



August 13<sup>th</sup>, 2020

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# DRAFT RESULTS AND RECOMMENDATIONS WATER AND WASTEWATER COST OF SERVICE AND RATE DESIGN STUDY



# AGENDA

PROJECT TEAM & RESOURCES

METHODOLOGY

DRAFT STUDY RESULTS

QUESTIONS

# Project Team & Resources

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# NEWGEN STRATEGIES AND SOLUTIONS (NEWGEN)

Management and economic consulting company specializing in municipalities and municipal utilities.



NewGen applies our expertise and delivers high impact solutions through our diverse and integrated market perspectives, resulting in effective decision-making and implementation



# NEWGEN PROJECT TEAM



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# Study Methodology

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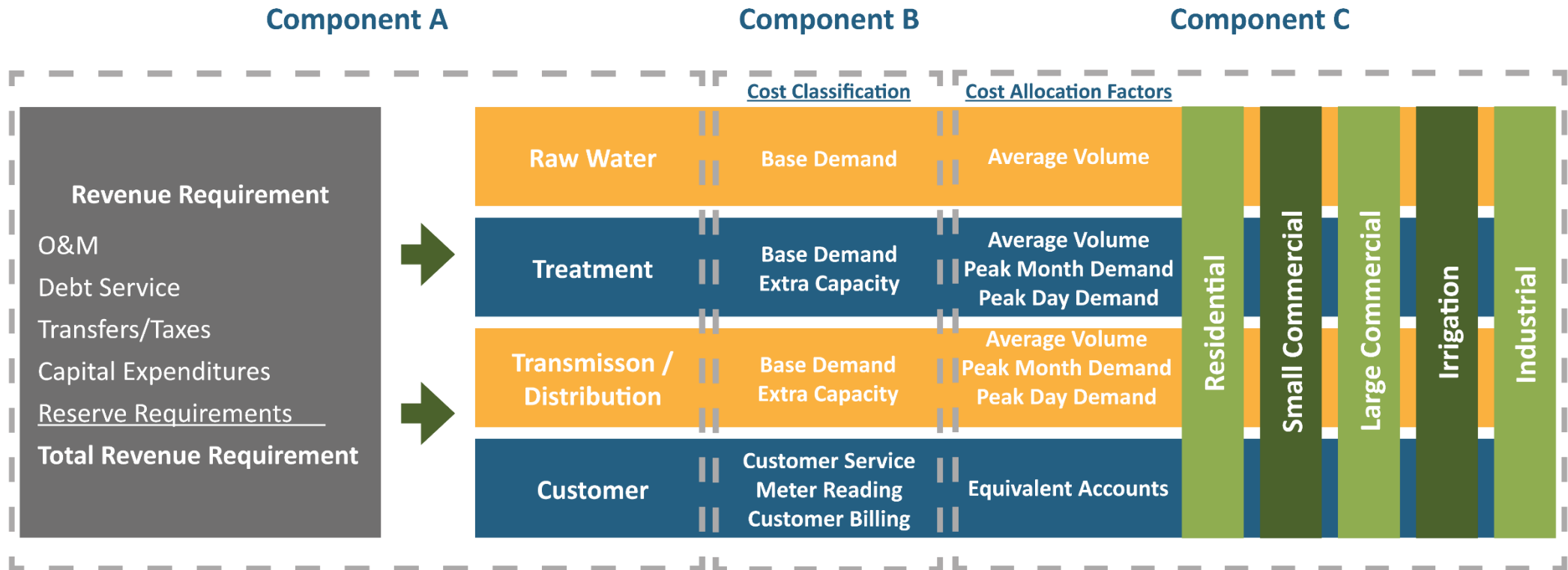
# WHAT IS A COST OF SERVICE STUDY?

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- An analysis to equitably allocate the revenue requirements to the various customer classes of service to the utility
- Do cost differences exist between the types of customers served?
  - Facility requirements
  - Usage characteristics
- Test Year (FY 2021)



# COST OF SERVICE – WATER



Note: For illustrative purposes only. Functions and allocators may change to align with utility operations/services.



# POLICY OBJECTIVES

Implementation	Equity	Customer	Conservation	Financial
Administrative Burden	Interclass	Affordability	Average-Day Savings	Revenue Sufficiency
Public Understanding	Intraclass	Economic Development	Peak-Season Savings	Revenue Stability
Political Acceptance	Intergenerational	Rate Shock / Volatility	Peak-Day Savings	Rate Stability
Implementation Risk	Inside/Outside	Understandability of Rates/Bill	Sustainability	Rate Predictability
Legal Defensibility	Industry Standards	Perception of Equity	Compliance	Financial Risk

# CURRENT RATES

## WATER – BASE RATES

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Base Rates	Inside City	Outside City
5/8" Meter	\$ 15.50	\$ 18.50
3/4" Meter	23.00	27.50
1" Meter	38.50	46.00
1 1/2" Meter	76.50	91.50
2" Meter	153.50	183.50
3" Meter	368.00	440.00
4" Meter	644.00	770.00
6" Meter	1,140.00	1,686.00
8" Meter	2,450.00	2,929.50

Source: City of Georgetown (<https://qus.georgetown.org/customercare/rates/>)

# CURRENT RATES

## WATER – RESIDENTIAL VOLUMETRIC RATES

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Volumetric Rates	Inside/Outside City
0 – 10,000 gallons	\$ 1.75
10,001 – 20,000 gallons	2.40
20,001 – 40,000 gallons	4.00
40,001 – 60,000 gallons	6.50
60,001+ gallons	8.50

