



City of Cleveland Department of Public Utilities Division of Water (CWD)

Comprehensive Financial Planning & Rate Study

Agenda

1 Study Overview

2 Demand Forecast

3 Financial Plan

4 Benchmarking / Affordability

Study Goals and Objectives

Develop a four-year financial plan 2021 - 2024 that will:

- Fund annual operating expenditures
- Support the capital improvements program
- Fund current and future debt obligations
- Maintain CWD financial requirements and targets (debt coverage, reserves)
- Provides long-term rate stability (eliminating one-time rate spikes)

Facilitate the financial plan through implementation of water rates that:

- Recover the full cost of providing water service
- Equitability allocate costs among users of the system
- Provide affordability assistance

CWD Financial Position

- The City has invested \$3 billion in the CWD.
- In the last 20 years the City has invested nearly \$1.5 billion in the system.
- As a result the City is **not** facing the looming water infrastructure failures faced by many large Cities around the U.S.
- Over the last ten years, CWD has reduced its outstanding debt by \$300 million
- As a result CWD maintains a strong credit rating and is in a healthy financial position given prudent financial management and system reinvestment



Demands

Tract-Level Residential Demand Model

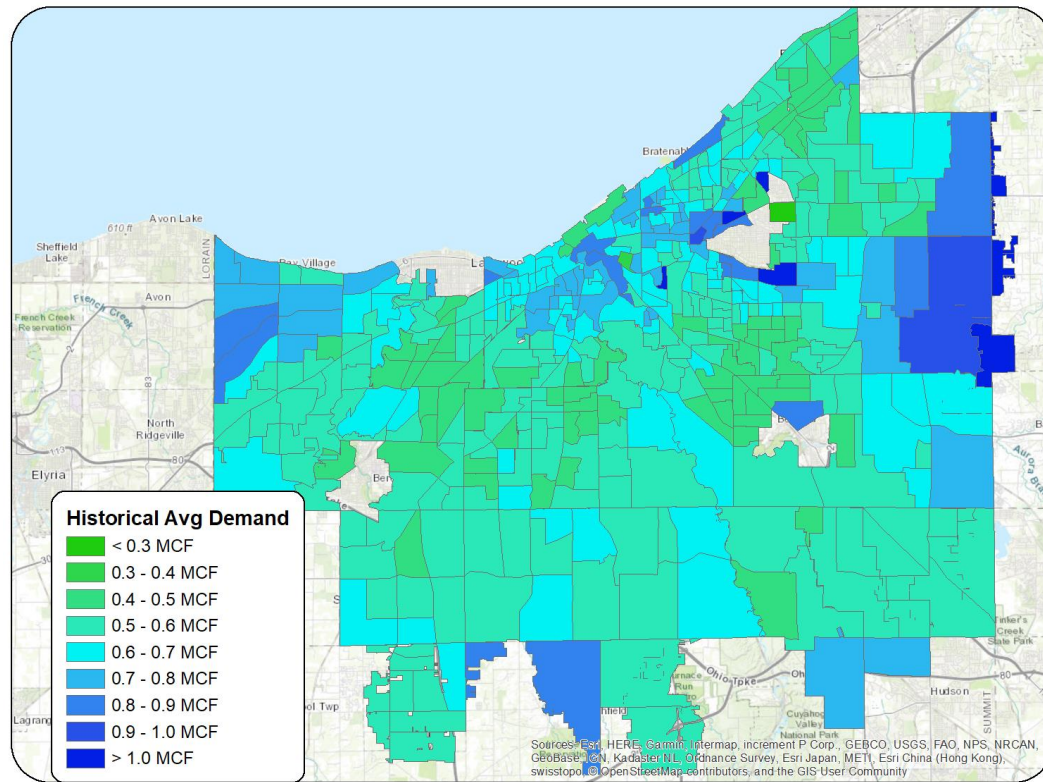
Data:

- All retail bills (2013-2018)
- Assistance program participation (2013-2018)
- Census data (2013-2017)

