



Drinking Water Utility Infrastructure Renewal and Replacement Cost Forecast

Utility Advisory
Committee
May 6, 2021



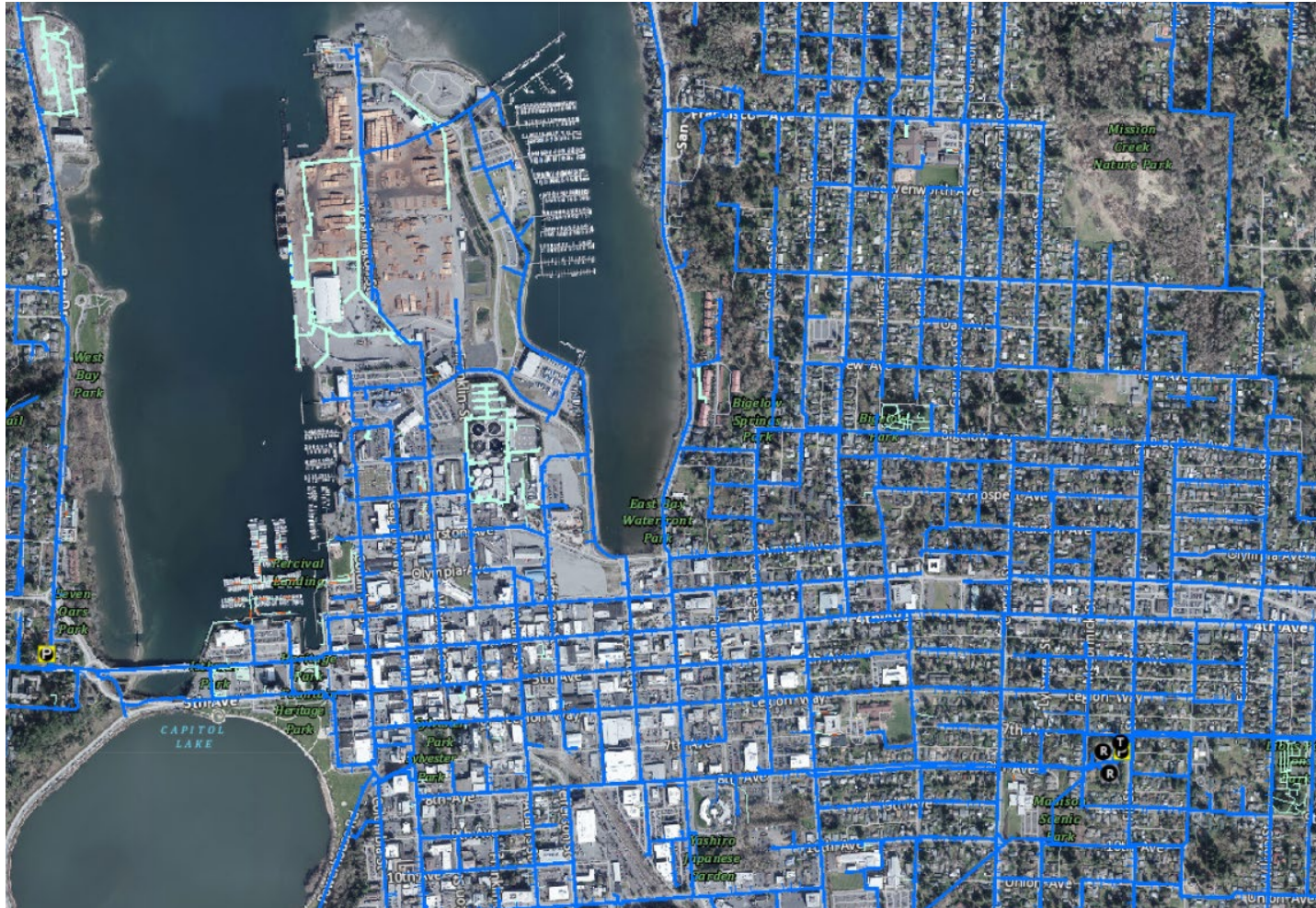
Asset Management

Key steps:

- Inventory and Map
- Condition Rate / Risk Assessment
- Calculate Life Cycle Costs (Renewal & Replacement)
- Apply Cost-effective Management
- Execute Long-term Financial Planning