Source: City of Georgetown (<https://qus.georgetown.org/customercare/rates/>)

# CURRENT RATES

## WATER – NON-RESIDENTIAL VOLUMETRIC RATES

Customer Class	Meter Size	Tier 1 Rate	Tier 2 Rate	Tier 2 Threshold
Small Commercial	<2"	\$2.40	\$6.50	300,001 gallons
Large Commercial	2"	\$2.40	\$6.50	600,001 gallons
Large Commercial	3"	\$2.40	\$6.50	900,001 gallons
Large Commercial	4"	\$2.40	\$6.50	4M gallons
Large Commercial	6"	\$2.40	\$6.50	6M gallons
Large Commercial	8"	\$2.40	\$6.50	8M gallons
Manufacturing	<8"	\$2.40		
Municipal Interruptible		\$2.40		
Restaurant		\$2.40		
Evaporative Cooling		\$2.40		
Fire Flow		\$2.40		
Irrigation Only		\$4.00	\$8.50	500,001 gallons

Source: City of Georgetown (<https://qus.georgetown.org/customer-care/rates/>)

# CURRENT RATES

## WASTEWATER

Customer Class	Base Charge (Inside)	Volume Charge (Inside)	Base Charge (Outside)	Volume Charge (Outside)
Residential (Single Family/Domestic)	\$ 32.00	N/A	\$ 36.75	N/A
Small Commercial (4" Sewer Line/ 3/4" Water Meter)	\$ 32.00	N/A	\$ 36.75	N/A
Commercial (<6" Sewer Line)	\$48.40	\$2.75	\$55.65	\$3.15
Commercial (>8" Sewer Line)	\$85.95	\$2.75	\$98.85	\$3.15
High Strength Commercial (>250 BOD/Food Processing)	\$48.40	\$4.50	\$55.65	\$5.20
Multi-Family Service (>3 Residential Units per Water Meter)	\$114.95	\$2.75	\$132.20	\$3.15

Source: City of Georgetown (<https://qus.georgetown.org/customer-care/rates/>)

# FUTURE CONSIDERATIONS

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- Postponements to next FY due to timing and data limitations
  - Cash-Needs/Utility Basis Hybrid Revenue Requirement approach to determine Outside City rate differential
    - Breakdown by asset type (water vs wastewater) for asset and depreciation details not readily available
    - System-wide cash needs approach for FY 2021; Explore Utility-Basis option in FY 2022
  - Wastewater Cost of Service rates specific to Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS)
    - City not currently doing grab samples, will revisit in FY 2022 update after identifying and monitoring high strength wastewater customers

