Water and Wastewater Rates

City Council Workshop

November 6, 2014

City Utilities Operations Costs and Funding

- Prescott's water and wastewater systems are highly complex due to terrain and the pattern of City development
- The ages and deterioration of many components of these systems, added to their complexities, are driving the higher capital, operations, and maintenance costs identified in this and previous rate analyses
- The escalation of utilities costs in Arizona and the nation is a fact; this will continue, with annual increases of 5-10% common
- The drop in water sales has reduced revenue but not the majority of costs; wastewater treatment processes have been adversely affected
- Water and wastewater are operated as separate City enterprise funds
- Water sales and wastewater charges (through rates) and utilities development/impact fees are the only sources of revenue for these enterprise funds
- Use of this revenue is restricted to our water and wastewater systems
- If costs rise, after any new efficiencies which can be realized, rates and fees must also increase to adequately fund expenses

Prudent Utility Financial Planning

- Revenue is sufficient to maintain the financial stability of the Water and Wastewater Funds
  - Fund annual operation and maintenance (O&M) expenses, debt service payments and capital improvements
  - Meet annual debt service coverage targets with adequate reserves
  - Exceed annual operating reserve targets with adequate reserves

Utility Financial Planning Criteria

- Debt service coverage ratio:

Revenues less O&M expenses

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Annual debt service payment

  – Target of 150% if **including** revenue from development impact fees
  – Target of 125% if **excluding** revenue from development impact fees

Utility Financial Planning Criteria (cont.)

- Cash reserve for operations and maintenance (O&M) – unrestricted end-of-year cash balance:
  - Water Fund – 25% or 90 days of cash O&M
  - Wastewater Fund – 16% or 60 days of cash O&M

WATER FUND

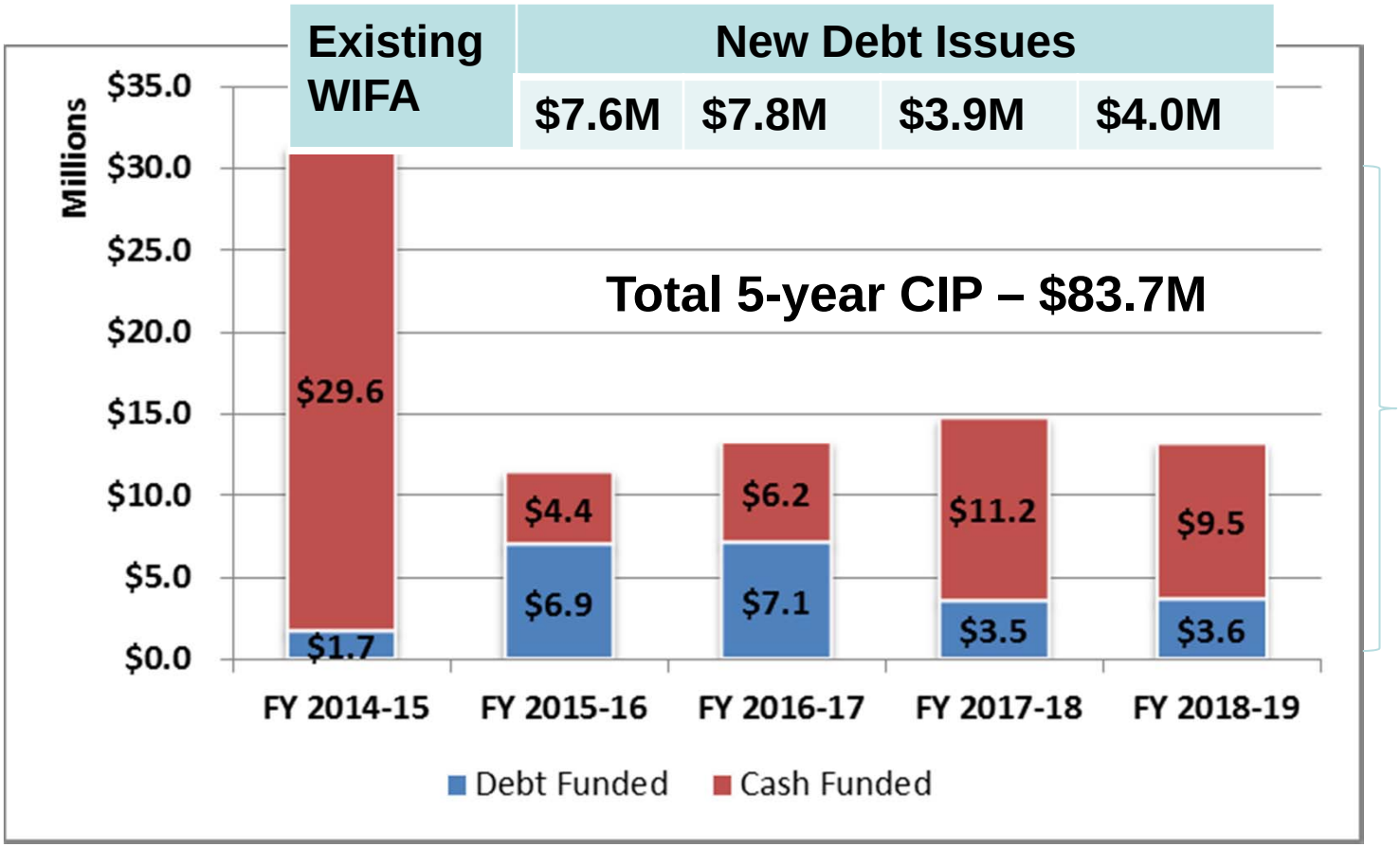
Water Rate Objectives

- Leveling of rate adjustments
  - Avoid sharply varying annual adjustments
- Continue the present conservation/water-use efficiency oriented pricing structure that has proven to be effective
- Provide a stable source of revenue as water use varies
  - Two alternative volume rate structures developed for Council consideration
- Transition to cost of service by customer class over a 3-year period
- Establish an Aquifer Protection Fee to address state and federal water quality mandates
- Update Outside City and Chino Valley rate surcharges

