Scio Township Utility Rate Model

May 22, 2024

Utility Rate Model

- "Cash-needs Basis" – The model sets rates based on anticipated cash needs. Depreciation and accrual accounting is excluded from the model. This method requires the Township to maintain lower cash reserves (and lower utility rates) than it would if rates were set to fund depreciation expense.

- "Target Working Capital" – Cash and current assets, net of current liabilities. Categories discussed on later slide.

- Why 5 Years? - The model looks at rate increases over a 5-year horizon. Doing this, the Township is able to "smooth out" the rate increases to avoid rate "spiking". This should provide a level of consistency for the Township's customers and prevent any unnecessary surprises related to future rate increases.
  - Cruise ship vs. speed boat

Utility Rate Model Summary

➢ 5 Year Model is not a 5 Year Commitment

The model is a “living” tool that should be reviewed and updated every year as part of the budget process, continuously pushing the forecast out another year, always looking 5 years into the future. Because facts and circumstances can change so quickly, the Board should only adopt utility rate increases one year at a time, not for the next 5 years at one time.

Utility Rate Model Summary (continued)

Readiness To Serve (RTS) Charge

- As part of its rate structure, the Township charges a monthly fixed charge to its customers in addition to the variable (commodity) rate based. This is referred to as a Readiness To Serve Charge (RTS). The purpose of the RTS is to provide a guaranteed cashflow regardless of how much water is used. The RTS helps pay for operational costs such as Township staff, insurance, accounting, audit, technology, postage, etc… These costs exist whether or not customers use water.

- The Township's RTS charges for both water and sewer generate approximately $300k each. This is approximately 30% of Water's and 19% of Sewer's operational expenses. For purposes of the models, the RTS is assumed to be frozen for the entirety of the models.

- The RTS can be increased to cover an even larger portion of the Township's operational costs and even some/all of the capital outlay and debt service; however, keep in mind that a higher fixed charge impacts the low-volume users more significantly.

Utility Rate Model Summary (continued)

- Scio Township will continue to purchase water from the City of Ann Arbor. No known changes to contract pending.

- Scio Township will continue to pay City of Ann Arbor to provide wastewater treatment. No known changes to contract pending

- The most significant assumption included in the model is related to capital outlay. The model includes the current proposed Township capital improvement plan
  - Water - $3.1M over 5 years
  - Sewer - $17.7M over 5 years
    - Of that amount, $10.2M for Jackson Road pump station upgrades and $4.1M for ARV repair/replacement

- Debt service – No new debt to be issued for Water in the next 5 years. Sewer will borrow $10.2M from the State of Michigan Drinking Water Revolving Fund for the Jackson Road pump station noted above. Given the interest rate environment, this is the most prudent method for financing significant capital projects.

What is “Target Working Capital”?

- Maintain some amount of cash and current assets (net of liabilities) in the bank at the end of the model.

- 4 “buckets” of working capital
  1. Operating reserve – 120 days
  2. Next year’s debt service payments
  3. Emergency capital replacement – 2% of the NBV of capital assets
  4. Planned capital replacement - $5M for sewer and $500K for water.

- As of 6/30/23, the Township’s starting working capital (total) is approx. $4.4M for water and $14.9M for sewer. After 5 years, the water system will decrease working capital to $3.2M and “fill” the 4 buckets noted above. The sewer system will decrease its working capital to $7.9M based on the calculation of the 4 buckets above.