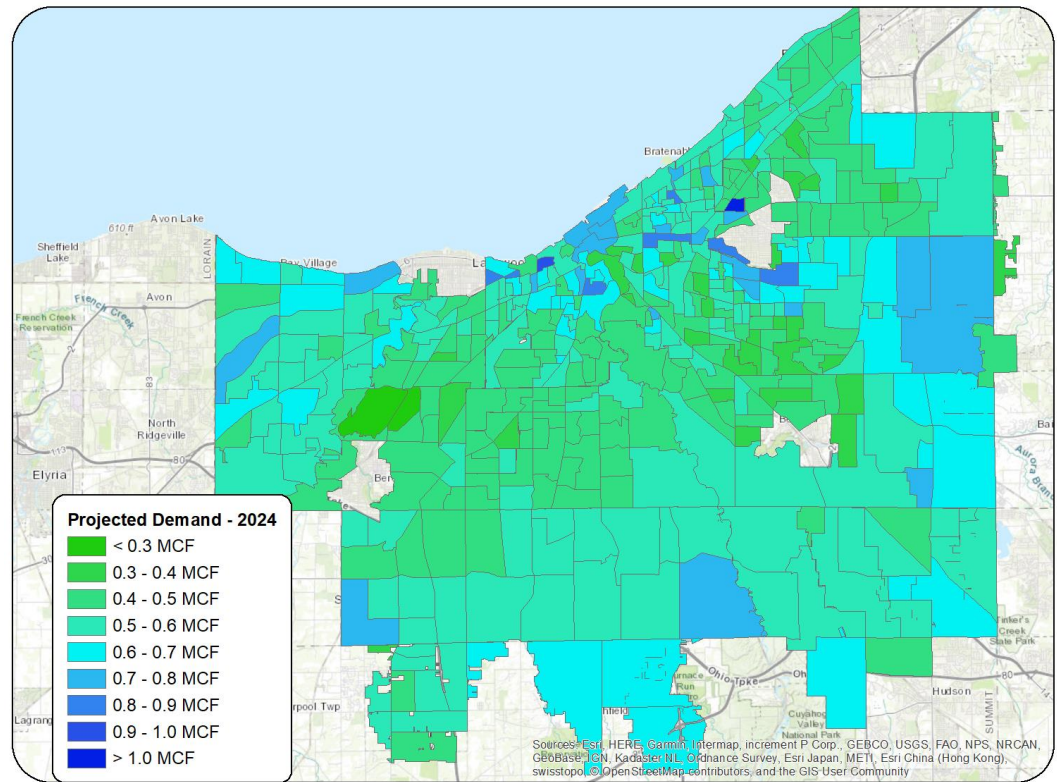
Approach:

- Organize billing data into tract-level summaries
- Standardize quarterly and monthly bills to monthly usage per account
- Regress historical demand data against socioeconomic and housing data
- Isolate statistically significant relationships
- Project tract-level variation in census data based on historical trends
- Estimate future demands based on socioeconomic and housing drivers

Tract Level Demand Projections



Historical Average Demand (MCF Per Month)



2024 Projected Demand (MCF Per Month)



Financial Plan

Summary of Financial Planning Principles

Balanced funding of capital program

- Use of available cash balances
- Appropriate blend of debt and cash funding
- Rate increases (only as required)

Sustainable financial performance

- Debt service coverage ratios
- Adequate reserves
- Affordability of service

CWD's Financial Planning Targets

Maintain debt service coverage (DSC) at target level

- Senior DSC management target: 1.50x (Minimum: 1.25x)

