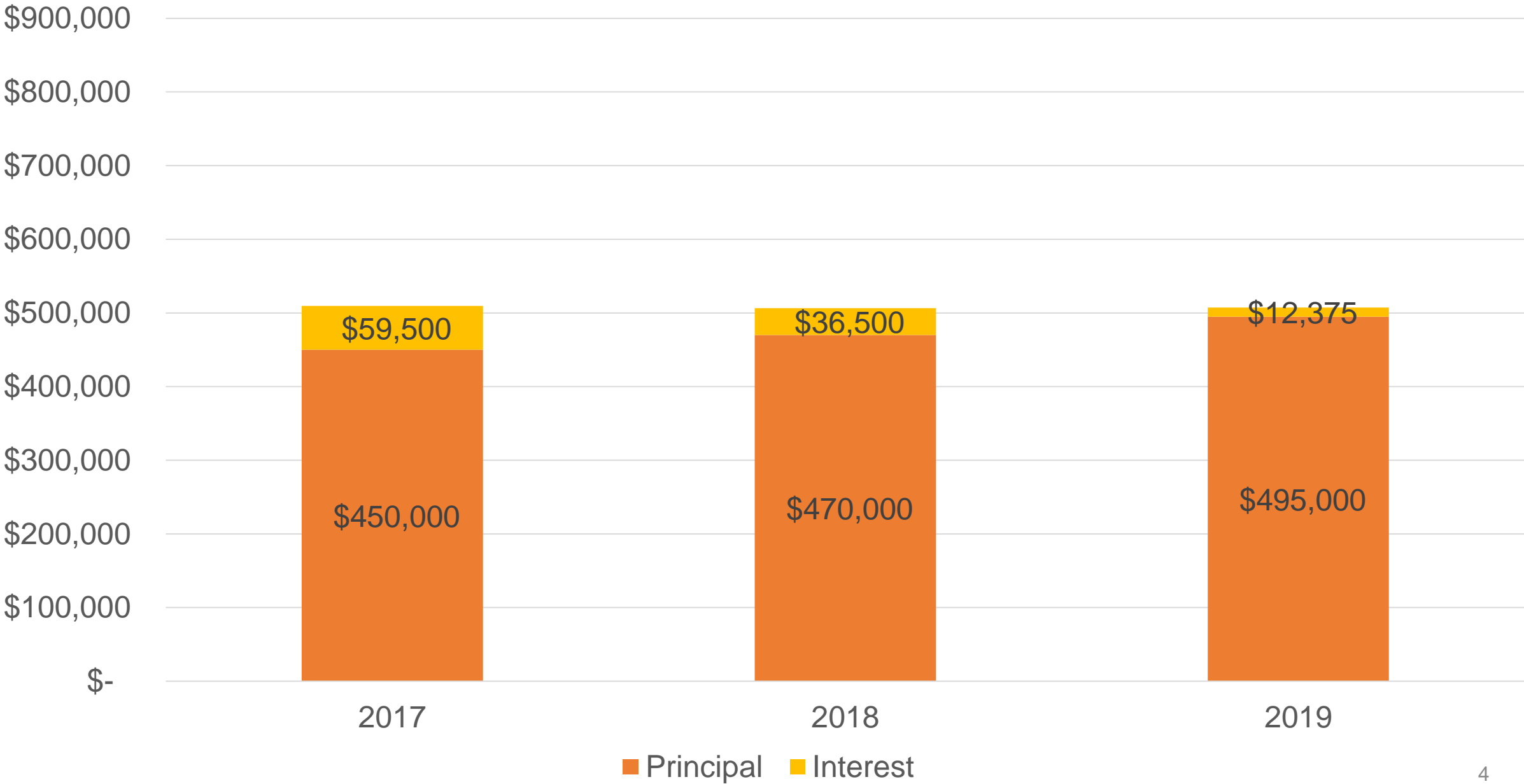




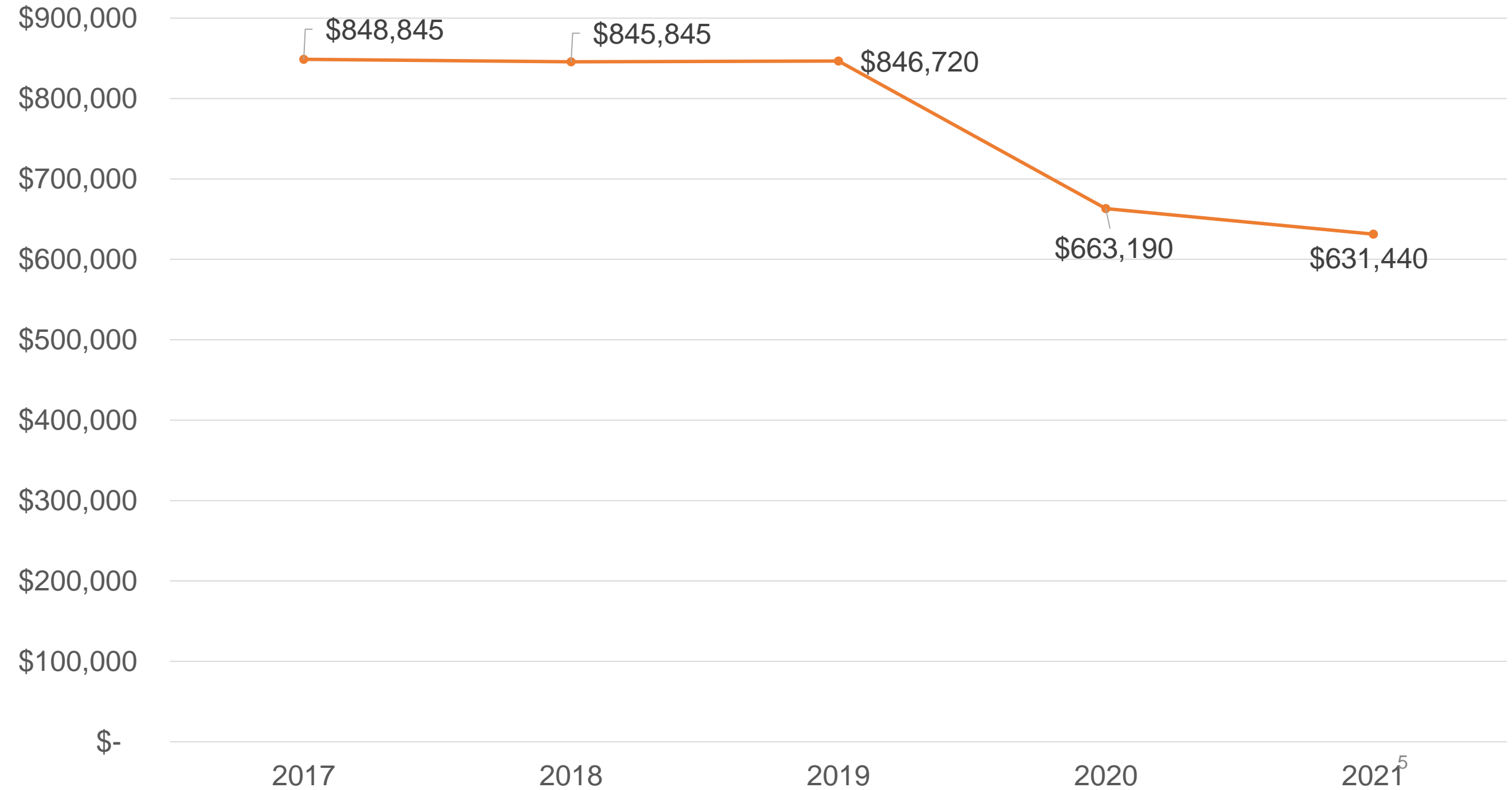
Sierra Madre Water Revenue Parity Bonds, Series 2003 - Original Issue \$6,750,000