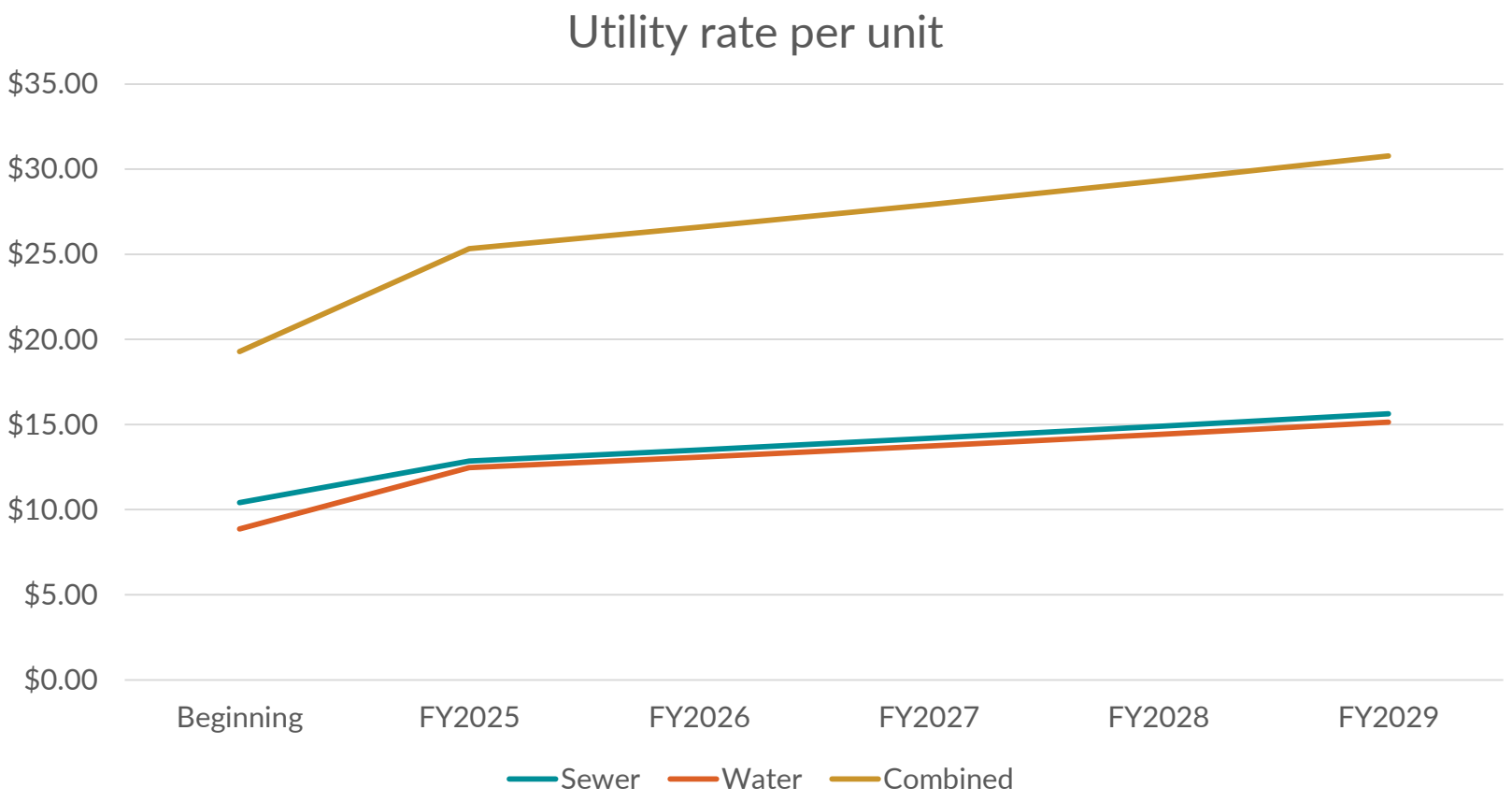
Rate Model – Step 2
Calculate costs to be covered by rates - Fixed Charges

- Township charges separate **Readiness To Serve** charges for both W&S based on meter size. Both generate approximately $300k per year each.
  - Some communities will "tie-bar" the RTS to cover a set percentage of administrative costs. The models we have created do not include any such adjustments, but this will remain an option for the Township in future years.
  - Although the Township does utilize a graduated scale (a 1.5-inch meter pays more than a 1-inch meter; a 2-inch pays more than a 1.5-inch, etc…), that scale does not follow the recommendations of the American Water Works Association.
  - If the Township converted to the AWWA system, approximately 80% of the Township's customers would see a minor rate decrease while the remaining 20% would see a corresponding increase.

Proposed Rate Changes

Water rate (orange) increases 40.4% in year one, but a 5% annual rate increase thereafter.