# Draft Study Results

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**KEY DRIVERS**

**FY 2021 COST OF SERVICE**

**FY 2021 – FY 2025 DECISION PACKAGES**

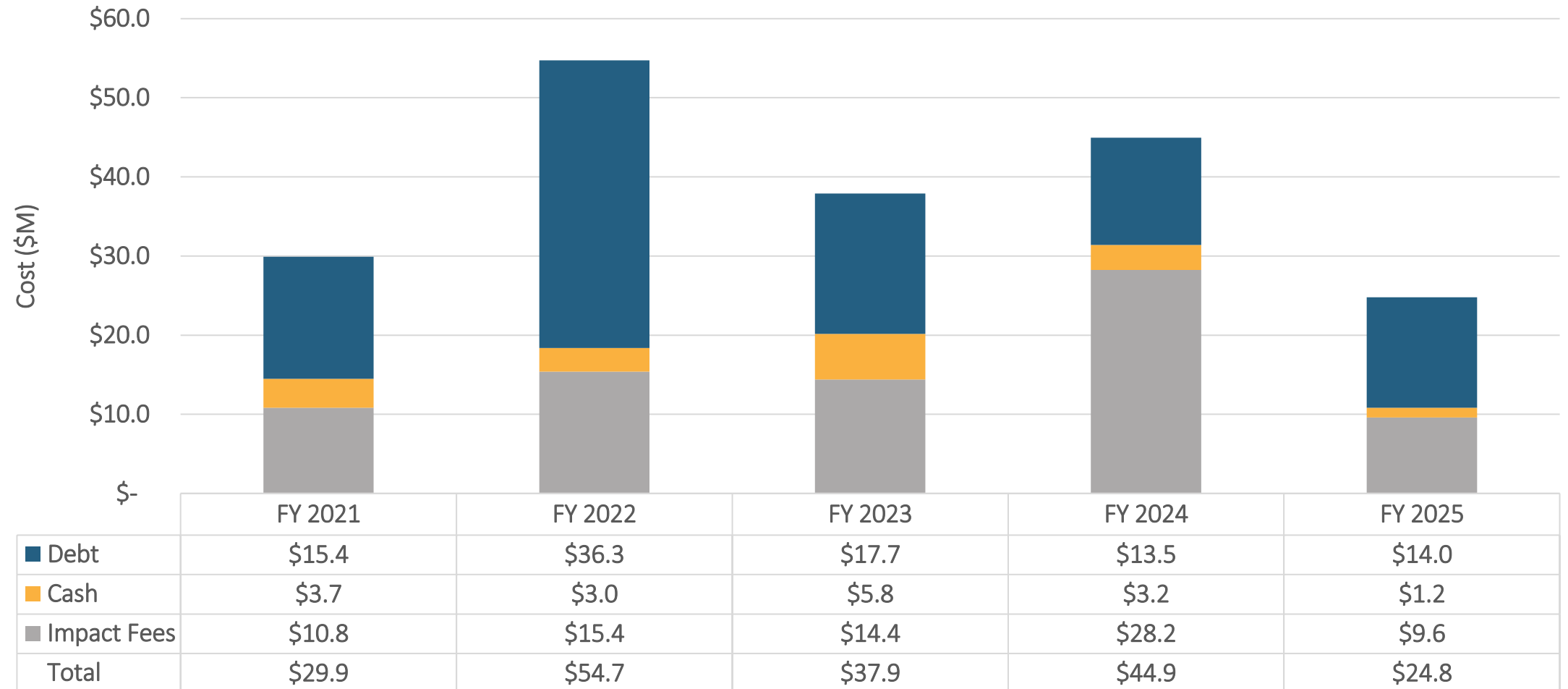


# KEY DRIVERS FOR FY 2021 AND BEYOND

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- Residential Customer Growth
  - 2,800 Annual Water Accounts
  - 1,300 Annual Wastewater Accounts
- Long-Term Capital Needs
  - Approximately \$192.24M in Water/Wastewater Capital Needs (FY 2021 – FY 2025)
    - \$97.01M Debt Funded
    - \$16.78M Cash Funded
    - \$78.45M Impact Fee Funded
- New Program Operations & Maintenance
  - Future costs associated with growth

# LONG-TERM CAPITAL FUNDING FORECAST



# LONG-TERM CAPITAL PROJECT HIGHLIGHTS

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## Water

FY	Project Description	Cost (\$M)
21	RR Elevated Storage Tank	\$ 3.5M
	RR Supply Line	\$ 3.2M
	Hoover Pump Station	\$ 2.8M
22	S. Lake WTP	\$ 8.0M
23 - 25	S. Lake WTP (\$21M/year)	\$ 62.0M

## Wastewater

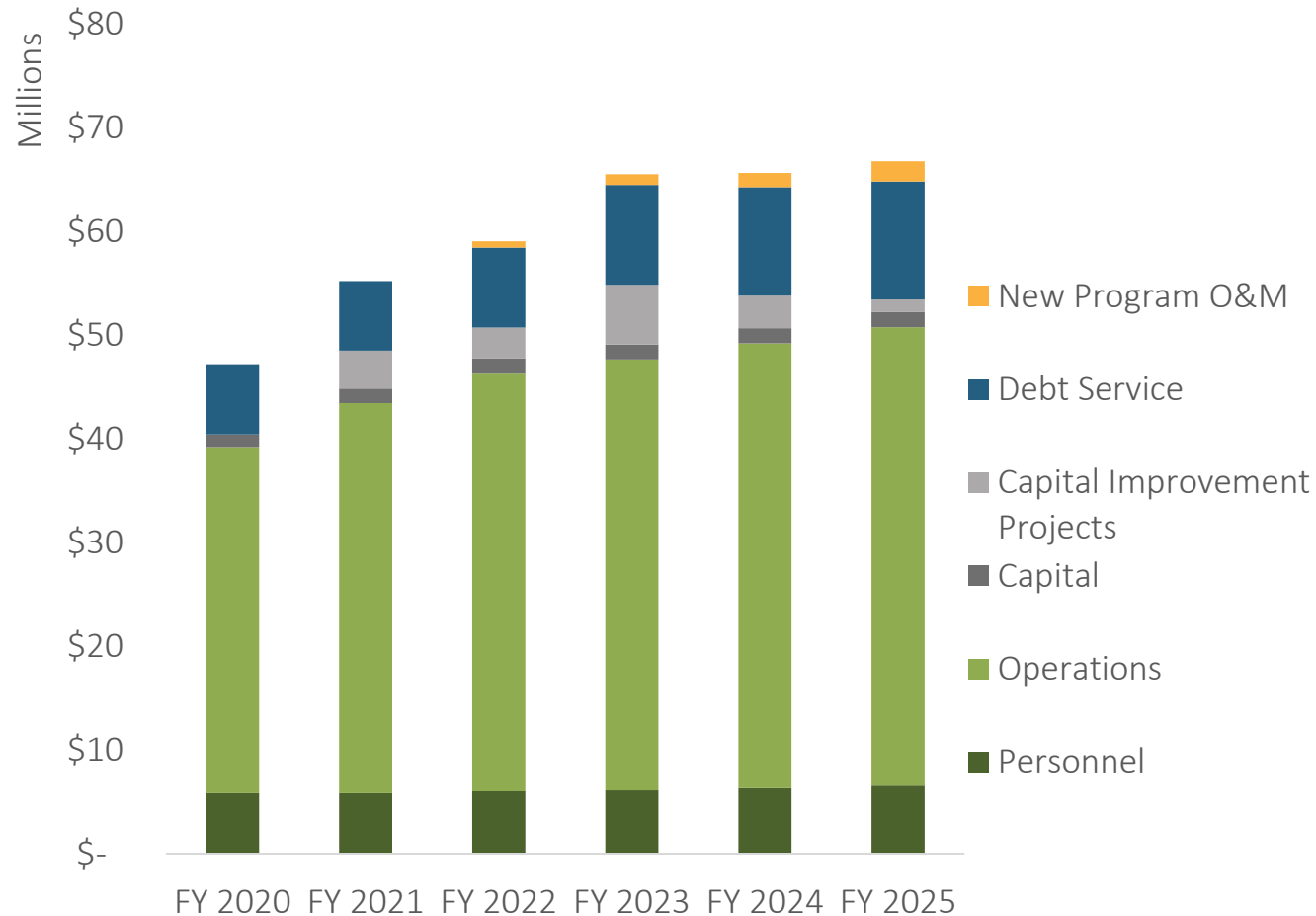
FY	Project Description	Cost (\$M)
21 - 25	EARZ (\$1.5M/year)	\$6.0M
22	San Gabriel Interceptor	\$32.5M
23	Interceptor LS Removal & Gravity Main	\$6.0M