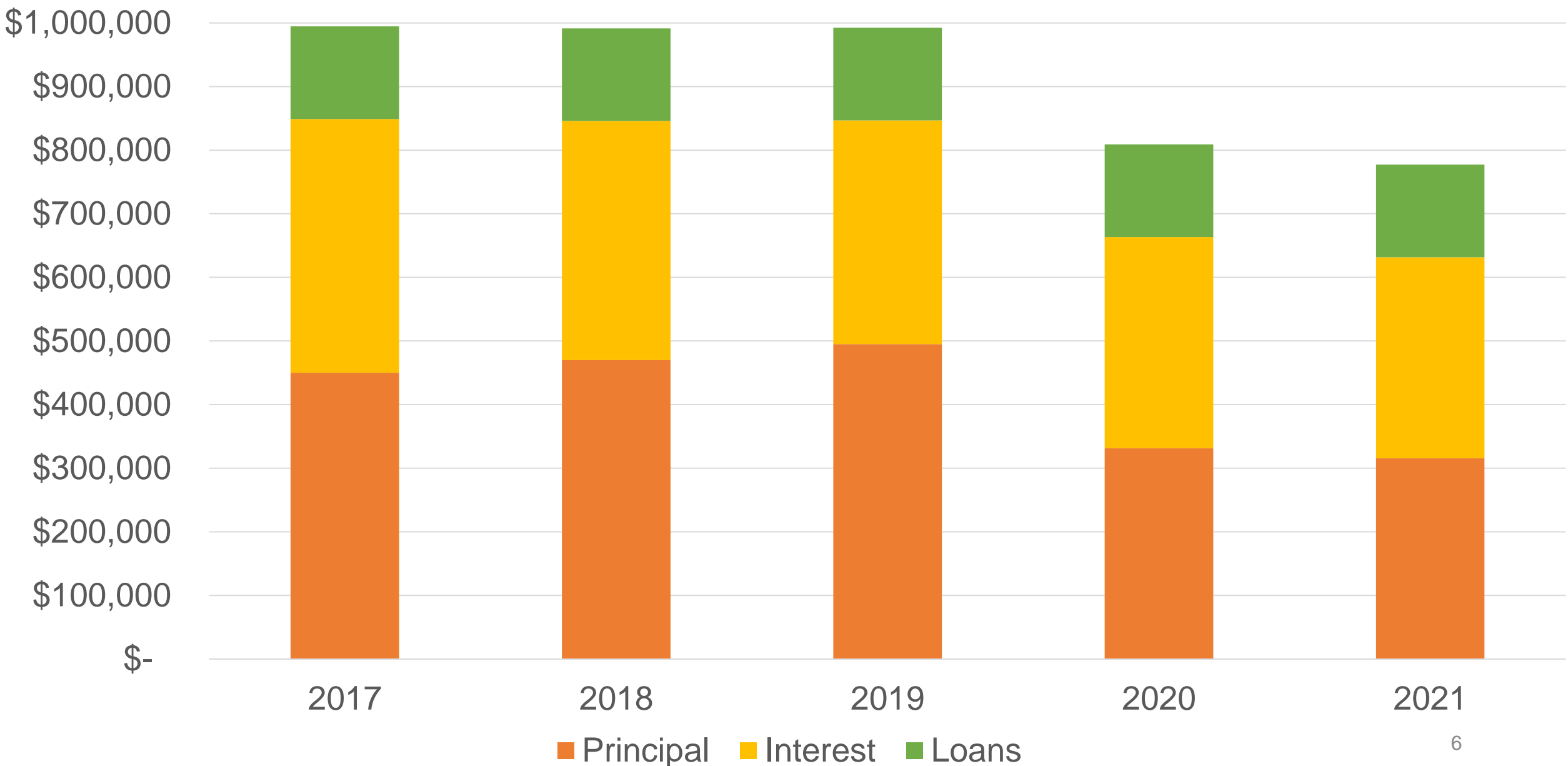
Sierra Madre Water Revenue Refunding Bonds, Series 1998A-Original Issue  
\$6,740,000