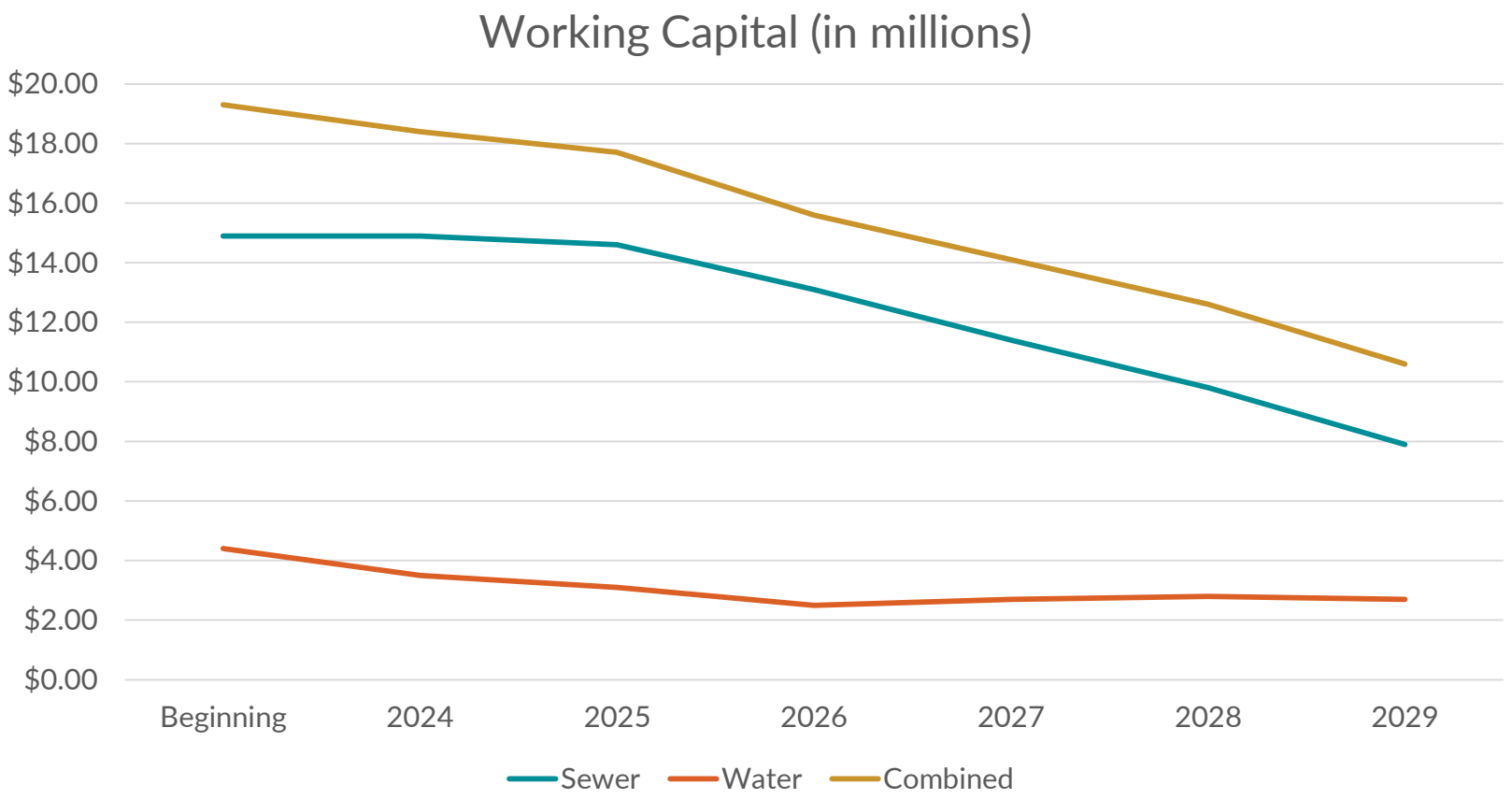
Sewer rate (green) increases 23.4% in year one, but a 5% annual rate increase thereafter.



Working Capital Changes

Water working capital (orange) decreases initially as capital projects are performed, but levels out thereafter.

Sewer working capital (green) intentionally decreases by $7M over 5 years as a result of the significant capital projects, but is still very healthy at $7.9M in 2029.



Effect on Customers

Because the models do not include a rate change to the RTS or water debt charges, the actual affect on the customer is less significant than the percentage increase to the variable rate would suggest. This is an example of an average residential customer in Scio.

