



City of Bellevue

# Watermain Replacement Program Informational Briefing

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# **Direction Needed from Council**

## **Information Only**

This is an informational briefing on the Watermain Replacement Program, a significant and ongoing capital investment that is needed to ensure provision of high-quality drinking water for Bellevue's customers.

# AGENDA



Background



Challenges of the Aging Water System



Watermain Replacement Program



Financial Strategies

# DRINKING WATER – A VITAL RESOURCE FOR QUALITY OF LIFE

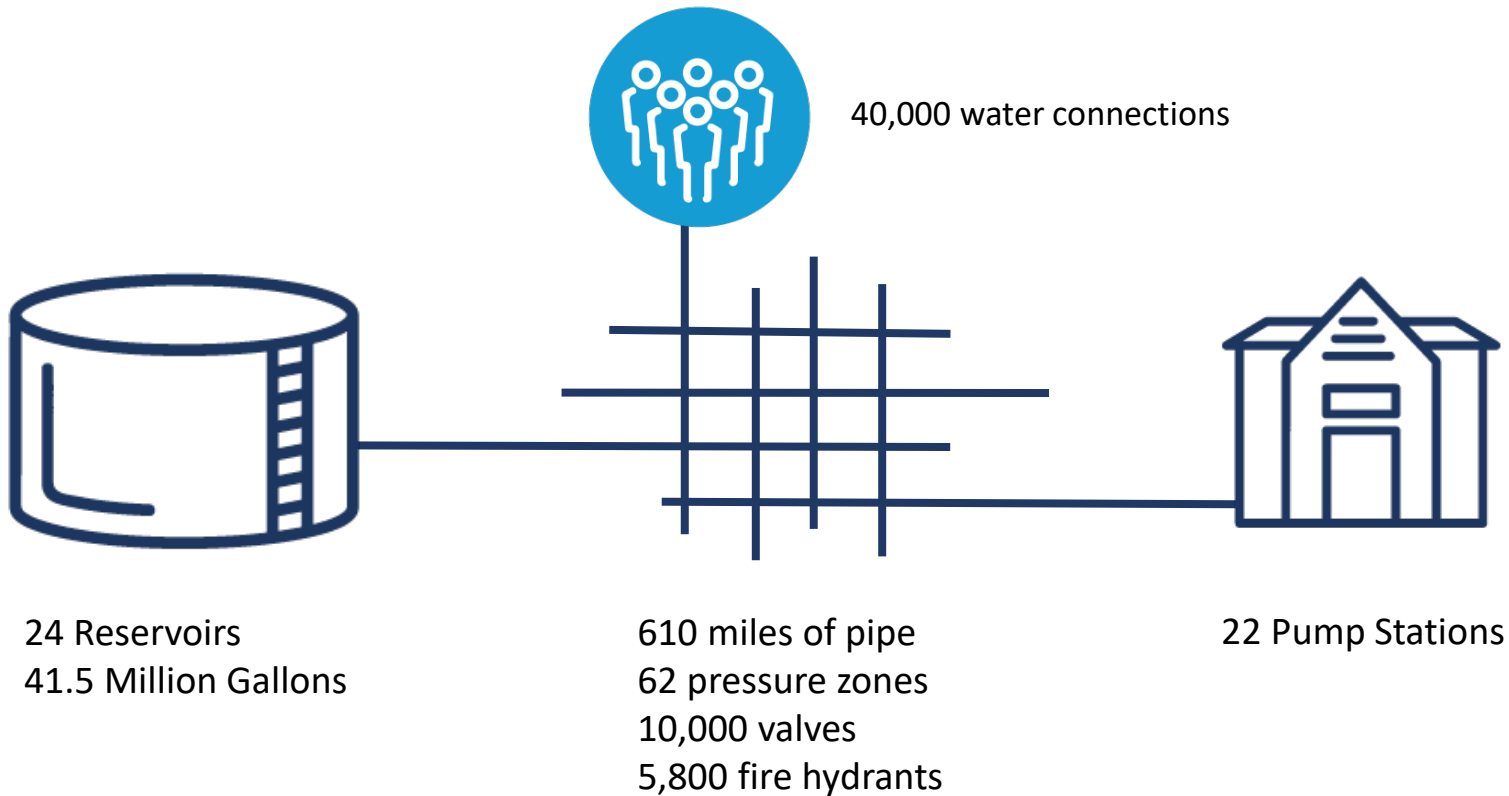