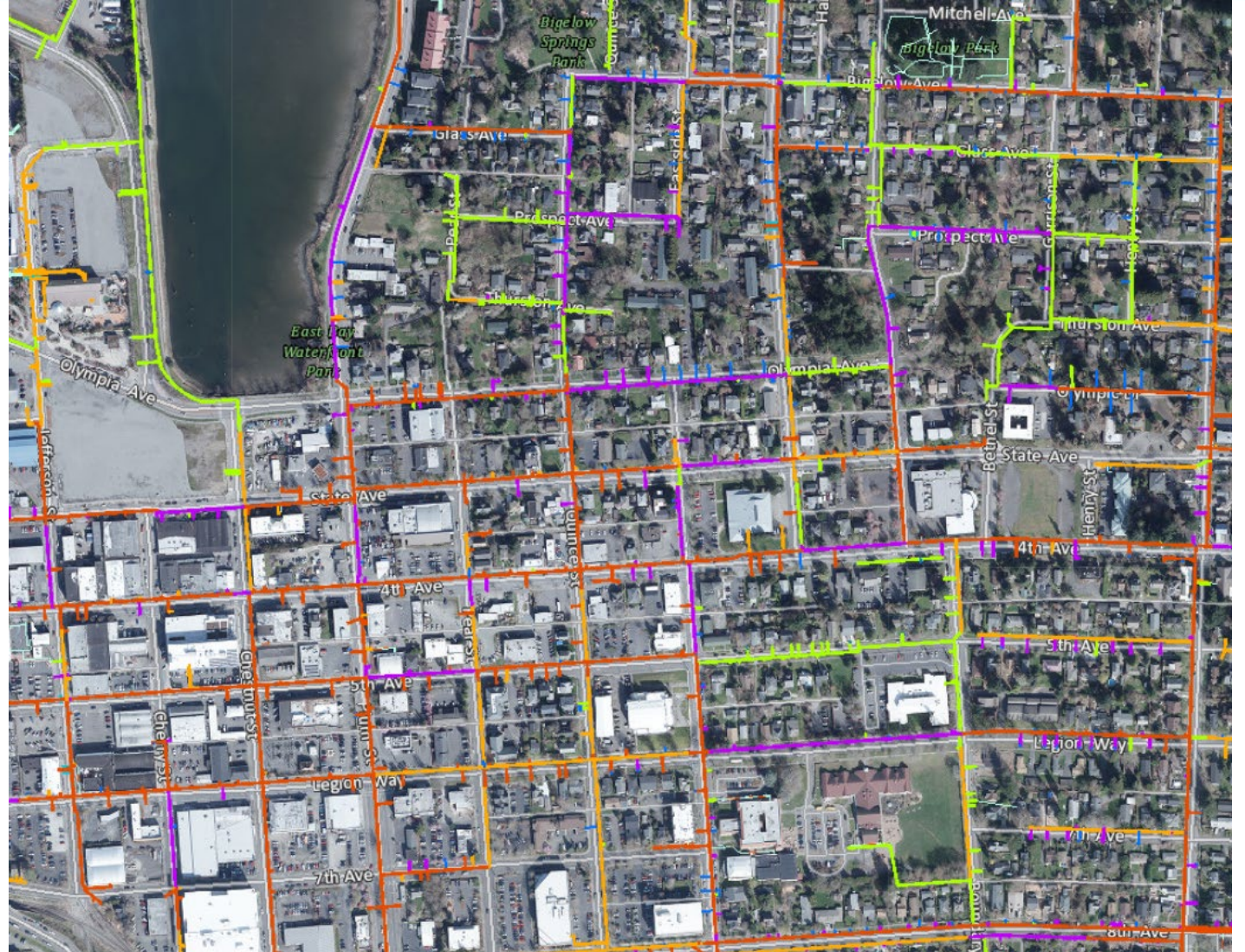
GIS Mapping



Condition Rating

waPipe (Ratings)

- High
- Low
- Medium (COF driven)
- Medium (POF driven)





Condition Rating

- Capitol Mall/Best Buy January 16th
- Central & 13th SE February 3rd
- Percival Creek Crossing February 8th
- Donovan Dr. SE March 13th
- Yelm Hwy & Rich Rd May 4th
- Simmons NW May 15th
- Colonial SW July 13th
- Brown SE July 13th
- Westwood NW July 16th
- Cooper Point Rd July 23rd
- Park Dr & Black Lake August 20th
- Young NW September 25th
- Division & Scammell October 27th
- Van Epps November 2nd





AWWA Guidelines

The American Water Works Association (AWWA) provides a “Buried No Longer” tool with guidelines for drinking water and wastewater utilities to forecast infrastructure renewal and replacement costs.

- Estimated effective life (EEL) for various asset types and materials.
- EELs, combined with the known or estimated installation dates, determine the dates assets will exceed their EEL.



