

WATER INFRASTRUCTURE DISCUSSION

Takeaways, Context, and Next Steps

Tonight's Agenda

- Burgess & Niple Study Takeaways
- Initial Thoughts & Responses
- Perspectives & Expectations
- Long-Term Policy Options
- Near-Term Action Items



Burgess & Niple Study Takeaways

- 2019 & 2020 Spikes from Water Pressure and Softening projects
- Cast Iron Pipe Most Affected
- Proactive Main Replacement Encouraged
- Explore Alternative Piping Materials
- Utilize Zinc-coated Ductile When Possible
- Warrant 8-inch Main Minimum
- Increase System Investment to \$4M Annually
- Acoustic Testing Recommended
- System Limited by Plant & Storage Capacity, not Breaks



Initial Thoughts & Responses

- 2019 & 2020 Spikes from Water Pressure and Softening projects

Break rates trending down

- Cast Iron Pipe Most Affected

No Longer Used/Replacement Strategy Being Discussed

- Proactive Main Replacement Encouraged

Strategy Discussion Starts Tonight

- Explore Alternative Piping Materials

Wait-n-See/Lack of History

- Utilize Zinc-coated Ductile When Possible

Engineering Notes/Standards Being Updated

- Warrant 8-inch Main Minimum

Engineering Notes/Standards Being Updated

- Increase System Investment to \$4M Annually

Strategy Discussion Starts Tonight

- Acoustic Testing Recommended

Wait-n-See/Break-Focused

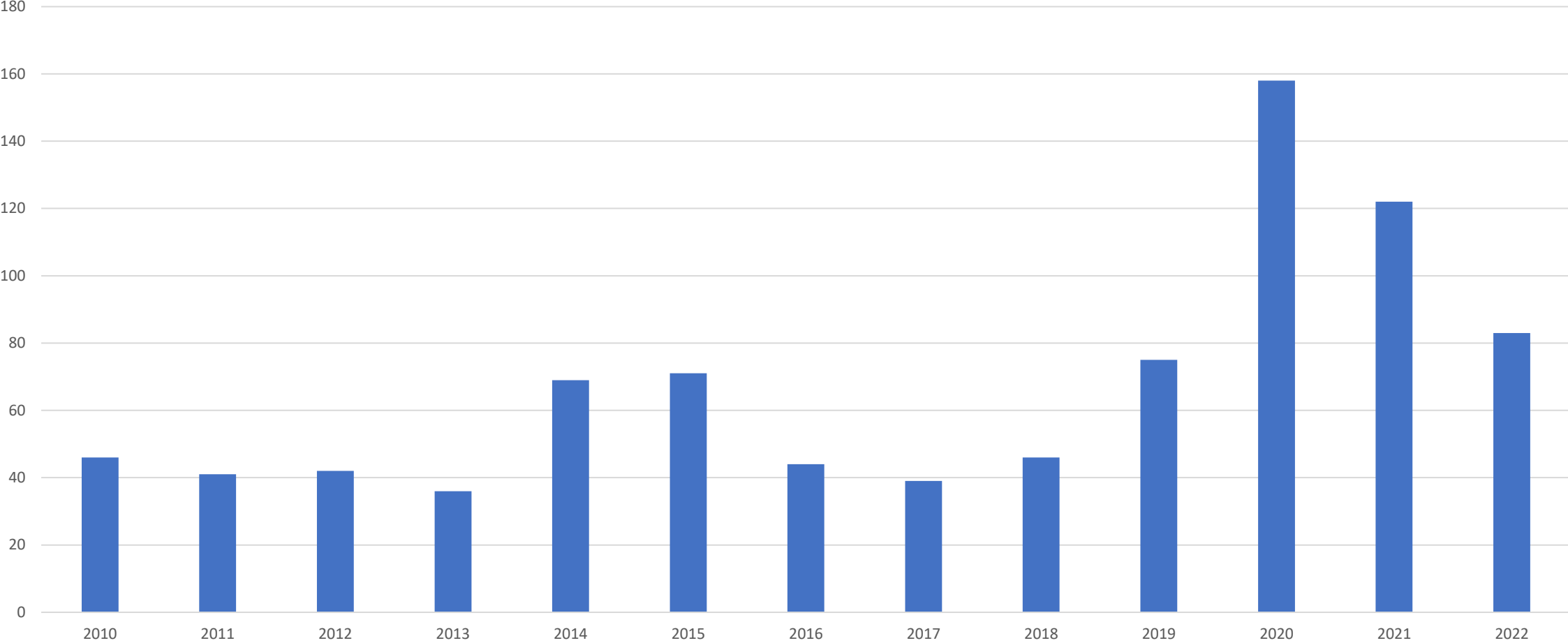
- System Limited by Plant & Storage Capacity, not Breaks