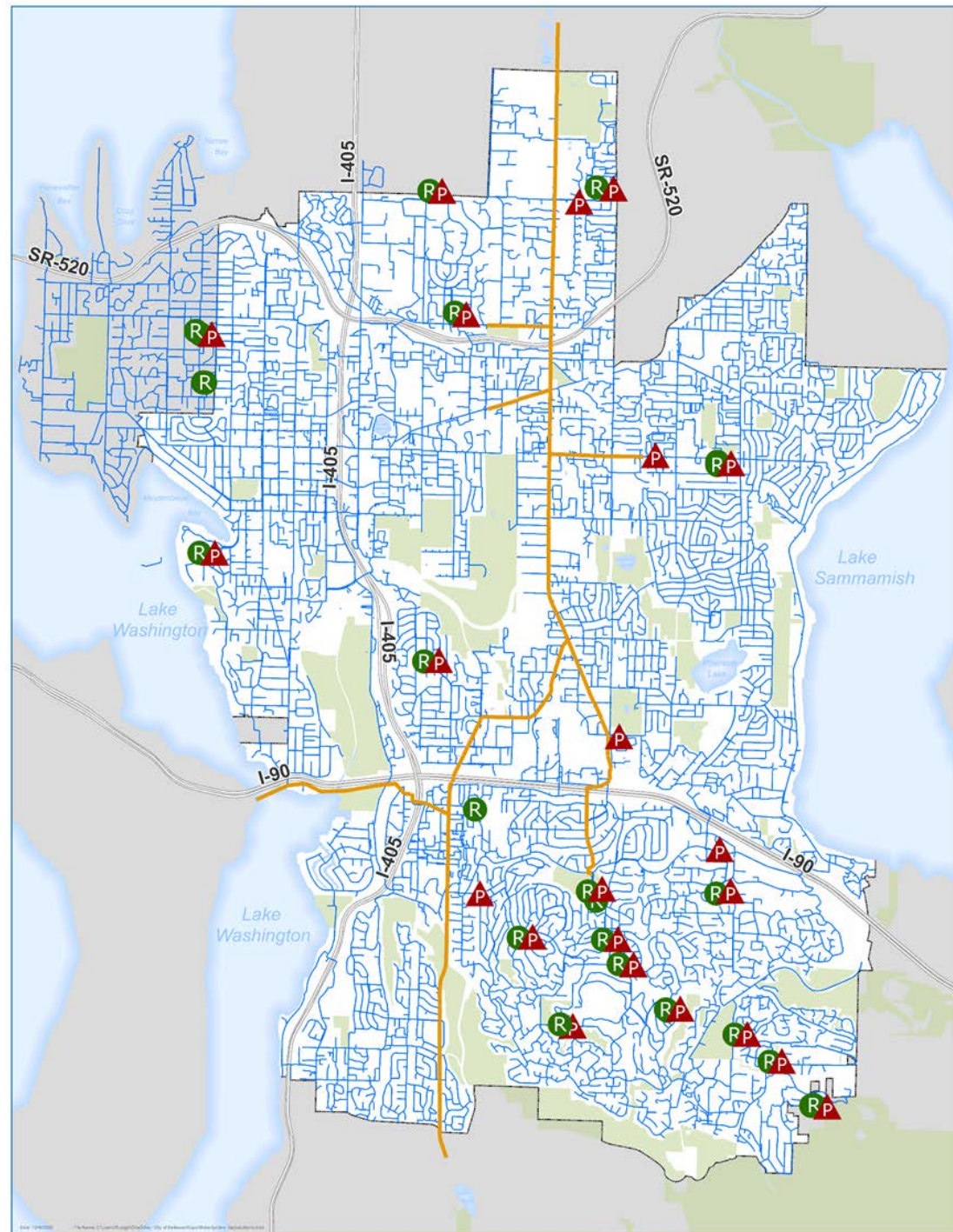
# Water Infrastructure

Crucial for reliable delivery of high-quality drinking water to our community

# A \$1.2 Billion Water System - By The Numbers



# Water Infrastructure System







# UNDERGROUND PIPE INFRASTRUCTURE

- Watermains are critical infrastructure to distribute water to our customers
- Pipe network built 50 to 70 years ago
- Aging pipes pose risk for failure, so system renewal is needed
- Replacement costs will steadily increase over next 75 years





# Challenges of the Aging Water System

Aging Pipes Break .....