# NEW PROGRAM OPERATIONS & MAINTENANCE

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- Recurring future annual costs associated with new growth (FY 2022 – FY 2025)
  - New Positions (~114K/year)
    - Utility Support Manager
    - Control Center Supervisor
    - Water Services Tech
    - I&C Tech
    - Plant Supervisor
  - New Vehicles (~140K/year)

# TOTAL EXPENSES FORECAST



## Debt Service:

Existing and Projected Total P&I

## Capital Improvement Projects:

Cash-Funded Long-Term Capital

## Capital:

Cash-Funded Short-Term Capital Outlays

## Operations:

Supplies and Maintenance Transfers

Allocations (Joint Svc, AMR, General)

# REVENUE REQUIREMENT FORECAST



# FY 2021 COST OF SERVICE

## PEAK TO AVERAGE BY CUSTOMER CLASS

<i>Per Utility Billing Data Extract (Oct 2018 – Sep 2019)</i>		Base/Extra Calculation			
Profile Assignment	Peaking Ratio	Avg MGD	Max MGD	Extra	Customer
<u>Inside/Outside City</u>					
Residential (incl Builder)	2.08	11.977	24.966	12.989	41,450
Small Commercial	1.39	0.562	0.780	0.218	1,013
Large Commercial	1.26	1.502	1.898	0.396	274
Government	2.06	0.328	0.676	0.348	158
Irrigation	2.11	1.079	2.280	1.201	634
Total System	1.98	15.448	30.600	15.152	43,529
<u>Inside/Outside City</u>					
Residential (incl Builder)		77.5%	81.6%	85.7%	95.2%
Small Commercial		3.6%	2.5%	1.4%	2.3%
Large Commercial		9.7%	6.2%	2.6%	0.6%
Government		2.1%	2.2%	2.3%	0.4%
Irrigation		7.0%	7.4%	7.9%	1.5%
Total System		100.0%	100.0%	100.0%	100.0%



# FY 2021 COST OF SERVICE REVENUE REQUIREMENT ALLOCATION

Profile Assignment	Peaking Ratio	Allocation of Revenue Requirement (\$M)				Current Revenues (\$M)	Variance (\$M)	Variance (%)
		Base	Extra	Customer	Total			
<i>Inside/Outside City</i>								
Residential (incl Builder)	2.08	\$ 13.39	13.70	1.14	28.22	25.88	(2.34)	-8.3%
Small Commercial	1.39	0.63	0.23	0.03	0.89	0.98	0.09	10.1%
Large Commercial	1.26	1.68	0.42	0.01	2.10	2.37	0.27	12.9%
Government	2.06	0.37	0.37	0.00	0.74	0.68	(0.06)	-8.2%
Irrigation	2.11	1.21	1.27	0.02	2.49	2.80	0.31	12.6%
<b>Total System</b>	<b>1.98</b>	<b>\$ 17.27</b>	<b>\$ 15.98</b>	<b>\$ 1.19</b>	<b>\$ 34.44</b>	<b>\$ 32.71</b>	<b>\$ (1.73)</b>	<b>-5.0%</b>

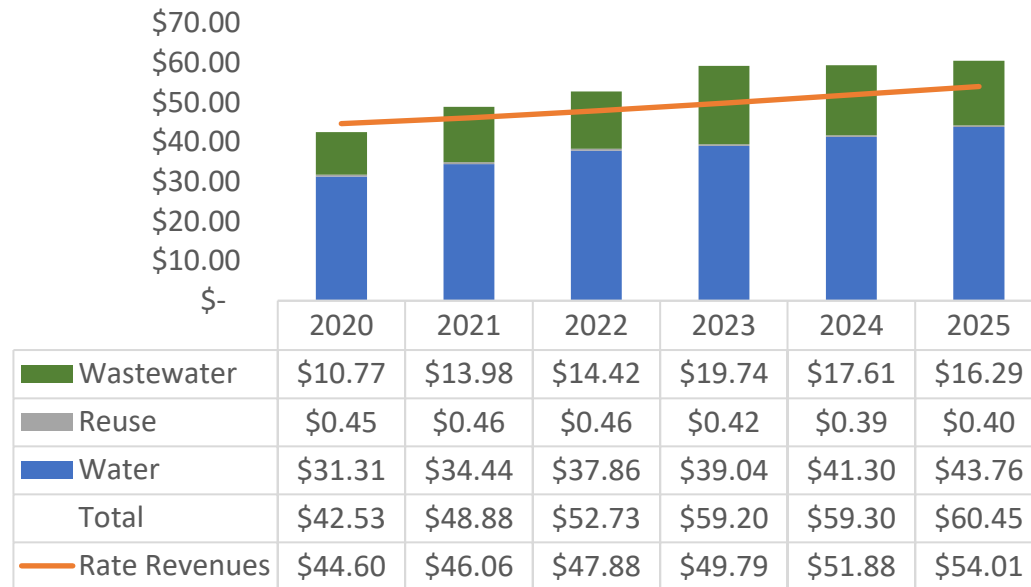
- Residential and Government customer classes currently paying less than class cost of service
  - **Residential:** Estimated \$2.34M or 8.3% increase in Residential revenues to meet revenue requirement in FY 2021
  - **Government:** Estimated \$0.06M or 8.2% increase in Government revenues to meet revenue requirement in FY 2021

