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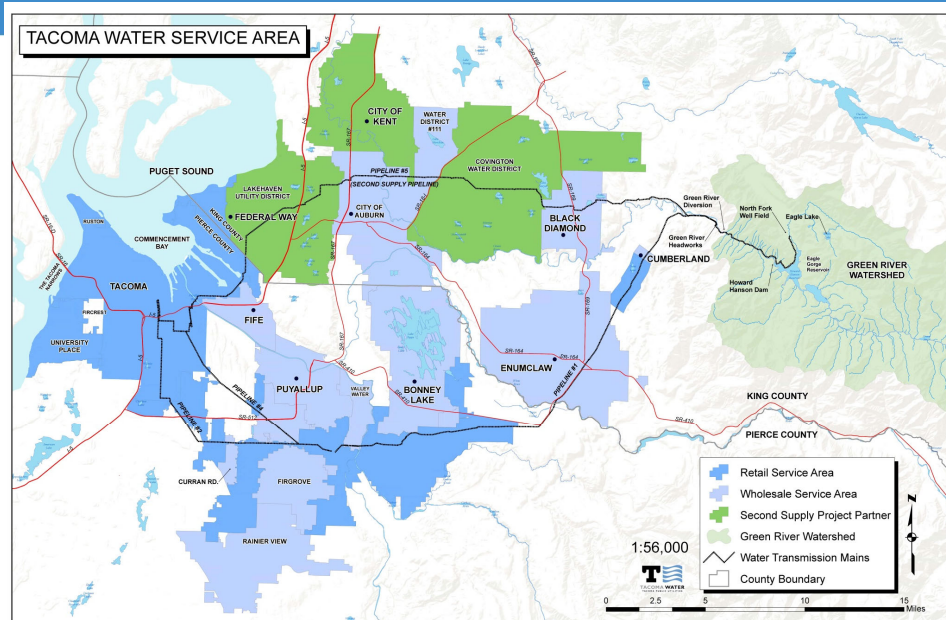
Tacoma Water – Basic Facts

- 353,000 people directly served by Tacoma Water
- 350,000 people are served in Partner service areas
- 1225 miles of Distribution main
- 140 miles of Transmission main
- Plant Value of over \$1.3 Billion
- Average daily use of 35 millions of gallons per day
- (45 millions of gallons per day with Partners)
- Summer Peak demand of 65 millions of gallons per day
- (85 millions of gallons per day with Partners)
- 95% Green River, 5% groundwater wells
- Gravity “backbone” and:
 - Green River Filtration Facility, capable of producing 150MGD
 - 18 covered storage reservoirs, storing 110MG
 - 28 pumping stations capable of 110MGD
 - 24 wells capable of >55MGD (~21MGD currently, need 48mgd in 2050s)
 - 78 Pressure reducing stations

