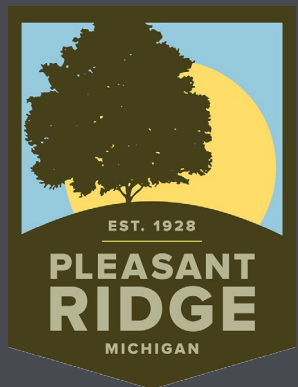


Water Infrastructure Millage

October 5, 2021

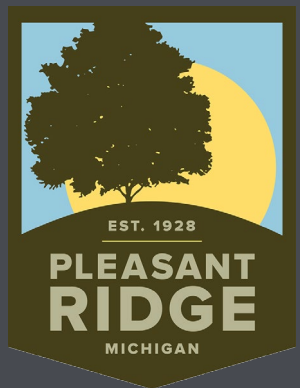
7:00 pm



Overview

- Project Details
- Project Cost and Funding
- Discussion/Questions

Project Details



Online Resources

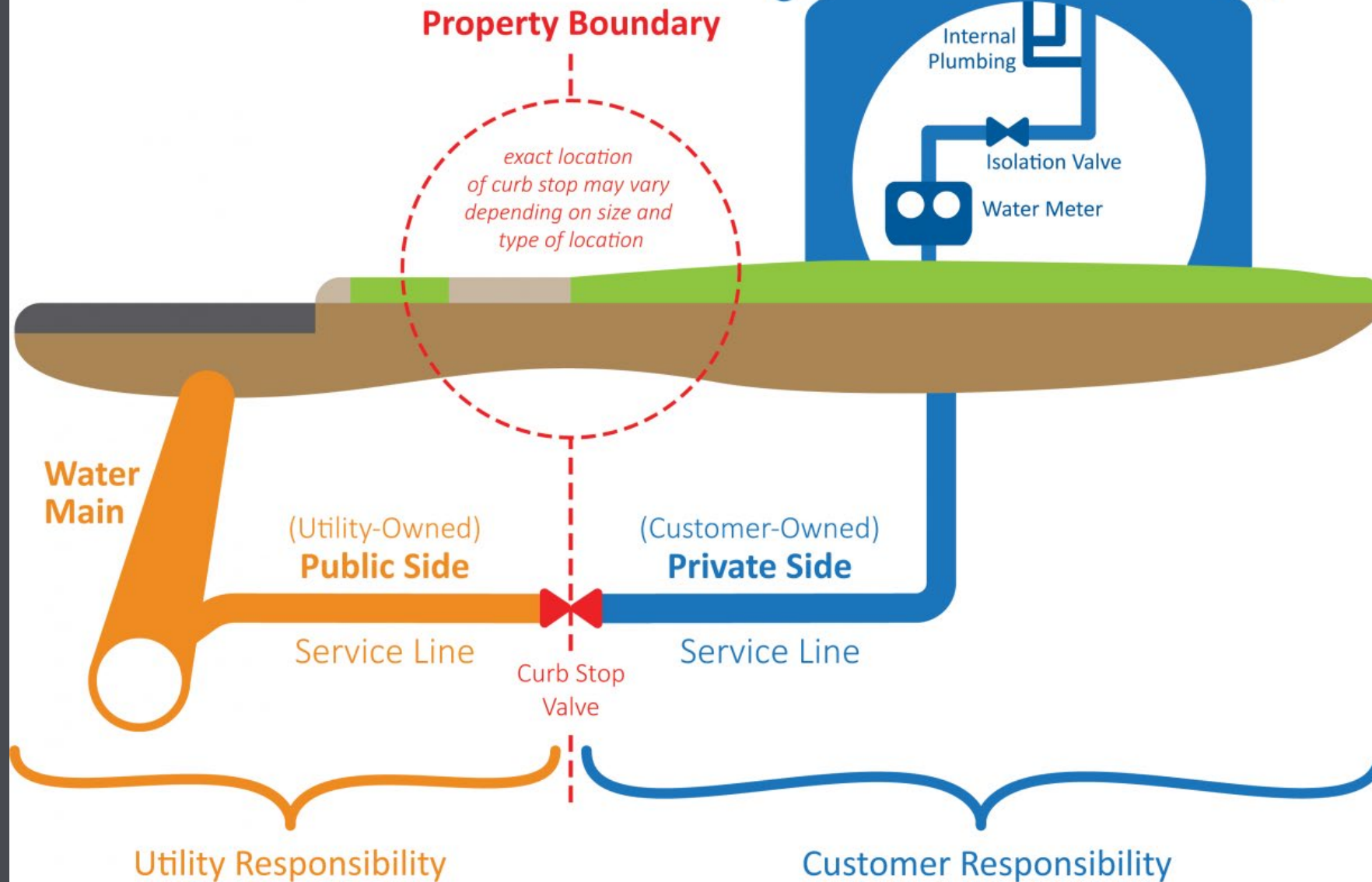
www.cityofpleasantridge.org/water

- *Millage fact sheets*
- *Water System Reliability Study (2016)*
- *Water System Asset Management Plan (2021)*
- *Lead water quality testing results*
- *Detailed engineer's project cost estimates*
- *Preliminary lead service line inventory by address*
- *This presentation*

Why Are We Doing This?

- State of Michigan mandate to replace all lead service lines
 - *Adopted 2018*
 - *Replacements required to start this year (2021)*
 - *Administrative Code R 325.10604f*
- 100-year-old water mains
 - *End of life cycle*
 - *Flow rate decline*