# FINANCIAL OBJECTIVES

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- Goals for Combined Utility (Water/Wastewater):
  - Overall Revenue Sufficient
  - Meet target financial policies
- Current Fiscal Policies:
  - Debt Service Coverage: **1.50x**
    - Debt Service Coverage is a reflection of a utility's ability to pay its debt
  - Days Cash on Hand: **90 Days**
  - Water Monthly Base Charge Fixed Cost of Service Recovery: **75%**
    - *"Water Rates will recognize at least **75%** of the fixed cost of service, including debt payments and ROI costs, within the monthly base charge determined by meter size."*
      - *Per Fiscal and Budgetary Policy adopted September 24, 2019*

# PROJECTED COMBINED UTILITY PERFORMANCE UNDER CURRENT REVENUES



- Combined utility estimated to not recover revenue required as early as **FY 2021**

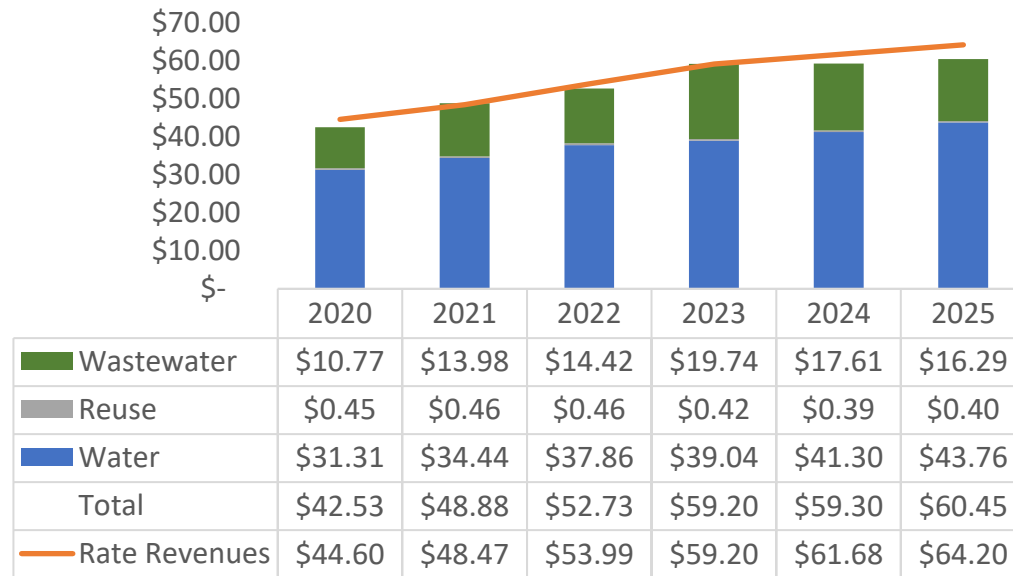
- Days Cash on Hand reserves drop below 90 Days as early as **FY 2024**

FY (Targets)	2021	2022	2023	2024	2025
DSC (1.50x)	3.82	3.07	2.44	2.27	2.07
Days Cash (90 Days)	286	218	128	60	6
Fixed COS (75%)	71%	68%	69%	69%	68%

- Water Monthly Base Charge revenues estimated to not recognize Water Fixed Cost of Service as early as **FY 2021**