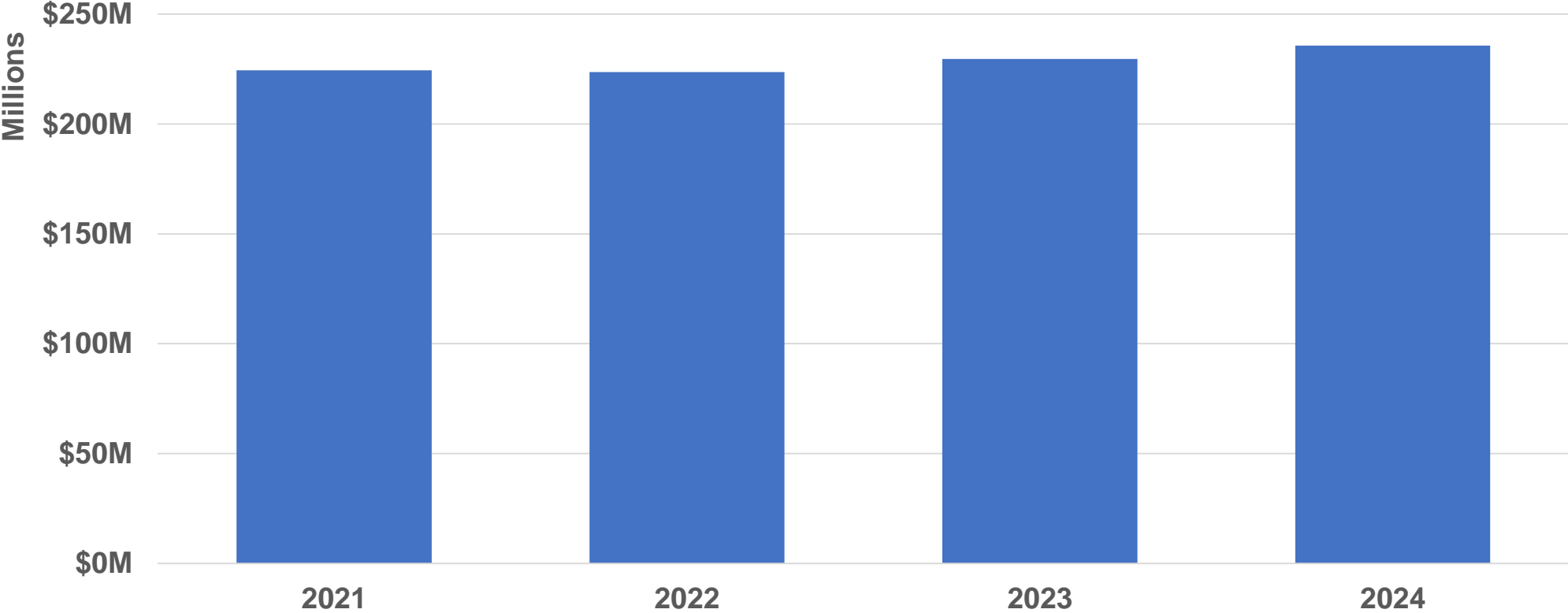
Maintain adequate reserve requirements

- Unencumbered Operating Reserve and Capital Reserve (7 months of O&M Costs)

System Renewal and Replacement Funding Target (PAYGO)

- Fund from PAYGO: \$45M per year
- Percent debt financing of CIP < 50% (5-Year average: 19.1%)

