

# PUBLIC WORKS

## Water Rate Study



**Council Study Session – January 24, 2017**

*lg*SOLUTIONS, LLC.

## Tonight's Presentation

1. Water Rate Study
  - Why a Water Rate Study?
  - Why tonight's Study Session?
  - What it is and when it is happening
  - Anticipated future Council decisions
2. Description of water system facilities
3. Existing water rates
4. Financial status of the City's Water Utility
5. Water system upgrades and replacements
6. Budget-based rate structure overview
7. Ask for your feedback: what is important to you?



## Why a Water Rate Study?

- “The **mission of the City of Garden Grove** is to provide responsible leadership and quality services as we promote safety, cultural harmony, and life enrichment.”
- “The **goal of the Water Services Section** is to provide sufficient and safe water at the lowest possible cost to the City’s residents.”
- **Recent court decision** interpreting of Proposition 218: tiered water rates must be cost substantiated



## Why Tonight’s Study Session?

- No council decisions are requested tonight
- To communicate that there are anticipated future decisions
- To introduce the topic of the Water Rate Study
- To hear your feedback: what is important to you?



# What is a Water Rate Study?

- The Water Rate Study:
  - projects water utility revenues, expenses, and rates for a five-year period
  - defines how to pay for quality services,
  - defines water system repairs and improvements in the next five years,
  - defines how to equitably charge customers for the services they receive,
  - evaluates “budget-based” water rates



# Schedule

- Study begins: November 2016
- First Council study session: January 2017
- Draft results: 1<sup>st</sup> Quarter 2017
- Future Council study sessions: 1<sup>st</sup> and 2<sup>nd</sup> Quarter 2017
- Council decisions on how to proceed: 1<sup>st</sup> and 2<sup>nd</sup> Quarter 2017
- Public engagement: Spring and Summer 2017
- Rate changes go into effect, if any: Summer 2017



## Anticipated Future Council Decisions

- Which types of water system capital investments are most important?
- How much, if any, additional capital spending beyond today's amounts is desired to maintain and improve reliability of water service?
- How much, if any, increases to water rates are acceptable to pay for capital investment?



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## Anticipated Future Council Decisions

- Should the City adopt a budget-based water rate structure?
  - If so, there are a number of additional decisions needed
- Should the City change its rate structure to rely more on “fixed charges” and less on “variable charges”?
- Can, and should, the City change its procedures regarding rate discounts for qualifying low-income customers?



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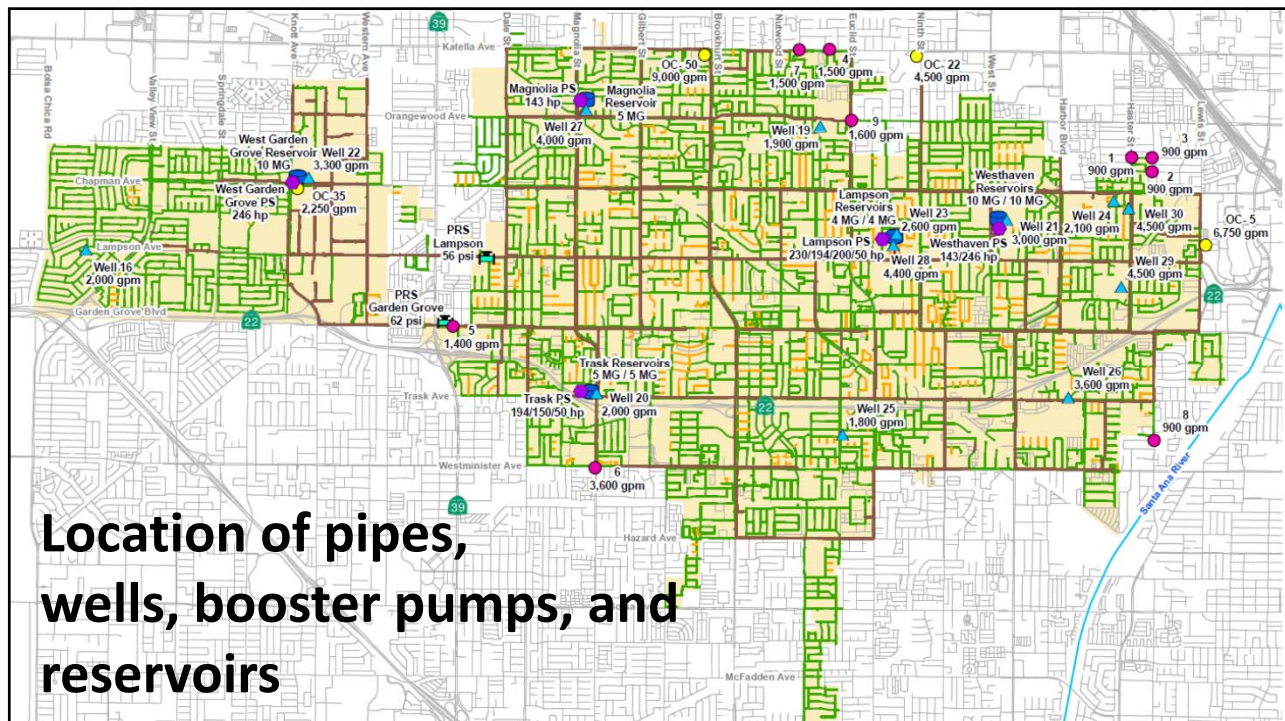
# Description of water system facilities