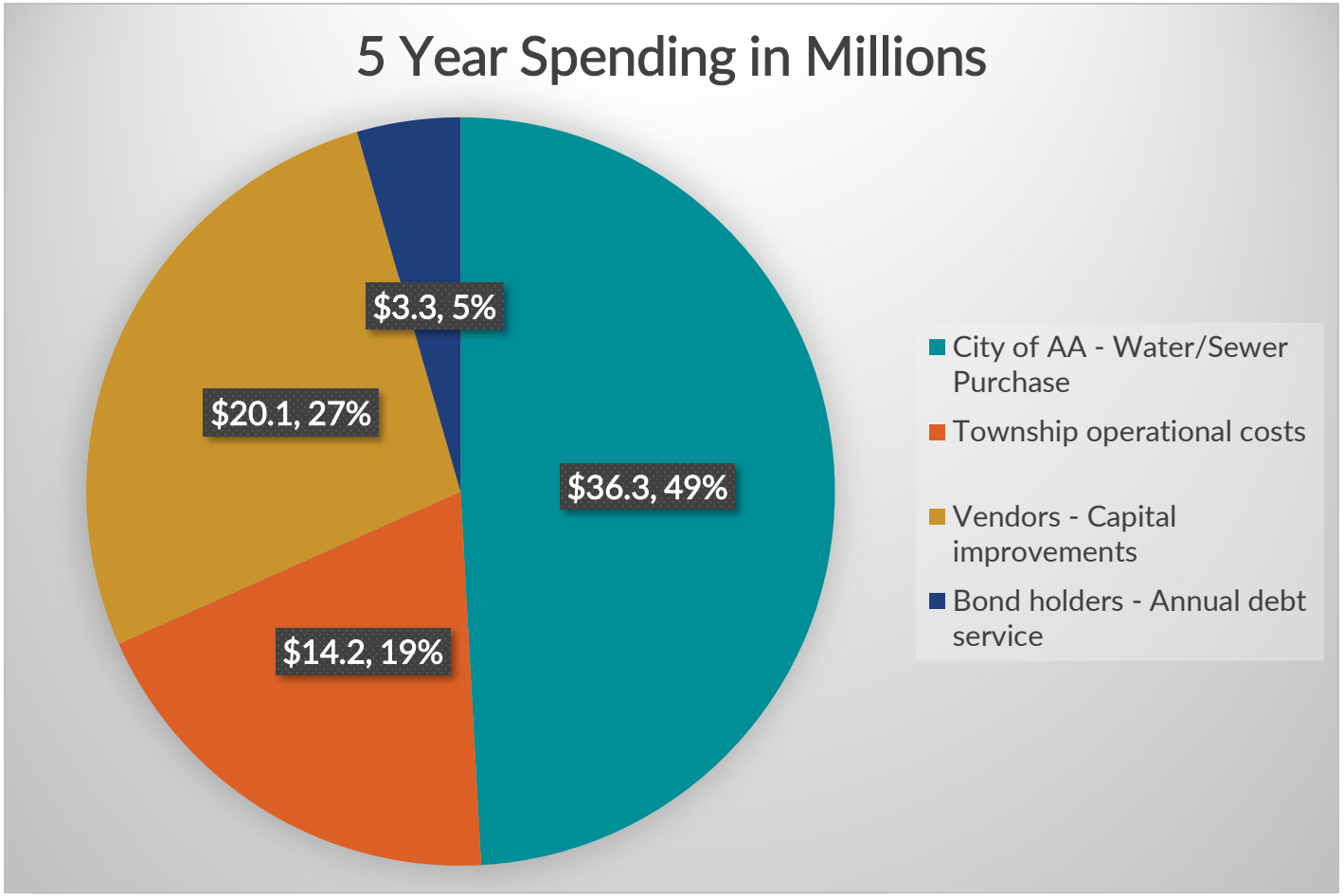
Township "average" resident (3/4" line)								
			Actual 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028	Forecast 2029
Average User Water/Sewer bill								
Average customer uses	55	units per year						
Ready to serve - Water			$ 103.76	$ 103.76	$ 103.76	$ 103.76	$ 103.76	$ 103.76
Ready to serve - Sewer			$ 103.56	$ 103.56	$ 103.56	$ 103.56	$ 103.56	$ 103.56
Water Debt			$ 118.92	$ 118.92	$ 118.92	$ 118.92	$ 118.92	$ 118.92
Water Variable Charge			$ 486.08	$ 666.78	$ 700.12	$ 735.13	$ 771.88	$ 810.48
Sewer Variable Charge			$ 571.02	$ 704.84	$ 740.08	$ 777.09	$ 815.94	$ 856.74
Total Annual Water/Sewer bill			$ 1,383.33	$ 1,697.86	$ 1,766.45	$ 1,838.46	$ 1,914.07	$ 1,993.46
Total Quarterly Water/Sewer bill			$ 345.83	$ 424.47	$ 441.61	$ 459.61	$ 478.52	$ 498.36
$ increase to annual cost				$ 314.53	$ 68.58	$ 72.01	$ 75.61	$ 79.39
$ increase to quarterly bill				$ 78.63	$ 17.15	$ 18.00	$ 18.90	$ 19.85
Overall effective increase in Water/Sewer average annual user cost			**n/a**	**22.7%**	**4.0%**	**4.1%**	**4.1%**	**4.1%**

Effect on Customers

This is an example of a high-volume residential customer in Scio.