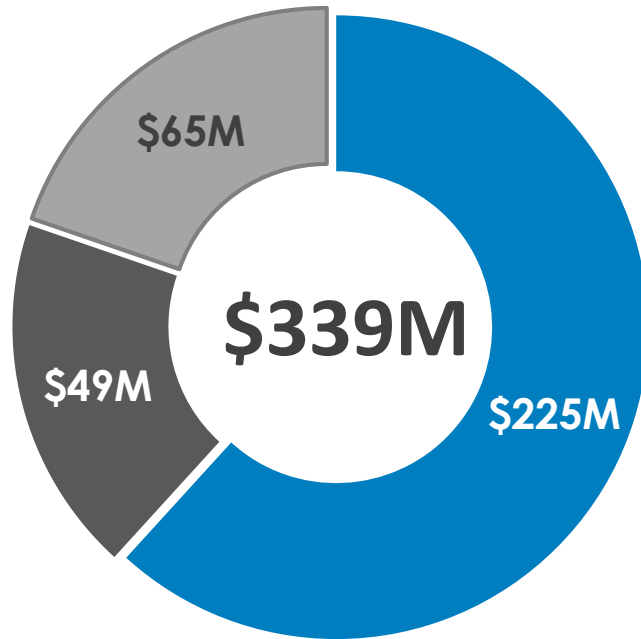
Operating (O&M) Expenditure Projections



Annual Revenue Requirement Comparison

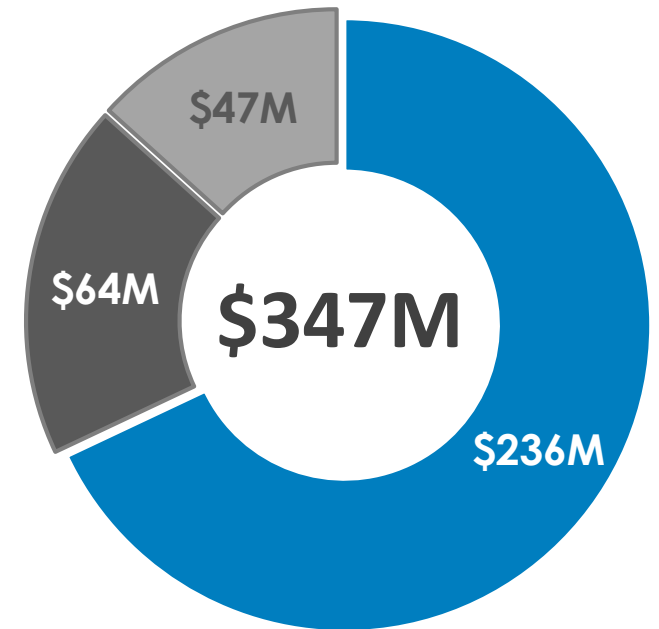
2021

- O&M Expenditures
- Debt Service Payments
- Cash-Funded Capital Expenses



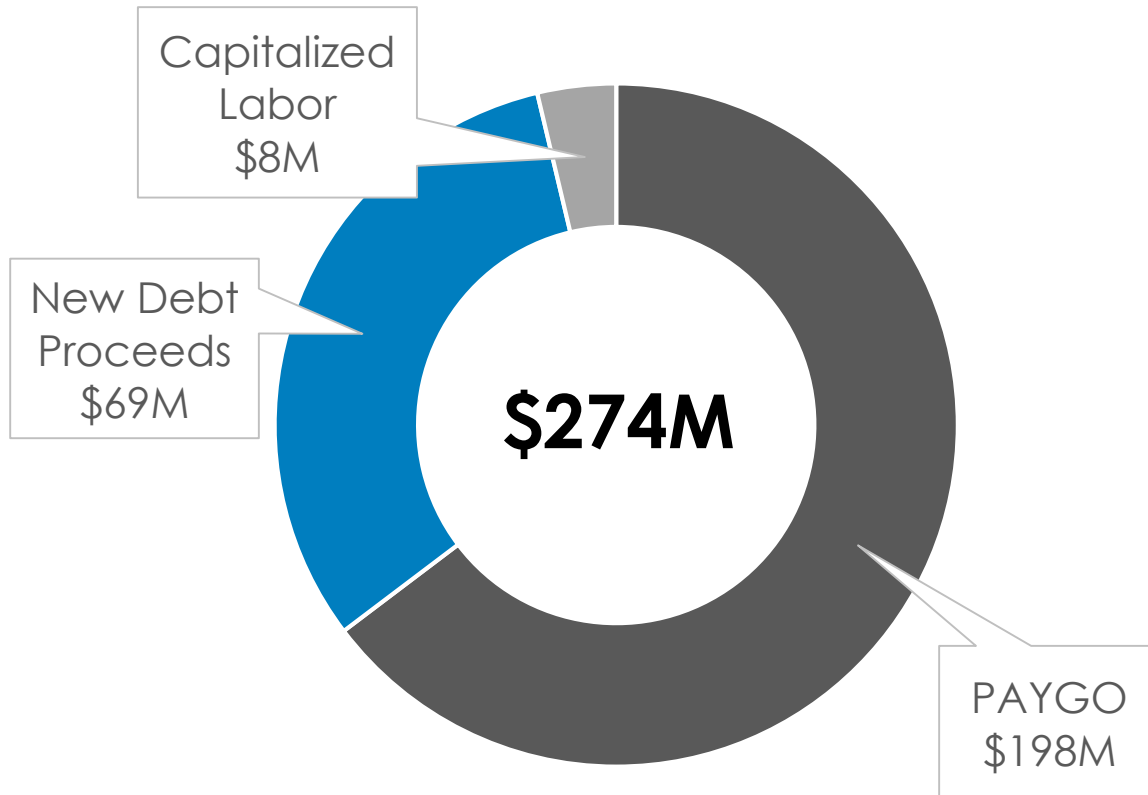
2024

- O&M Expenditures
- Debt Service Payments
- Cash-Funded Capital Expenses



4-Year Capital Improvement Plan (CIP) Summary

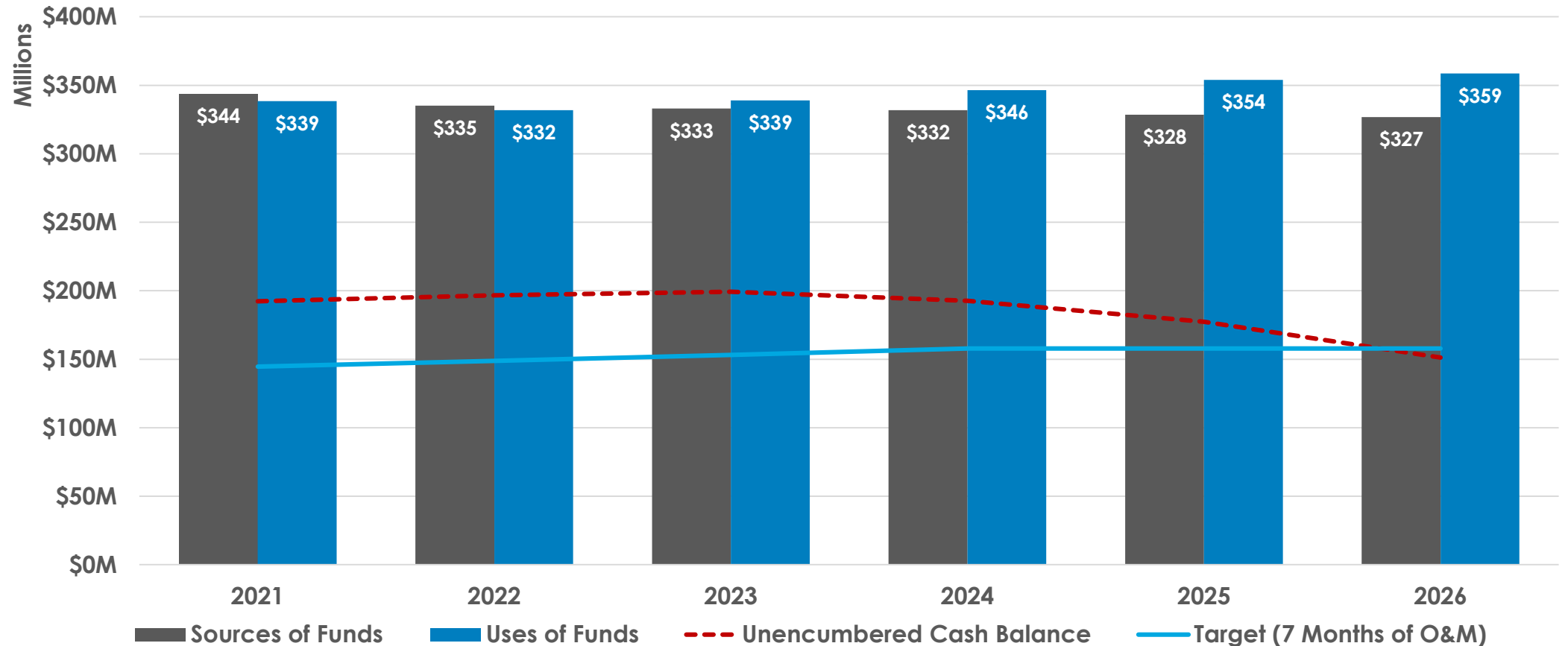
Total Project Needs 2021-2024



CWD CIP Categories	Project Cost (\$M)
Distribution Mains	93.0
Treatment Plant Improvements	65.0
Technology Projects	29.0
Secondary Station Improvements	19.0
Water Work on CLE Roadways	15.0
Transmission Main Renewal	13.0
Building and Misc Improvements	11.0
Boosted Third High	9.0
Undesignated Capital Projects	12.0
Capitalized Labor	8.0
Total	\$274.0

Use of Unencumbered Cash

Assuming Rates Remain Unchanged



Financial Plan Recommendation

No Rate Increase Until 2024

	2021	2022	2023	2024
Water Rate Adjustments	0.0%	0.0%	0.0%	3.5%



Rates and Bill Impacts

Average Residential User (0.5 MCF Per Month)

Bill Impacts

	2021	2022	2023	2024
Cleveland				
Monthly Bill	\$24.71	\$24.71	\$24.71	\$25.58
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.87</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban Low / 1st High				
Monthly Bill	\$29.37	\$29.37	\$29.37	\$30.40
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1.03</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 2nd High				
Monthly Bill	\$34.02	\$34.02	\$34.02	\$35.23
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1.20</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 3rd High				
Monthly Bill	\$37.90	\$37.90	\$37.90	\$39.25
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1.35</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>

Low Residential User (0.2 MCF Per Month)

Bill Impacts

	2021	2022	2023	2024
Cleveland				
Monthly Bill	\$13.57	\$13.57	\$13.57	\$14.03
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.46</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban Low / 1st High				
Monthly Bill	\$14.88	\$14.88	\$14.88	\$15.39
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.51</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 2nd High				
Monthly Bill	\$16.19	\$16.19	\$16.19	\$16.75
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.55</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 3rd High				
Monthly Bill	\$17.28	\$17.28	\$17.28	\$17.88
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.59</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>

High Residential User (1.0 MCF Per Month)

Bill Impacts

	2021	2022	2023	2024
Cleveland				
Monthly Bill	\$43.28	\$43.28	\$43.28	\$44.82
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1.54</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban Low / 1st High				
Monthly Bill	\$53.51	\$53.51	\$53.51	\$55.42
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$1.91</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 2nd High				
Monthly Bill	\$63.74	\$63.74	\$63.74	\$66.03
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$2.29</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 3rd High				
Monthly Bill	\$72.26	\$72.26	\$72.26	\$74.86
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$2.60</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>

Homestead Customer (0.2 MCF Per Month)