- 75% of water supply is groundwater from Orange County
- 25% of water supply is from the State Water Project
- 433 miles of pipe
  - ~ distance from Garden Grove to San Francisco
  - 40% is over 60 years old
  - 48% is between 35 and 60 years old
- Water pipes are too small
  - Existing fire flow standards are not met. Low fire flow; replacement with larger pipes needed
  - Public safety: provide sufficient water to fight fires



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**Location of pipes,  
wells, booster pumps,  
and reservoirs**

## Description of water system facilities

- 17 Total water production facilities
  - Engineering evaluation needed to recommend needed rehabilitations
- 13 wells
- 5 pump stations
  - As old or older than reservoirs
- 8 reservoirs holding 53 million gallons of water
  - Combined, same volume as a football field, 125 feet deep
  - Most are well over 40 years old
  - Newest is over 20 years old



## Description of water system facilities

- 34,000 service connections
- Value of City-owned water infrastructure:
  - \$138.8 million (gross plant value: cost of each facility when it was built)
  - Between \$400 and \$800 million (estimated cost to replace system in today's dollars)





# Westhaven Reservoir and Pump Station



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# Westhaven Reservoir and Pump Station

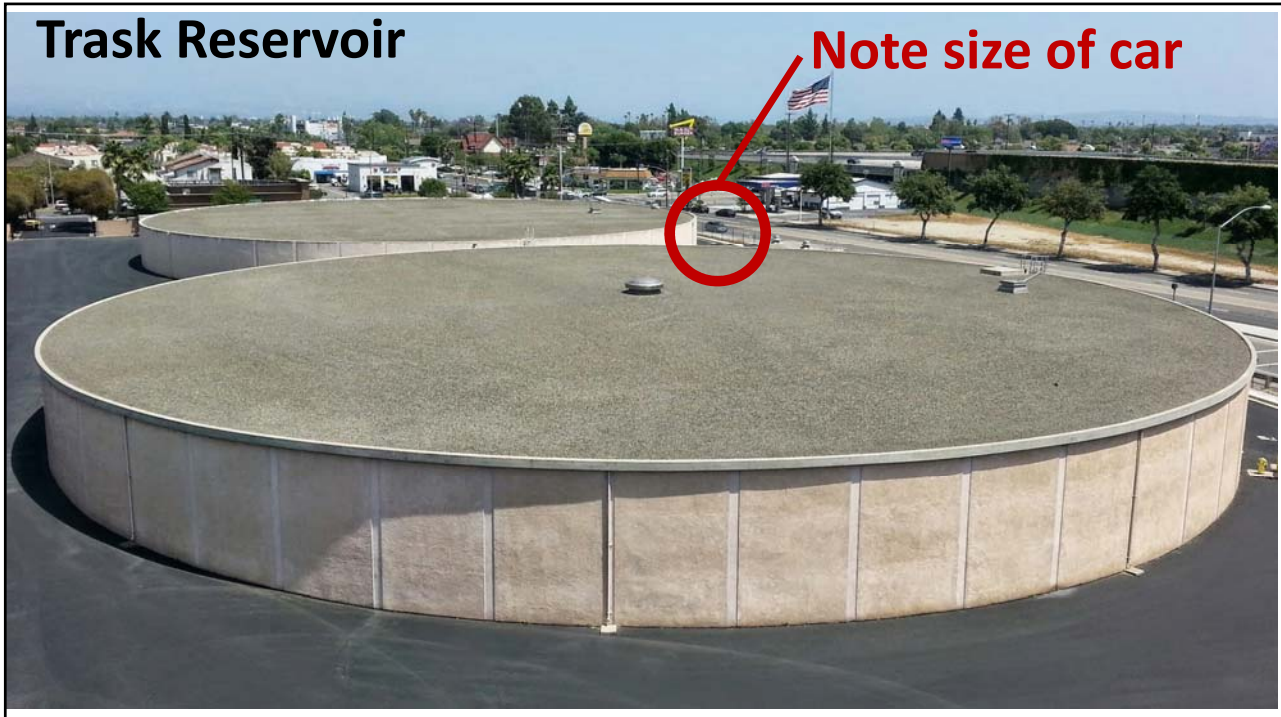


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## Trask Reservoir