# City of Bellevue

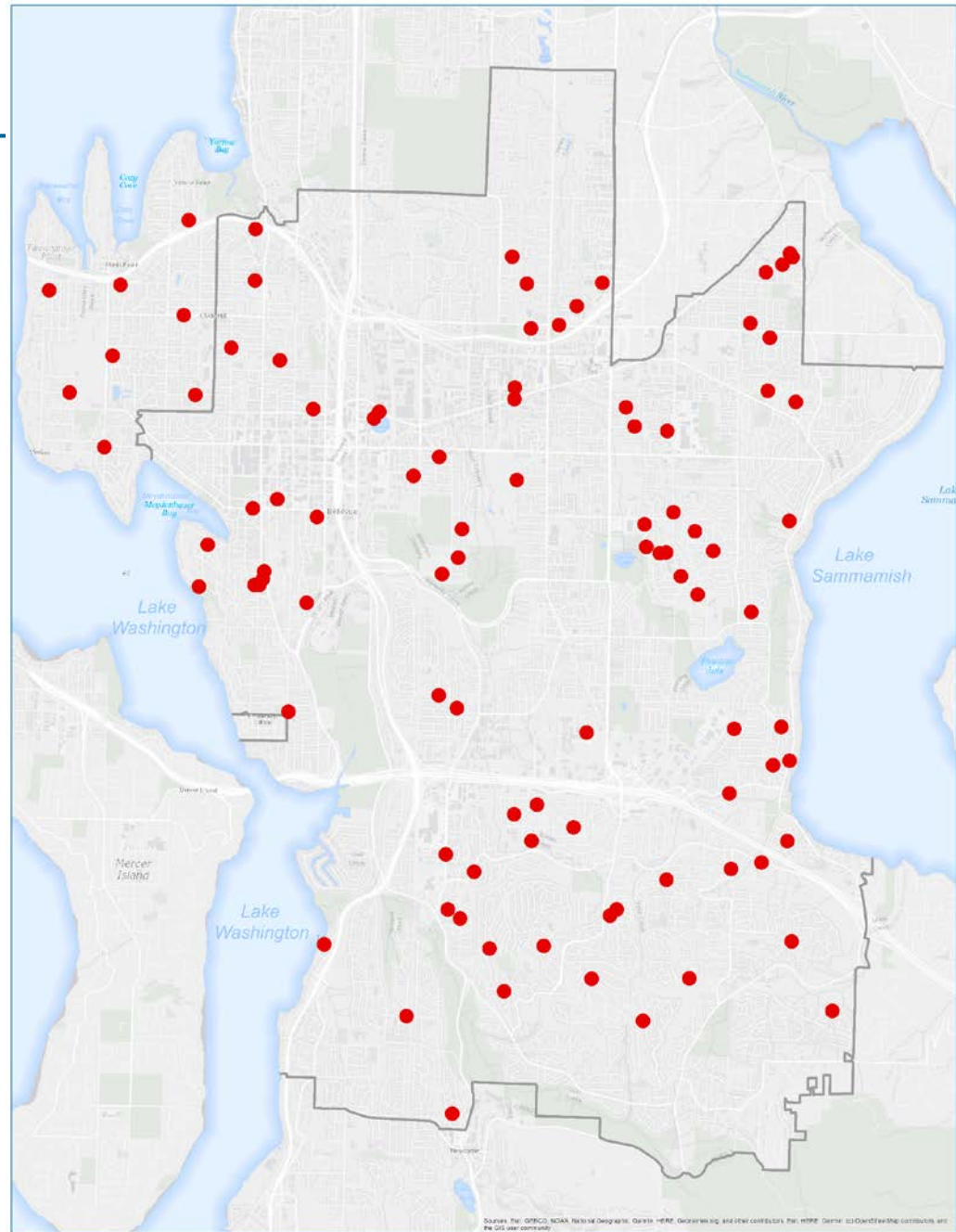
## Watermain Breaks: 2016-2019

2016 – 17 main breaks

2017 – 34 main breaks

2018 – 25 main breaks

2019 – 22 main breaks





# Main Break Impacts

- Injury to people
- Harm to personal property
- Loss of water supply to customers
- Drinking water quality impacts
- Roadway structures / traffic
- Streams and creeks
- Clogged storm and sewer pipes
- Loud equipment, work lights, nighttime loss of sleep for customers