# DECISION PACKAGE #1:

## ADJUSTING REVENUES UNDER CURRENT RATE DESIGN

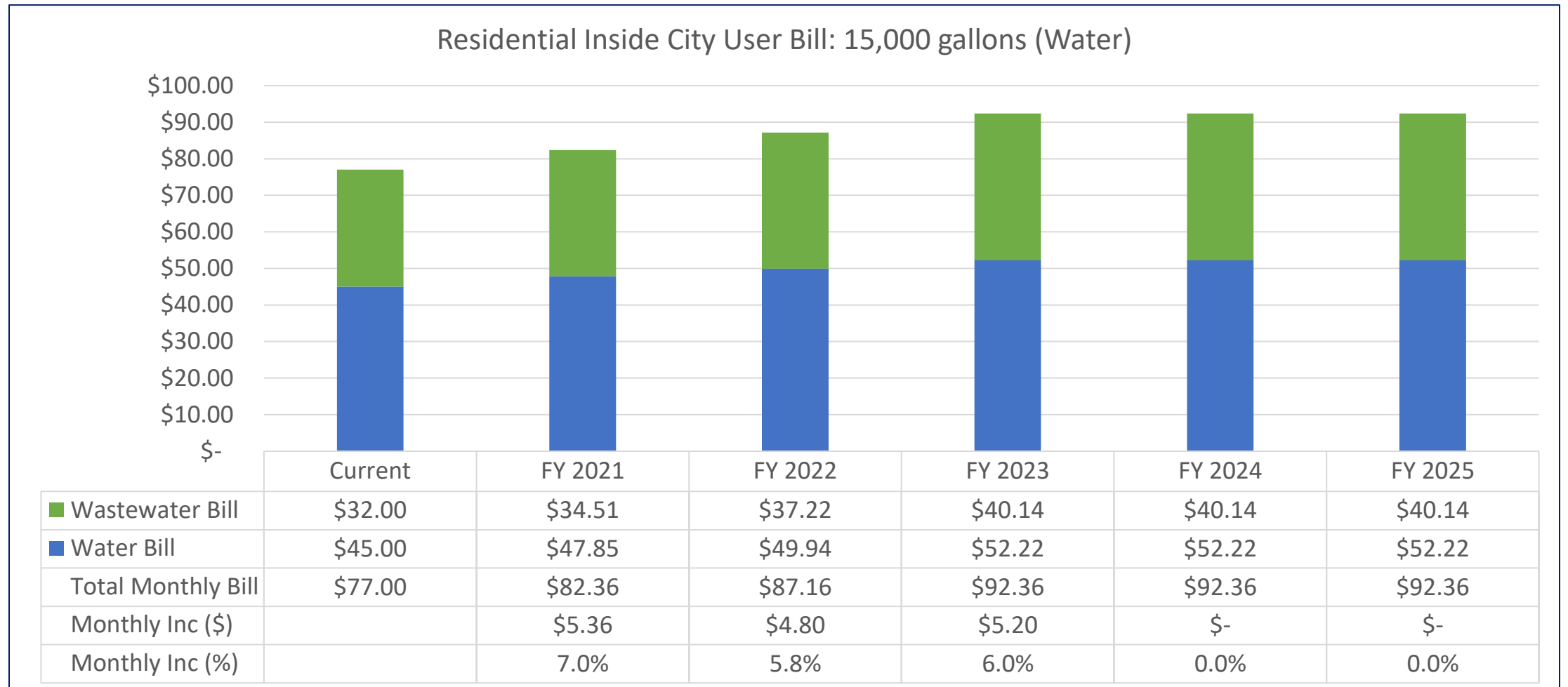


- Revenue adjustments driven by first debt payment for San Gabriel Interceptor (\$32.M) in **FY 2023**
- Water rate adjustments targeting Fixed COS metric and to mitigate significant Wastewater rate increases

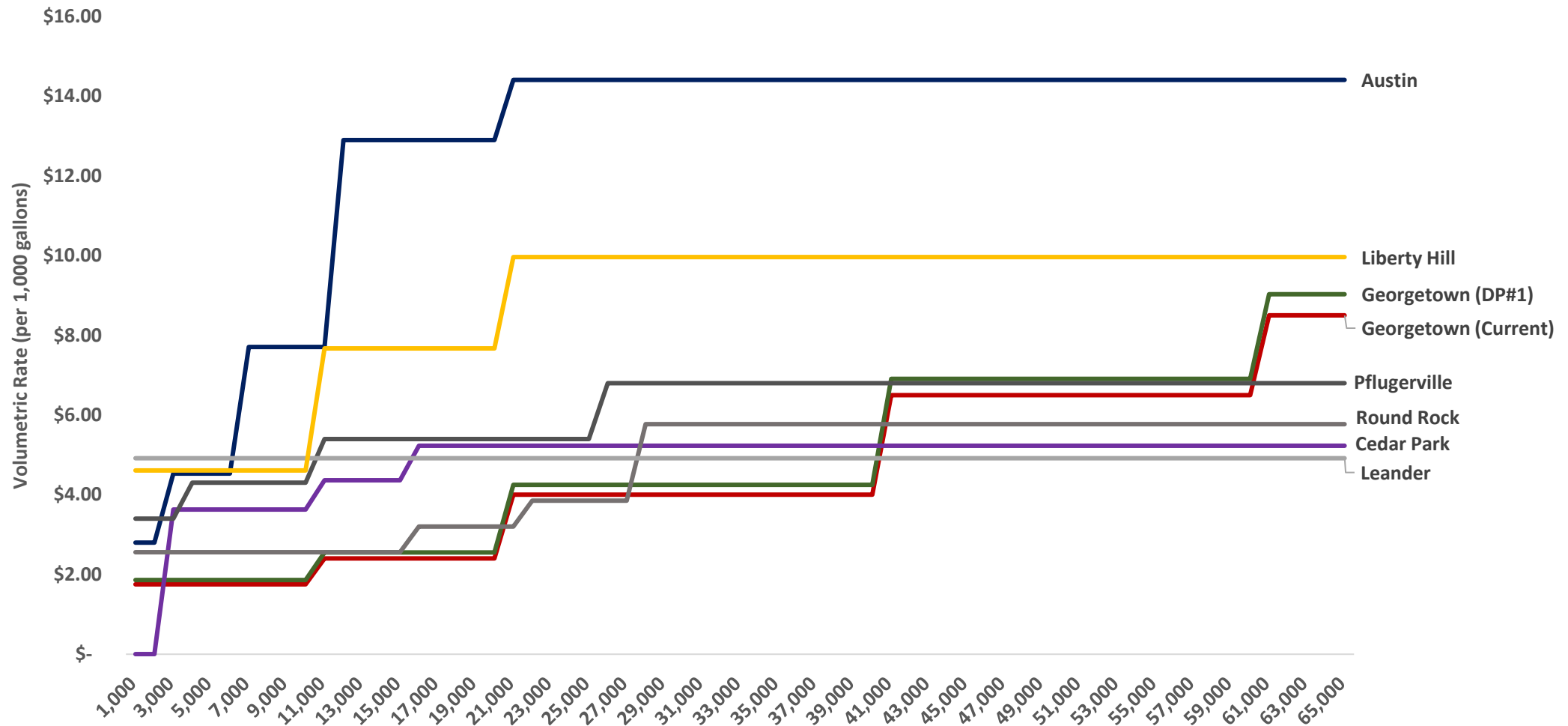
FY (Targets)	2021	2022	2023	2024	2025
DSC (1.50x)	4.20	3.91	3.47	3.25	3.01
Days Cash (90 Days)	310	296	285	294	312
Fixed COS (75%)	75%	76%	81%	80%	79%

Rate Adjustments	2021	2022	2023	2024	2025
Water (All %)	6.45%	4.50%	4.50%	-	-
Wastewater (All %)	7.85%	7.85%	7.85%	-	-