## How Water Services Are Paid For

- Water bills are sent out every two months. Each bill contains:
  - Minimum Charge: \$12.74 for most customers, plus
  - Capital Improvements Charge: \$1.47 for most customers, plus
  - Commodity Delivery Charge:
    - Depends on water use
    - Four tiers
      - 1<sup>st</sup> Tier: \$2.92 per hundred cubic feet
  - A portion of the Commodity Delivery Charge is a pass through of water supply costs which is adjusted annually.
  - Remainder of water rates have not been adjusted since 2007, phased in over 5 years
- Low water user discount: low water users only pay the Minimum Charge (less than 3 hundred cubic feet per month)

**Average residential customer uses 15 hcf/month, and monthly bill is \$54.**

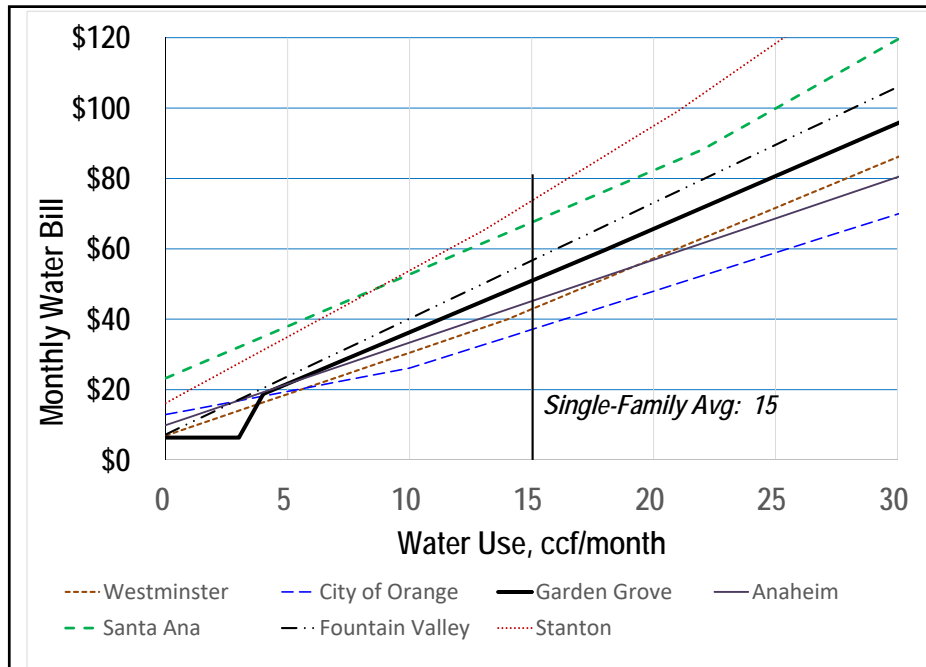




# How much water is 15 hcf?



Answer:  
75 5-gal bottles every day



## Monthly Water Bill Comparison



## Existing Financial Status of the Water Utility

	<b>Fiscal Year 15/16, \$M</b>
Water sales, fixed charges	\$3.8
Water sales, variable charges	\$24.9
All other revenues	\$0.8
Total revenues	<u>\$29.5</u>
Cost to obtain water	\$11.9
Salaries and wages	\$4.8
Other operations and maintenance	\$3.2
Admin Support Costs	\$2.4
Intercity loan Interest/Street Repair	\$0.7
Long Term Debt	\$2.7
Total expenses excluding capital projects	<u>\$25.6</u>
Balance, available for new capital and replacement projects	\$3.9
Depreciation (Replacement)	\$3.0
Balance available for new Capital Projects	\$0.9