Bill Impacts

	2021	2022	2023	2024
Cleveland				
Monthly Bill	\$8.64	\$8.64	\$8.64	\$8.94
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.30</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban Low / 1st High				
Monthly Bill	\$9.49	\$9.49	\$9.49	\$9.83
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.79</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 2nd High				
Monthly Bill	\$10.34	\$10.34	\$10.34	\$10.71
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.37</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>
Suburban 3rd High				
Monthly Bill	\$11.05	\$11.05	\$11.05	\$11.45
<i>\$ Change in Bill</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.00</i>	<i>\$0.40</i>
<i>% Change in Bill</i>	<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>3.5%</i>

Commercial Customer (10 MCF Per Month)

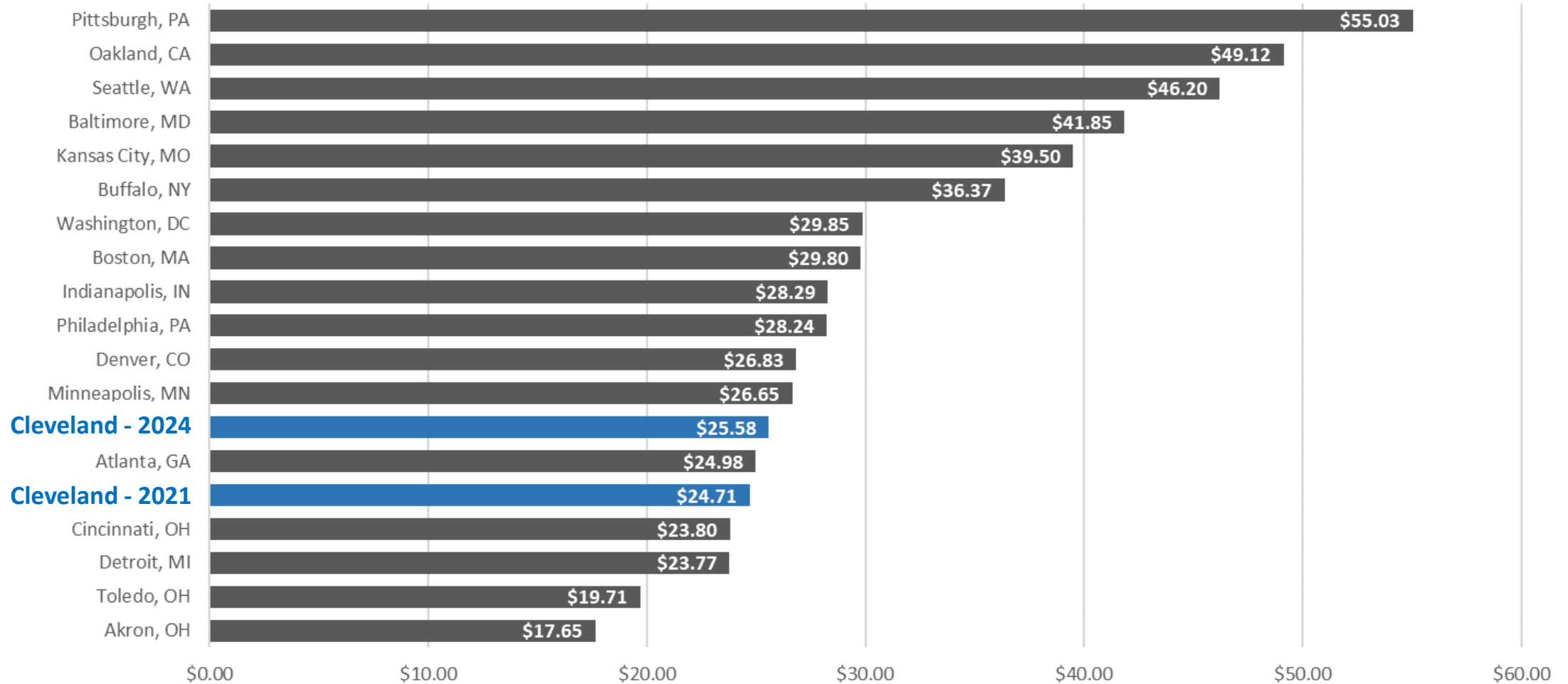
Bill Impacts

	2021	2022	2023	2024
Cleveland				
Monthly Bill	\$386.39	\$386.39	\$386.39	\$400.46
<i>\$ Change in Bill</i>	\$0.00	\$0.00	\$0.00	\$14.07
<i>% Change in Bill</i>	0.0%	0.0%	0.0%	3.5%
Suburban Low / 1st High				
Monthly Bill	\$496.88	\$496.88	\$496.88	\$514.97
<i>\$ Change in Bill</i>	\$0.00	\$0.00	\$0.00	\$18.09
<i>% Change in Bill</i>	0.0%	0.0%	0.0%	3.5%
Suburban 2nd High				
Monthly Bill	\$607.55	\$607.55	\$607.55	\$629.69
<i>\$ Change in Bill</i>	\$0.00	\$0.00	\$0.00	\$22.14
<i>% Change in Bill</i>	0.0%	0.0%	0.0%	3.5%
Suburban 3rd High				
Monthly Bill	\$699.59	\$699.59	\$699.59	\$725.08