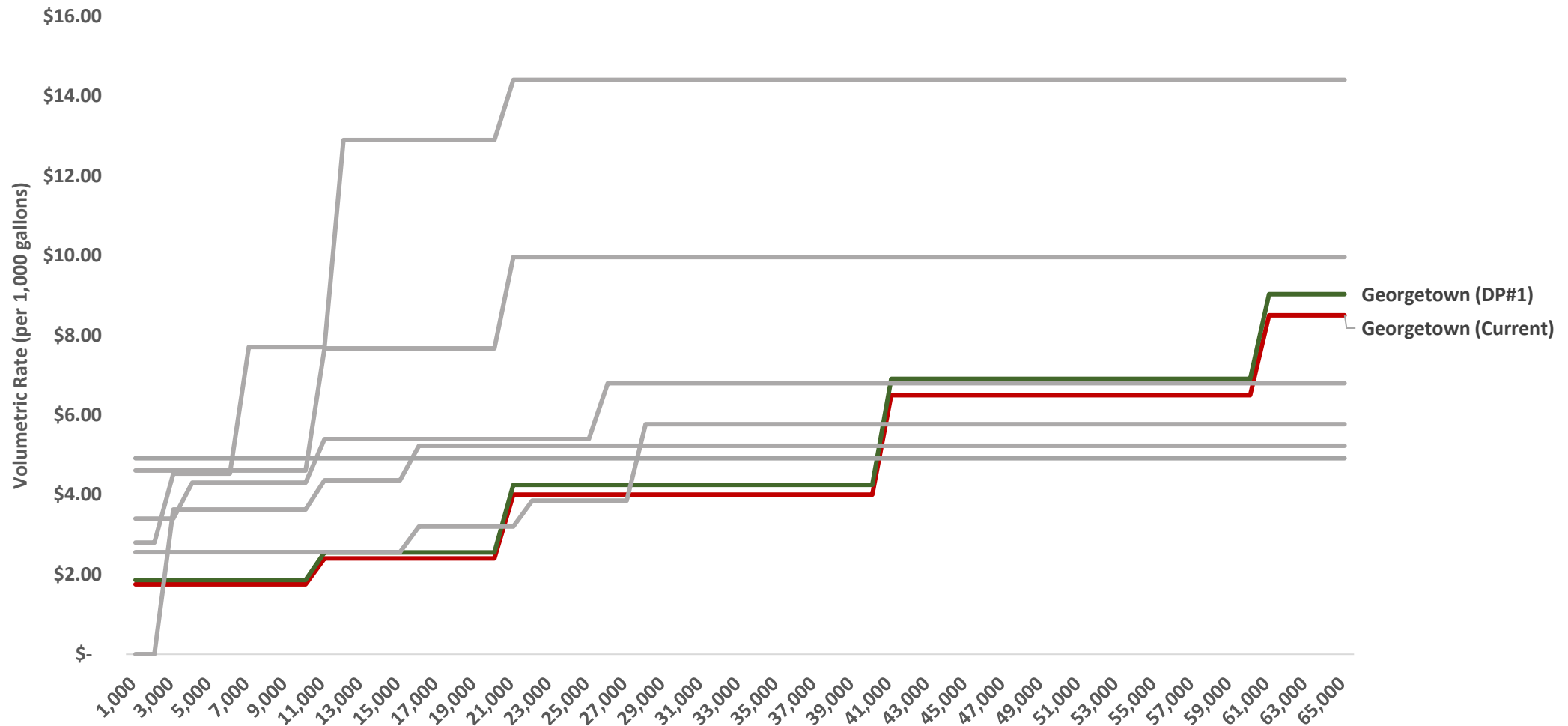
# RESIDENTIAL CUSTOMER IMPACT UNDER DECISION PACKAGE #1



# RESIDENTIAL VOLUMETRIC RATE DESIGN



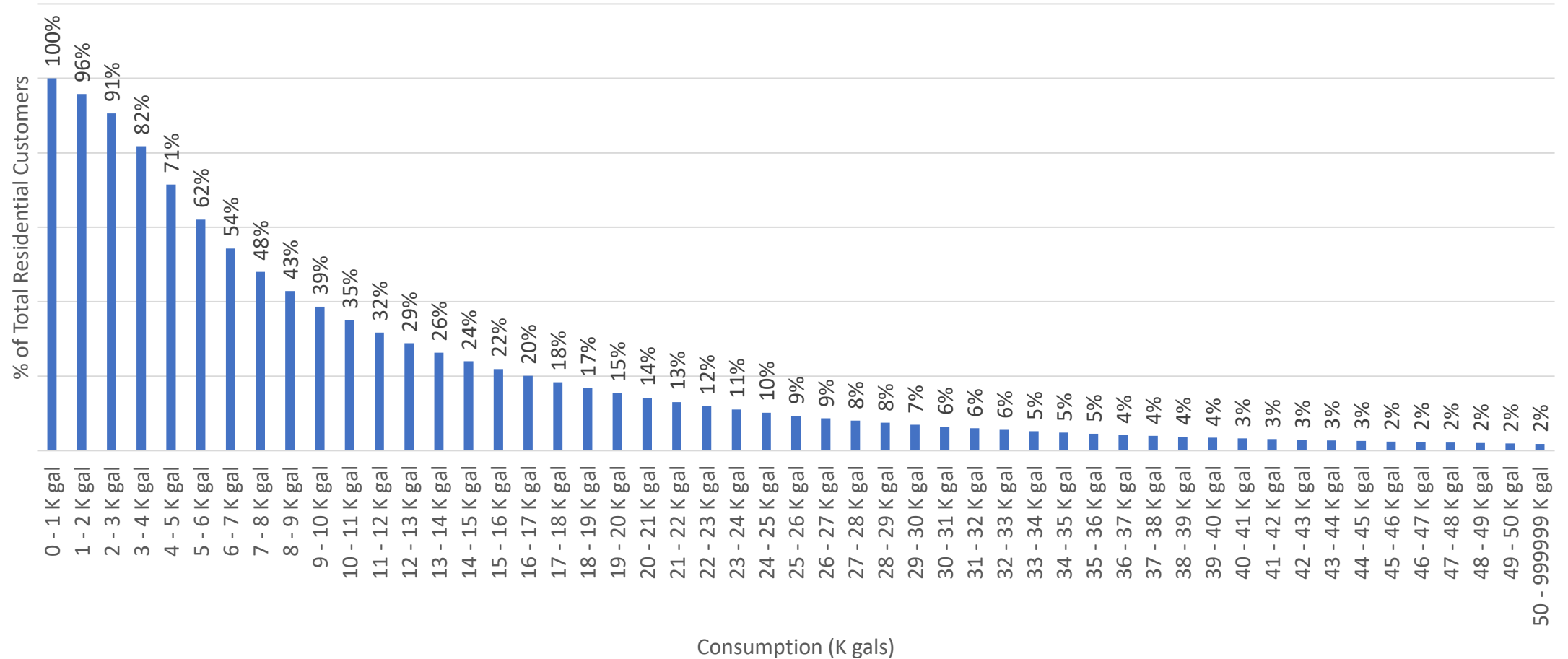