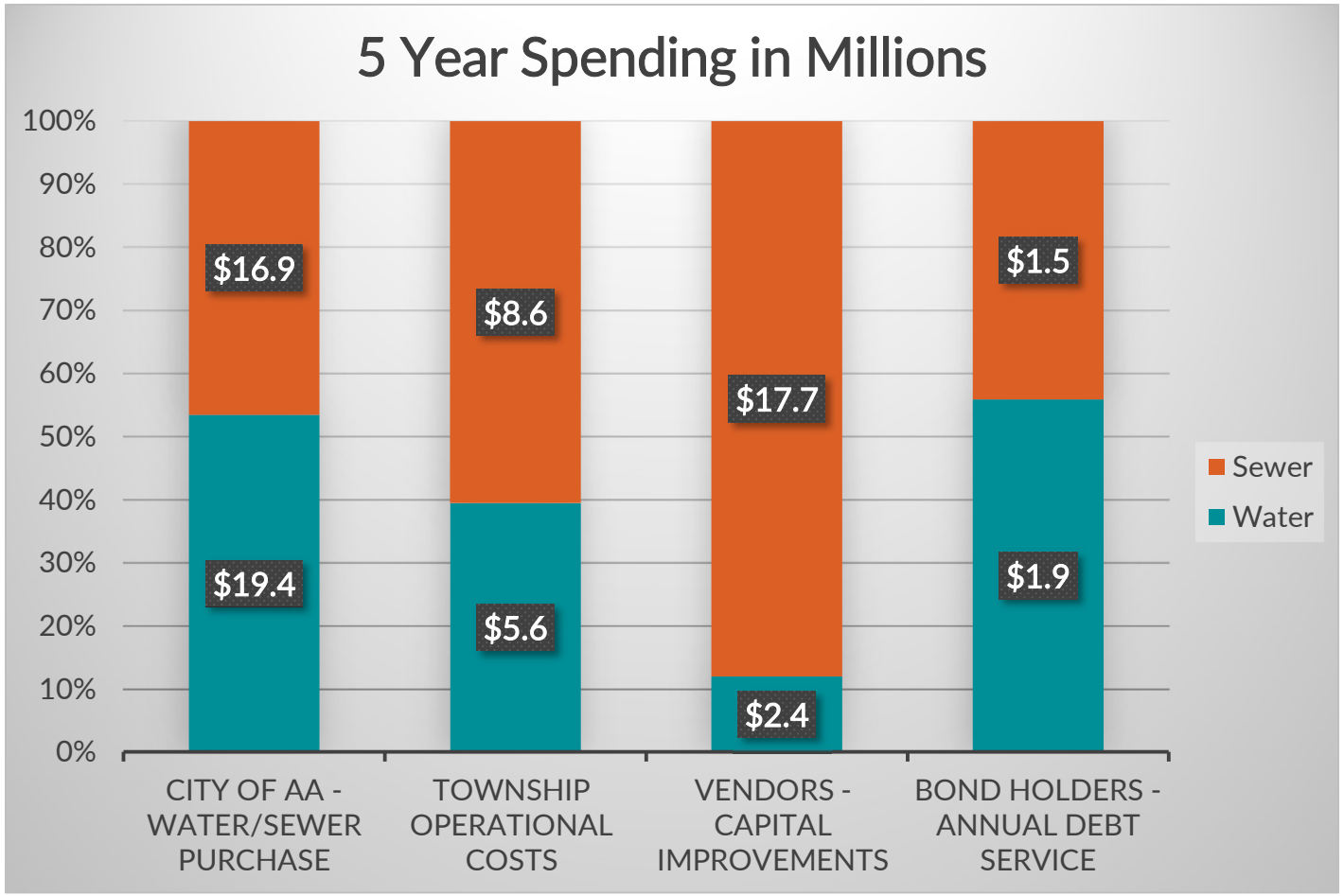
High volume resident (3/4" line)								
			Actual 2024	Forecast 2025	Forecast 2026	Forecast 2027	Forecast 2028	Forecast 2029
Average User Water/Sewer bill								
Average customer uses	110	units per year						
Ready to serve - Water			$ 103.76	$ 103.76	$ 103.76	$ 103.76	$ 103.76	$ 103.76
Ready to serve - Sewer			$ 103.56	$ 103.56	$ 103.56	$ 103.56	$ 103.56	$ 103.56
Water Debt			$ 118.92	$ 118.92	$ 118.92	$ 118.92	$ 118.92	$ 118.92
Water Variable Charge			$ 972.15	$ 1,333.57	$ 1,400.24	$ 1,470.26	$ 1,543.77	$ 1,620.96
Sewer Variable Charge			$ 1,142.03	$ 1,409.68	$ 1,480.17	$ 1,554.18	$ 1,631.88	$ 1,713.48
Total Annual Water/Sewer bill			$ 2,440.42	$ 3,069.49	$ 3,206.65	$ 3,350.67	$ 3,501.89	$ 3,660.68
Total Quarterly Water/Sewer bill			$ 610.11	$ 767.37	$ 801.66	$ 837.67	$ 875.47	$ 915.17
$ increase to annual cost				$ 629.06	$ 137.16	$ 144.02	$ 151.22	$ 158.78
$ increase to quarterly bill				$ 157.27	$ 34.29	$ 36.01	$ 37.81	$ 39.70
Overall effective increase in Water/Sewer average annual user cost			**n/a**	**25.8%**	**4.5%**	**4.5%**	**4.5%**	**4.7%**

Where Does This Money Go?



The rate increase can be attributed to these 4 categories by the same percentages.