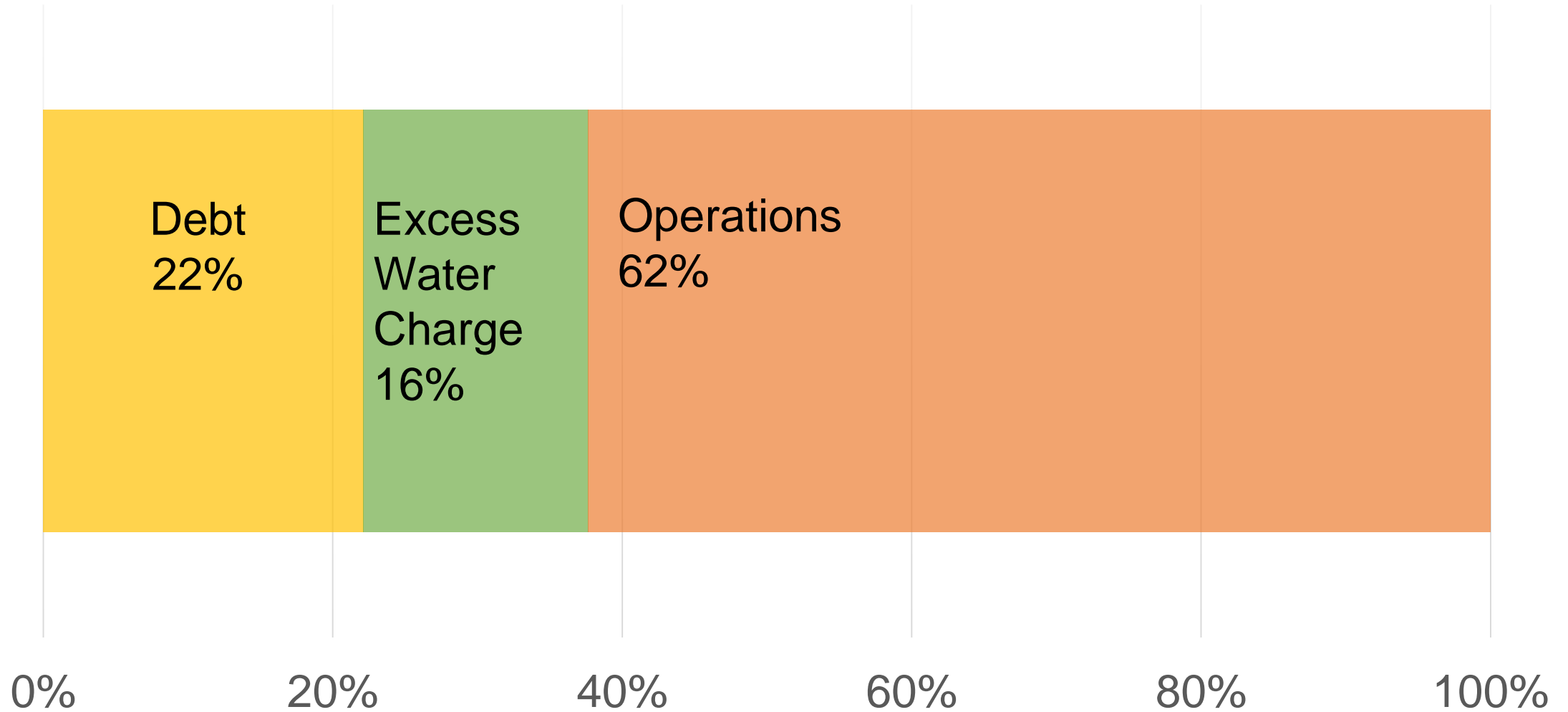
## Near Term Debt Obligations (Bonds) -Water



Water Enterprise Debt Obligations, Near-Term (Bonds and Loans)



# Water Enterprise



# Water Enterprise Health Indicators

Health is determined by debt, revenue stability, & asset condition

## 1. Debt Service

- Currently debt equals more than 22% of Water revenues through 2020

## 2. Revenue Stability

- 16% of revenue collected is non-repeatable (excess water charge)