*MGD = Millions of Gallons per Day

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Tacoma Water Service Area

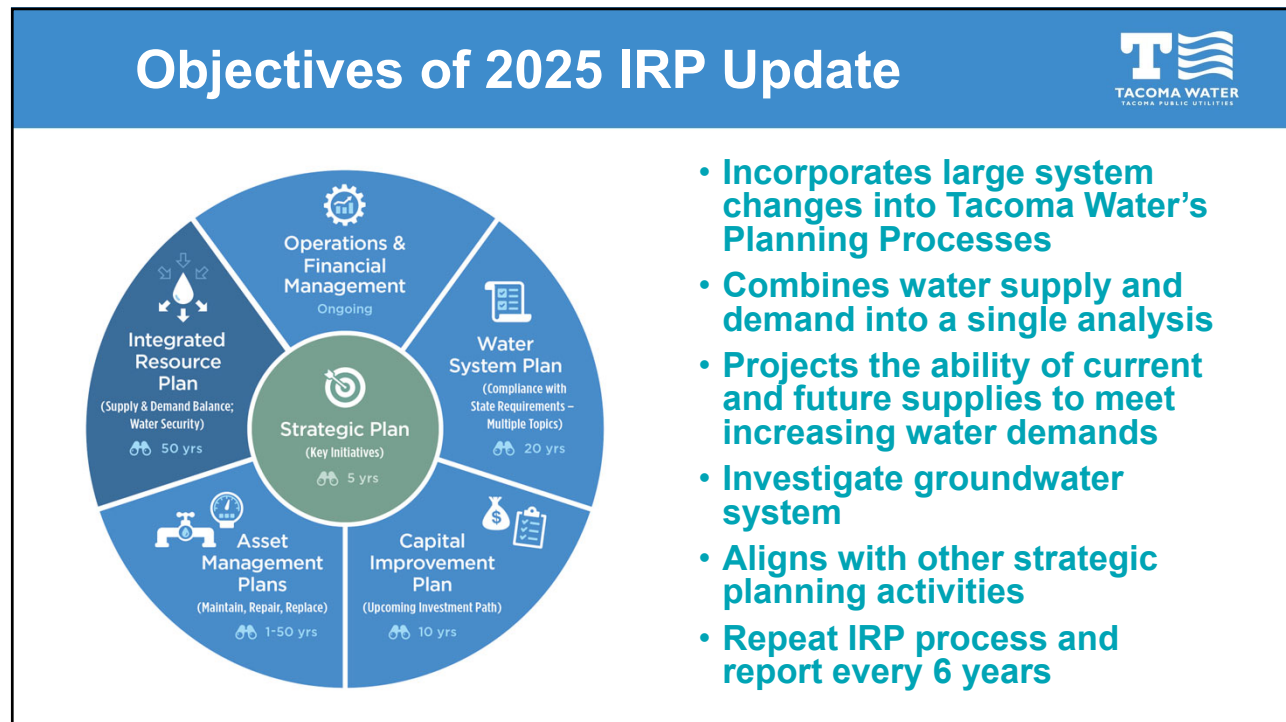


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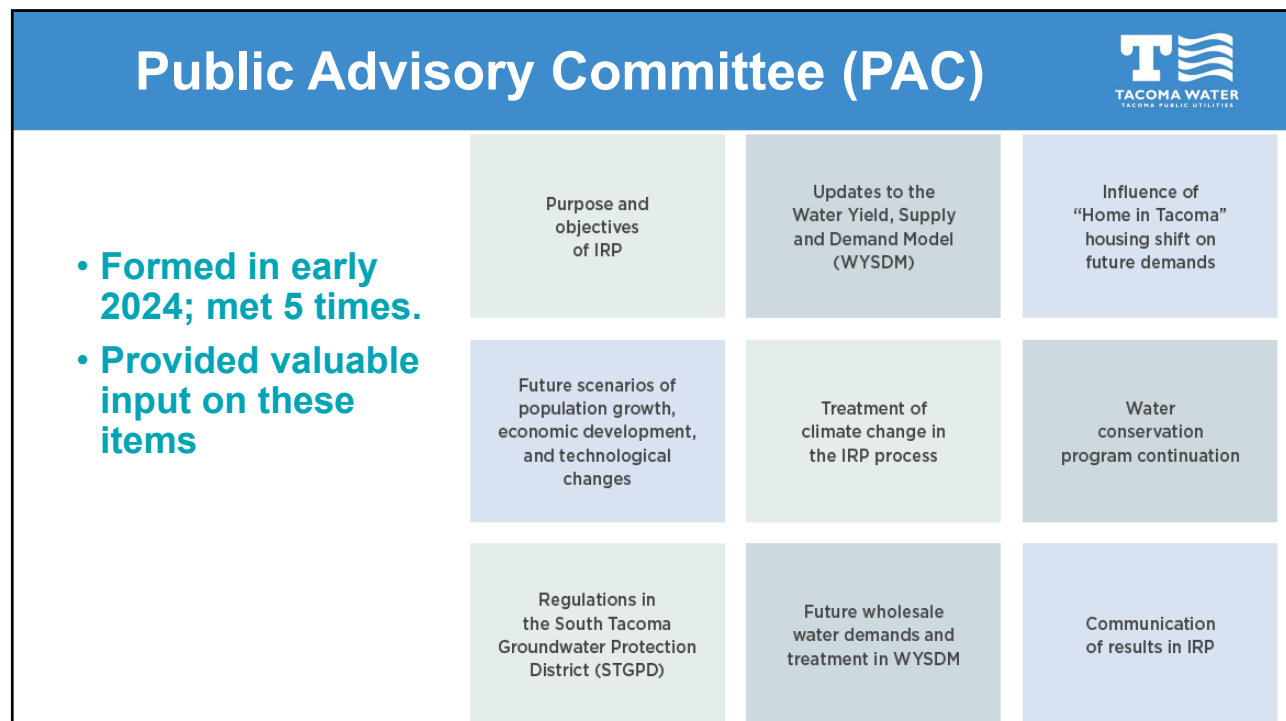
The Tacoma Water System