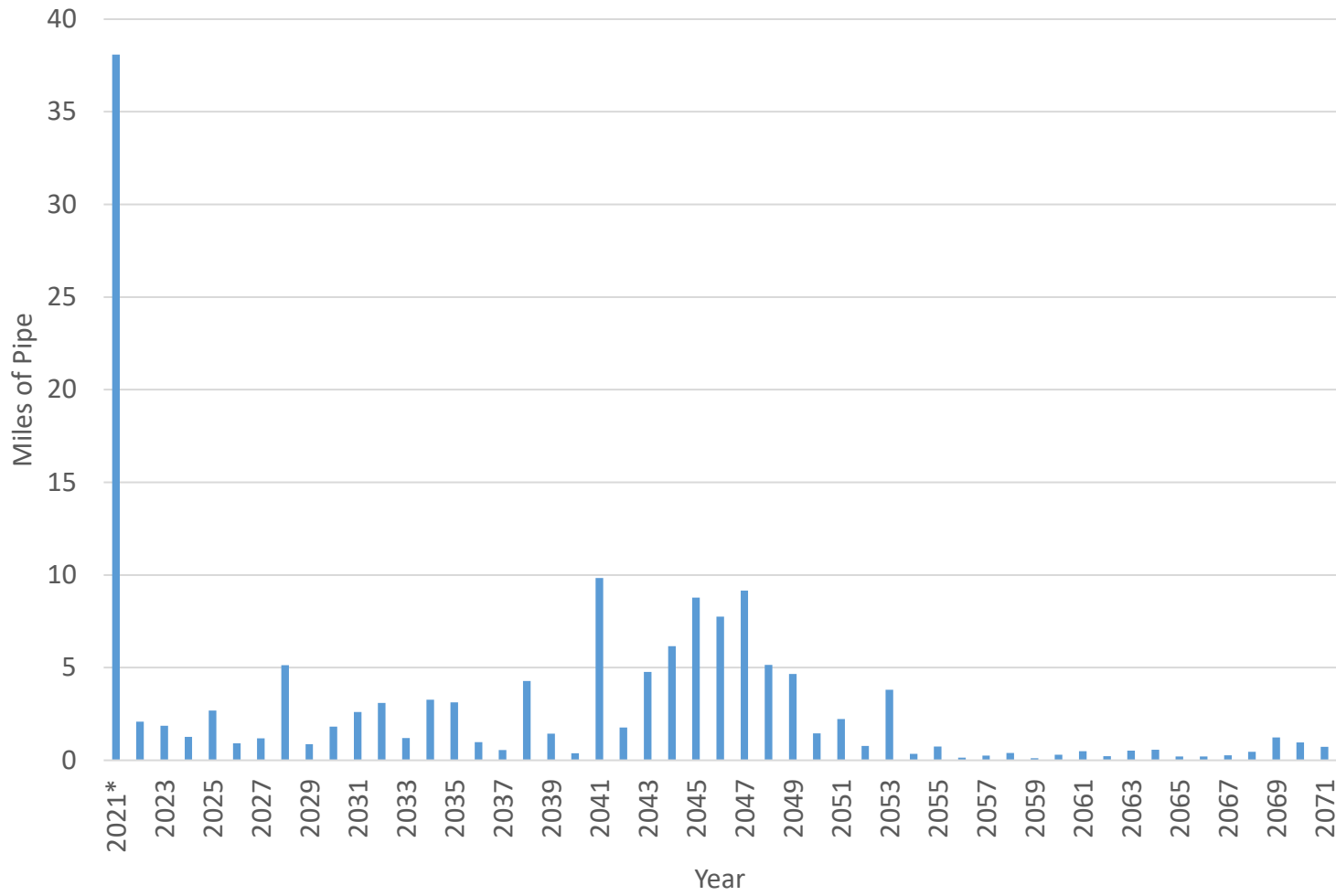
Estimated Effective Lives

EEL	Value_Description
75	Asbestos Concrete
75	Cast Iron
100	Cast Iron Valve
35	Corrugated Metal Pipe
60	Copper-Cu
100	Concrete

EEL	Value_Description
100	Ductile Iron
50	Galvanized
100	HDPE
100	Plastic/PVC
75	Polyethylene
100	Vitrified Clay



Replacement Forecast (pipe miles)