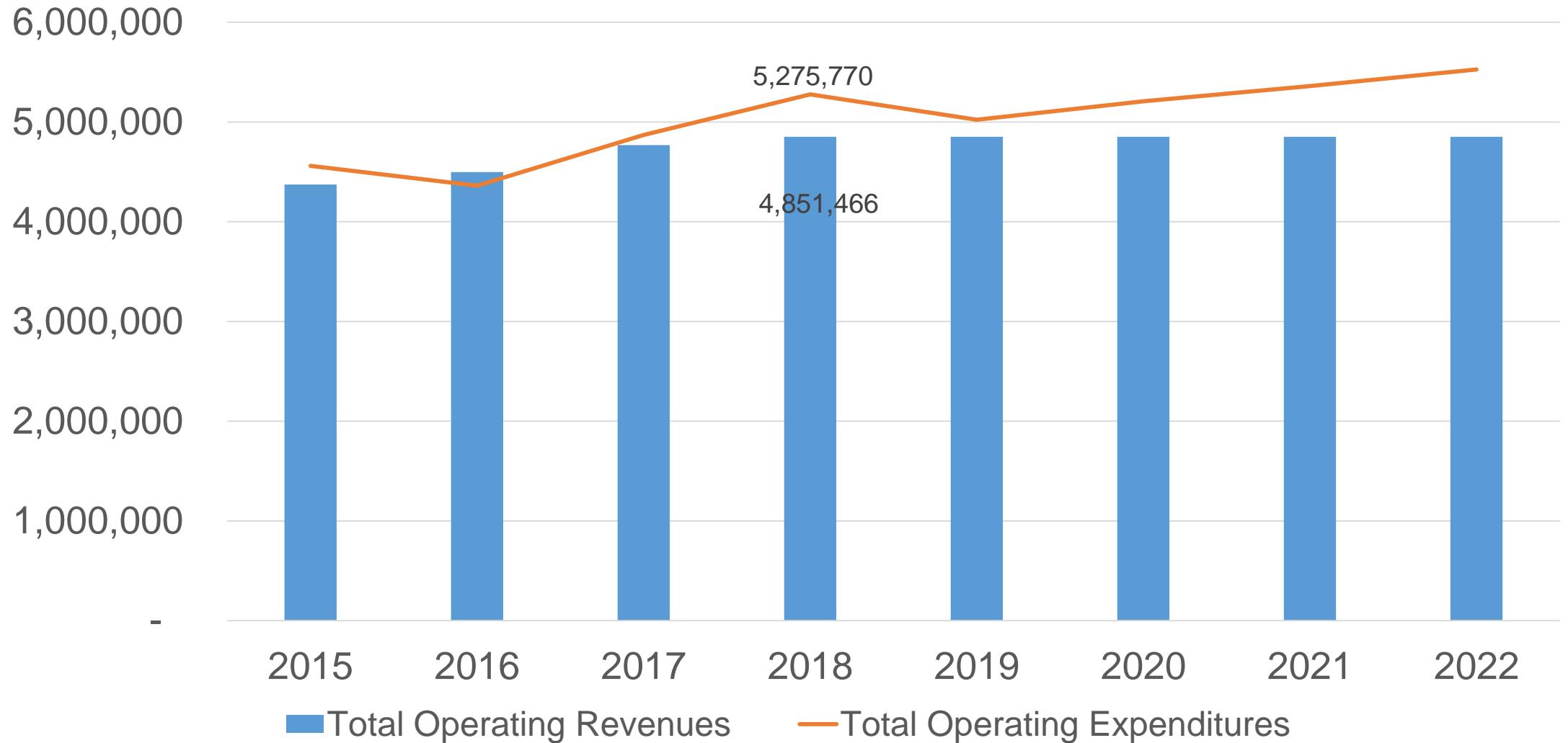
## 3. Future Cost of Infrastructure

- Hydrology report will show need for critical maintenance & replacement

# Future Budget Concerns

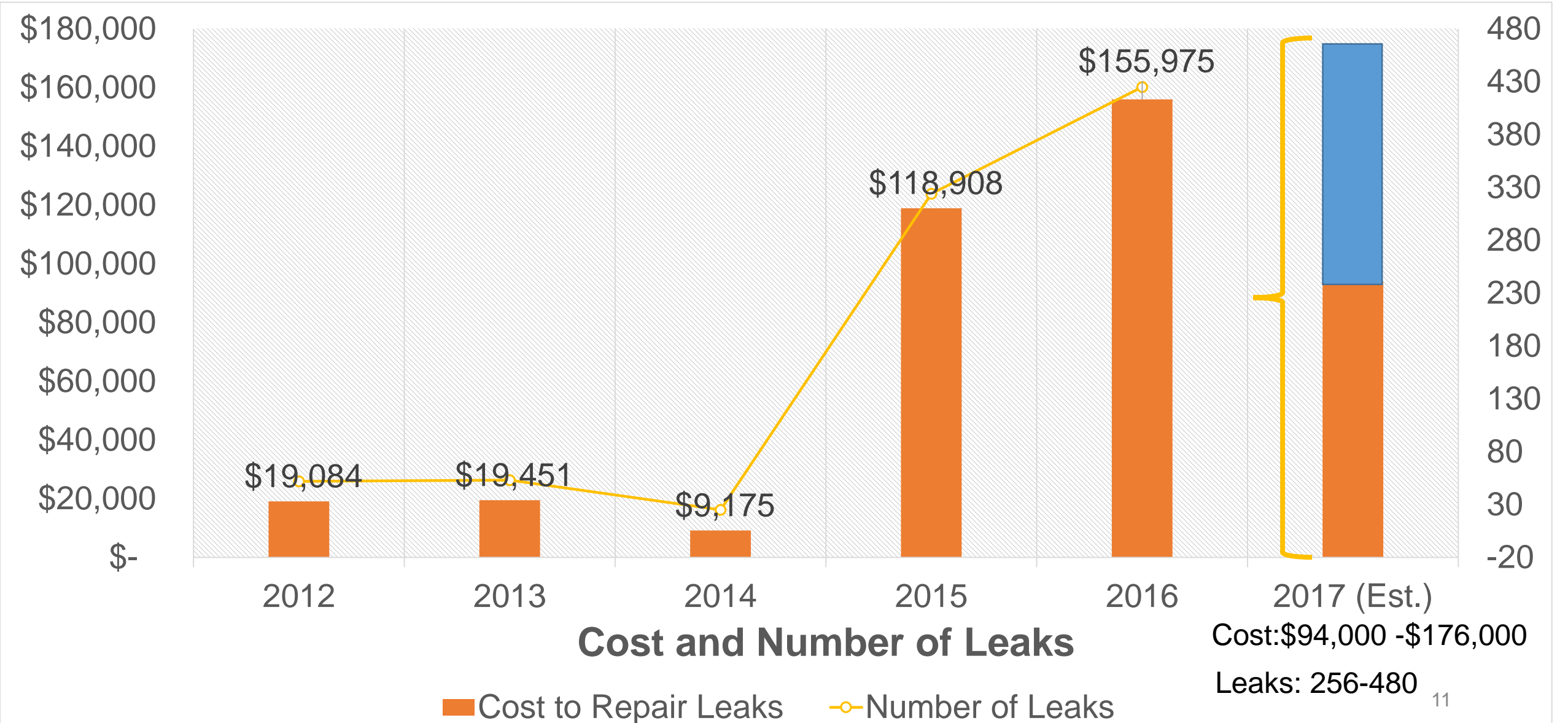
1. Debt Obligations & Loans in Water Enterprise
- 2. Water Utility Operations**