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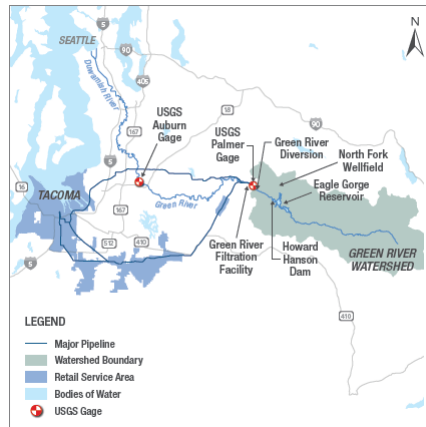


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Changes in Future Supplies since 2018

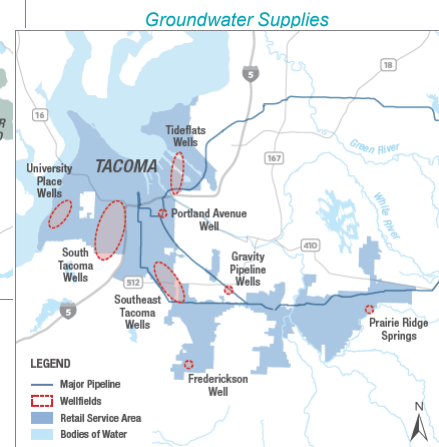


- Working toward completion of Additional Water Storage Project Phase 1 (fish passage to be operational in early 2031)
- USACE Forecast Informed Reservoir Operations (FIRO); by early 2030s, allows for filling of Eagle Gorge Reservoir to begin earlier than can be done now
- Wells Master Plan (supply increasing to 42mgd by 2041, and up to 46.8mgd by 2061)
- South Tacoma Wellfield PFAS Treatment Evaluation, and other planning efforts underway



Surface Water System

*MGD = Millions of gallons per day



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Changes in Future Demands since 2018

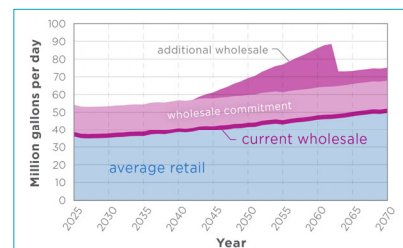


- Closure of WestRock in 2024
- Consideration of additional wholesale customer demands, including the large new contract with Cascade Water.
- Changing future zoning and densities (“Home in Tacoma”)
- Updated retail demand forecasts, informed by growth projections in PSRC Vision 2050 and Pierce County Coordinated Water System Plan
- Retail demand range reflects range of growth rates and conservation effects

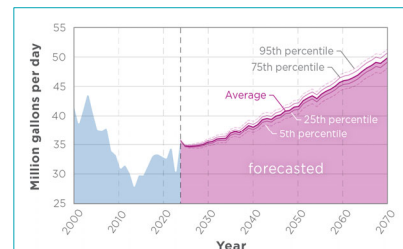
Total Average Day Demand (assuming full wholesale utilization) projected to grow from ~54mgd in 2024, to ~88mgd in 2061