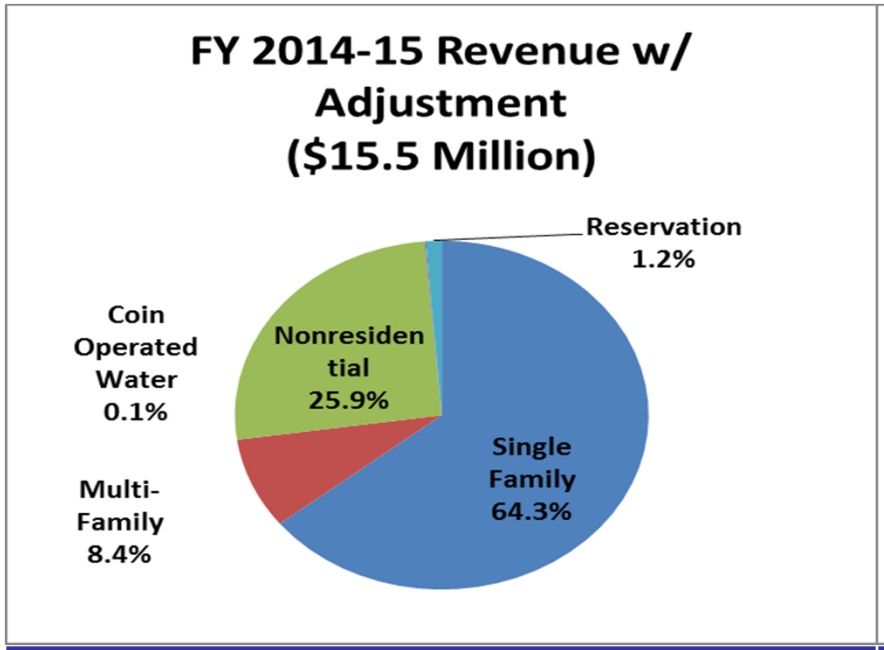
Water Fund

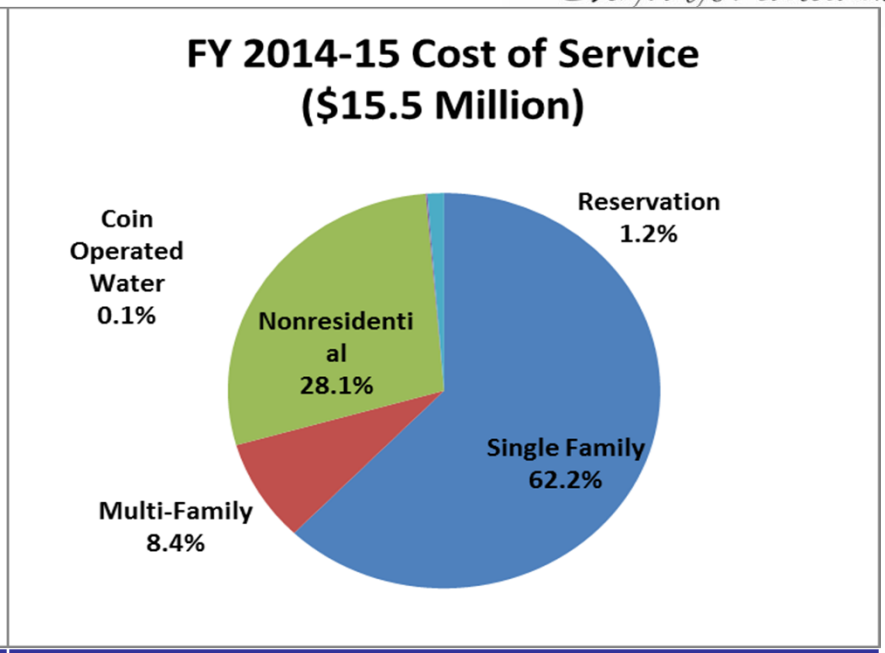
Key Results and Drivers	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Operating Fund					
Proposed Revenue Increases					
Months Effective	6	6	6	6	6
Annual Increases	2.0%	2.0%	2.0%	2.0%	2.0%
Cumulative Increase	2.0%	4.0%	6.1%	8.2%	10.4%
Increase/(Decrease) in Fund Balance	($21,967,519)	$1,472,227	$1,239,452	($2,195,128)	($2,030,870)
Ending Operating Subfund Balance	5,966,949	7,439,176	8,678,628	6,483,500	4,452,630
Operations Sub-Fund Reserve (Target 25%)	73%	84%	95%	68%	45%
Consolidated Water Fund					
Debt Service Coverage Ratio (Target 150%)	438%	379%	324%	286%	260%
Debt Service Coverage Ratio (w/o DIFs - Target 125%)	343%	289%	250%	226%	209%
Increase/(Decrease) in Fund Balance	($22,583,731)	$2,640,206	$691,451	($4,789,376)	($2,996,452)
Beginning Fund Balance	37,193,473	14,609,742	17,249,948	17,941,399	13,152,023
Ending Fund Balance	$14,609,742	$17,249,948	$17,941,399	$13,152,023	$10,155,572

Water Capital Improvement Program



Water Cost of Service





Customer Class	Revenue vs. Cost of Service
Single Family	-2.1%
Multi-Family	0.0%
Nonresidential	2.2%

Water Current Rates

Amount of Water Bill = Base Charge + Consumption Charge
[flat amount] [Gals. Used x Rate]

Base Charge

Meter Size	Current Rates
5/8"	$12.90
3/4"	13.60
1"	15.40
1 1/2"	19.70
2"	25.00
3"	37.20
4"	54.60
6"	98.10
8"	150.40

Usage by Tier

		Single Family	Multi Family*	Non Residential (thousand gallons) 5/8" & 3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
Tier 1	First	3,000	1,700	6	15	30	48	96	150	300	480
Tier 2	Next	7,000	3,300	22	55	110	176	352	550	1,100	1,760
Tier 3	Next	10,000	5,000	32	80	160	256	512	800	1,600	2,560
Tier 4	Over	20,000	10,000	60	150	300	480	960	1,500	3,000	4,800

*Volume Water Usage Allowances per Dwelling Unit

Consumption Rate

	Single Family	Multi Family	Non-Residential
Tier 1	$3.21	$2.58	$2.93
Tier 2	4.83	3.89	4.40
Tier 3	7.25	5.83	6.60
Tier 4	14.49	11.68	13.21

In addition to these rates:

- $0.85 per 1,000 gallons Alternative Water Fee for all customers
- Surcharge of 39% for customers in unincorporated Yavapai County,
- Surcharge of 30% for those in the Town of Chino Valley

Proposed Water Base Charge

Proposed Water Base Charge (per bill)

Meter Size	Meters	Current	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
5/8"	19,098	$12.90	$13.16	$13.42	$13.69	$13.96	$14.24
3/4"	22	13.60	13.87	14.15	14.43	14.72	15.01
1"	1,722	15.40	15.71	16.02	16.34	16.67	17.00
1 1/2"	288	19.70	20.09	20.49	20.90	21.32	21.75
2"	454	25.00	25.50	26.01	26.53	27.06	27.60
3"	50	37.20	37.94	38.70	39.47	40.26	41.07
4"	24	54.60	55.69	56.80	57.94	59.10	60.28
6"	12	98.10	100.06	102.06	104.10	106.18	108.30
8"	3	150.40	153.41	156.48	159.61	162.80	166.06
Percent Change			2%	2%	2%	2%	2%

Water Rate Alternatives

- Both proposed alternatives
  - Transition to cost of service over three-years
  - Proposed monthly service charges are the same
- Alternative 1 – Maintain Current Structure
  - Maintain current water allocations by customer class and tier
    - Tier 1 (47%), Tier 2 (39%), Tier 3 (11%), and Tier 4 (3%)
  - Updated tier pricing
- Alternative 2 – Enhanced Revenue Stability
  - Update water allocations by customer class and tier targeting water sales
    - Tier 1 (49%), Tier 2 (41%), Tier 3 (8%) and Tier 4 (2%)
  - Updated tier pricing

Proposed Water Usage Tiers by Customer Class

Usage by Tier

		Single Family	Multi Family*	5/8" & 3/4"	1"	1 1/2"	2"	3"	4"	6"	8"
				Non-Residential (thousand gallons)							
Current Rates		**Gallons**									
Tier 1	First	3,000	1,700	6	15	30	48	96	150	300	480
Tier 2	Next	7,000	3,300	22	55	110	176	352	550	1,100	1,760
Tier 3	Next	10,000	5,000	32	80	160	256	512	800	1,600	2,560
Tier 4	Over	20,000	10,000	60	150	300	480	960	1,500	3,000	4,800
Rates Alt. 1											
Tier 1	First	3,000	1,700	6	15	30	48	96	150	300	480
Tier 2	Next	7,000	3,300	22	55	110	176	352	550	1,100	1,760
Tier 3	Next	10,000	5,000	32	80	160	256	512	800	1,600	2,560
Tier 4	Over	20,000	10,000	60	150	300	480	960	1,500	3,000	4,800
Rates Alt 2.											
Tier 1	First	3,000	1,800	7	18	35	56	112	175	350	560
Tier 2	Next	8,000	5,200	30	75	150	240	480	750	1,500	2,400
Tier 3	Next	14,000	8,000	25	63	125	200	400	625	1,250	2,000
Tier 4	Over	25,000	15,000	62	155	310	496	992	1,550	3,100	4,960

*Volume Water Usage Allowances per Dwelling Unit

Water Volume Charges Alternative 1

Customer Class	Current FY 2013-14	Alternative 1 - Current Structure				
		1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Inside City						
Single Family						
Tier 1	$3.21	$3.21	$3.23	$3.24	$3.30	$3.37
Tier 2	4.83	4.83	4.85	4.86	4.96	5.06
Tier 3	7.25	7.25	7.27	7.29	7.44	7.58
Tier 4	14.49	14.49	14.54	14.58	14.87	15.17
Multi-Family						
Tier 1	$2.58	$2.76	$2.85	$2.93	$2.99	$3.05
Tier 2	3.89	4.14	4.28	4.40	4.48	4.57
Tier 3	5.83	6.21	6.41	6.59	6.72	6.86
Tier 4	11.68	12.42	12.83	13.19	13.45	13.72
Non-Residential						
Tier 1	$2.93	$3.15	$3.39	$3.54	$3.61	$3.68
Tier 2	4.40	4.73	5.09	5.31	5.42	5.52
Tier 3	6.60	7.09	7.63	7.97	8.12	8.29
Tier 4	13.21	14.18	15.26	15.93	16.25	16.57
Misc. Charges						
Alt Water Fee	$0.85	$0.87	$0.88	$0.89	$0.91	$0.93
Construction/Hydrant	2.93	3.87	4.33	4.78	4.88	4.97
Coin Operated Water	2.50	2.97	3.21	3.43	3.50	3.57
System Revenue Increase		2%	2%	2%	2%	2%

Water Volume Charges Alternative 2

Customer Class	Current FY 2013-14	Alternative 2 - Enhanced Revenue Stability				
		1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Inside City						
Single Family						
Tier 1	$3.21	$3.30	$3.32	$3.34	$3.41	$3.47
Tier 2	4.83	4.95	4.98	5.01	5.11	5.21
Tier 3	7.25	7.43	7.47	7.52	7.67	7.82
Tier 4	14.49	14.85	14.94	15.03	15.33	15.64
Multi-Family						
Tier 1	$2.58	$2.96	$3.06	$3.16	$3.22	$3.29
Tier 2	3.89	4.44	4.59	4.74	4.83	4.93
Tier 3	5.83	6.66	6.89	7.11	7.25	7.40
Tier 4	11.68	13.32	13.77	14.22	14.50	14.79
Non-Residential						
Tier 1	$2.93	$3.31	$3.58	$3.70	$3.77	$3.85
Tier 2	4.40	4.97	5.37	5.55	5.66	5.77
Tier 3	6.60	7.45	8.06	8.33	8.49	8.66
Tier 4	13.21	14.90	16.11	16.65	16.98	17.32
Misc. Charges						
Alt Water Fee	$0.85	$0.87	$0.88	$0.89	$0.91	$0.93
Construction/Hydrant	2.93	3.87	4.33	4.78	4.88	4.97
Coin Operated Water	2.50	2.97	3.21	3.43	3.50	3.57
System Revenue Increase		2%	2%	2%	2%	2%