# Water Utility Operations

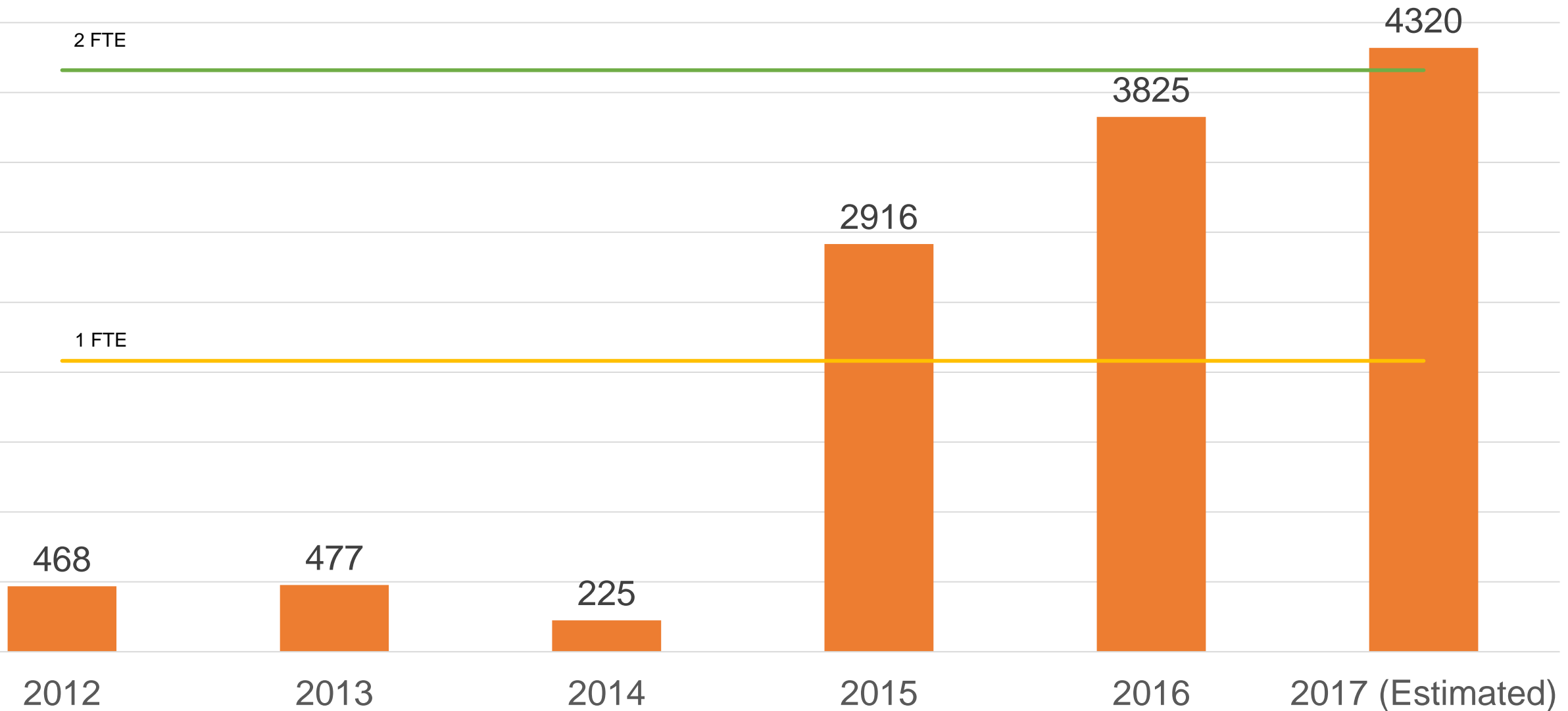




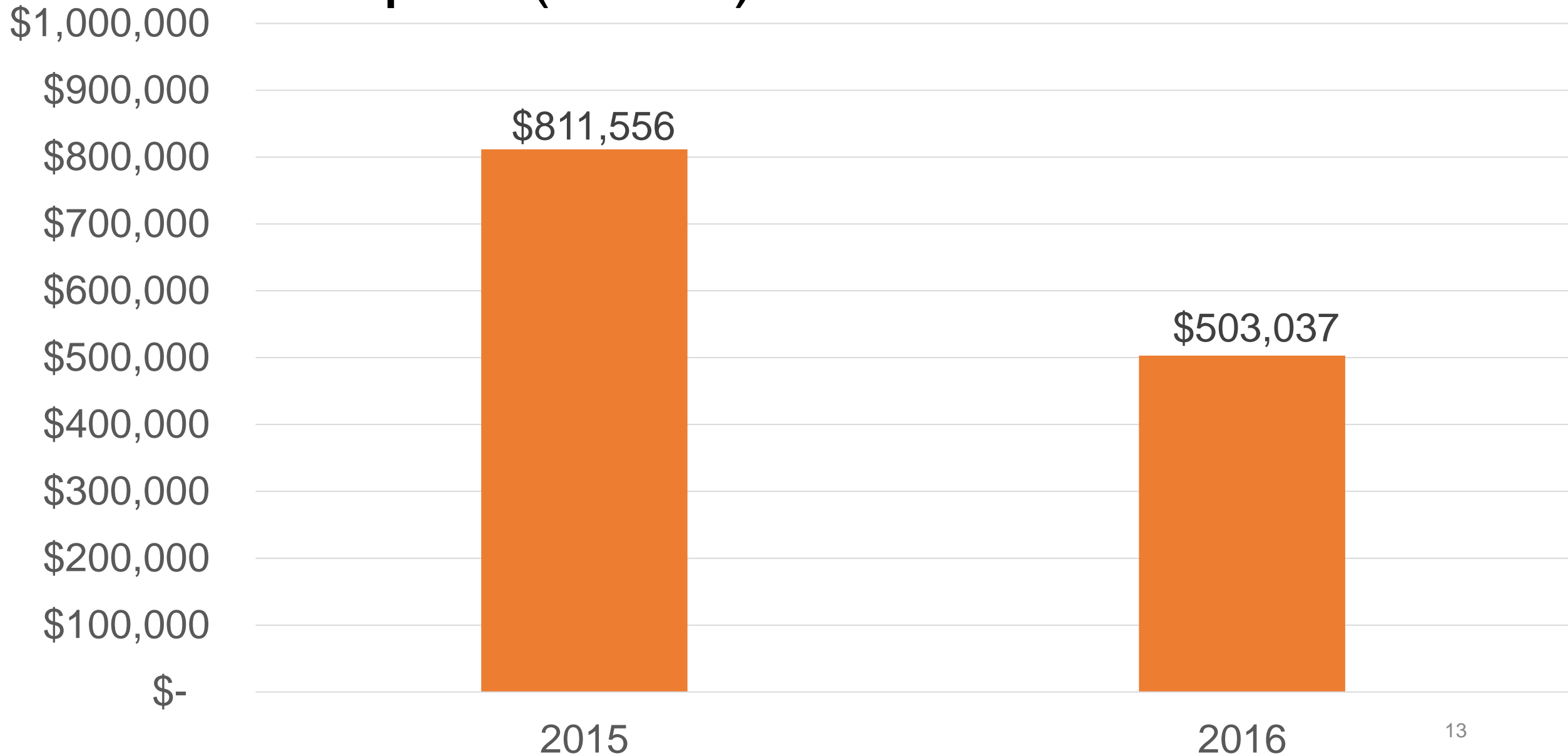
# Leak Repair (Cost)