# West Lake Sammamish Parkway Watermain Break and Roadway Repair 2012





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# Lake Hills Boulevard WM Break August 2020





# **Watermain Replacement Program**

Solving the big challenge of an aging system



# Watermain Replacement Program Goals

- Replace 5 miles of pipe per year
- Focus on Asbestos Cement Pipe
- Seismic mitigation benefit
- Improved fire flow benefit
- 100 to 125-year replacement cycle





# Project Delivery informed by Asset Management

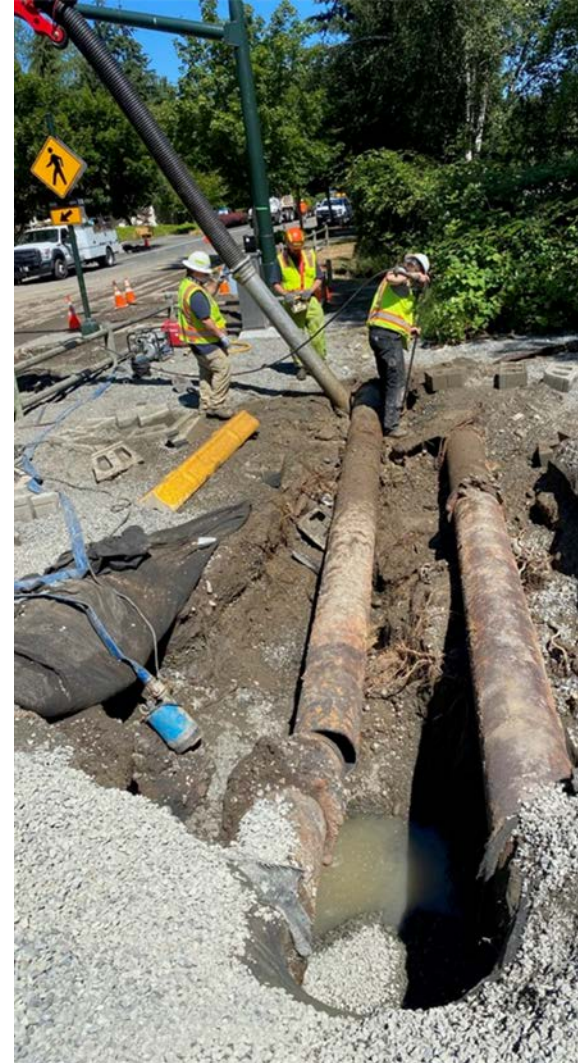
## Major Factors:

- Size, age and condition of pipe
- Break history – severity & frequency
- Probability and consequence of failure