Aquifer Protection Fee

- Aquifer Protection Fee: *To provide a dedicated funding source for design, construction, and operation of facilities and implementation of other measures and practices necessary to achieve and maintain water quality mandated by state and federal law applicable to surface, reuse, and recharge assets*
  - New restricted water sub fund to be established

- Recommendation: Fee of $0.70 per 5/8 x ¾-inch water account per month to become effective 1/1/15 projected to generate $250,000 per year

Proposed Aquifer Protection Fee

Aquifer Protection Fee (per bill)

Meter Size	Current	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
5/8"	$0.00	$0.70	$0.71	$0.72	$0.73	$0.74
3/4"	0.00	1.05	1.07	1.08	1.10	1.11
1"	0.00	1.17	1.18	1.20	1.22	1.23
1 1/2"	0.00	2.33	2.37	2.40	2.43	2.47
2"	0.00	3.73	3.79	3.84	3.89	3.95
3"	0.00	7.00	7.10	7.20	7.30	7.40
4"	0.00	11.67	11.83	12.00	12.17	12.33
6"	0.00	23.33	23.67	24.00	24.33	24.67
8"	0.00	37.33	37.87	38.40	38.93	39.47
Percent Change			2%	2%	2%	2%

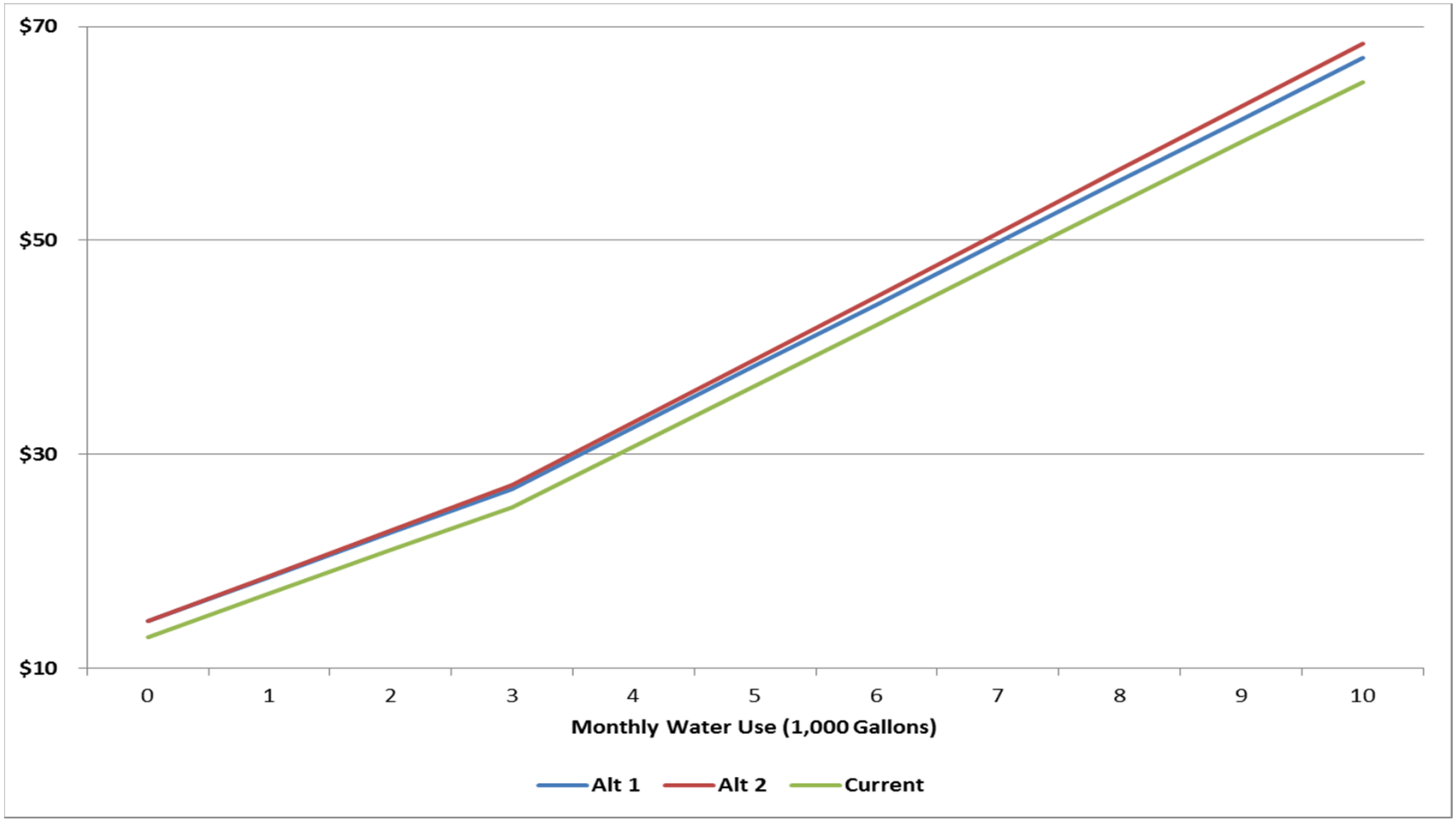
Outside City and Chino Valley Water Rate Surcharges

Description	Current	Updated
Outside City	39%	40%
Chino Valley*	30%	30%
*CVID Contract Limits Surcharge to 30%		

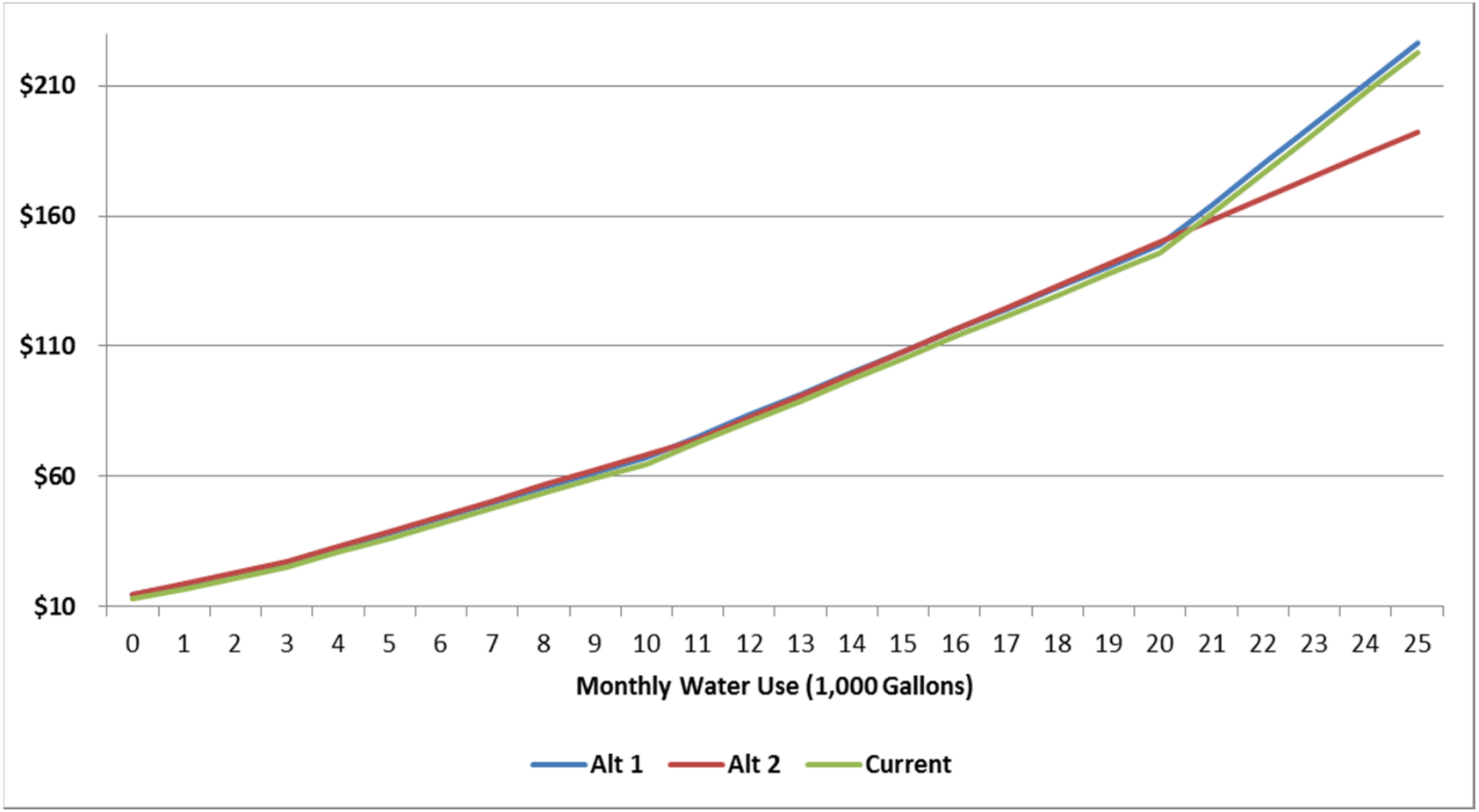
Updated Surcharges

- Calculated following a similar process as was used when current surcharges were previously established
- Updated surcharges to be applied to proposed rates effective 1/1/15