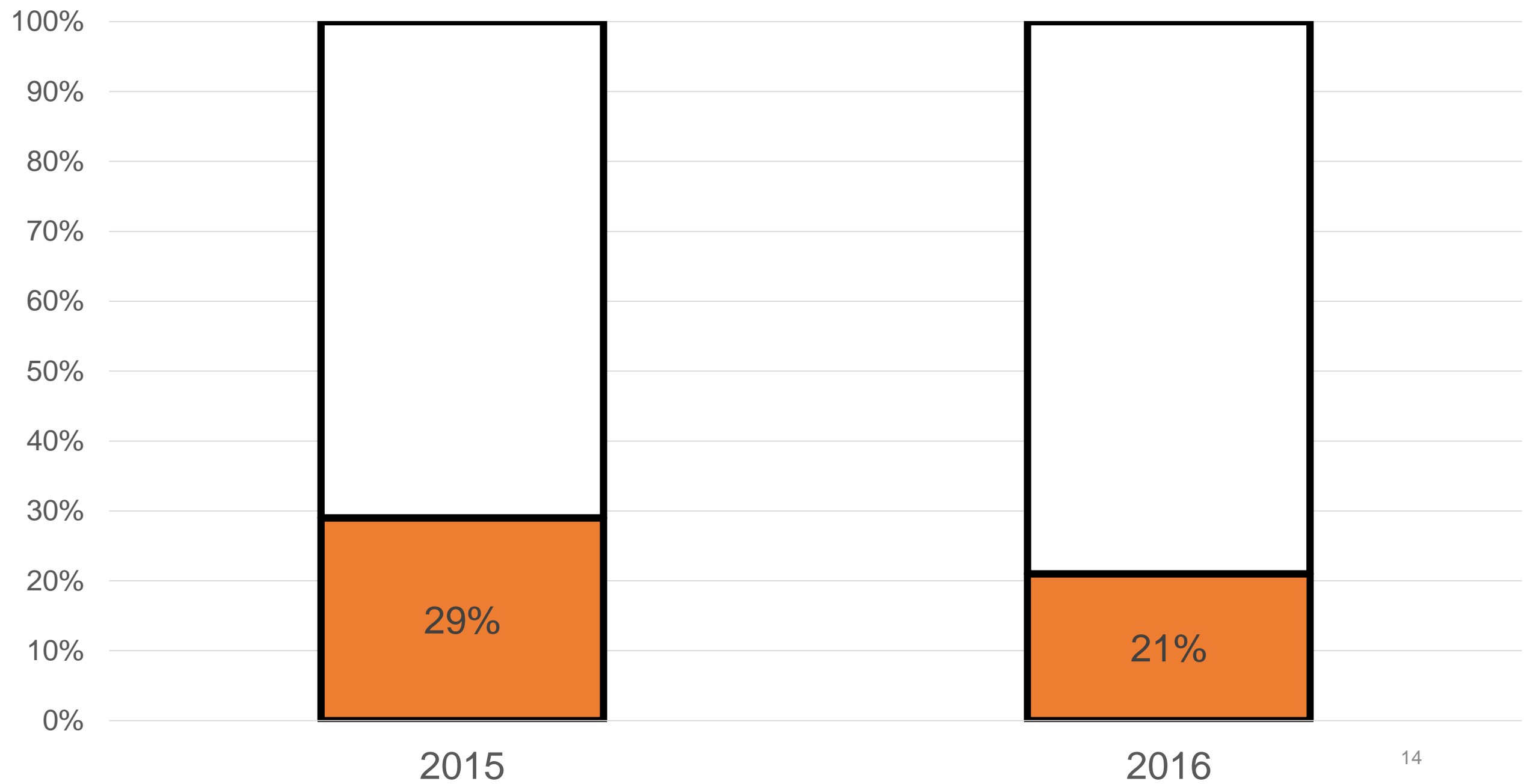
# Leak Repair (Cost in Time)



# Leak Repair (Value)



# Percent Water Loss of Total





We can be more, together.

# City of Sierra Madre Water Production/Distribution System Hydraulic Model and Water System Master Plan

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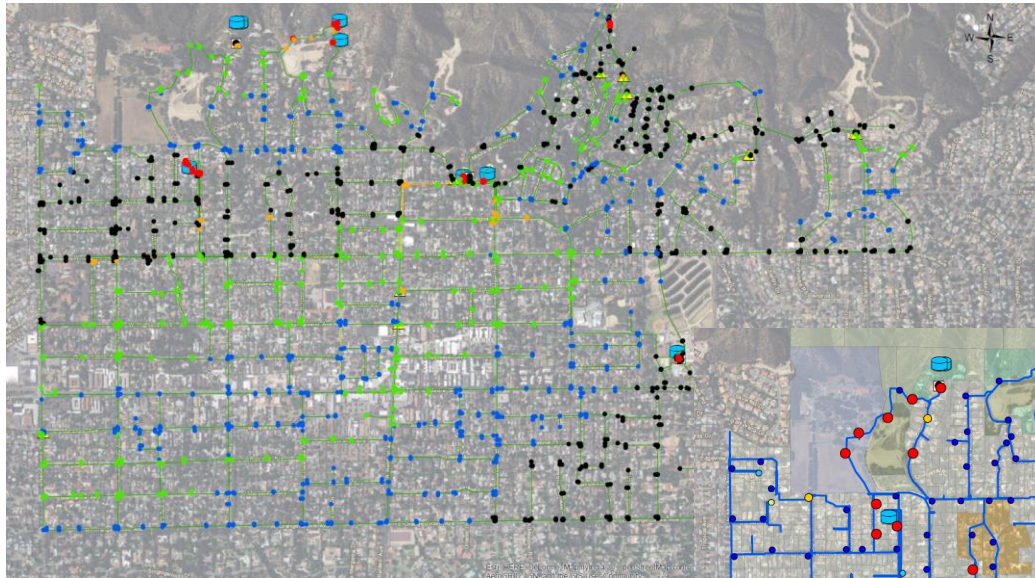


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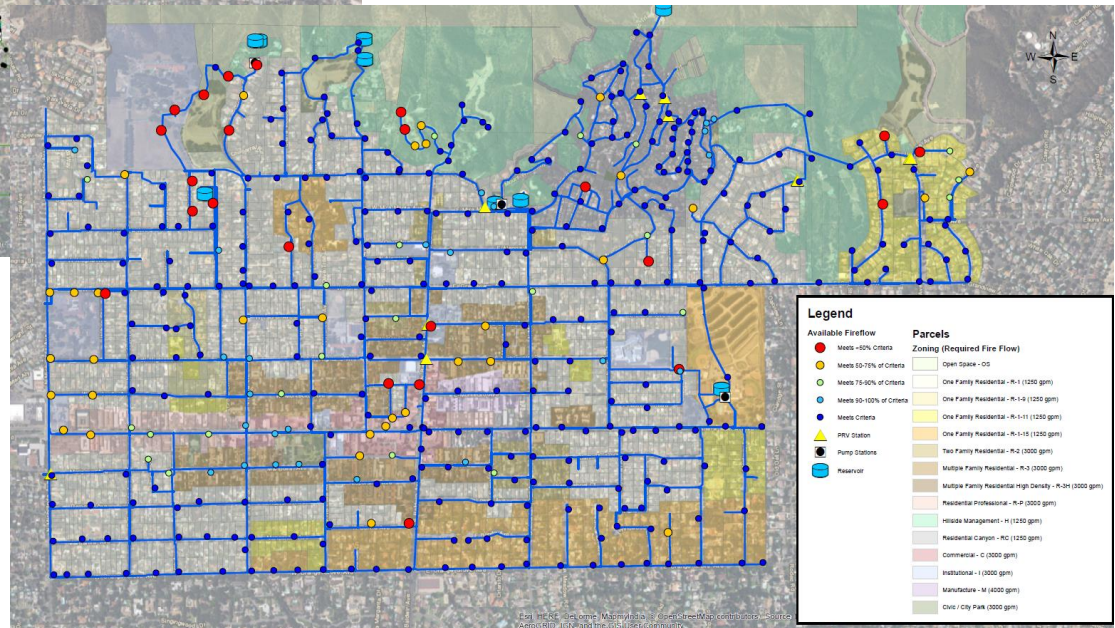
# Water System Model