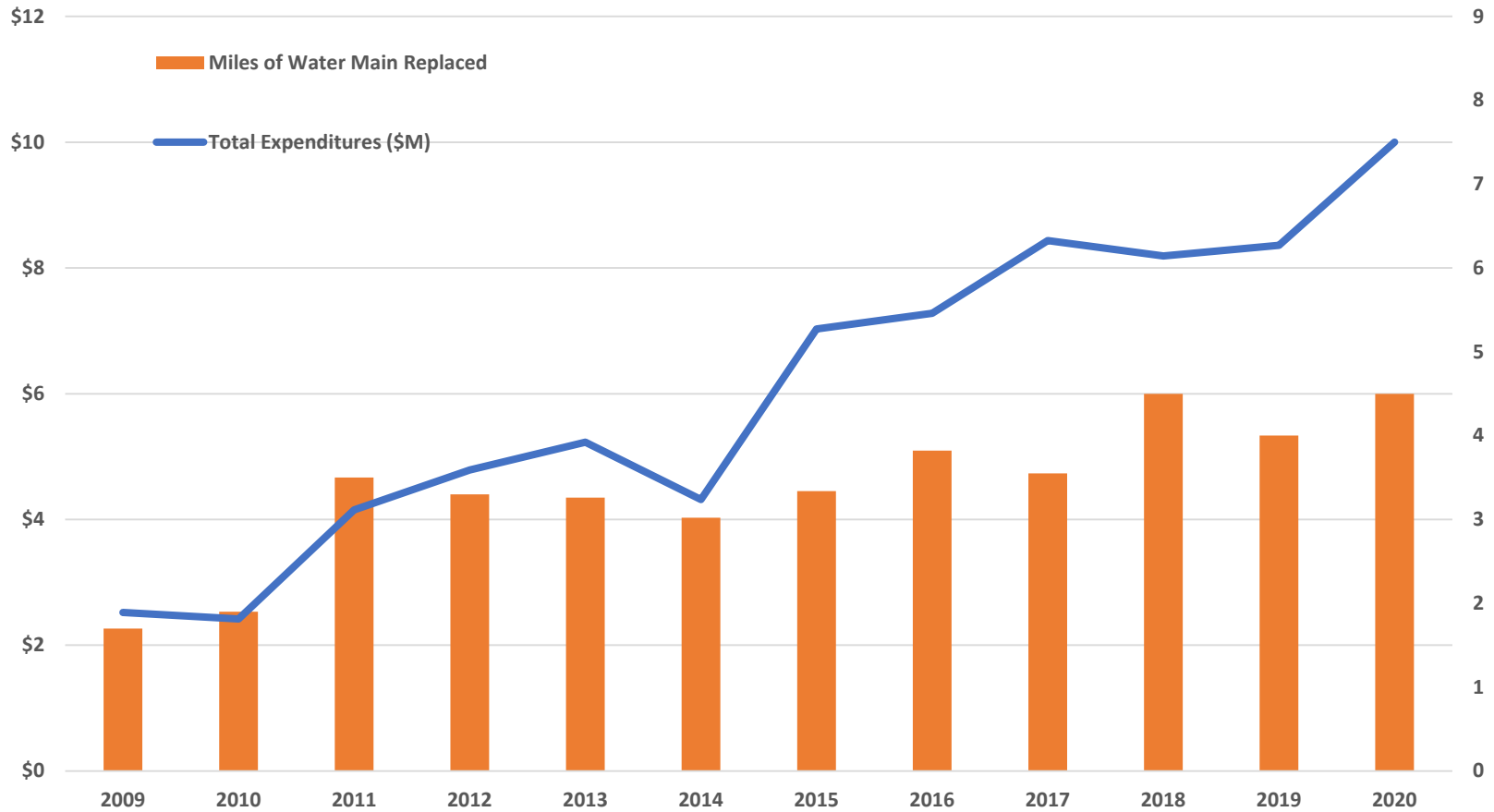


# Additional Project Selection Drivers

- Other city projects including transportation, sewer & storm
- Other state and local governments, private developers and franchise utilities