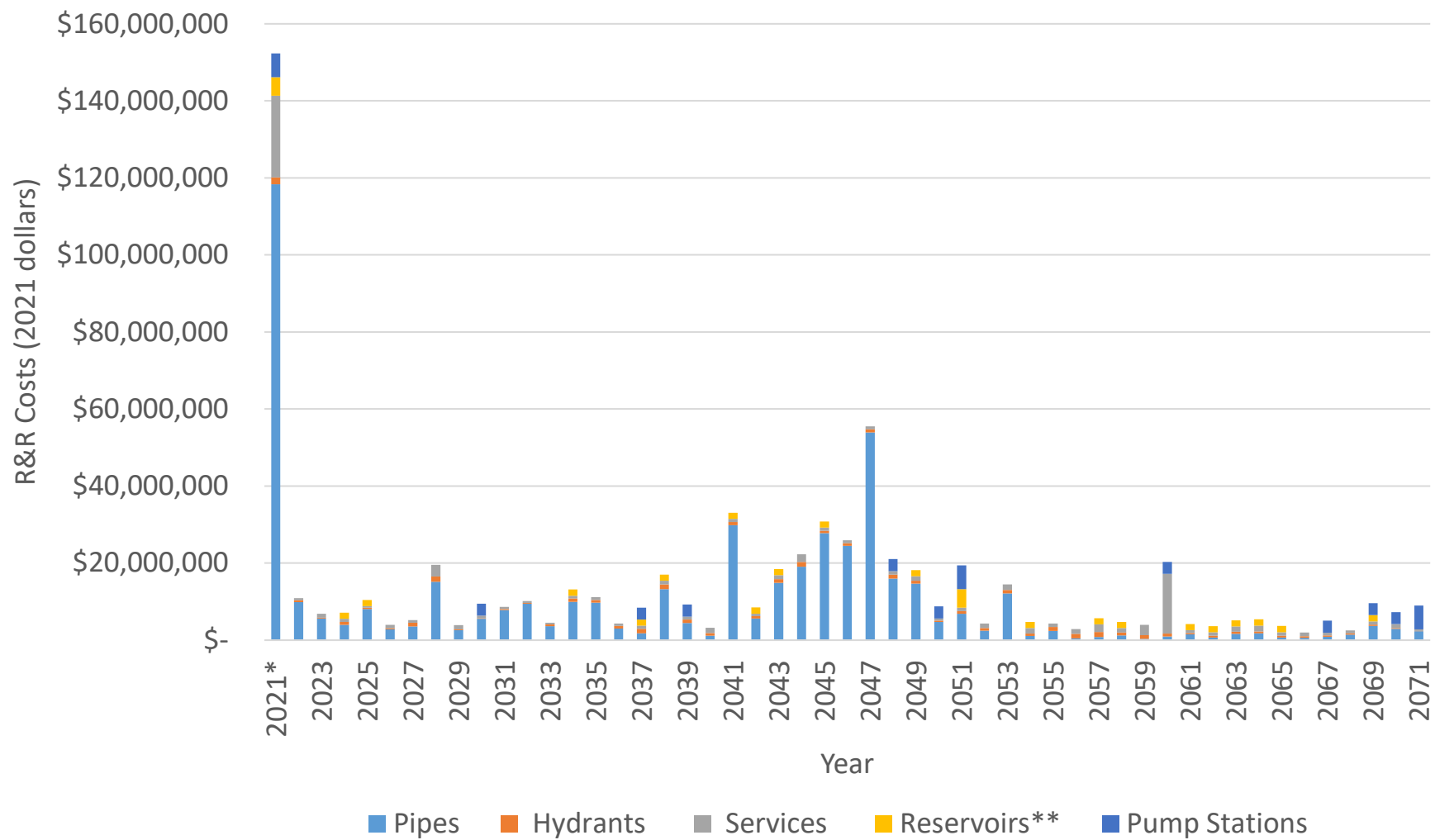


Engineered Unit Replacement Costs

Infrastructure	Diameter (inches)	Cost (dollars)	Notes
Water main	2	\$560	Cost is per linear foot of main. The depth of watermains is assumed to be 3 feet deep with valves and hydrants every 300 feet. All valves, hydrants and service lines etc. included in the per linear foot cost of the pipe. Watermain pipe is assumed to be ductile iron, except 2-inch main assumed to be HDPE and 36-inch main assumed to be steel. Service lines installed in trench from main to meter location.
	4	\$560	
	6	\$570	
	8	\$590	
	10	\$600	
	12	\$630	
	14	\$660	
	16	\$750	
	18	\$700	
	20	\$730	
	24	\$800	
	30	\$920	
	36	\$1,320	
Fire hydrant	N/A	\$12,000	Cost for each, installed with main
Water service and meter	N/A	\$5,500	Cost for each, installed with main
Drinking water pump station	N/A	\$3,190,000	Cost based on similar projects



Renewal & Replacement Costs





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