*MGD = Millions of gallons per day

Total Customer Demand



Retail Component of Demand

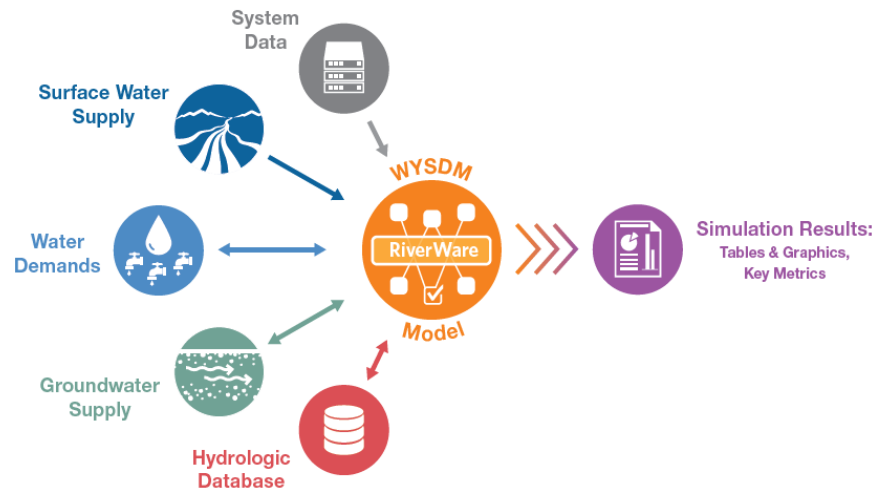


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Water Yield, Supply, and Demand Model - WYSDM



Primary tool for analyzing reliability of the water supply system



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Resource Adequacy Standard (RAS)



“Water sources and system will be sufficient to meet demands such that mandatory curtailments will occur not more than once in 25 years, as a long-term average.”

- Fixed measure of system performance that can be applied over a range of hydrologic conditions, growth rate assumptions, and supply system improvements
- Recognizes that occasional curtailment of water use is not a system failure, if infrequent. It is best use available resources.
- Curtailment of water use in the Tacoma system is managed through the Water Shortage Response Plan (WSRP). The WSRP provides a “menu” of ways to work through a water shortage. One of the largest and easiest methods is for customers is to temporarily alter their outdoor watering.

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Facilities Included in Modeling

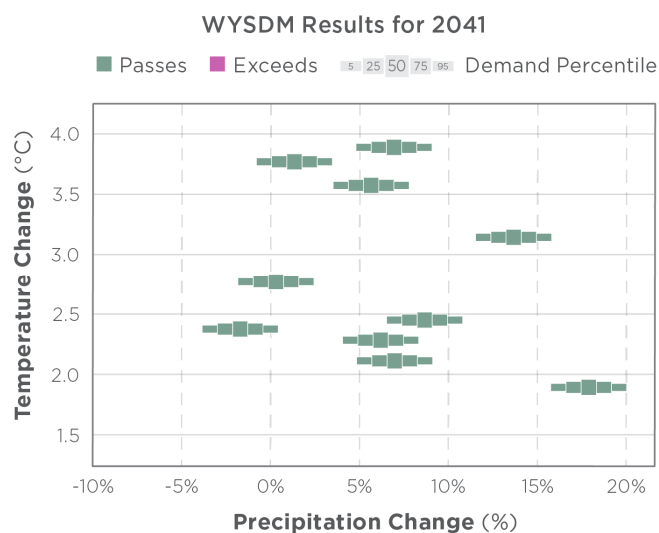


- **Groundwater well usage**
 - Increase capability to ~42mgd by 2041, and ~49mgd by 2061
- **Additional Water Storage Project Phase 1 - FPF**
 - Gives access to full 20,000 acre-feet of storage
- **Forecast Informed Reservoir Operations (FIRO)**
 - Allows earlier storage of water at Howard Hanson Dam to more reliably fill
- **Green River Filtration Facility (GRFF) rerated from 150mgd to 168mgd**
 - Already considered in original design and construction