Sample Residential Monthly Water Bill (10,000 gallons)



Sample Residential Monthly Water Bill (25,000 gallons)



WASTEWATER FUND

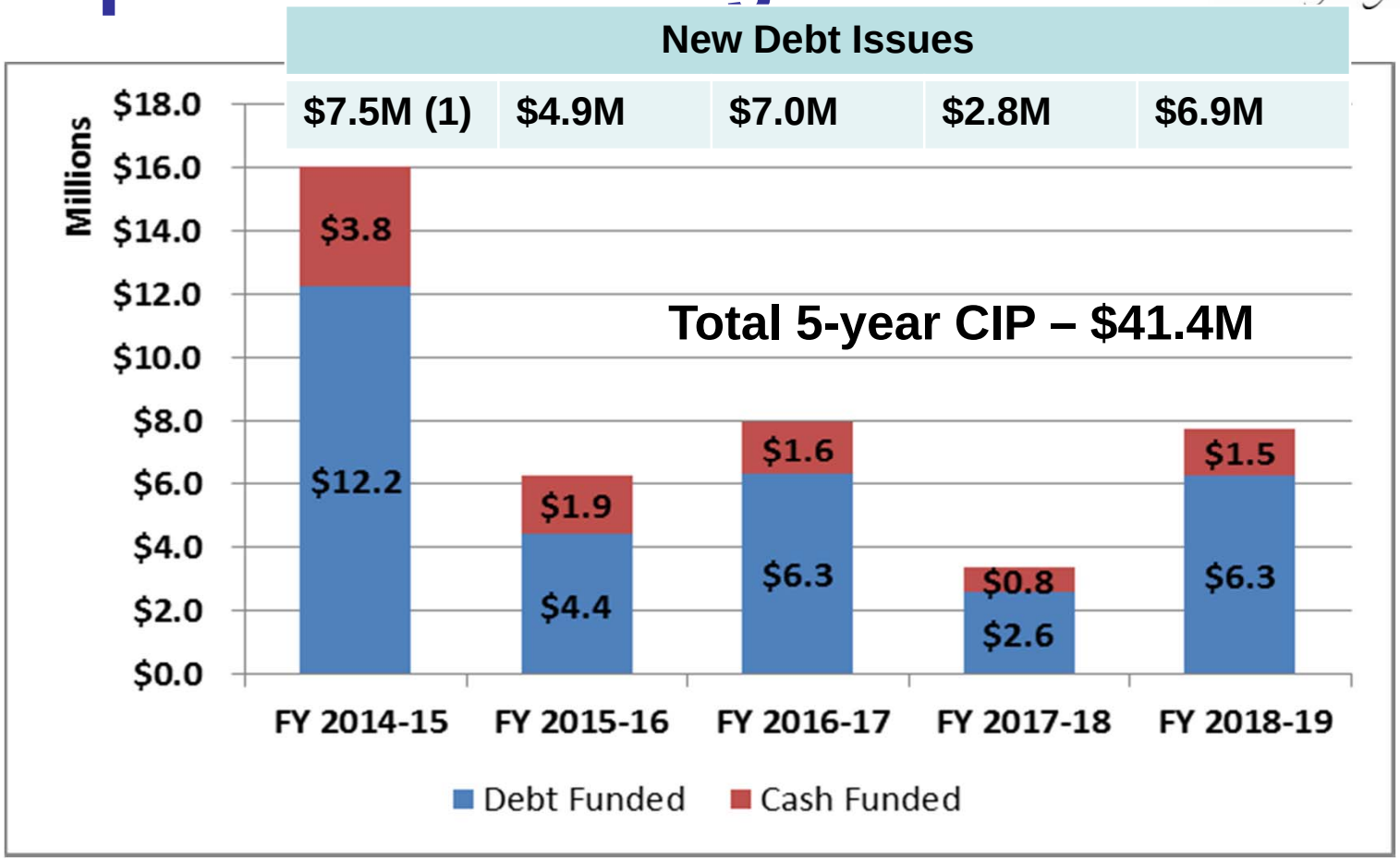
Wastewater Rate Objectives

- Level rate adjustments
  - Avoid sharp annual adjustments
- Transition to cost of service by customer class over a 3-year period
- Evaluate Treated Effluent Rate

Wastewater Fund

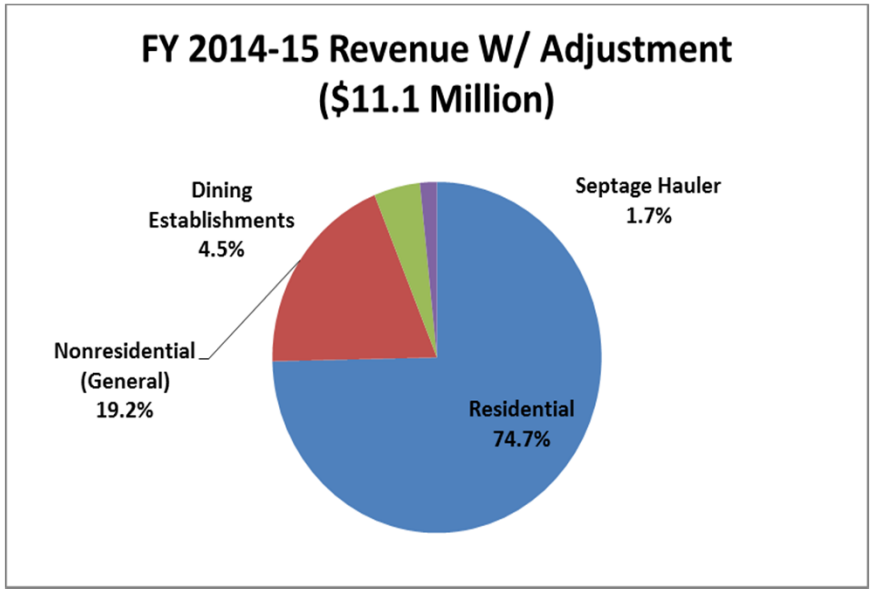
Key Results and Drivers	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19
Operating Fund					
Proposed Revenue Increases					
Months Effective	6	6	6	6	6
Annual Increases	9.0%	5.0%	5.0%	1.0%	1.0%
Cumulative Increase	9.0%	14.5%	20.2%	21.4%	22.6%
Increase/(Decrease) in Fund Balance	($3,588,893)	$2,225,644	$1,611,235	$2,476,729	$1,955,655
Ending Subfund Balance	7,802,648	10,028,292	11,639,527	14,116,256	16,071,911
Operations Sub-Fund Reserve (Target 16%)	134%	166%	187%	219%	241%
Consolidated Wastewater Fund					
Debt Service Coverage Ratio (Target 150%)	154%	160%	164%	169%	159%
Debt Service Coverage Ratio (w/o DIFs - Target 125%)	128%	133%	136%	143%	137%
Increase/(Decrease) in Fund Balance	($1,361,114)	$1,102,520	$1,770,308	$2,975,197	$1,965,094
Beginning Fund Balance	10,466,788	9,105,674	10,208,194	11,978,502	14,953,699
Ending Fund Balance	$9,105,674	$10,208,194	$11,978,502	$14,953,699	$16,918,793

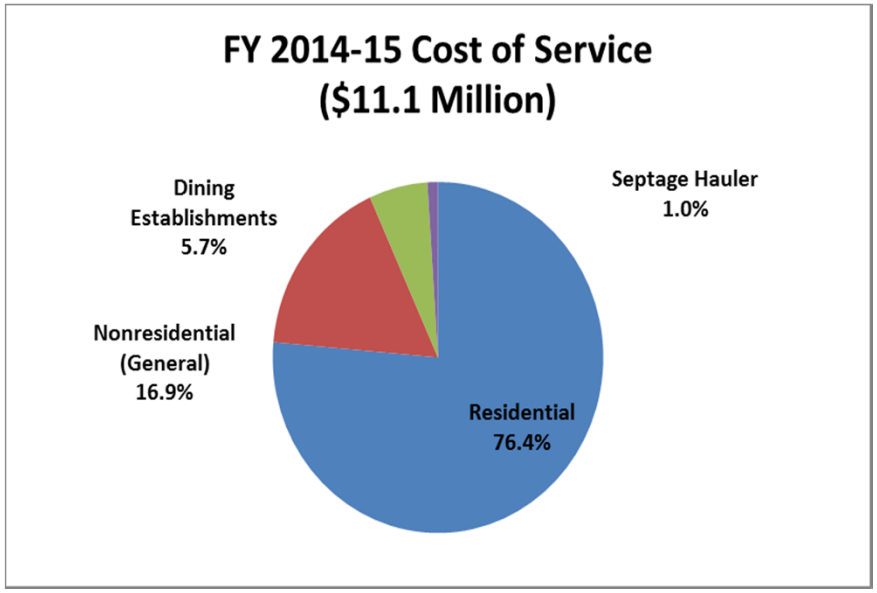
Wastewater Capital Improvement Program



(1) And Existing WIFA loan.