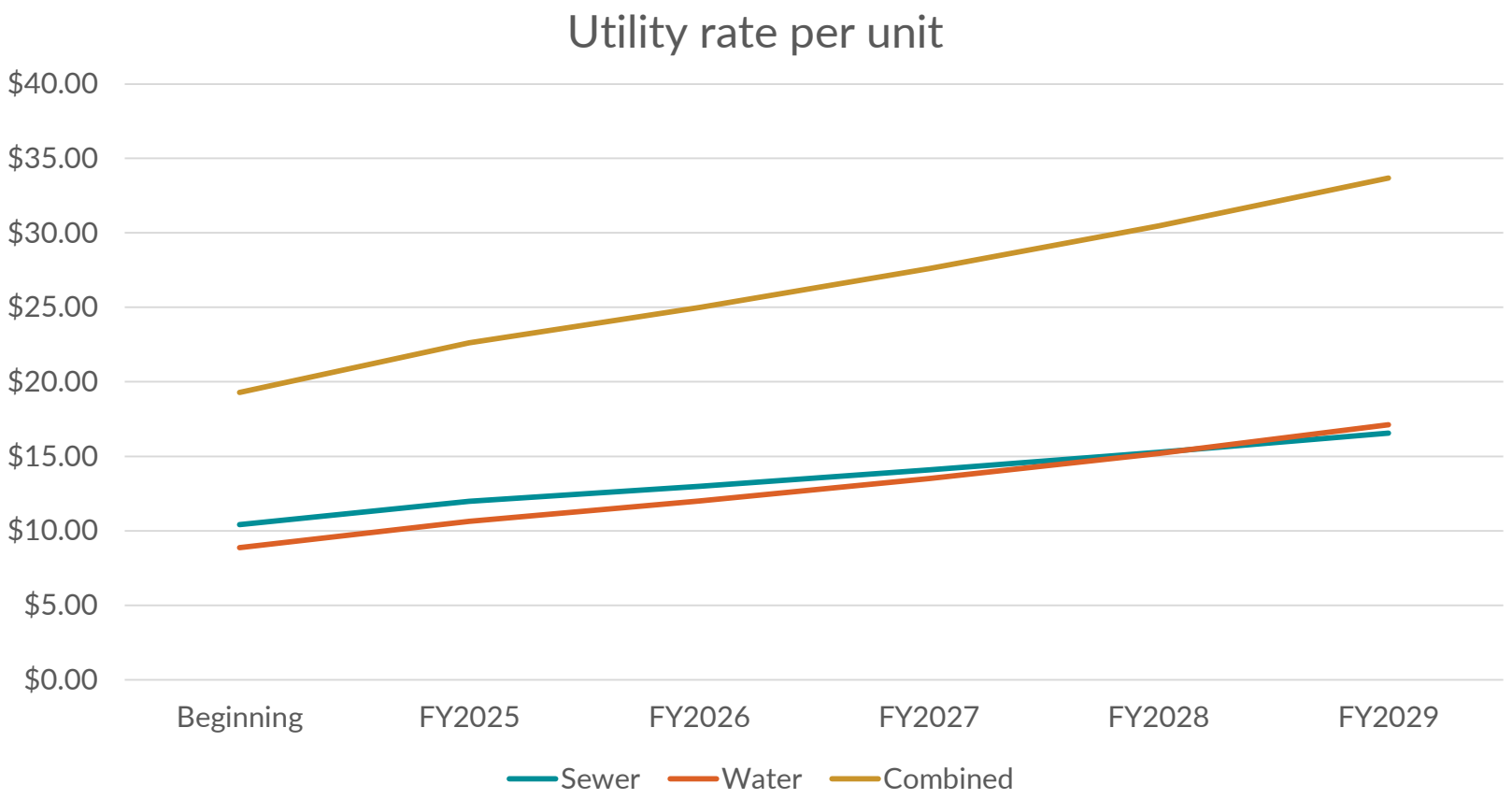
Where Does This Money Go?



Alternative #1: Slower Band-Aid

Water rate (orange) increases 20% in year one, but a 12.6% annual rate increase thereafter.

Sewer rate (green) increases 15% in year one, but an 8.4% annual rate increase thereafter.



Proposed vs Alternative #1 (Slower Band-Aid)

	Proposed	Alternative #1
Initial increase (W/S)	40%/23%	20%/15%
Years 2-5 increase	5%/5%	12.62%/8.4%
Combined rate in 2029	$30.77/unit	$33.68/unit
Effective increase to “average” user	24%, then 4% thereafter	13%, then 8-9% thereafter
Effective increase on high-volume user	27%, then 5% thereafter	15%, then 9-11% thereafter
Ending working Capital	$11.1M	$11.1M