Water System



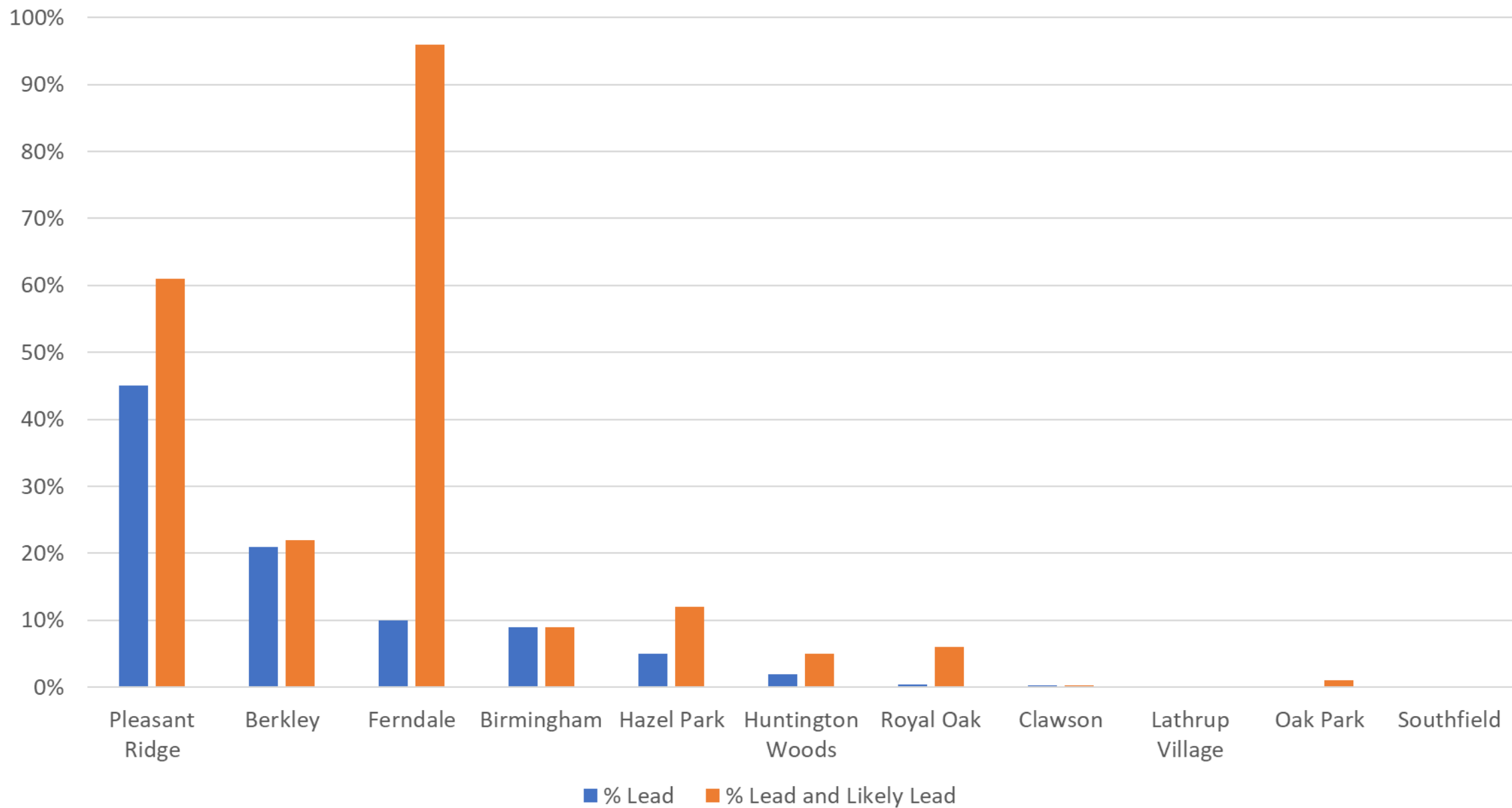
LSL Replacement Cost

- Replace private service line: \$2,600
- Replace public service line: \$7,000 - \$10,000
 - *Public replacement includes new service line, stop box, water main tap, street & sidewalk restoration, etc.*
 - *Cost depends on where the water main is (long or short side)*

Lead Service Lines

- Preliminary Inventory:
 - *699 known or suspected lead service lines*
 - *451 known or suspected copper service lines*
- 60.7% of all service lines are suspected lead
- Cost to replace a service line: \$10,000 - \$12,000
- Total cost: \$8.4 million

% Lead Service Lines





Water Mains

- PR water mains are nearly 100 years old (1924)
- Most PR mains are 6 inch diameter
 - *current minimum design standard is 8 inch*
- Cast iron mains corrode & become brittle over time
 - *Effective diameter decreases*
 - *Pressure and reliability drops over time*



Cast iron water mains with interior corrosion – ours will look like these



Picture 1 – 50+ Year-old 6 inch Cast Iron Water Mains

Cast iron water mains recently replaced in Fraser and Clawson

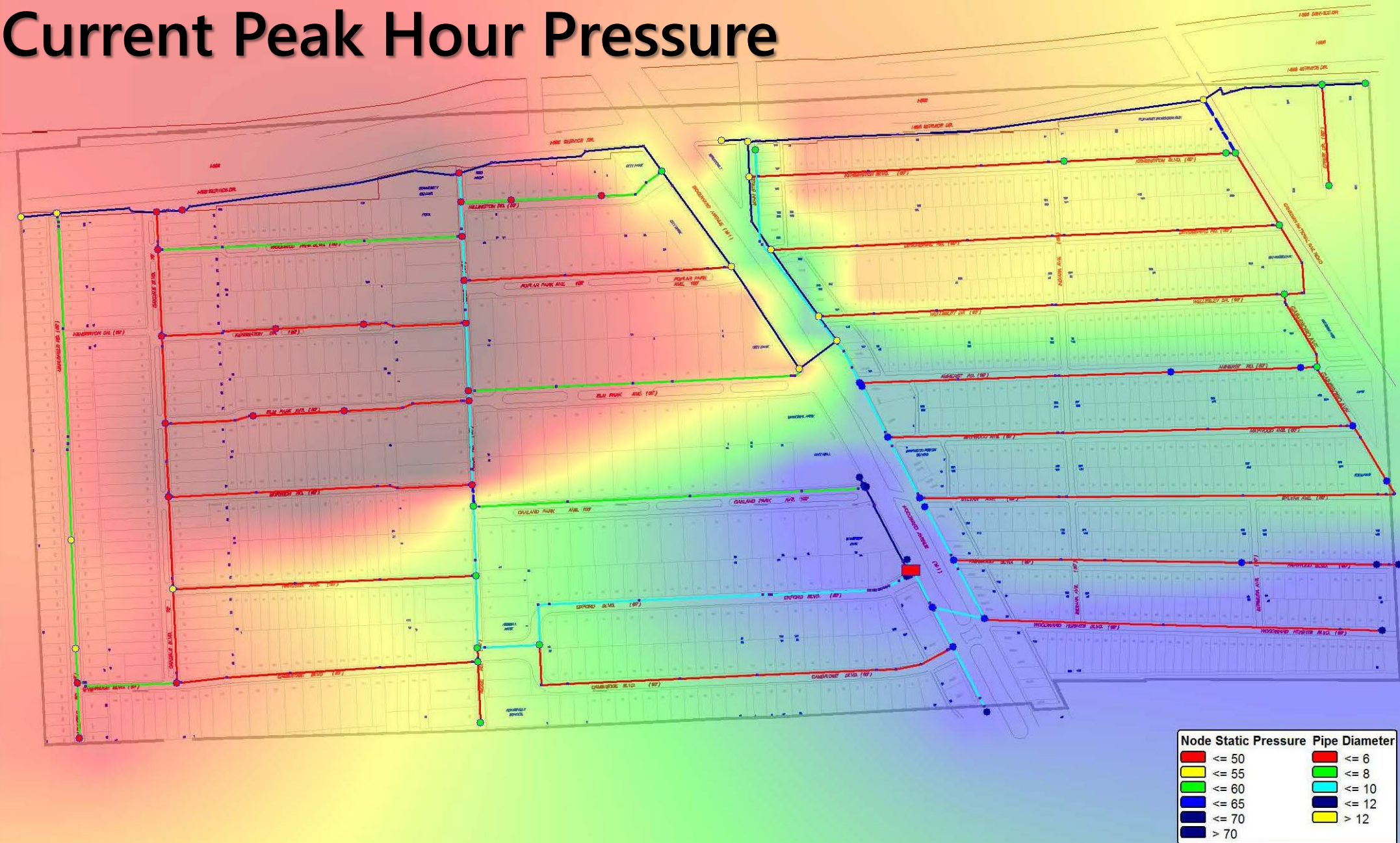
Water Main Issues

- Brown water due to corrosion & iron buildup
- Risk of failure when tapping old mains 60+ times for LSL replacement
- Increasing risk of failure over time
- Flow rate drop
 - *Fire flow (currently inadequate)*
 - *Peak hour flow (currently low)*
 - *Normal demand flow (currently acceptable)*