Wastewater Cost of Service





Customer Class	Revenue vs. Cost of Service
Residential	1.7%
Nonresidential (General)	-2.3%
Dining Establishments	1.2%

Wastewater Current Rates

Amount of Sewer Bill = Base Charge + Volume Charge
[flat amount] [per 1,000 gals]

Customer Class	Current Charge
Residential	$19.07
Non-Residential (General)	20.21

Customer Class	Current Charge
Residential	$4.13
Non-Residential (General)	5.18
Restaurant	6.28
Market W/Disposal	5.84
Mortuaries	5.84
Septage Hauler	100.00

$ per 1,000 gallons

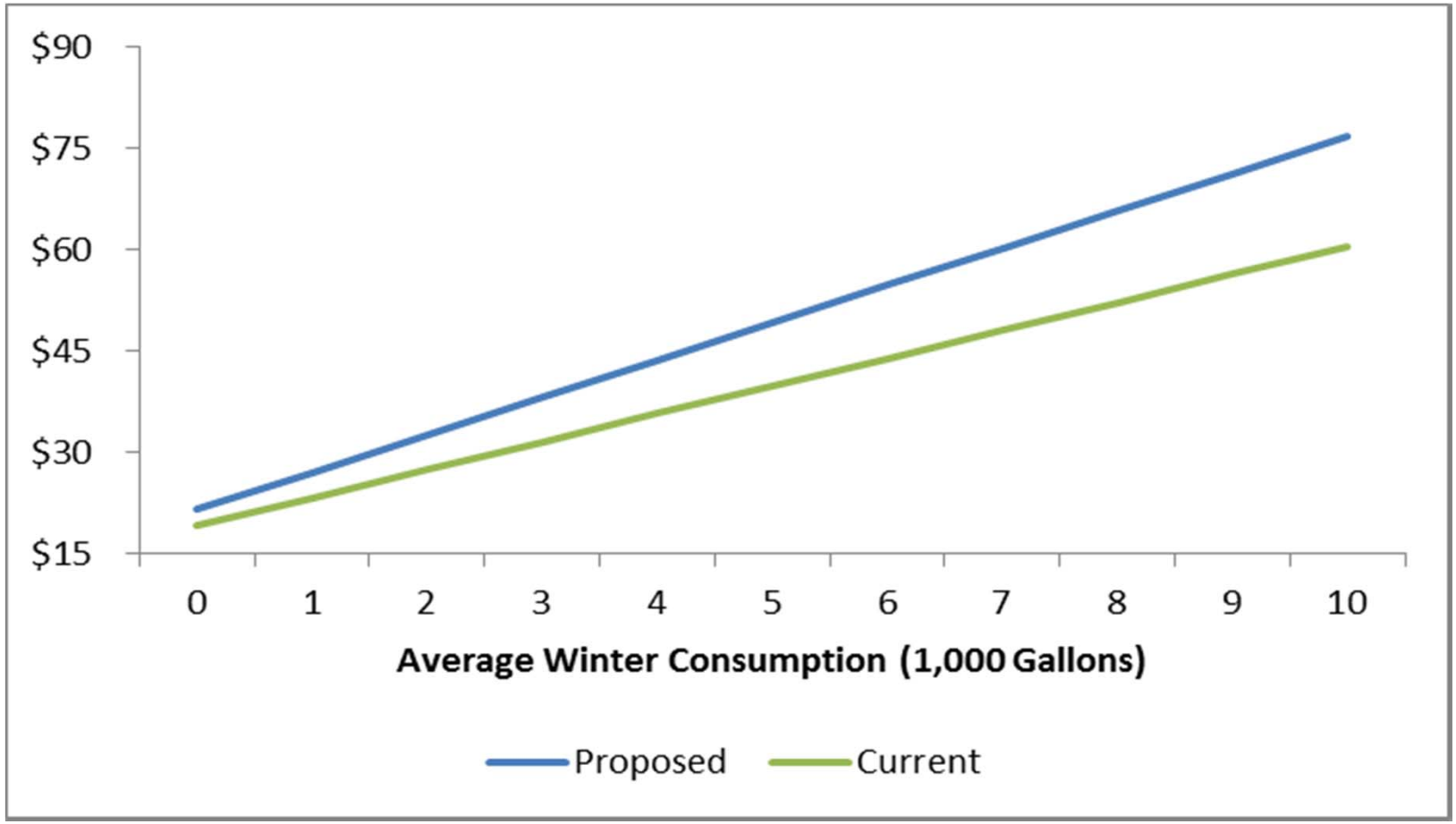
The volume charge is based on average monthly winter consumption.

Proposed Wastewater Rates

Description	Current	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Monthly Service Charge						
Residential	$19.07	$20.12	$20.76	$21.47	$21.68	$21.90
Nonresidential (General)	20.21	20.76	21.10	21.47	21.68	21.90

Description	Current	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Volume Charge per 1,000 gallons						
Residential	$4.13	$4.74	$5.11	$5.52	$5.58	$5.63
Nonresidential (General)	5.18	5.61	5.88	6.17	6.23	6.29
Septage Hauler	100.00	100.00	100.00	100.00	100.00	100.00
Restaurant	6.28	6.28	6.28	6.28	6.28	6.29
Market W/Disposal	5.84	5.84	5.88	6.17	6.23	6.29
Mortuaries	5.84	5.84	5.88	6.17	6.23	6.29

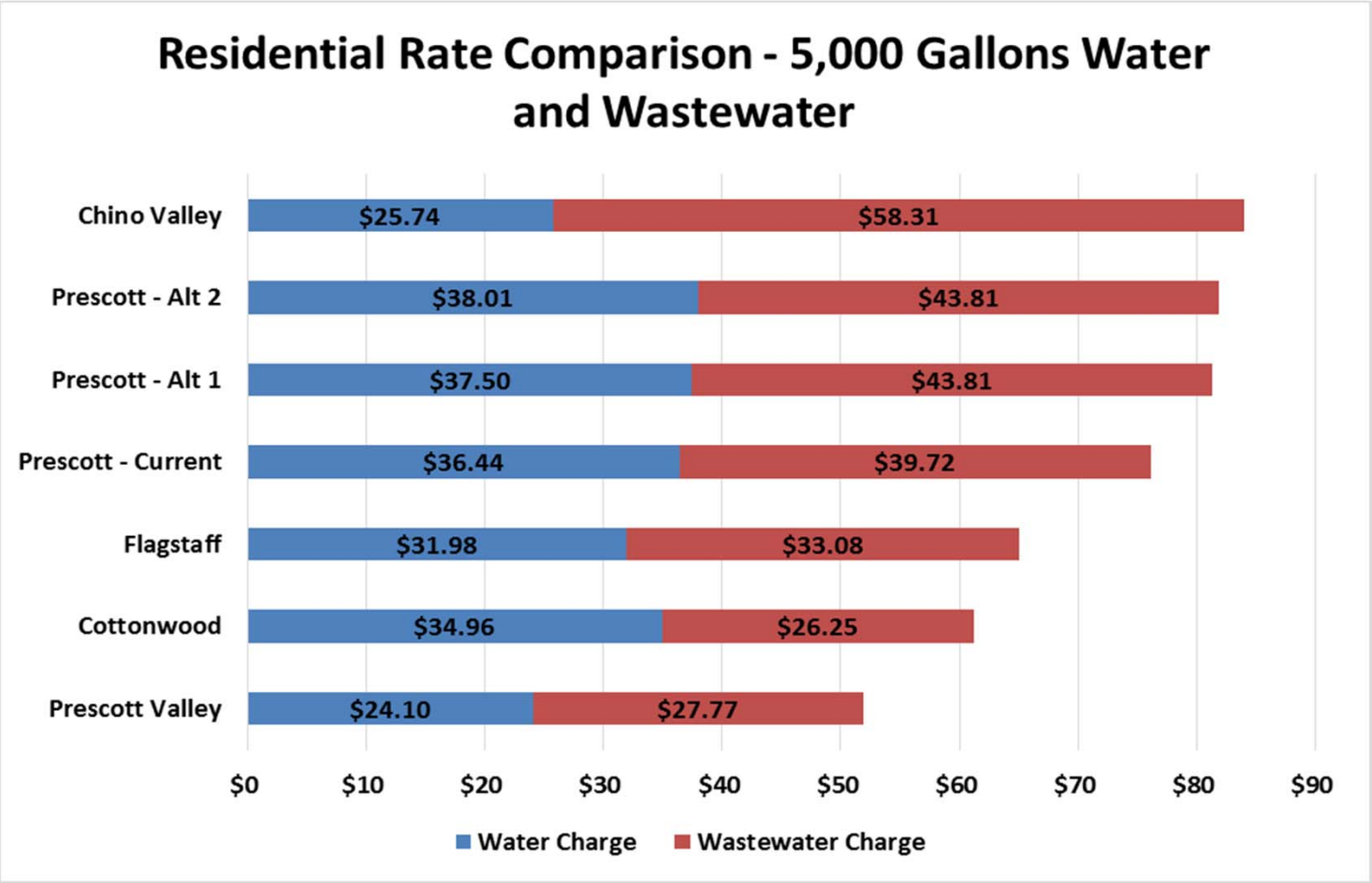
Sample Residential Monthly Wastewater Bill