# Project Expenditures vs. Miles of Pipe

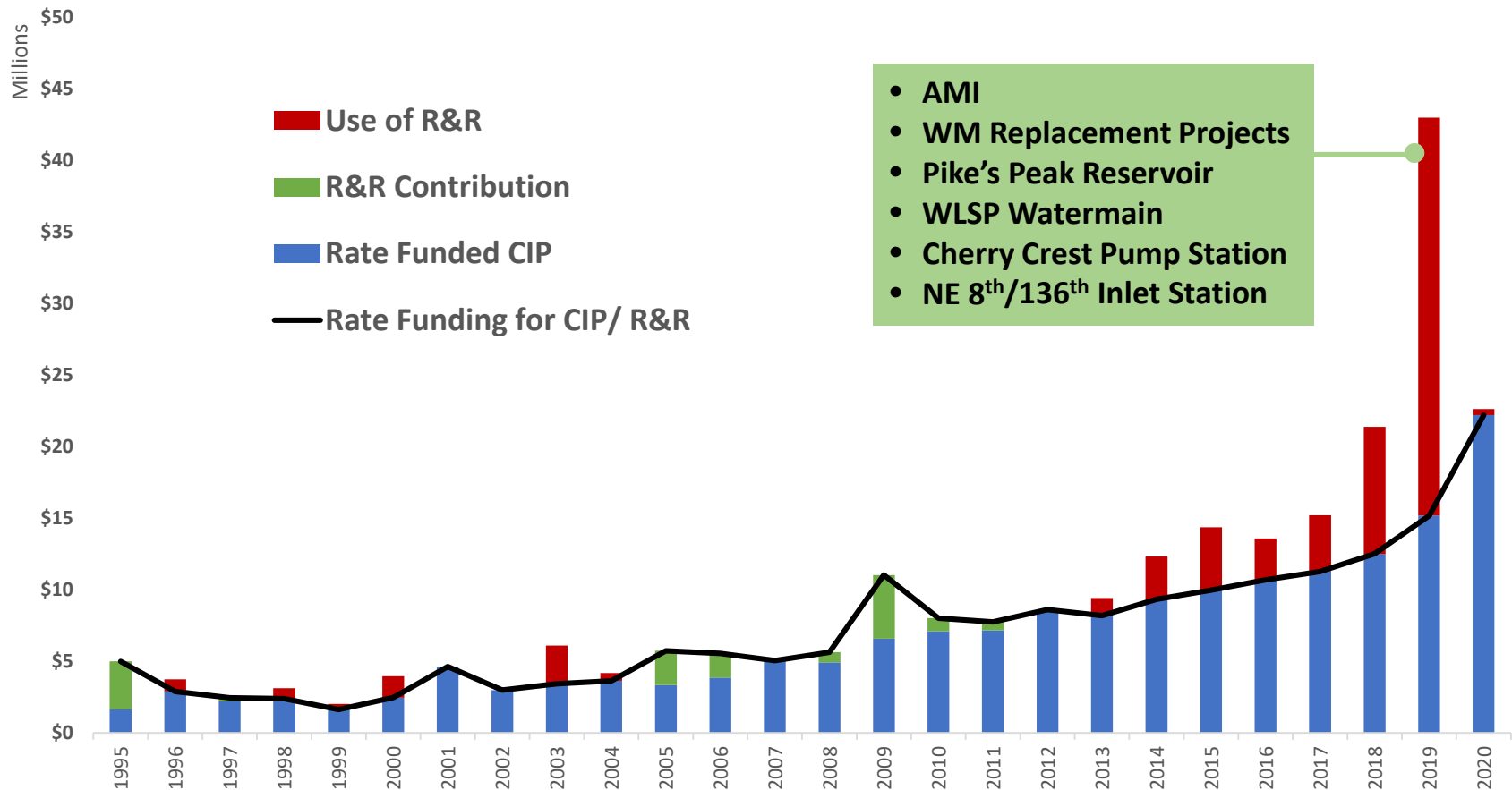




# Financial Strategies

\$80M Watermain Replacement Program

# Water Infrastructure Funding Strategy



# Bellevue is positioned to meet the challenges of aging watermain

- Actively replacing AC main now – the Watermain Replacement Program will continue in future CIPs
- Fiscally responsible schedule for replacement - 5 miles per year is prudent
- Infrastructure R&R funding plan in place





# High-Quality Drinking Water for a penny a gallon

\$1 Retail



90 gallons delivered to your tap







END OF PRESENTATION



# EXTRA SLIDES

# Earthquake-Resistant Pipe

- Orange/Brown areas are liquefiable soils where any new pipe should be ER-DIP

Newport Shores

West Lake Sammamish

# Current Water Pipeline Projects

- AC Main 2020 Phase 2
- AC Main 2020 Phase 3
- AC Main 2021 Phase 1
- West Lake Sammamish Parkway Roadway & Utilities Project (with Transportation)
- NE. 8<sup>th</sup> Transmission Main (combined with new water inlet station)
- Cherry Crest AC Pipe Replacement, (combined with Cherry Crest Pump Station)
- Lake Hills Connector Pipeline rehabilitation (combine with stormwater culvert replacement and sewer pipe work)