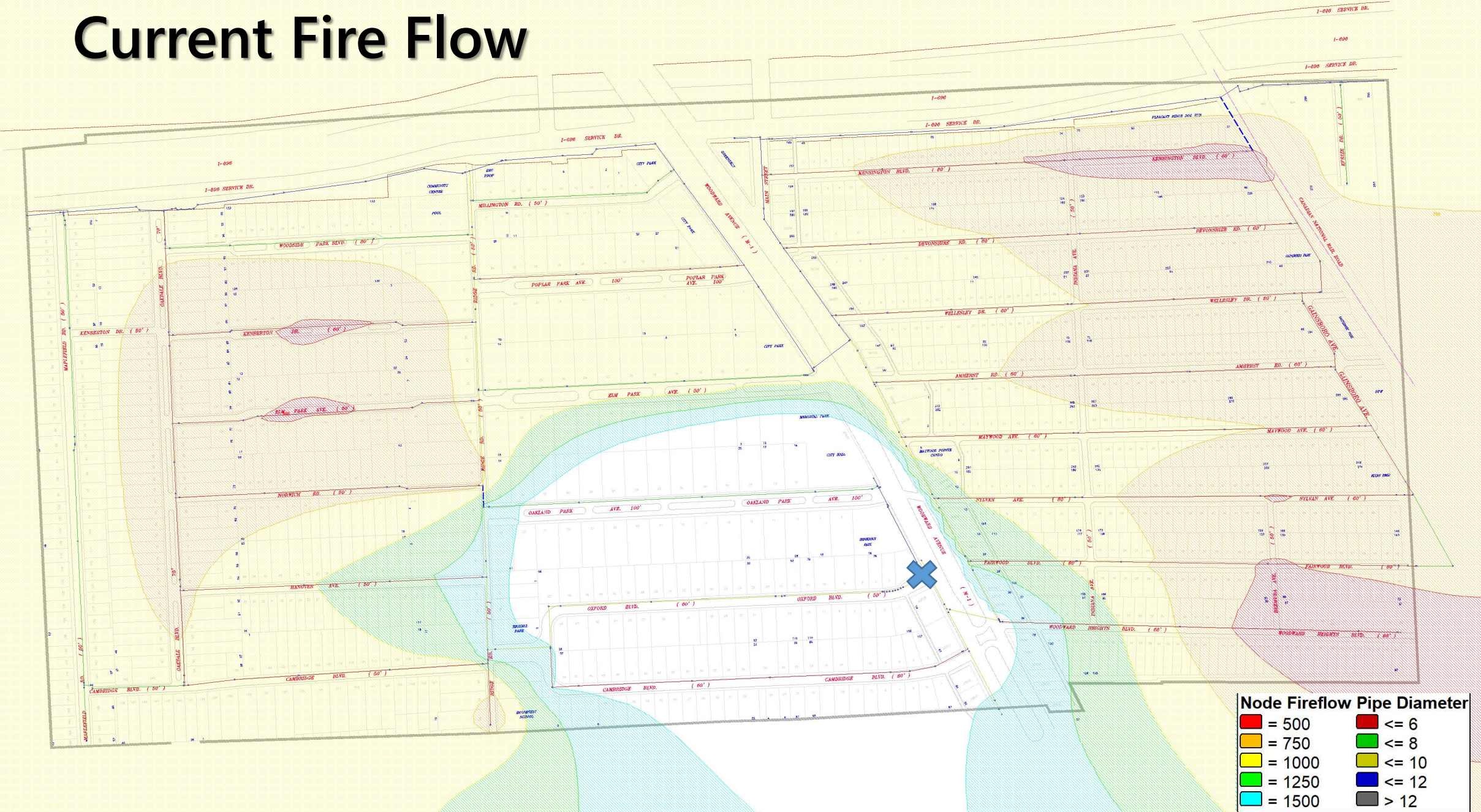
Water Mains

- Do we have to replace them now?
 - *Concrete streets can last 50 years or more*
 - *Some mains could be 150 years old when street is next redone*
 - *Continued corrosion and flow decline*
- Must dig into the street for every lead service line
 - *Already a good portion of the way towards replacing the entire main at that point*