<i>\$ Change in Bill</i>	\$0.00	\$0.00	\$0.00	\$25.49
<i>% Change in Bill</i>	0.0%	0.0%	0.0%	3.5%



Benchmarking

Typical Monthly Residential Water Bills Cleveland (0.5 MCF per Month)





Affordability

CWD's Assistance Programs

Homestead

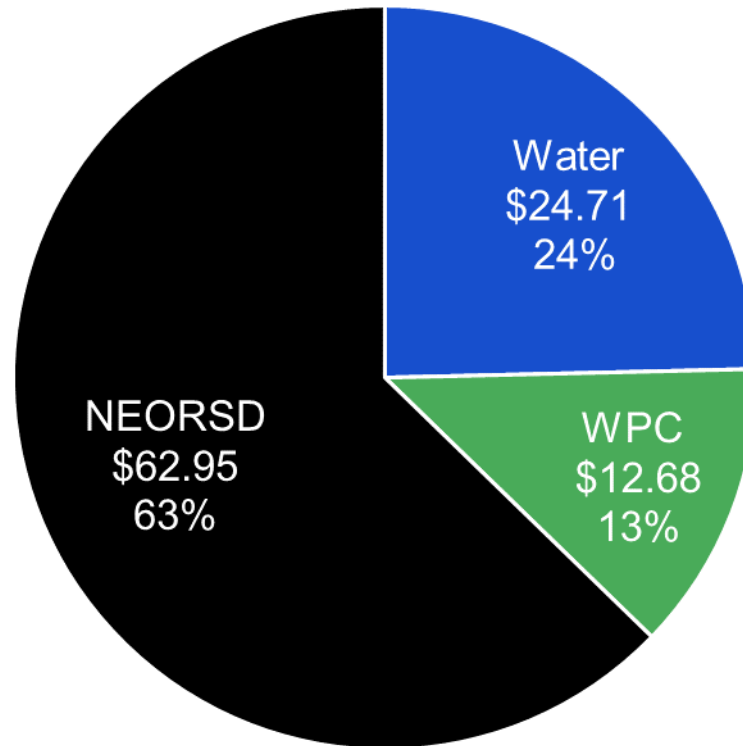
- Over 65 years of age or disabled
- Owner-occupied household
- Income below \$33,500
- 22,500 Total CWD Participants

Affordability

- Income below 200% of Federal Poverty Level
- Owner-occupied household
- 1,600 Total CWD Participants

Monthly Water & Sewer Bills

2021 Bill Breakdown



Total bills of \$100.34/month for household using 0.5 MCF

Measuring Affordability

EPA Residential Indicator

- Used in EPA Consent Decree Financial Capability Assessments
- Bill as a percent of median household income
- High financial impact:
 - 2.5% for water, 2% for sewer, 4.5% combined bill

Hours at Minimum Wage

- Number of monthly hours required at minimum wage to pay typical bill
- “Rule-of-thumb” threshold of 8 hours per month

WARi[®]

- Weighted Average Residential Index (WARi[®])
- Calculate residential indicator for every income bin in every census tract
- Calculate weighted average over all census tracts for a single WARi[®] value

Cleveland's Current Affordability

All metrics based on typical bill for Cleveland customers paying CWD, WPC and NEORSD bills

EPA Residential Indicator

Actual Bills - 2019 (0.5 MCF per Month)	Comparable Bills (0.8 MCF per Month)	Efficient Bills (0.35 MCF per Month)
2.5%	3.3%	1.7%