Sample Combined Water and Wastewater Bill

			Water Alternative 1			Water Alternative 2		
Residential		**Current**	**1/1/2015**	**1/1/2016**	**1/1/2017**	**1/1/2015**	**1/1/2016**	**1/1/2017**
5/8"	*Usage*							
Water	5,000	$36.44	$37.50	$37.92	$38.30	$38.01	$38.45	$38.90
Wastewater	5,000	39.72	43.81	46.29	49.07	43.81	46.29	49.07
Total		**$76.16**	**$81.31**	**$84.21**	**$87.37**	**$81.82**	**$84.74**	**$87.97**
	% Increase		6.8%	3.6%	3.7%	7.4%	3.6%	3.8%
5/8"								
Water	25,000	$222.54	$224.00	$225.17	$226.20	$189.13	$190.51	$192.04
Wastewater	15,000	81.02	91.19	97.36	104.27	91.19	97.36	104.27
Total		**$303.56**	**$315.19**	**$322.53**	**$330.47**	**$280.32**	**$287.87**	**$296.31**
	% Increase		3.8%	2.3%	2.5%	-7.7%	2.7%	2.9%
Non-Residential								
2"								
Water	24,000	$115.72	$125.71	$132.28	$136.69	$129.55	$136.84	$140.53
Wastewater	15,000	97.91	104.96	109.23	114.02	104.96	109.23	114.02
Total		**$213.63**	**$230.67**	**$241.51**	**$250.71**	**$234.51**	**$246.07**	**$254.55**
	% Increase		8.0%	4.7%	3.8%	9.8%	4.9%	3.4%
2"								
Water	65,000	$295.69	$317.39	$336.25	$348.41	$315.87	$335.81	$345.37
Wastewater	50,000	279.21	301.42	314.88	329.97	301.42	314.88	329.97
Total		**$574.90**	**$618.81**	**$651.13**	**$678.38**	**$617.29**	**$650.69**	**$675.34**
	% Increase		7.6%	5.2%	4.2%	7.4%	5.4%	3.8%
4"								
Water	450,000	$2,196.60	$2,350.36	$2,500.13	$2,594.44	$2,404.86	$2,567.88	$2,644.19
Wastewater	125,000	667.71	722.42	755.55	792.72	722.42	755.55	792.72
Total		**$2,864.31**	**$3,072.78**	**$3,255.68**	**$3,387.16**	**$3,127.28**	**$3,323.43**	**$3,436.91**
	% Increase		7.3%	6.0%	4.0%	9.2%	6.3%	3.4%

Comparison with Other Municipalities



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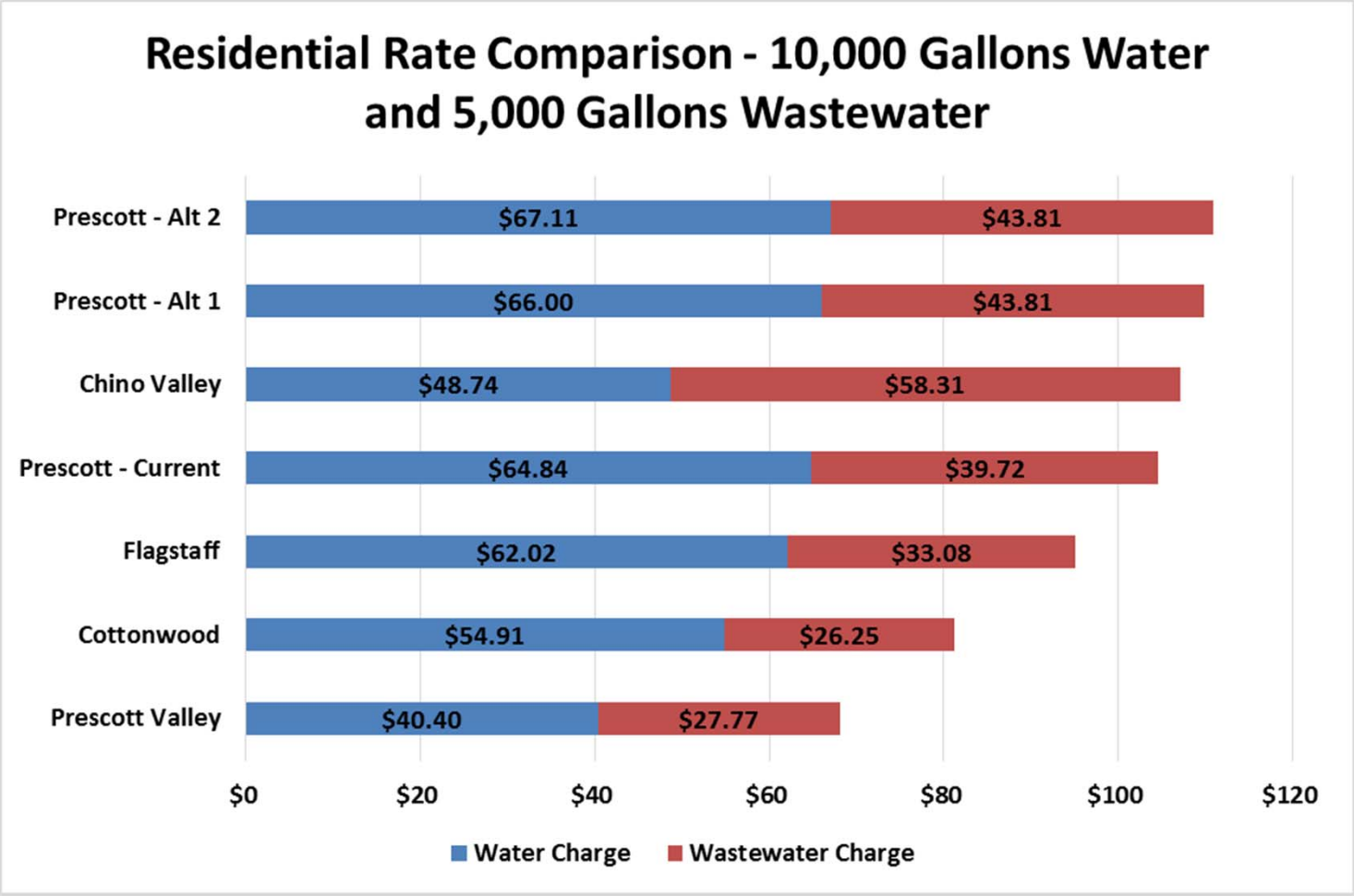