Current Peak Hour Pressure



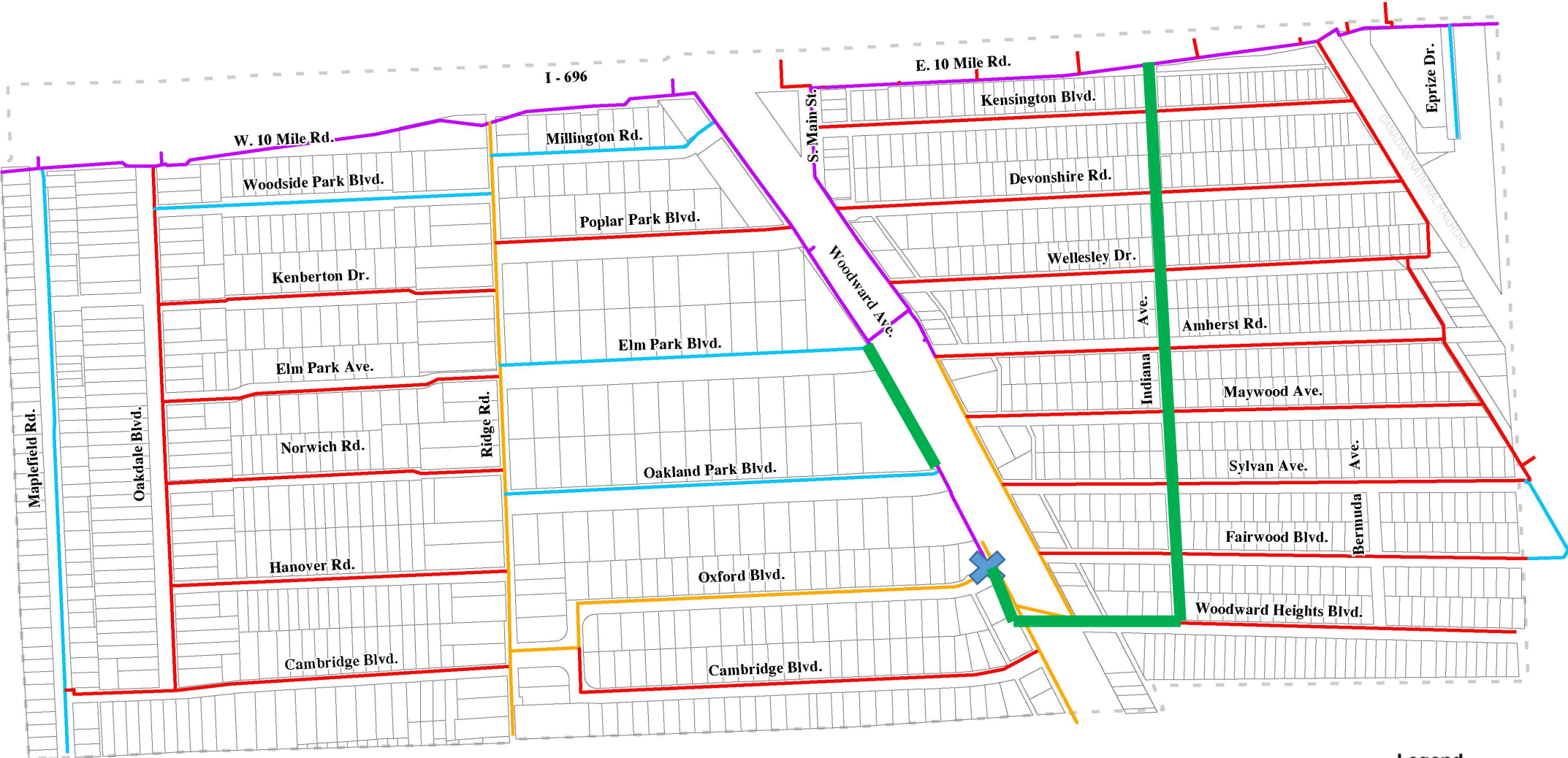
Current Fire Flow







Water System Improvements



Legend

- 6" Main
- 8" Main



City of Pleasant Ridge

Water Main Diameter Summary

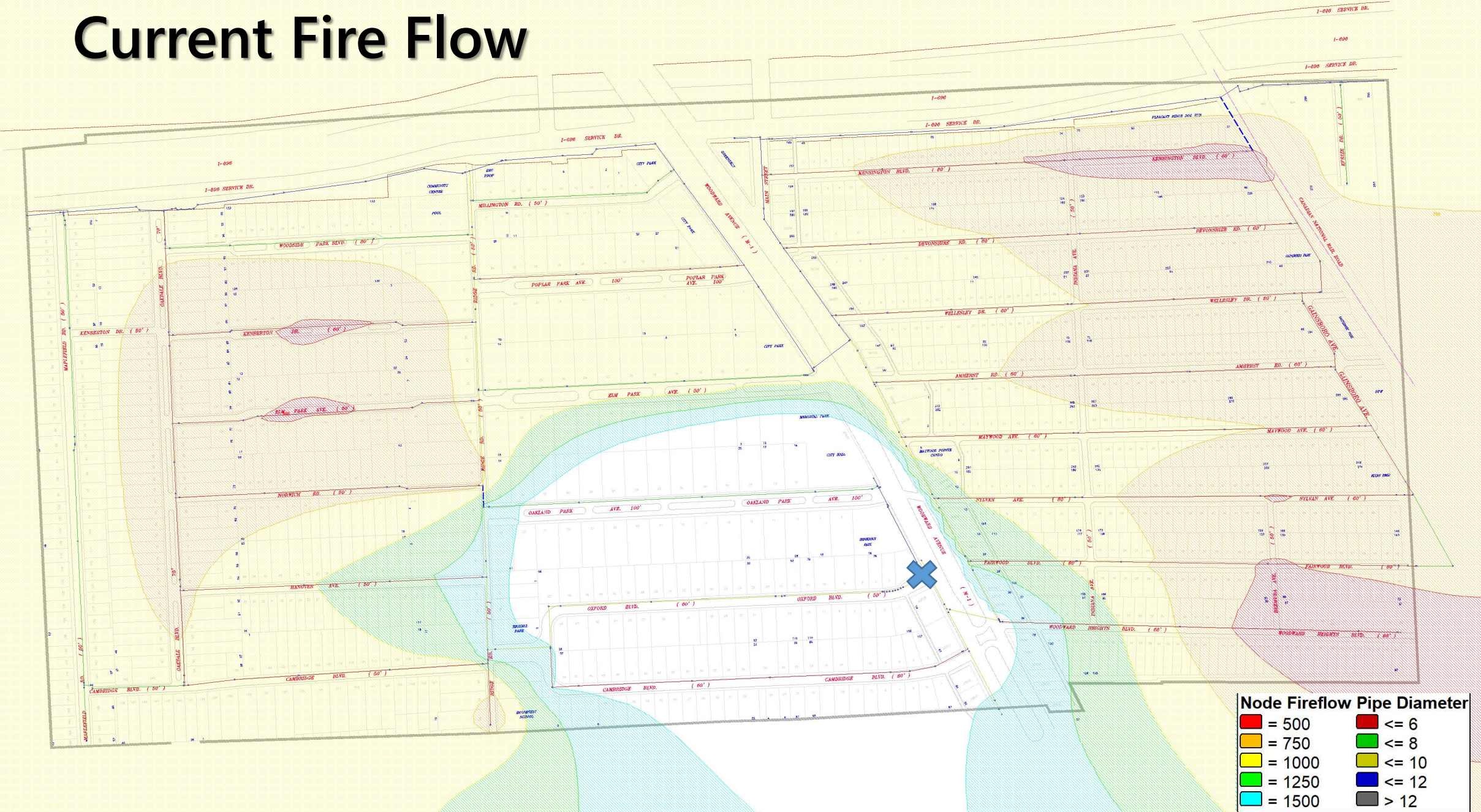
DESIGNER ANDERSON, EDGEMAN & WESTRICK, INC. 10000 E. 10 Mile Rd., Suite 100 Livonia, MI 48150 P: 588-0755 F: 588-0756	DRAWING DATE APRIL 4, 2018	DRAWING SCALE 1" = 400'	PROJECT NO. 075-0108	DRAWING FILE MapSize.mxd	DATE 04/04/18	BY JAW/MLK
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REFERENCE SHEET NUMBER BASEMAP

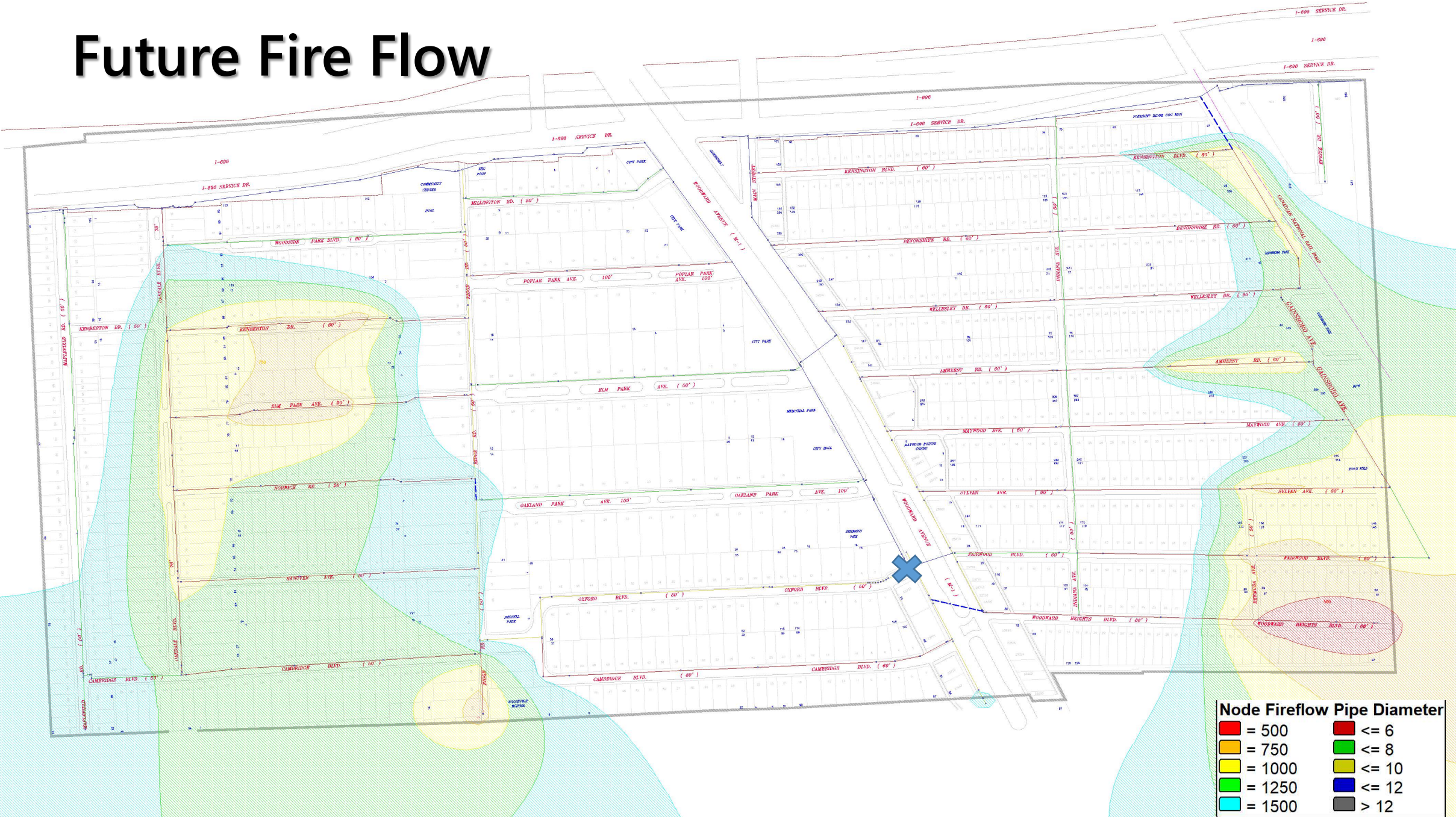
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Current Fire Flow



Future Fire Flow



30-Year Water System Update

- Replace 20 of 23 existing water mains by 2051
- Add two new water mains to improve system pressure & reliability
- Lead Service Lines Replaced:
 - 77% by 2041 (year 20)
 - 90% by 2046 (year 25)
 - 100% by 2051 (year 30)