Sierra Madre, City of  
June 2017



- Model developed from City's GIS
- Calibrated to fire flows

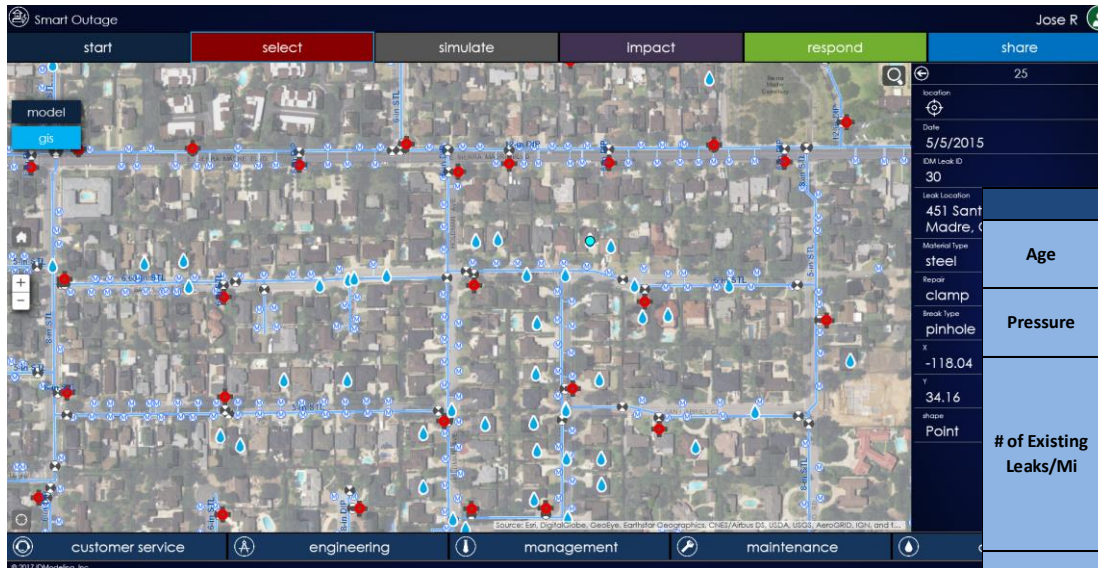
- Performed System Analyses & Fire Flow Simulations to Determine Deficiencies





# Prioritized Pipeline Replacement Program

Sierra Madre, City of  
June 2017



- Map-based leaks
- Applied City data, operator knowledge to weight likelihood/consequence of failure

Likelihood of Failure Scoring Criteria				
	Modifier	Value	Individual Score	Group Weight
Age	Greater than or Equal to	60	5	30%
Pressure	Greater than or Equal to	120	5	10%
# of Existing Leaks/Mi	Greater than or Equal to	24	5	40%
	Range	0	0	
		1	1	
		6	2	
		12	3	
		18	4	
# of Existing Leaks	Greater than or Equal to	5	5	20%
	Equal to	0	0	
		1	1	
		2	2	
		3	3	
		4	4	

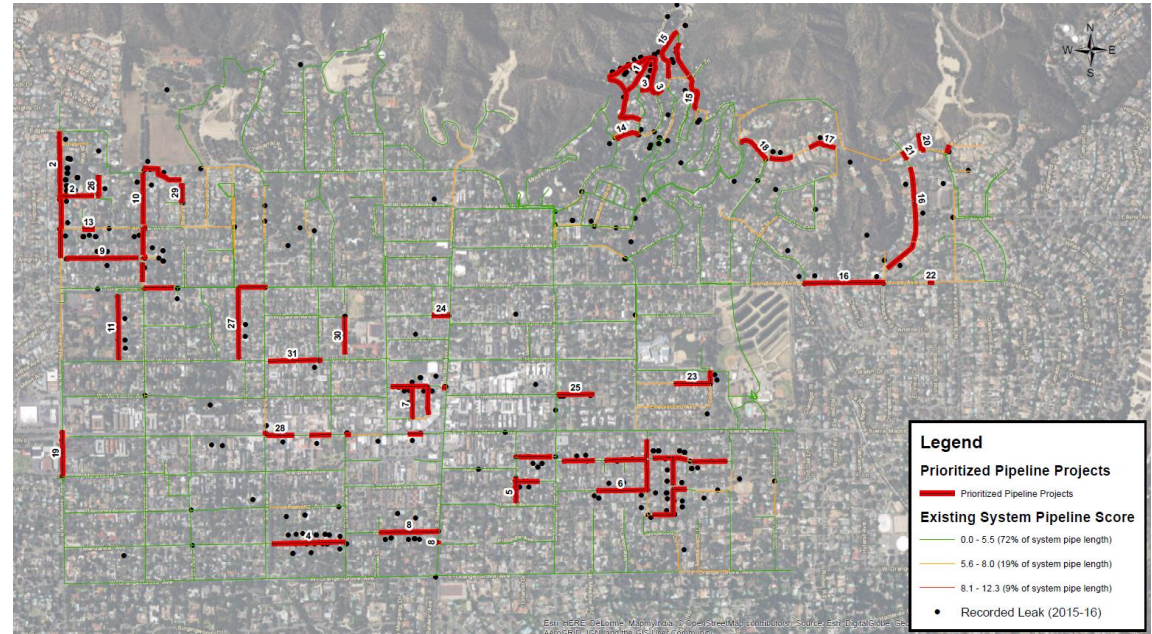
Consequence of Failure Scoring Criteria			
Fire Flow Deficiency	Value	Individual Score	Group Weight
	No	0	80%
	Yes	5	
# Customers from Outage Analysis	Greater than	Individual Score	Group Weight
	20	5	20%