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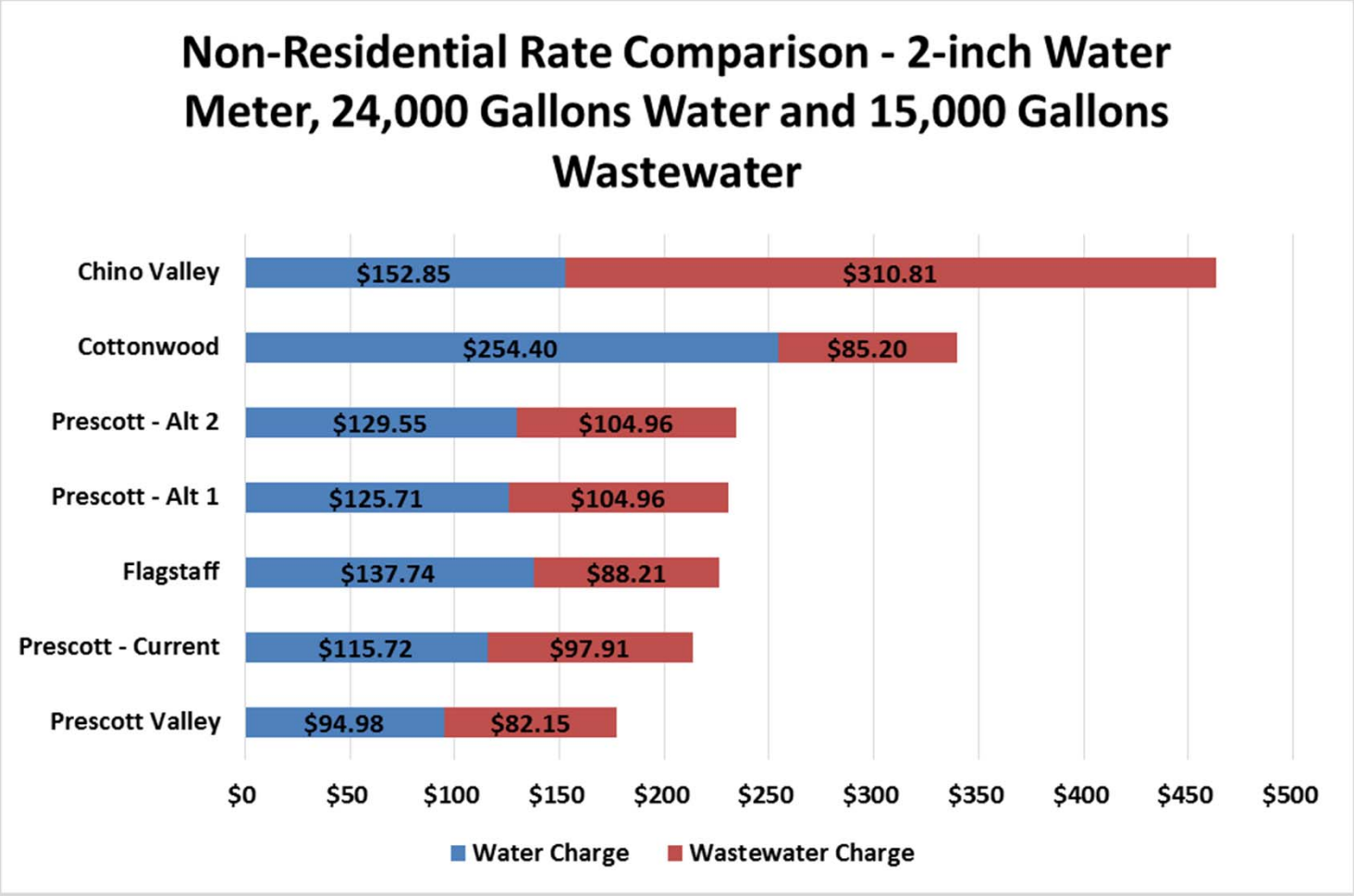

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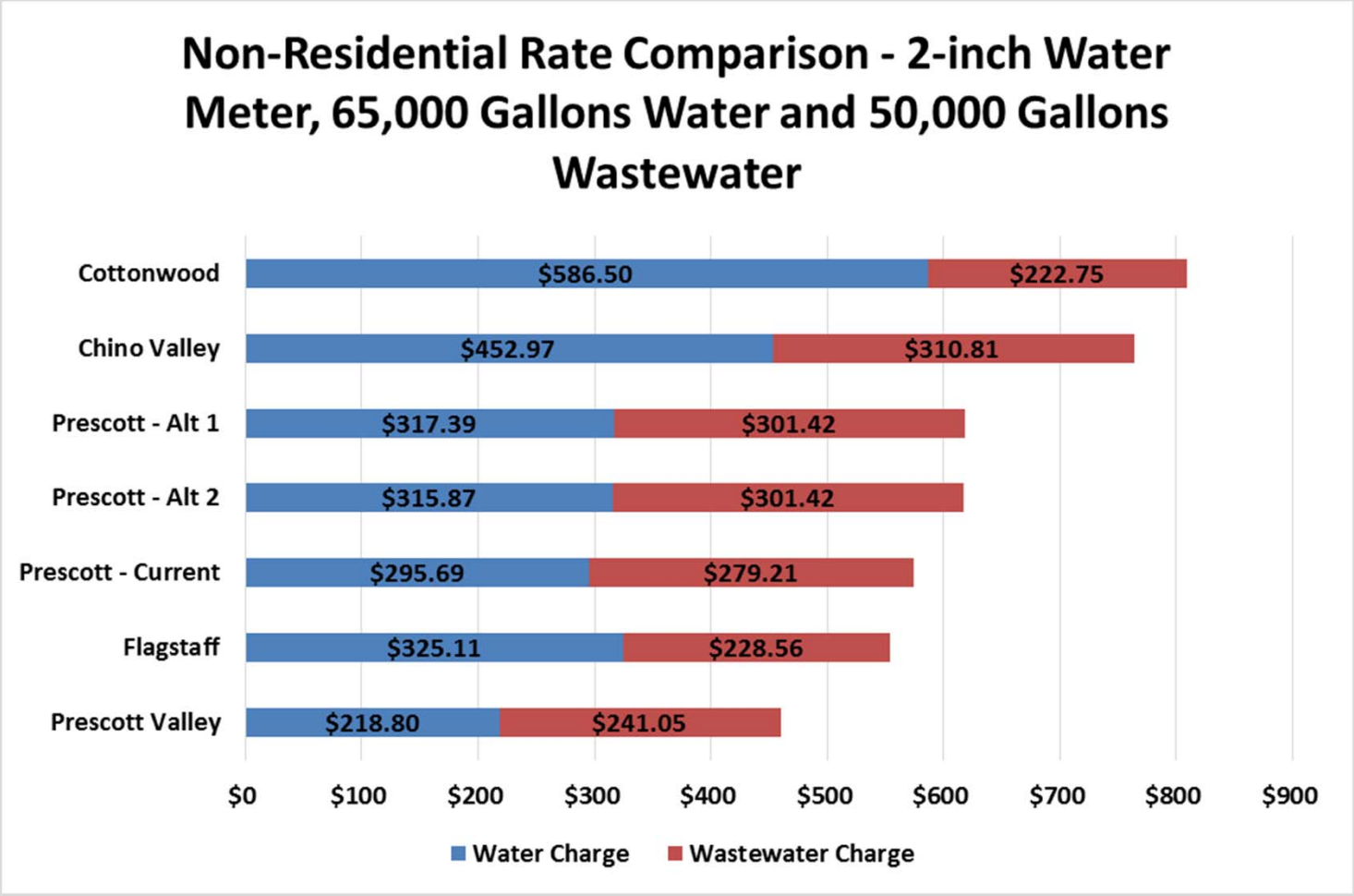
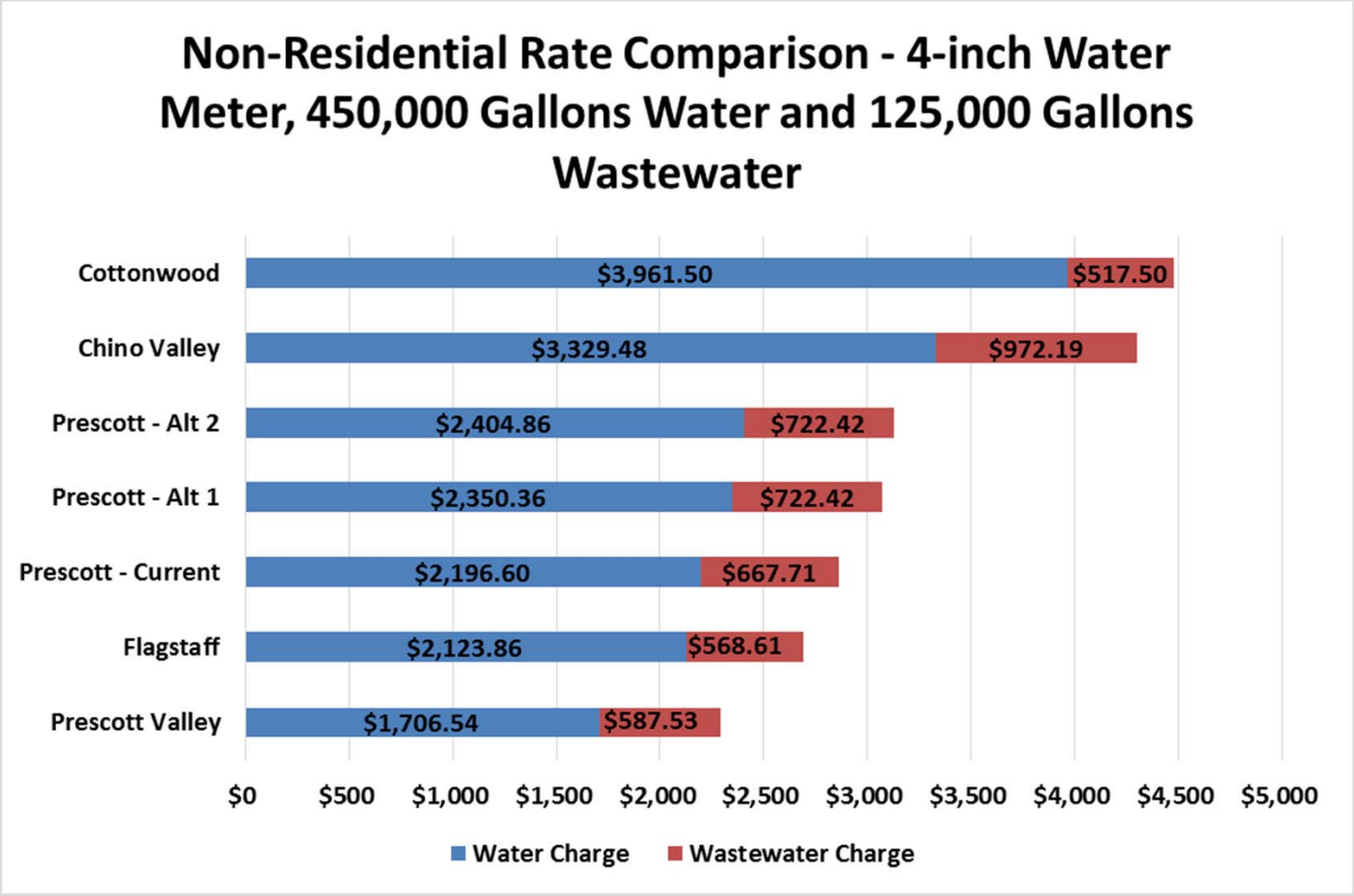
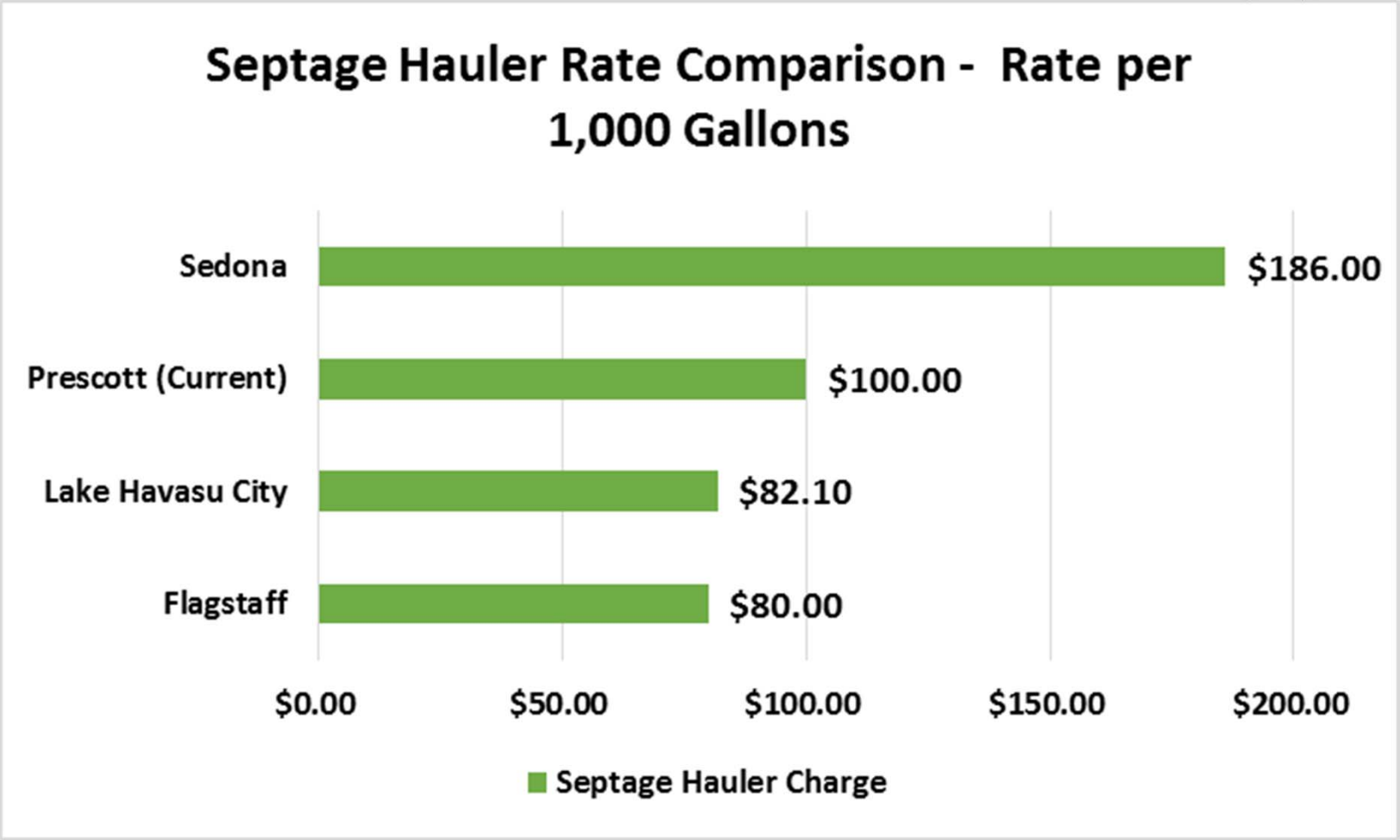