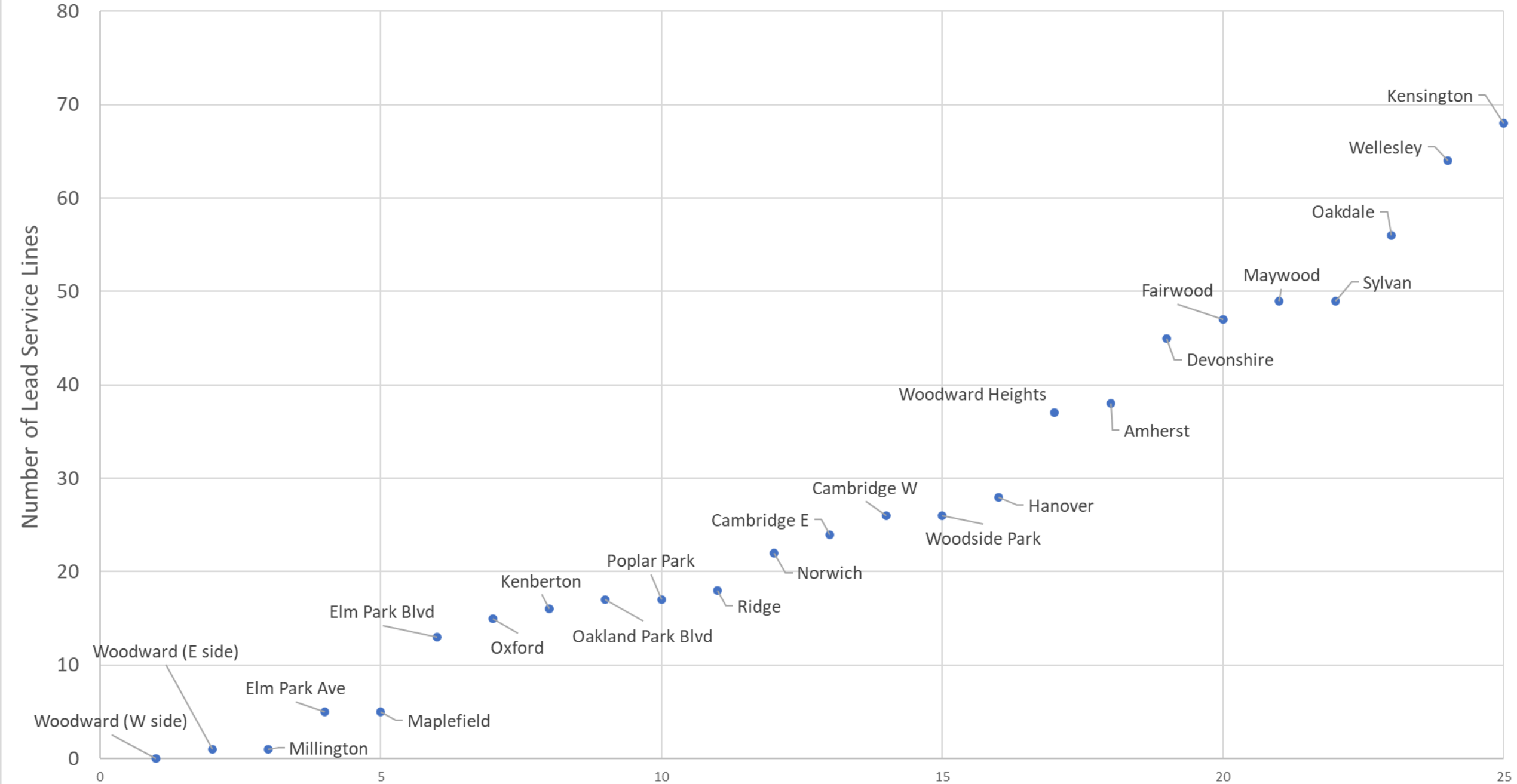
Project Benefits

- Lead service lines replaced at public cost
 - *60% of customers*
- Increased system pressure and reliability
 - *All customers benefit*
- Replace end of life-cycle water mains
 - *Unavoidable maintenance & replacement*

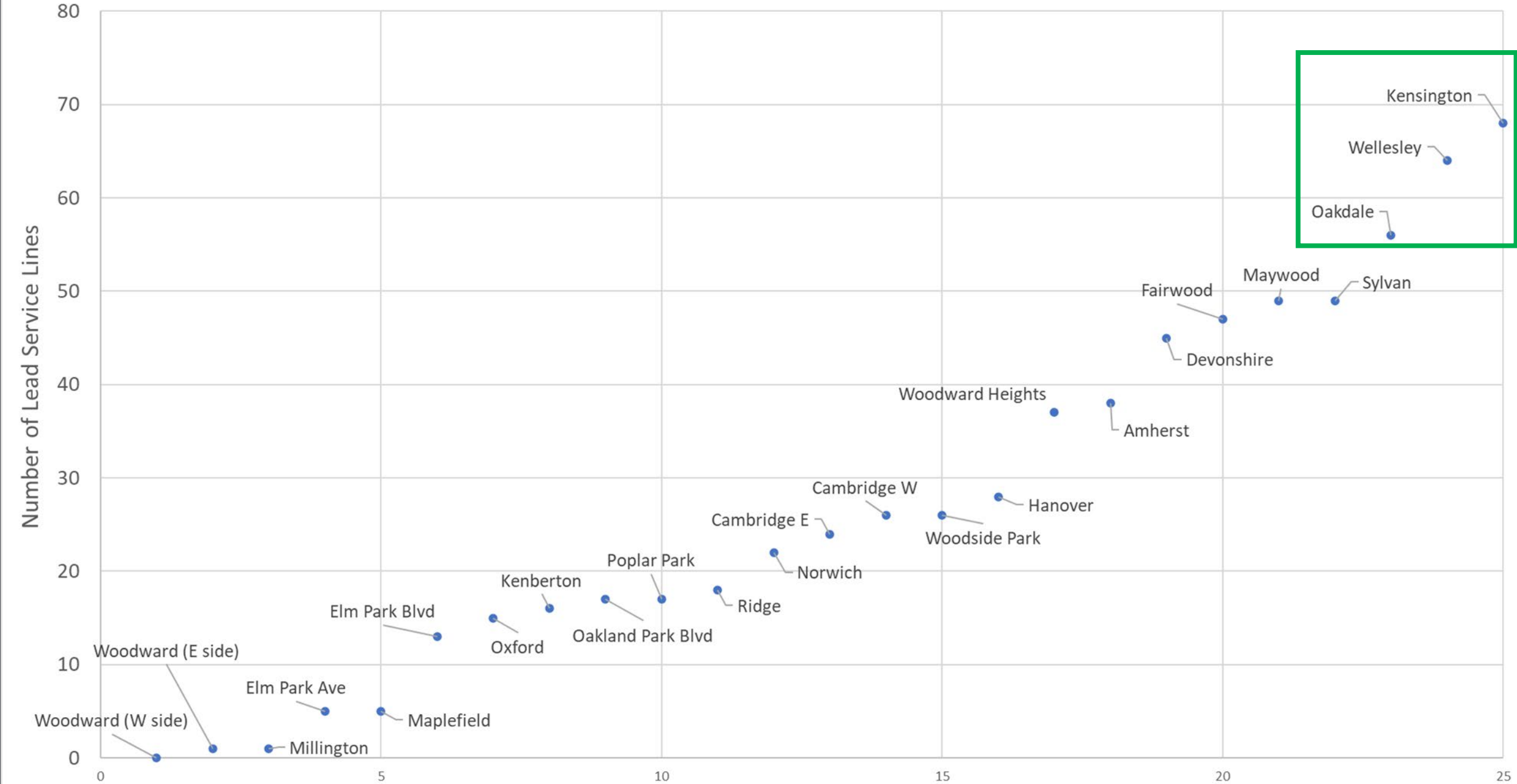
Project Prioritization

- Number of lead service lines
- System pressure benefit
- Age/condition of street

Lead Service Lines by Street



Lead Service Lines by Street



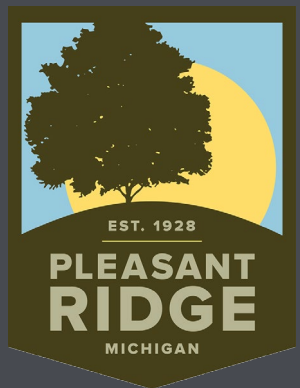
Project Plan

- FY22: Elm Park Blvd, Maplefield, Millington LSL ONLY (\$75,000)
- FY23: Kensington (\$1.6 million)
- FY24: No Project
- FY25: Oakdale (\$1.6 million)
- FY26: No Project
- FY27: Wellesley (\$1.6 million)
- FY28: No project
- FY29: New Indiana & Woodward (Oakland to Elm) water mains (\$1.4 million)

Project Plan

- Order after FY29 will be determined based on prioritization factors
- Cannot commit to a set order for all 30 years
 - *Infrastructure issues may arise, street conditions may change*
 - *Asset management plan includes 30-year plan, but is subject to change over time*

Project Cost & Funding



Federal Infrastructure Bill?