Additional Service Well In-progress



Perspectives & Expectations

Number of Water Main Breaks by Year



Current as of February 1, 2023



Water Main Breaks by Ward

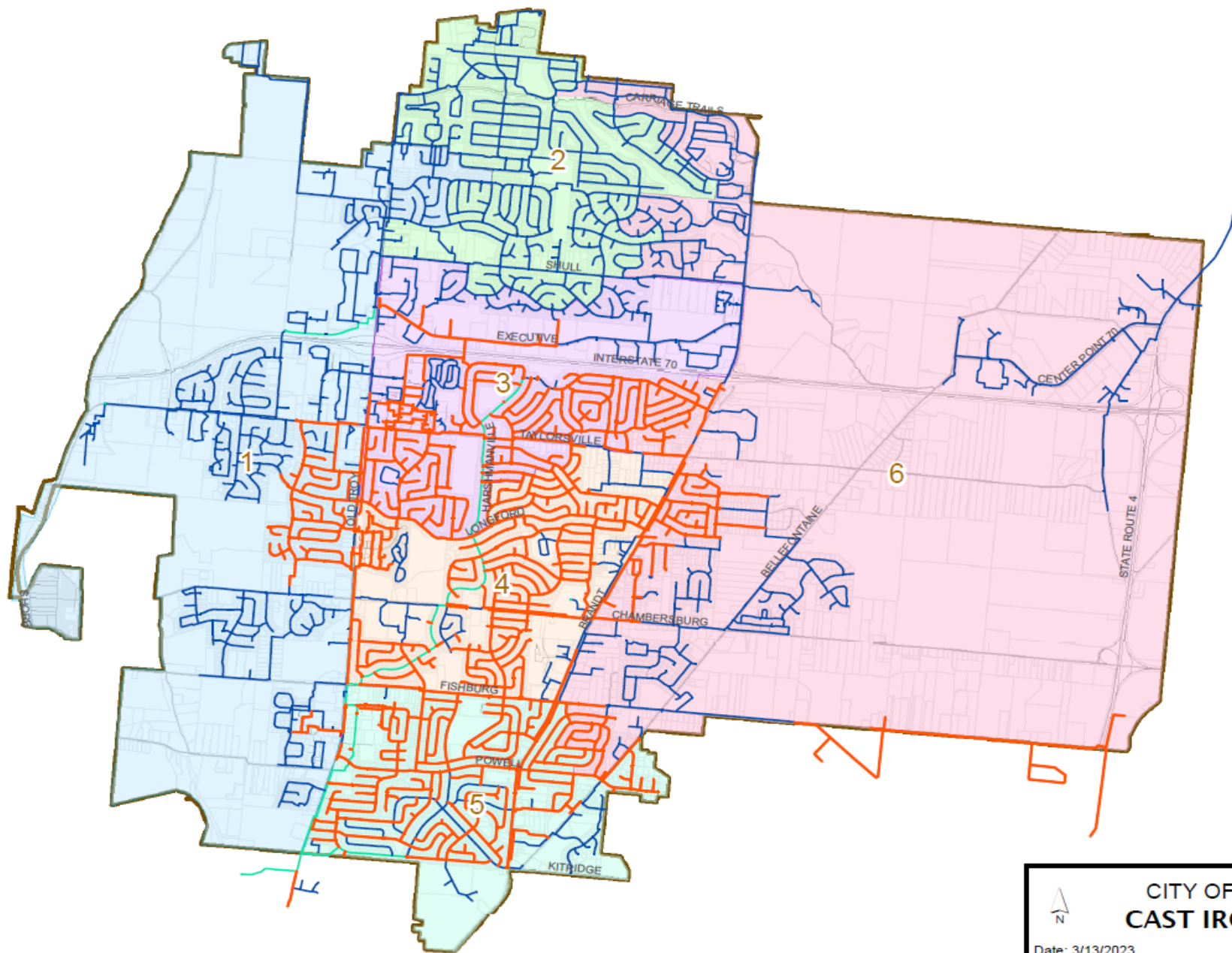
Ward	Approx. Total of Water Main (ft)*	2019	2020	2021	2022
1	220,900	15	24	12	12
2	157,800	10	5	2	1
3	188,410	9	43	18	16
4	165,990	20	60	61	36
5	159,800	14	18	21	13
6	223,300	6	6	5	5

*Some Huber Heights maintained water main breaks were outside the City Corporation, thus not in a Council Ward.