- After paying for water, operations, maintenance, and debt service, there is limited \$ available for new capital projects.
- 85% of the revenues depend on water use: “variable charges”; 15% do not depend on water use: “fixed charges”.
- Costs of purchasing water is the largest expense.
- FY 16/17 budget: balance available for capital and replacement decreases.
- Approximately \$5M per FY is required for capital improvements and maintaining infrastructure.
- Future presentations will include review of revenues, purchased water costs, and replacement/capital needs.



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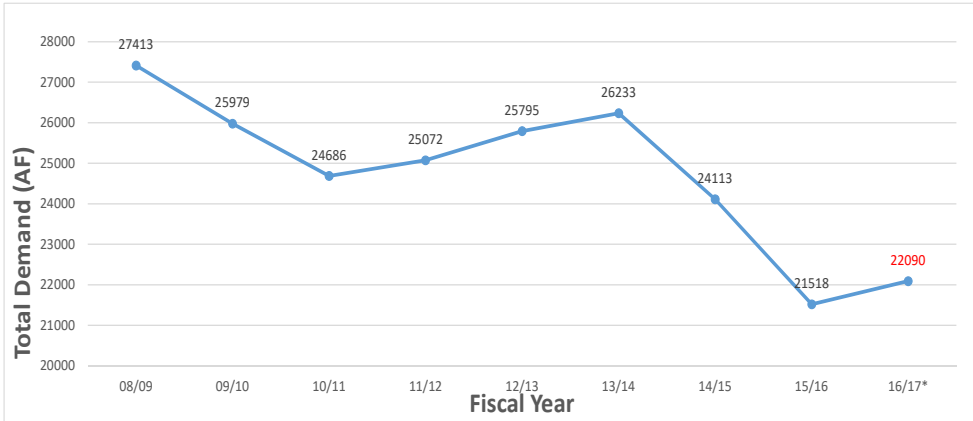


**Effects of drought: water sales and revenues lower; funds available for capital projects have decreased.**

**Future presentations will show projections, where costs to purchase water increase and less funding is available for capital improvements**

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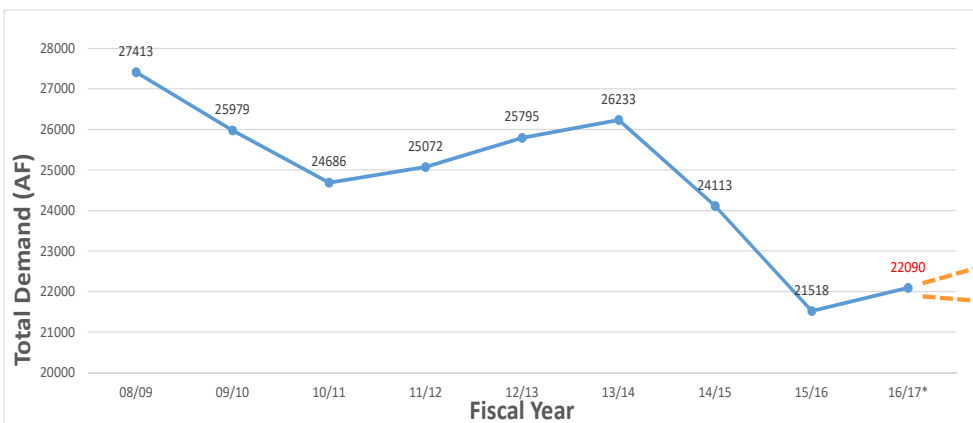
# Effect of the Drought: Lower Water Demand