# Prioritized Pipeline Replacement Program

Sierra Madre, City of  
June 2017

Project Rank	Project Name	Project Location	Length of Pipeline to be Replaced (ft)*	Project Pipeline Score	Project Trigger
1	CIP 100	Skyland Dr/Idehour Ln	1,915	10.0	Physical
2	CIP 101	N Michillinda Ave/Gatewood Ln	1,971	12.3	Physical
3	CIP 102	Canyon Crest Dr	682	9.9	Physical
4	CIP 103	Manzanita Ave	895	7.9	Physical
5	CIP 104	Sierra Place/San Gabriel Ct	601	11.0	Physical
6	CIP 105	Colony Dr/Santa Anita Ct/Holdman Ave	4,487	10.0	Physical
7	CIP 106	Windsor Ln/W Montecito Ave	1,413	9.9	Physical
8	CIP 107	W Bonita Ave/S Baldwin Ave	777	11.5	Physical & Hydraulic
9	CIP 108	W Alegria/N Sunnyside/W Grandview	1,531	12.0	Physical
10	CIP 109	N Sunnyside Ave	1,571	12.0	Physical
11	CIP 110	Wilson St	798	11.0	Physical
12	CIP 111	Santa Anita Ave	102	10.9	Physical
13	CIP 112	Fairview Ave	150	10.5	Physical
14	CIP 113	Canyon Crest Dr	301	10.3	Physical
15	CIP 114	Woodland Dr	1,704	10.5	Physical
16	CIP 115	Liliano Dr	2,426	9.6	Physical
17	CIP 116	Camillo St	343	9.6	Physical & Hydraulic
18	CIP 117	Lotus Ln/Camillo St	699	9.6	Physical & Hydraulic
19	CIP 118	N Michillinda Ave	559	9.4	Physical & Hydraulic
20	CIP 119	Kaia Ln	262	9.3	Physical & Hydraulic
21	CIP 120	Liliano Dr	79	9.3	Physical & Hydraulic
22	CIP 121	E Grandview Ave	75	9.3	Physical & Hydraulic
23	CIP 122	E Highland Ave	602	9.3	Physical & Hydraulic
24	CIP 123	W Laurel Ave	213	9.1	Physical & Hydraulic
25	CIP 124	E Montecito Ave	458	9.0	Physical
26	CIP 125	Gatewood Ln	262	8.7	Physical & Hydraulic
27	CIP 126	Grove St	1,222	8.6	Physical & Hydraulic
28	CIP 127	W Sierra Madre Blvd	742	8.6	Physical & Hydraulic
29	CIP 128	Sierra Keys Dr	235	8.4	Physical & Hydraulic
30	CIP 129	N Hermosa Ave	456	8.2	Physical & Hydraulic
31	CIP 130	W Highland Ave	667	8.1	Physical & Hydraulic
32	CIP 131	N Sunnyside Ave	52	8.0	Physical & Hydraulic

\*Pipeline to be replaced with ductile iron pipe.

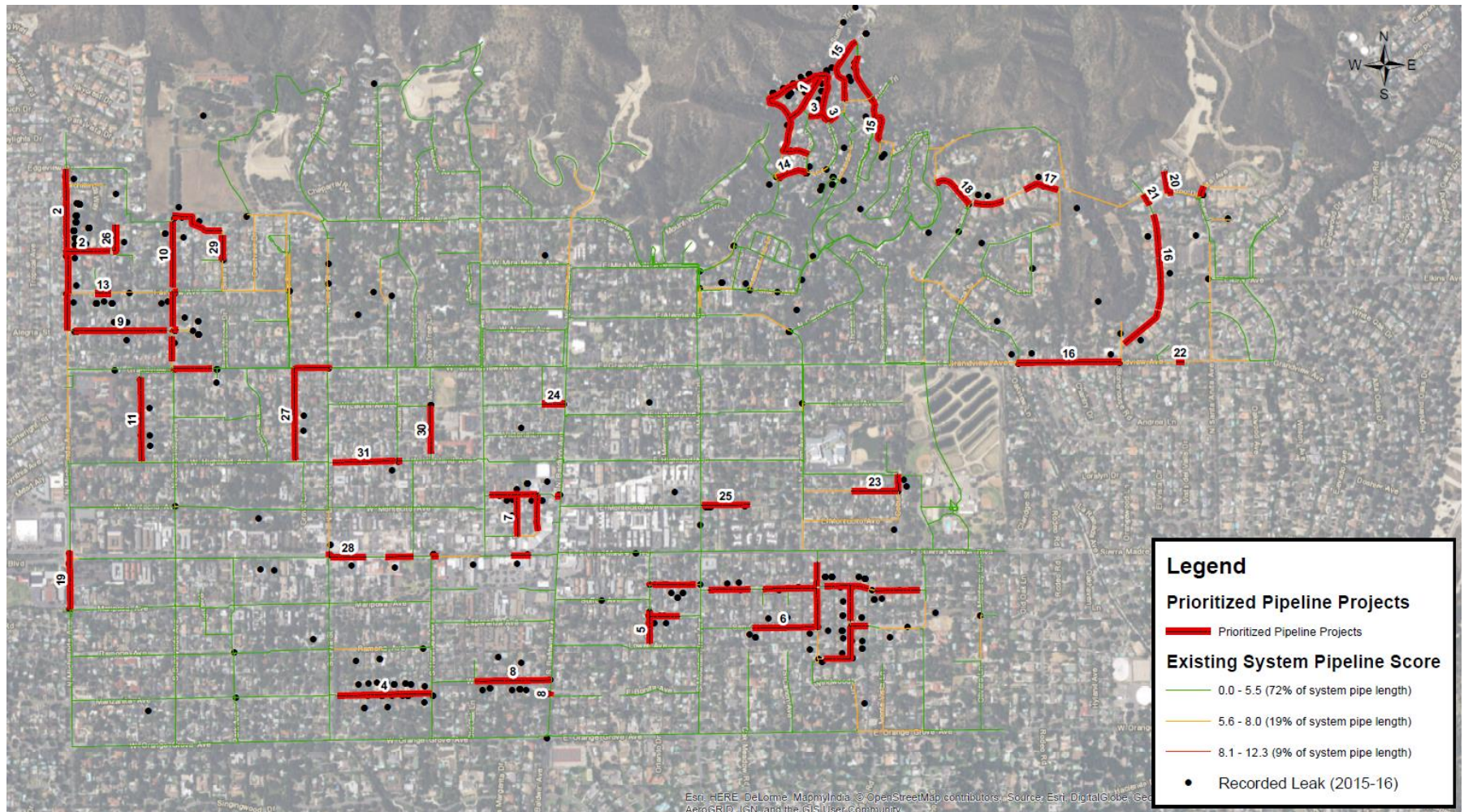


- 32 Prioritized Projects
- Addresses ~9% of system pipe length
- Addresses ~80% reported leaks 2015-16



# Prioritized Pipeline Replacement Program

Sierra Madre, City of  
June 2017



# Interactive Q & A

Sierra Madre, City of  
June 2017



## Q & A



We can be more, together.

# City of Sierra Madre Water Production/Distribution System Hydraulic Model and Water System Master Plan

Contact: Paul Hauffen, CEO  
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