Note: All breaks have been listed, even if water mains have been replaced or relined.

Between 2019 and 2022, approximately 40% of the City's water main breaks occurred in Council Ward 4.






Council Wards


- 1
- 2
- 3
- 4
- 5
- 6

Water Mains MATERIAL

- Cast Iron
- Ductile Cast Iron
- Prestressed Concrete Pipe


CITY OF HUBER HEIGHTS
CAST IRON WATER MAIN

Date: 3/13/2023



Community Comparable

City	Approx. Miles of Water Main	2019	2020	2021	2022
Beavercreek	250	10.0 breaks/100 miles	10.8 breaks/100 miles	9.6 breaks/100 miles	16.6 breaks/100 miles
Englewood	52	25.1 breaks/100 miles	21.3 breaks/100 miles	21.3 breaks/100 miles	38.7 breaks/100 miles
Dayton	800	15.5 breaks/100 miles	9.6 breaks/100 miles	12.4 breaks/100 miles	Data Unavailable
Fairborn	162	27.7 breaks/100 miles	22.8 breaks/100 miles	22.2 breaks/100 miles	33.9 breaks/100 miles
Huber Heights	212	34.5 breaks/100 miles	74.5 breaks/100 miles	57.5 breaks/100 miles	39.2 breaks/100 miles
Kettering*	302	46.0 breaks/100 miles	36.1 breaks/100 miles	38.7 breaks/100 miles	42.1 breaks/100 miles
Oakwood	44	15.9 breaks/100 miles	15.9 breaks/100 miles	25.0 breaks/100 miles	34.1 breaks/100 miles
Springboro	89	8.9 breaks/100 miles	6.7 breaks/100 miles	7.9 breaks/100 miles	5.6 breaks/100 miles
Springfield	343	9.3 breaks/100 miles	8.5 breaks/100 miles	9.9 breaks/100 miles	10.5 breaks/100 miles
Tipp City	79	7.6 breaks/100 miles	3.8 breaks/100 miles	20.3 breaks/100 miles	12.7 breaks/100 miles
Trotwood	38	31.6 breaks/100 miles	26.3 breaks/100 miles	31.6 breaks/100 miles	23.7 breaks/100 miles
Vandalia	87	28.7 breaks/100 miles	13.8 breaks/100 miles	17.2 breaks/100 miles	16.1 breaks/100 miles
West Carrollton	48	Data Unavailable	100.0 breaks/100 miles	50.0 breaks/100 miles	72.9 breaks/100 miles
Xenia	160	18.8 breaks/100 miles	3.1 breaks/100 miles	17.5 breaks/100 miles	Data Unavailable
AVERAGE	190.4	21.5	25.2	24.4	28.8

*Water Main System Maintained by Montgomery County



Defining “Success”

If 0 breaks/100 miles is unrealistic and 74.5 breaks/100 is untenable, what is our measure of success?

- 20 breaks/100 miles (B&N Recommendation)
- 29 breaks/100 miles (The Regional Average)
- ?? Breaks/100 miles



Long-Term Policy Options

Moving Forward to Success

- Policy Option 1- Status Quo Plan
- Policy Option 2- Burgess & Niple Plan (w/a Twist)
- Policy Option 3- Cast Iron Replacement Plan



Policy Option 1: Status Quo Plan

Summary: Dedicate spending \$1.8 million annually on water infrastructure.

Financing: *Rate-Based*

Benefits: Minimizes Rate Increases
Manageable with Existing Staff

Challenges: Reactive



Policy Option 2: Burgess & Niple Plan (w/a Twist)

Summary: Spend \$6 million every 18 months (beginning in July 2024).