Note: 2016/17 demand is projected for the remainder of the FY



# Future Water Use is Uncertain



Note: 2016/17 demand is projected for the remainder of the FY



# Water System Upgrades and Replacements

- In later study sessions, more discussion of anticipated water system needs:
  - Reservoir rehabilitation projects
  - Replace small diameter water mains with larger ones: improved fire flows and public safety
  - Well rehabilitation projects
  - SCADA/Fiber communications project
  - Natural gas engines on pumps
  - Ongoing replacement of facilities as they age:
    - Water meters
    - Fire hydrants
    - Valves
    - Pipe
- Key issue in this Water Rate Study
  - How to balance infrastructure needs and financial impacts



# Budget-Based Rates

- A tool to encourage customers to use less water and to use it wisely
- Each customer is given an allocation of water use
  - There is no limit on how much water a customer can use
  - The allocation determines the price of the water
  - Indoor water use, up to the “indoor allocation”, is the least expensive
  - Outdoor water use, up to the “outdoor allocation”, is more expensive than indoor water use
  - Water use over the outdoor allocation is the most expensive



# Budget-Based Rates

- Indoor allocation
  - 50 – 60 gallons per person per day
  - Must assign number of people per household
    - Use default value, and allow customers to request variances
- Outdoor allocation
  - Local weather data (measuring evapotranspiration; same for all customers)
  - Landscape square footage (different for each customer)



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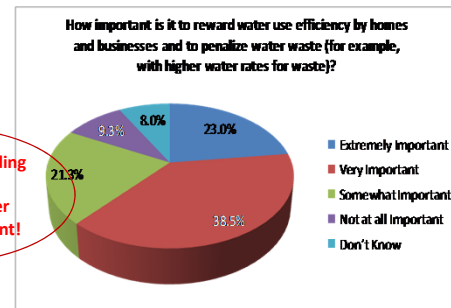
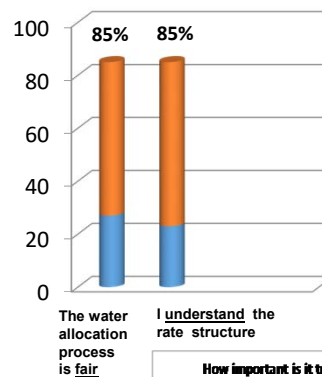
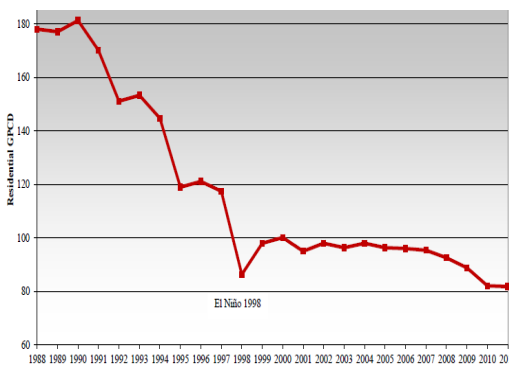
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## What is the Impact of Budget-Based Rates?

From: Irvine Ranch Water District

- Significant landscape use reduction, gpcd reduction
- High Customer response (80%+)



82.7% Say Rewarding Efficiency & Penalizing Water Waste is Important!

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# Who Uses Budget-Based Rates?

## Water System and When Implemented:

- IRWD (1991)
- Highlands Ranch, Co. (2003)
- Castle Rock, Co. (2004)
- Boulder, Co. (2007)
- Palmdale WD, (2008)
- Coachella Valley WD (2008)
- Eastern Municipal WD (2009)
- City of Corona (2009)
- Rancho California WD (2010)
- Elsinore Valley MWD (2010)
- El Toro WD (2010)
- Valencia Water (2010, IOU)
- Monte Vista WD (2010)
- Moulton Niguel WD (2011)
- Western Municipal WD (2011)
- East Valley WD (2015)
- Las Virgenes MWD (2016)
- 10 more currently evaluating

- *"People now pay attention to leaks and water waste."* PWD
- *Agency cost recovery is right where we estimated even with significant water savings."* RCWD
- *"85% of our users meet the water efficiency standards."* MNWD
- *"We have 90%+ Customer Satisfaction."* IRWD
- *"We had a payback for the new rate structure implementation within 6 months."* WMWD



# Feedback, Questions, Comments?

Thank you for your time.