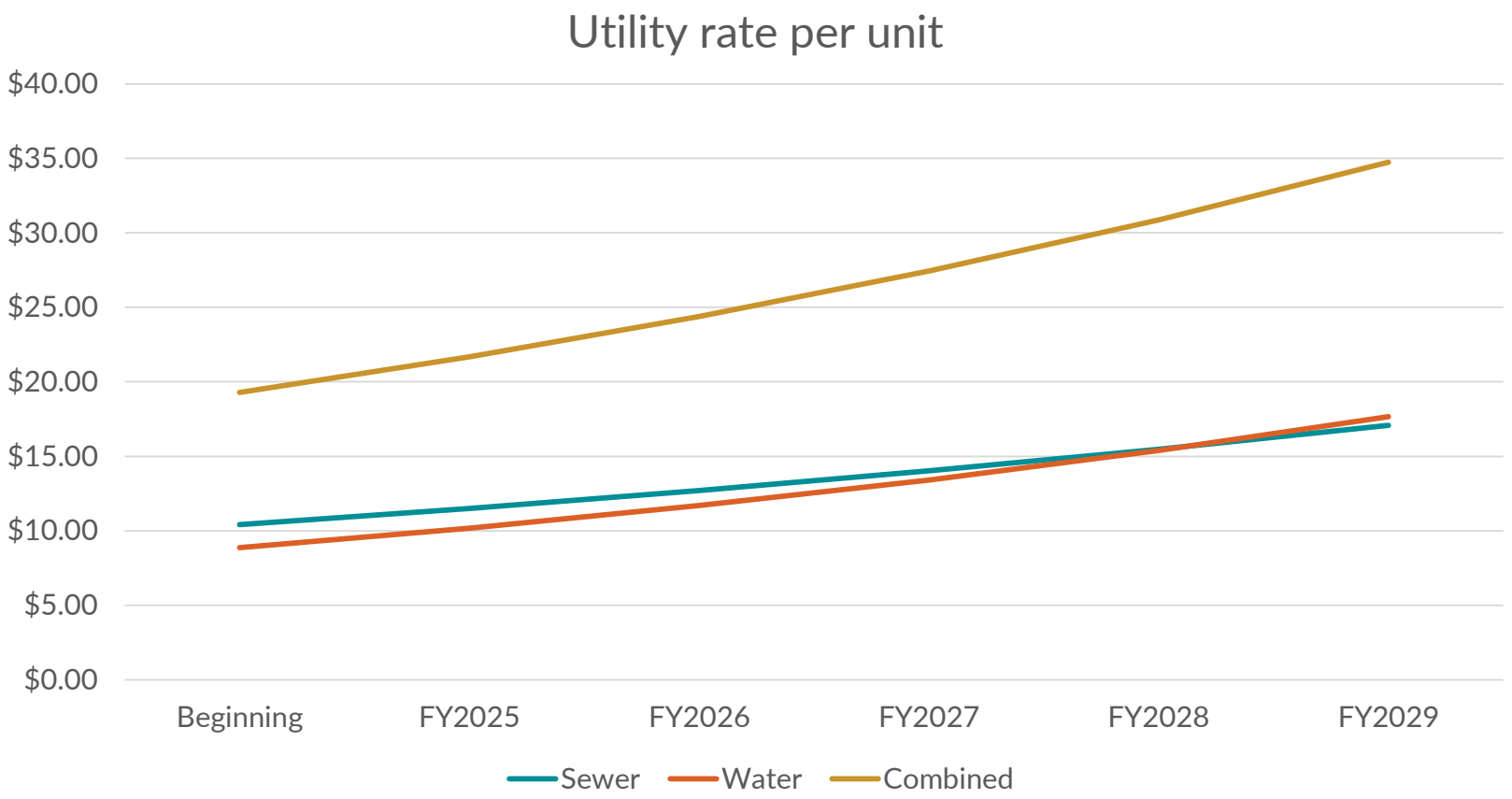
Alternative #1 summary

- Year 1 is less painful.
- Years 2-5 is more painful.
- Combined rate is $3.26 higher in year 5.
- Over 5 years, costs **$30 less** to average user and **$60** less to the high volume user.
- **In year 6, costs $178 and $357 more, respectively**

Alternative #2: No Band-Aid

Water rate (orange) increases 15% every year for 5 years.

Sewer rate (green) increases 10.4% every year for 5 years.



Proposed vs Alternative #2 (No Band-Aid)

	Proposed	Alternative #2
Initial increase (W/S)	40%/23%	15%/10.4%
Years 2-5 increase	5%/5%	15%/10.4%
Combined rate in 2029	$30.77/unit	$34.76/unit
Effective increase to "average" user	24%, then 4% thereafter	10-11% per year
Effective increase on high-volume user	27%, then 5% thereafter	11-13% per year
Ending working Capital	$11.1M	$11.1M