- Uncertain if/when it will pass
- Uncertain what it will fund (ask Manchin)
- Uncertain when and how funding will be available to local communities for LSL replacement
- Required to replace LSLs by the State this year
- Adjust rates down or shorten duration of project if Federal funding comes through

Project Costs

Total Project Cost: \$25 million

\$850,000 annual cost

- LSL replacement: \$8.4 million (33%)
 - *\$1.8 million for private service lines (7%)*
 - *\$6.6 million for public service lines (26%)*
- Water main replacement: \$16.5 million (67%)

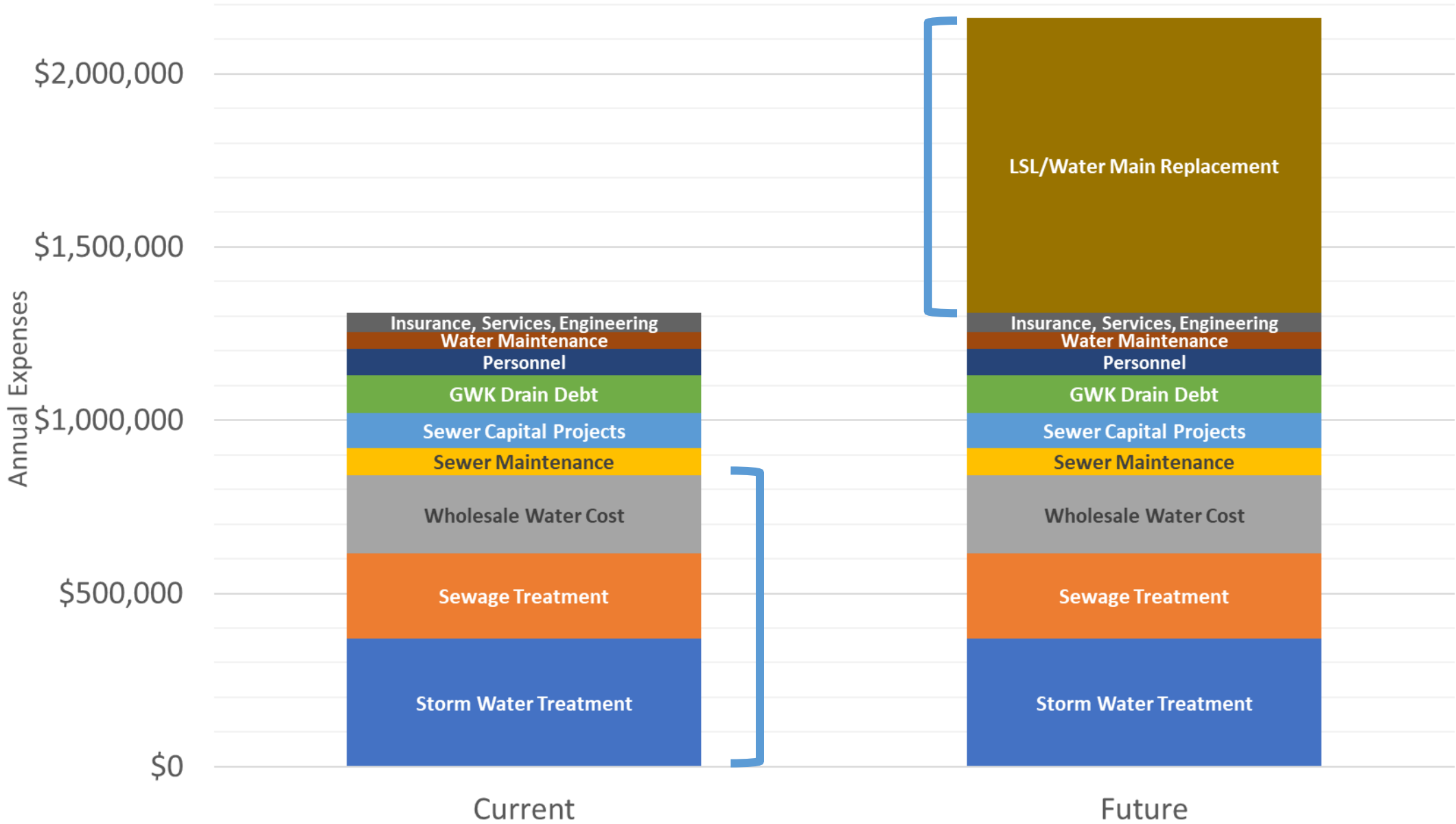
Annual Water Fund Impact

- Baseline Water Fund Expenses: \$1,250,000
- NEW LSL/Main Infrastructure Costs: \$850,000