*MGD = Millions of gallons per day

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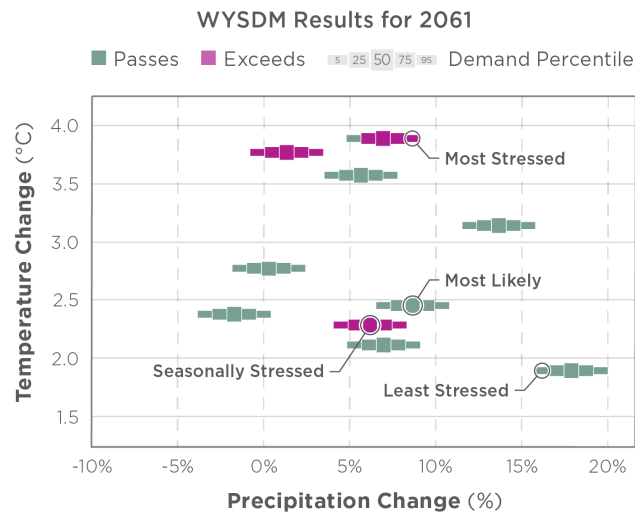
Analysis of Current Supply Portfolio (2041 Demands and Climate)



- **50 scenarios run in WYSDM**
 - 10 climate change models
 - 5 demand conditions
- **RAS is met in all scenarios for year 2041**

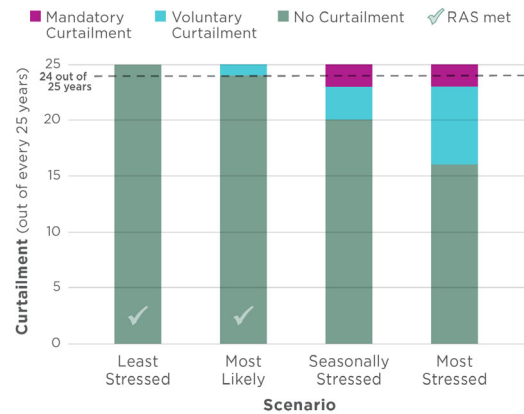
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Analysis of Current Supply Portfolio (2061 Demands and Climate)



Four scenarios were selected to represent the range of possible conditions in 2061 (shown without source/system improvements):

Resource Adequacy Standard Achievement

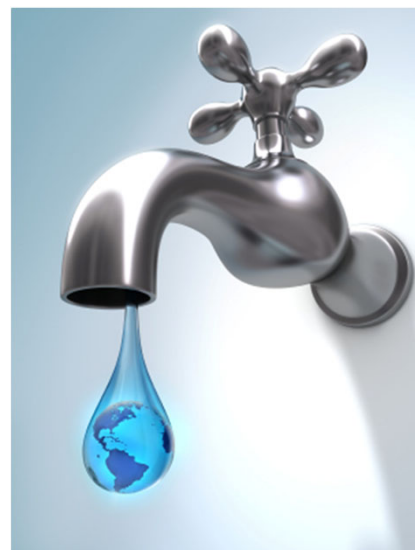


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Future Supply Improvement Alternatives



- **Develop Additional Groundwater**
 - Increase annual use capability, as-needed.
- **Lakehaven Water and Sewer District's Optimizing Aquifer Storage for Increased Supply (OASIS) program**
 - Aquifer Storage and Recovery System (ASR) - Additional storage of winter Green River water in aquifer system in Federal Way.
- **Additional Water Storage Project Phase 2**
 - Raises storage pool elevation.
- **Aggressive Peak Shaving**
 - Substantial changes in customer behavior through policies supporting low-to-no irrigation practices, rate structure modifications, etc.



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Questions / Discussion



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