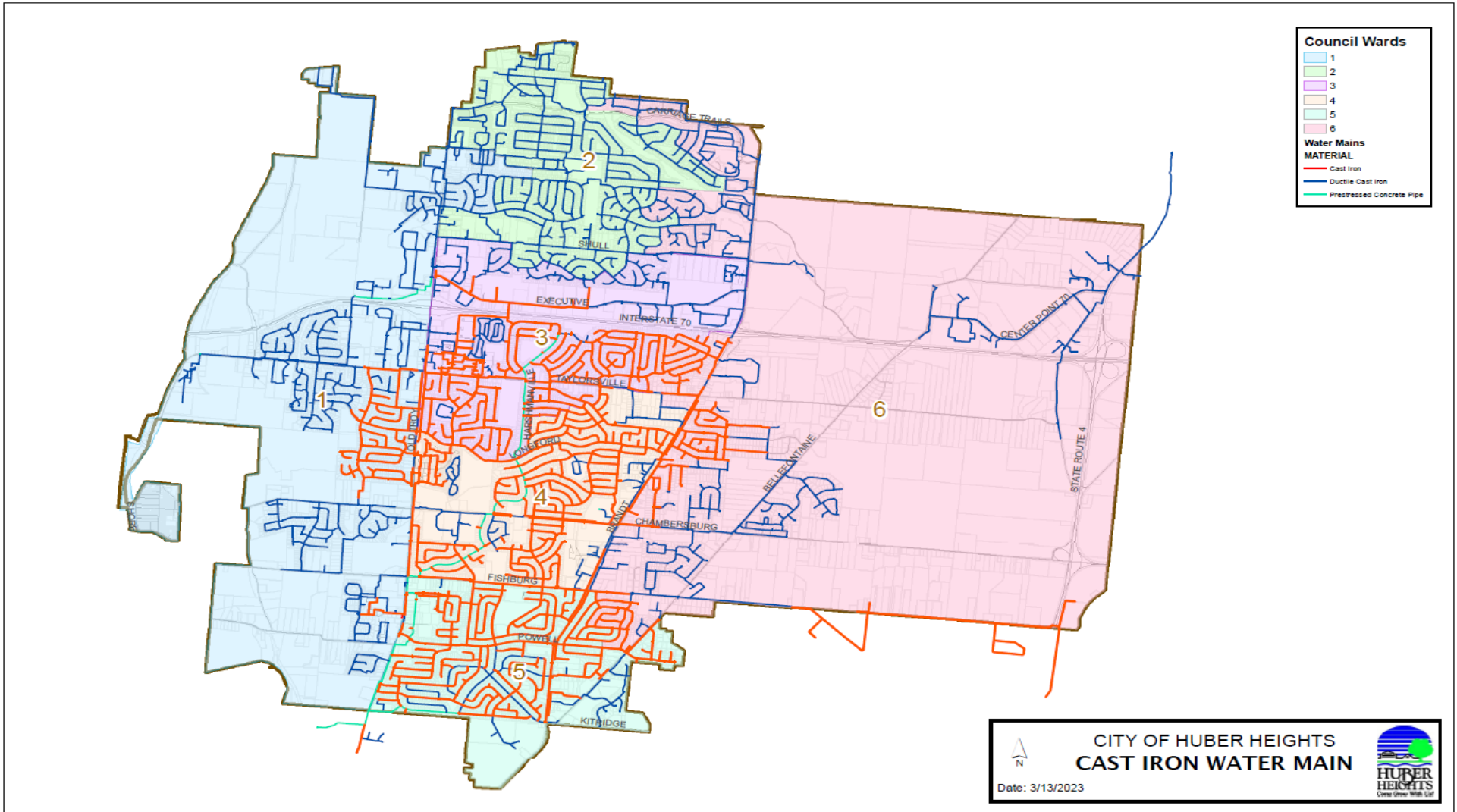
Financing: *Rate-Based*

Benefits: In-line with Burgess & Niple Recommendation
Advances Preventative Maintenance
Project Clarity

Challenges: Requires Substantial Rate Increases
Rate Increase is Permanent
Requires Additional Staff



Policy Option 3: Cast Iron Replacement



Policy Option 3: Cast Iron Replacement Plan

Summary: Focused replacement of all cast iron water mains.

Financing: *Assessment-Based*

Benefits: Comprehensive/Targeted Plan
Exceeds Burgess & Niple Recommendation
Highest Annual Infrastructure Investment
Assessments are Set in Value & Terminate

Challenges: Assessment Process is Complex & Time Consuming
Requires Additional Staff



Long-Term Policy Options

- Tonight's purpose is to present broad concepts for further consideration and future discussion by Council.
- No action is being recommend by staff or requested of Council at this time.
- Future Council dialogue is necessary before staff can receive direction.

Near-Term Action Items

Near-Term Action Items

- 2022 Replacement Project on schedule for August 1, 2023 Finish
- 2023 Replacement Project on schedule for September 1, 2023 Start
- Resolution for \$6M worth of engineering on March 27 Agenda
- Resolution directing project ready July 1, 2024 on March 27 Agenda



Questions?