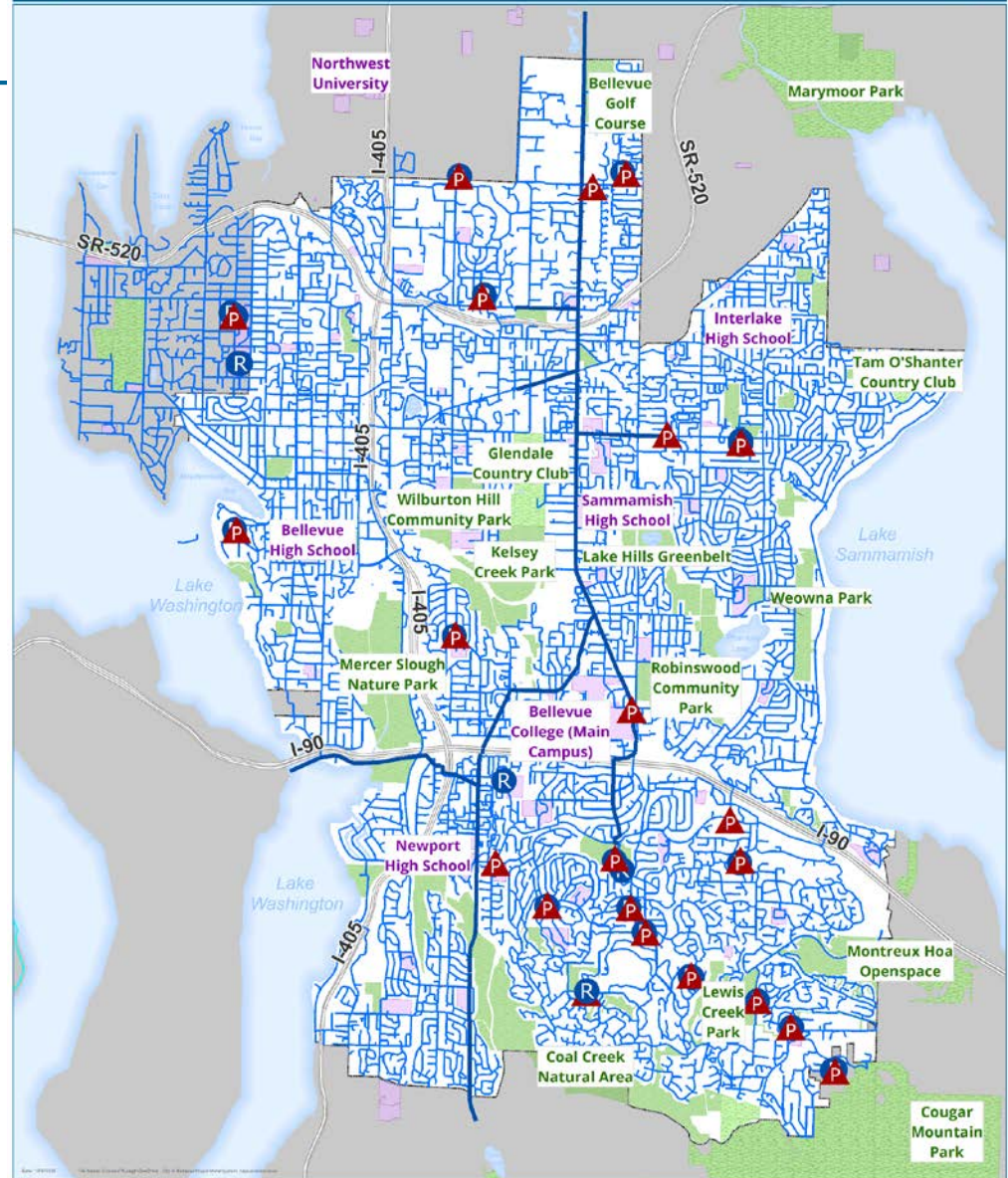
# Potable Water System

City of Bellevue



Slide for Nav – info. on parks and other spaces without WMs

Need a list for Nav instead of the map.



# Financial Policies – Capital Investments

## Governing Policies

- Take care of aging infrastructure
- Long-term planning
- Renewal & Replacement (R&R) Account – est. 1995
- Intergenerational Equity
- Avoid rate spikes
- Debt for changed circumstances

## 75 Year Renewal & Replacement Funding All Funds