Alternative #2 summary

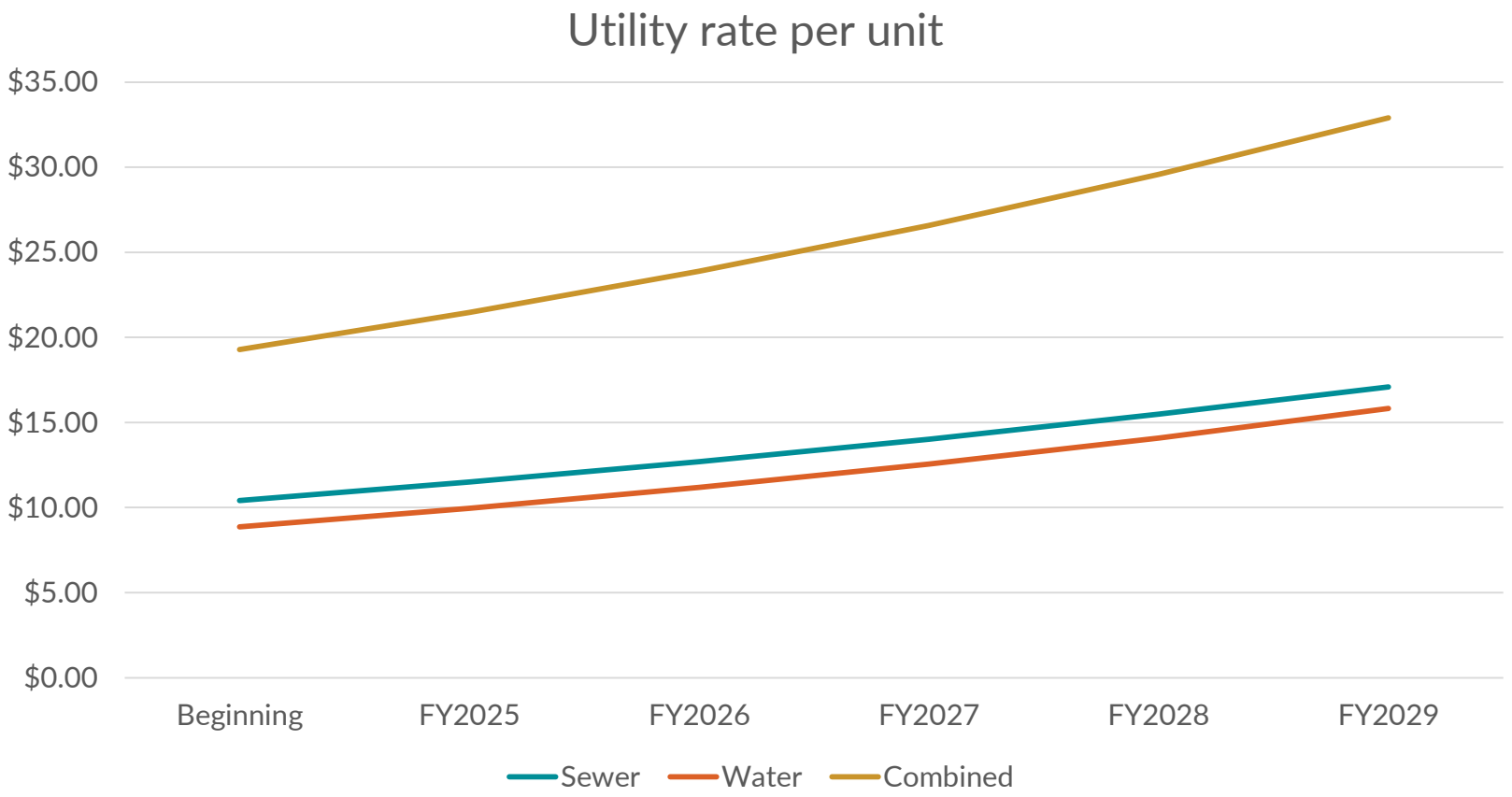
- Year 1 is less painful.
- Years 2-5 is more painful.
- Combined rate is $4.34 higher in year 5.
- Over 5 years, costs **$41 less** to average user and **$82 less** to the high volume user.
- **In year 6, costs $248 and $497 more, respectively**

Alternative #3: No Band-Aid and Double the RTS

Water and Sewer RTS charges double.

Water rate (orange) increases 12.3% every year for 5 years.

Sewer rate (green) increases 7.6% every year for 5 years.



Proposed vs Alternative #3 (No Band-Aid and Double the RTS)

	Proposed	Alternative #3
Initial increase (W/S)	40%/23%	12.3%/7.6%
Years 2-5 increase	5%/5%	12.3%/7.6%
Combined rate in 2029	$30.77/unit	$30.84/unit
Effective increase to "average" user	24%, then 4% thereafter	18%, then 7% thereafter
Effective increase on high-volume user	27%, then 5% thereafter	14%, then 8-9% thereafter
Ending working Capital	$11.1M	$11.1M

Alternative #3 summary

- Year 1 is less painful.
- Years 2-5 is more painful.
- Combined rate is $0.07 higher in year 5.
- Over 5 years, costs **$135 more** to average user and **$472 less** to the high volume user.
- **In year 6, costs $43 and $86 less respectively**

Option Summary

	Proposed	Alternative #1	Alternative #2	Alternative #3
Initial increase (W/S)	40%/23%	20%/15%	15%/10.4%	12.3%/7.6%
Change to RTS	None	None	None	100% increase Yr 1
Years 2-5 increase	5%/5%	12.6%/8.4%	15%/10.4%	12.3%/7.6%
Combined rate in 2029	$30.77/unit	$33.68/unit	$34.76/unit	$30.84/unit
Effective increase to "average" user	24%, then 4% thereafter	13%, then 8-9% thereafter	10-11% per year	18%, then 7% thereafter
Year 6 increase (decrease) compared to proposed rates – average user	n/a	$178	$248	($43)
Effective increase on high-volume user	27%, then 5% thereafter	15%, then 9-11% thereafter	10-12% per year	14%, then 8-9% thereafter
Year 6 increase (decrease) compared to proposed rates – average user	n/a	$357	$497	($86)
Ending working Capital	$11.1M	$11.1M	$11.1M	$11.1M

Next Steps

Decide which rate change is most appealing

Continue updating the capital plan

Continue updating the model on an annual basis as part of the budget process.

Thank you for the opportunity to serve the Scio Township.

For more information, please contact:

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