Comparison with Other Municipalities



Septage Hauler Comparison



Treated Effluent Customers and Water Sales

Effluent Customer	FY 2014-15 Projected Acre-Feet Sales	Contract Expiration	Rate per Acre-Foot	Annual Rate Adjustment per Contract
Hanson	57	12/9/2018	$354	Inflation
Prescott Lakes	384	2/27/2016	345	Inflation - 2% minimum, 6% maximum
Antelope Hills	677	None	345	Same as Prescott Lakes
Other	5	None	500	

Proposed Treated Effluent Rate

Description	Current	1/1/2015	1/1/2016	1/1/2017	1/1/2018	1/1/2019
Non-Contract Effluent Rate ($ per Acre-Ft)	$500	$626	$704	$783	$861	$939

Utility	2014 Effluent Rates (per Acre-ft)
Flagstaff	$1,082
Phoenix	878
Prescott (Current)	**500**
Peoria	375
Cottonwood	316

Questions Submitted

1. Cost of service and what costs are included?
2. Water/wastewater charge rebates for economic development?
3. Basis for different single-family and multi-family residential water tiers per unit?
4. Do other utilities base water use per bedroom rather than per dwelling unit?
5. Why target effluent at 70% and not a higher percent?

Questions Submitted Cont.

6. How is the $1,100 per acre-foot effluent target calculated?
7. Why not use the marginal cost of future water supplies as basis for treated effluent rate?
8. What is the best effluent price to encourage conservation?
9. Why should the City price effluent below the total potable water cost?
10. Adjustments to contracted effluent rates tied to costs increases in treating effluent?

Recap of Key Points

- The effect of the City's very complex water and wastewater systems on rates cannot be overemphasized - it is simply a fact of life in Prescott that utilities services here will be higher than in many other cities
- The City's water and wastewater utilities are operated as enterprise funds; to remain solvent, revenue in these separate "business units," through rates and fees, must be adequate to meet expenses
- The increases identified in this update were anticipated in previous rate studies, and are still needed

Recap of Key Points
(cont.)

- Deterioration of public infrastructure (roads, utilities, facilities) due to deferral of maintenance and rehabilitation has been and continues to be a national problem; the cost to reverse it is staggering
- It is unrealistic to expect federal or state governments to solve our utilities funding challenges
- CPI aside, rates must rise until the aged systems (consisting of numerous deteriorated capital assets with services lives of as long as 50 years) are rehabilitated and then funding is kept at levels adequate to replace them again in the long term future when those service lives are again exhausted

Utility Rate-Setting Process

10/3/2014	Advertisement (ARS 9-499.15)	Notification placed on the City's webpage informing the public of possible adjustments to water and wastewater rates.
10/7/2014	Council Workshop	Presentation by Raftelis Financial Consultants on the Utility Rates Update. Discussion of rate adjustments necessary to fund Fiscal Years 15-19 Water and Wastewater capital and operational expenses; presentation of the schedule for the rate-setting public process.
10/14/2014	Council Voting Meeting (ARS 9-511.01)	Presentation and direction to proceed with rate-setting process and/or other direction. Adoption of notice of intent to adjust rates; set a public hearing; and release the public report.
10/28/2014	Public meeting with utilities customers	Public Meeting #1 to present proposed rates and receive comments.
11/04/2014	Council Workshop	Presentation by Raftelis Financial Consultants on the Utility Rate Update and Follow Up Discussion w/ City Council
11/6/2014	Public meeting with utilities customers	Public Meeting #2 to present proposed rates and receive comments.
11/18/2014	Council Voting Meeting (ARS 9-511.01)	Public hearing on the proposed rates.
12/2/2014	Council Voting Meeting (ARS 9-511.01)	Council consideration of adoption of an ordinance setting adjusted water and wastewater rates.
1/1/2015	New rates in effect (ARS 9-511.01)	Ordinance setting new rates becomes effective 30 days after adoption.

CITY COUNCIL QUESTIONS AND DISCUSSION

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