Hours at Minimum Wage

- 2019 Minimum Wage: \$8.55/hr

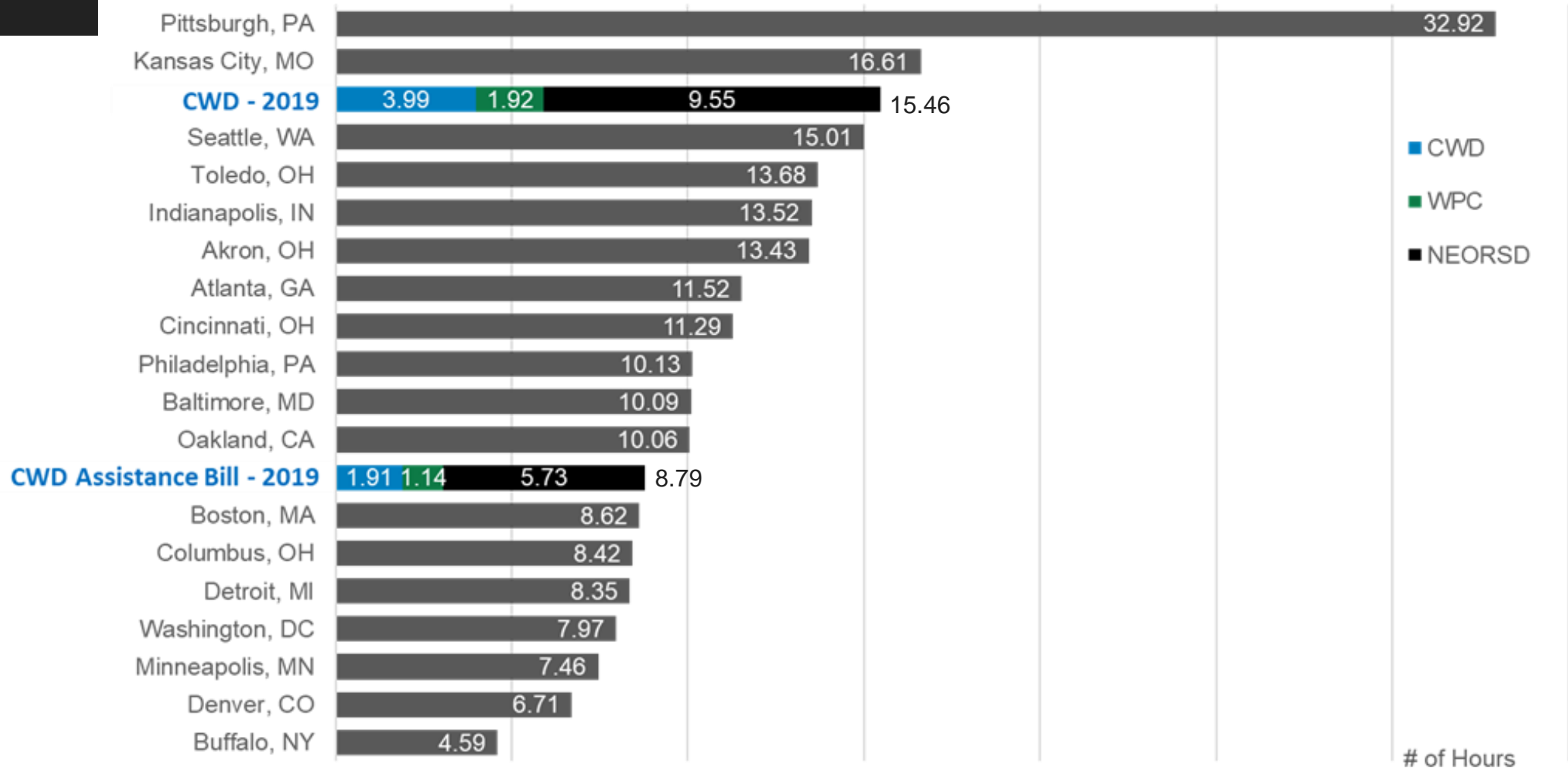
Actual Bills - 2019 (0.5 MCF per Month)	Comparable Bills (0.8 MCF per Month)	Efficient Bills (0.35 MCF per Month)
11.0 hours	15.4 hours	8.2 hours

WARI®

Actual Bills - 2019 (0.5 MCF per Month)	Comparable Bills (0.8 MCF per Month)	Efficient Bills (0.35 MCF per Month)
4.59%	3.78%	3.17%

Hours at Minimum Wage Calculation

(Water and Sewer Bills: CWD, WPC, NEORSD)



of Hours

Conclusions

CWD is in a healthy financial position and addressing affordability

- No rate increases for three years (no rate increases for 6 of 9 years)
- Homestead and assistance programs (40% reductions)
- Conservation and water efficiency programs

Modest rate increase of 3.5% is recommended for 2024

- Maintain alignment of revenues and expenditures
- Provide long-term rate stability
- Minimize customer impacts