Water Fund Expenses Comparison



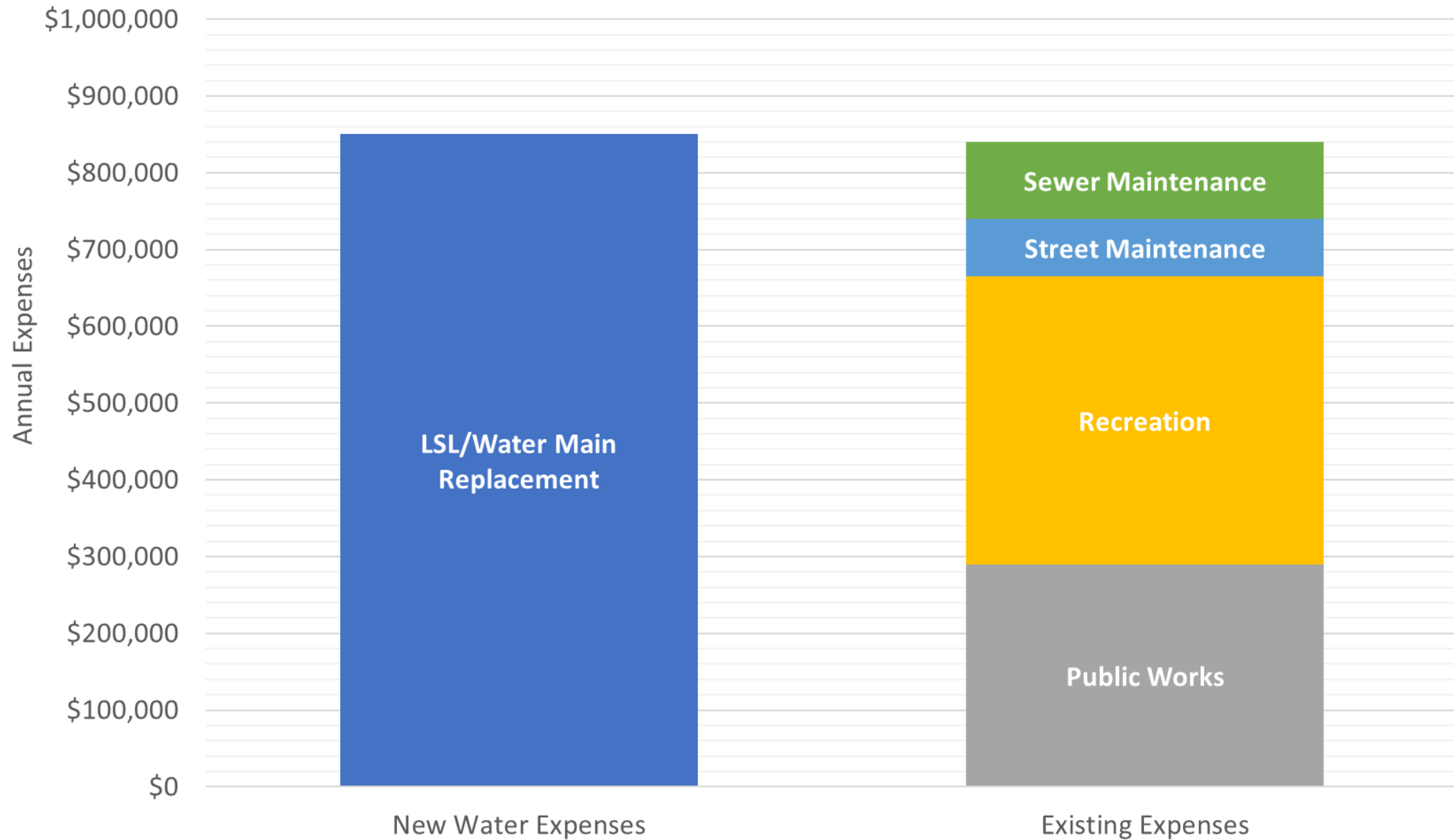
Water Fund Expenses Comparison



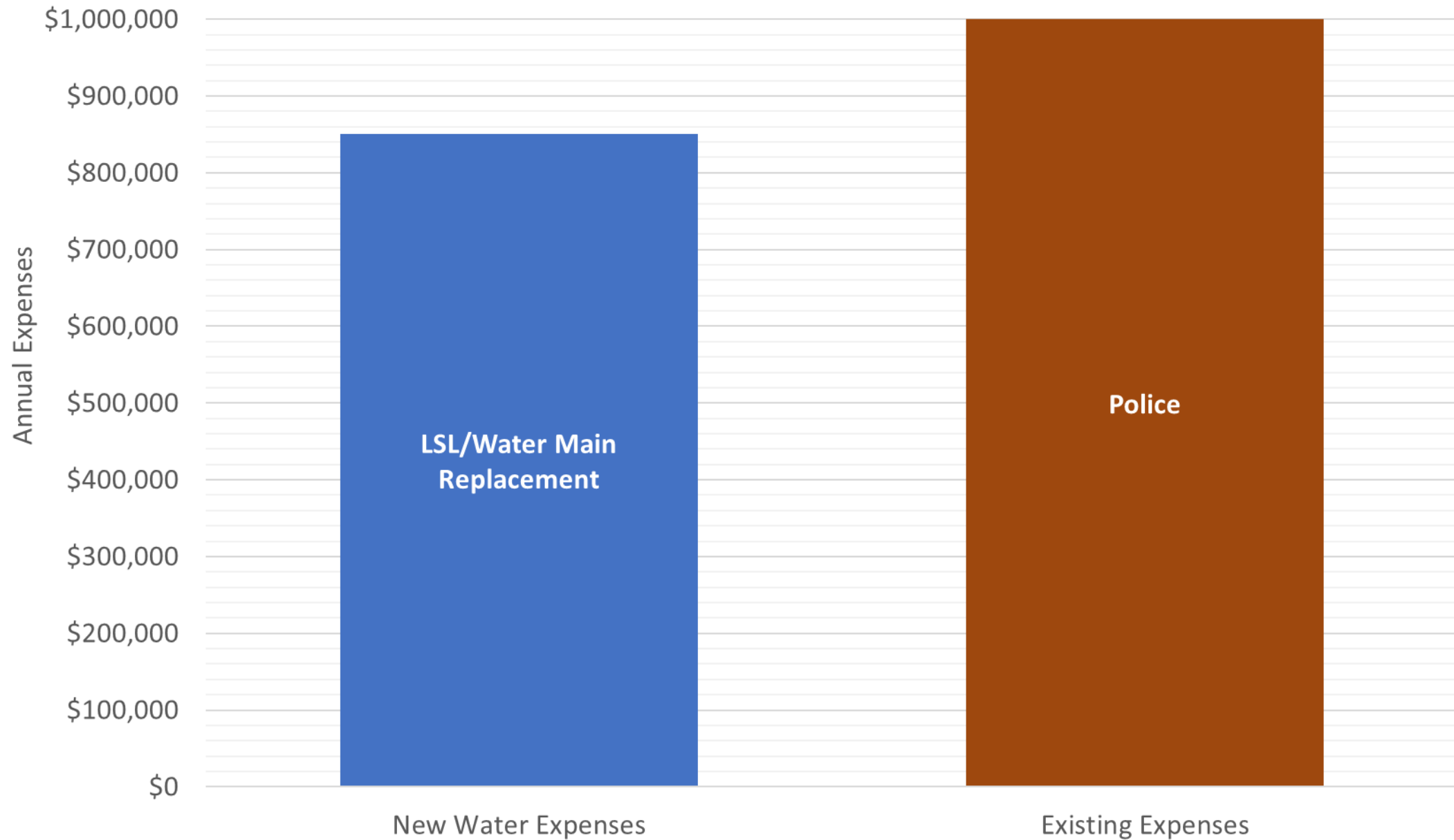
Water Fund Expenses Comparison



Can We Cut Expenses?



Can We Cut Expenses?



Rate Impact

	2020 Rate	2021 Rate	Potential 2022 Rate
Water & Sewer Rate	\$77.25	\$106.15	\$78.75
Ready-to-Serve	\$42.50	\$82.50	\$42.50
ERU (stormwater)	\$48.45	\$50.35	\$51.85
New 3.5 Mill Property Tax	\$0	\$0	\$525 (avg. annual)
Avg. Annual Cost	\$1,071	\$1,535	\$1,570

Funding Breakdown

- \$850,000 annual capital improvements
- If millage passes:
 - *\$625,000 revenue from millage (75%)*
 - *\$225,000 revenue from flat RTS charge (25%)*
 - *Hybrid funding model*

Peer Community Comparison

Total Annual Utility Bill + Average Local Tax Bill

Huntington Woods.....	\$5,043
Birmingham.....	\$4,330
Pleasant Ridge.....	\$4,309

Peer Community Comparison

Local Total Millage Rate:

Huntington Woods.....25.83

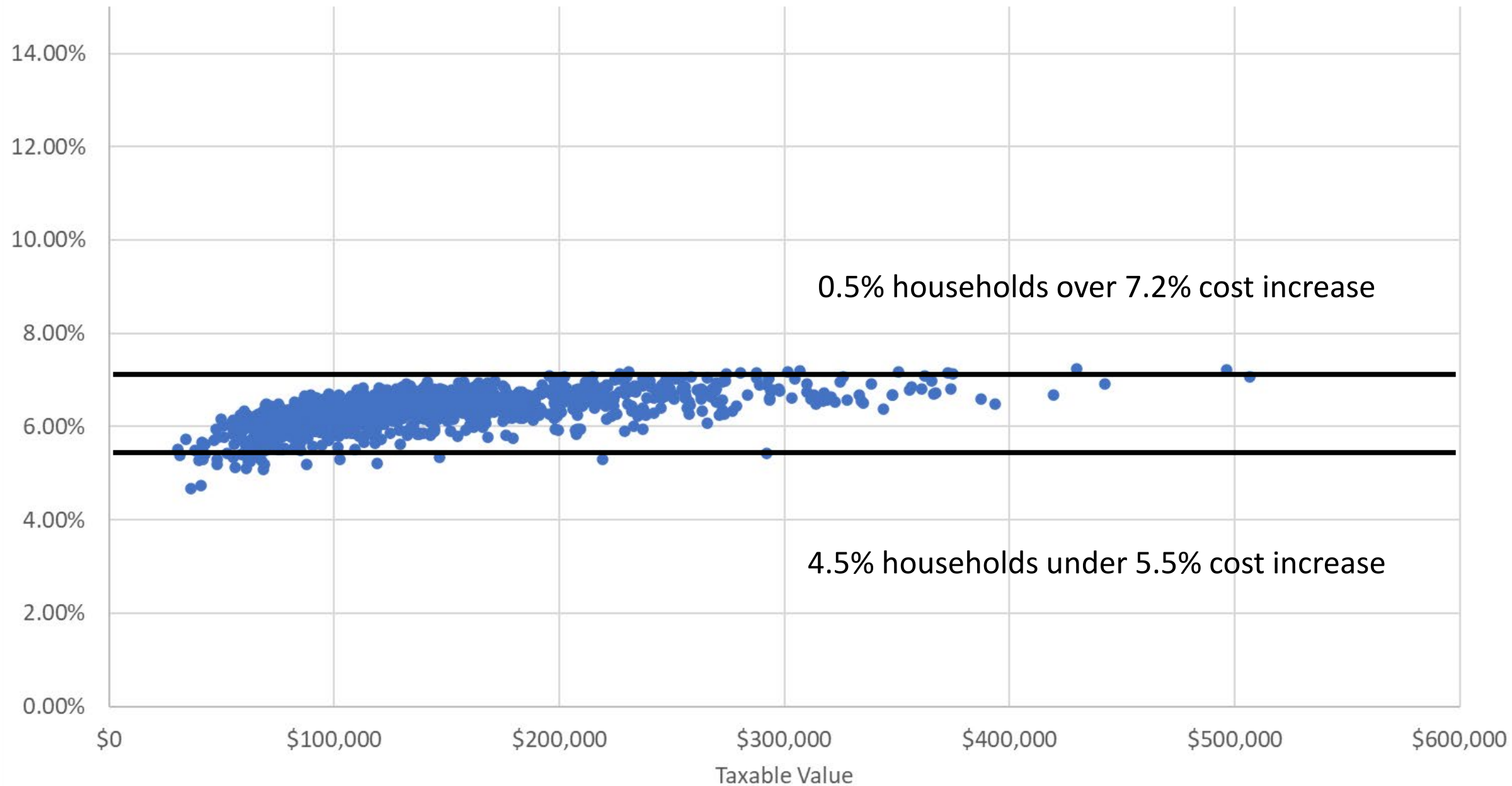
Ferndale.....25.47

Pleasant Ridge (with new 3.5 mills).....24.95

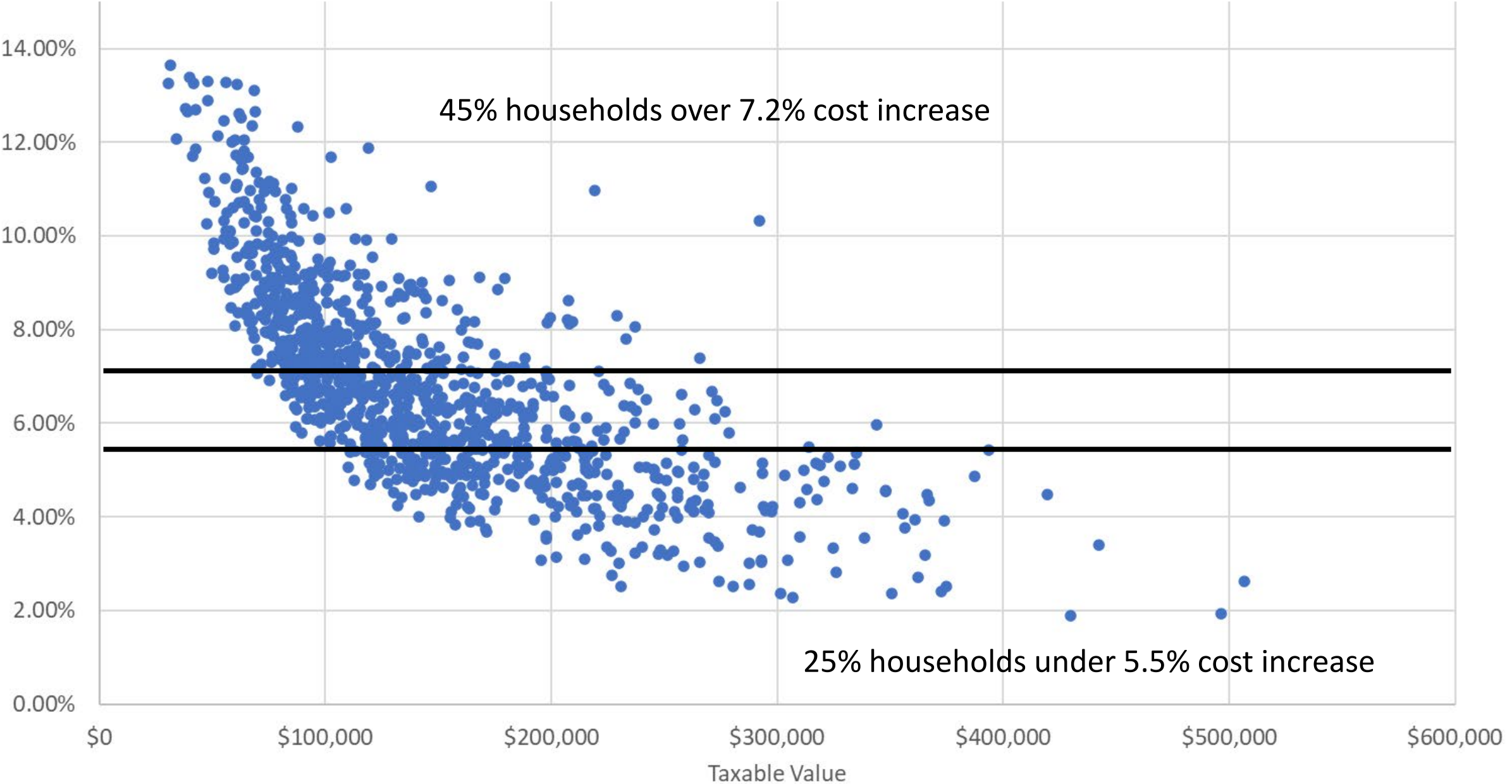
Funding Option Comparison

	2021 Water Rate	Millage	Flat Fee RTS
Ready to Serve Flat Fee (per bill)	\$82.50	\$42.50	\$127.75
Combined Usage Rate	\$106.15	\$78.75	\$78.75
Millage	0	3.5	0
Average Annual Cost Increase	\$525	\$525	\$525

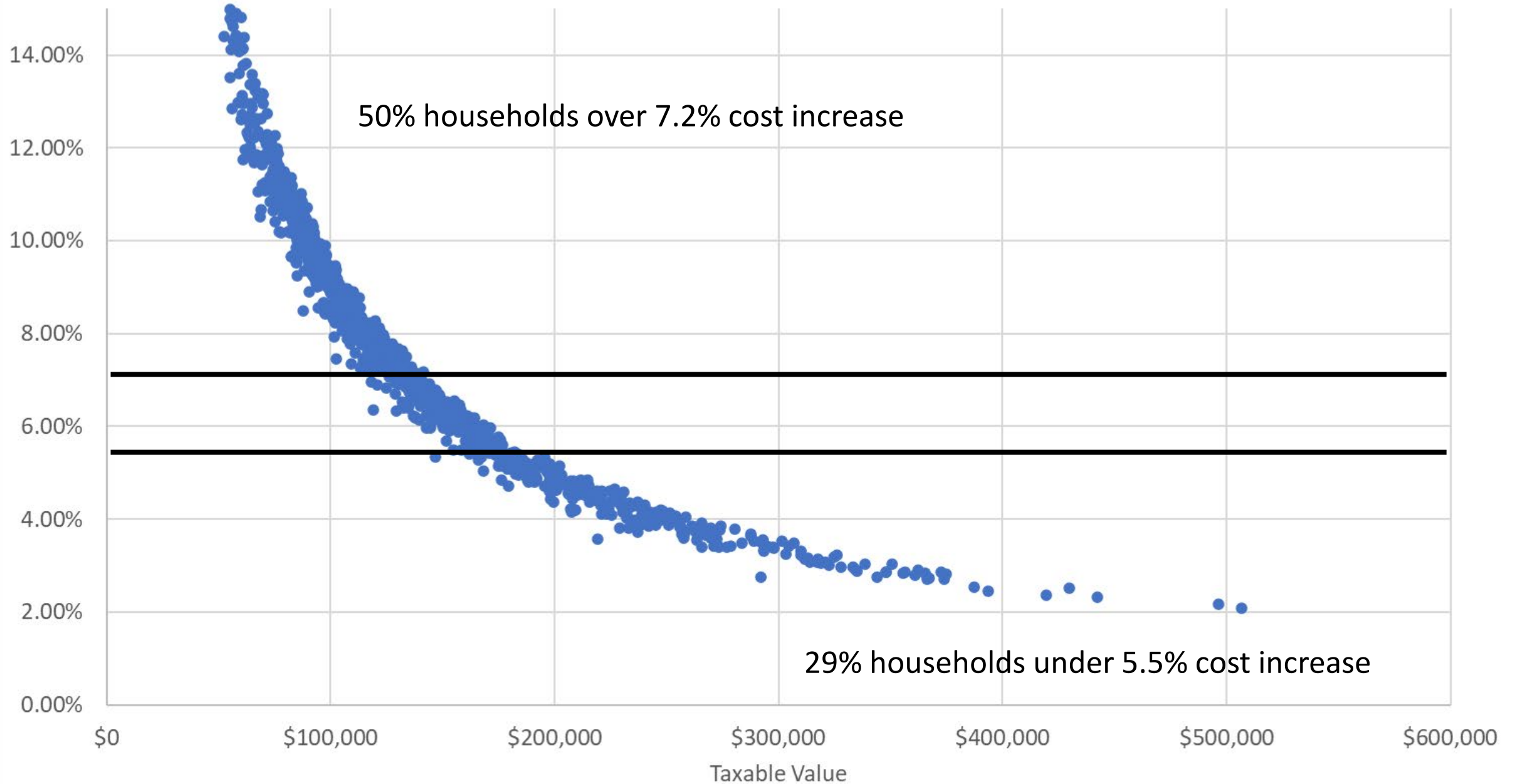
Percent Increase by Taxable Value - Millage Option



Percent Increase by Taxable Value - 2021 Rate Option



Percent Increase by Taxable Value - Flat Fee Option



Discussion/Questions