# RESIDENTIAL VOLUMETRIC RATE DESIGN





# RESIDENTIAL VOLUMETRIC RATE DESIGN

## CUSTOMER FREQUENCY DISTRIBUTION

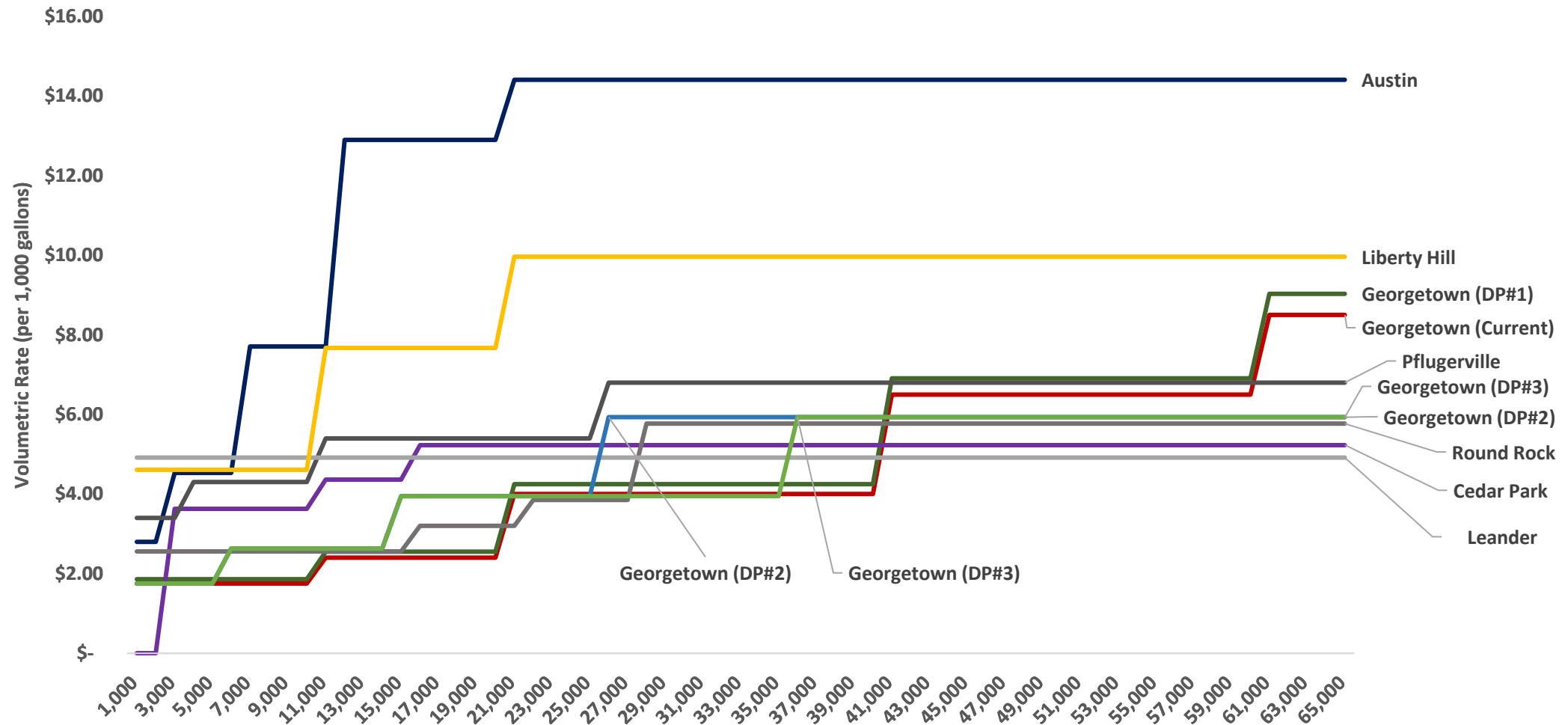


# RESIDENTIAL VOLUMETRIC RATE DESIGN

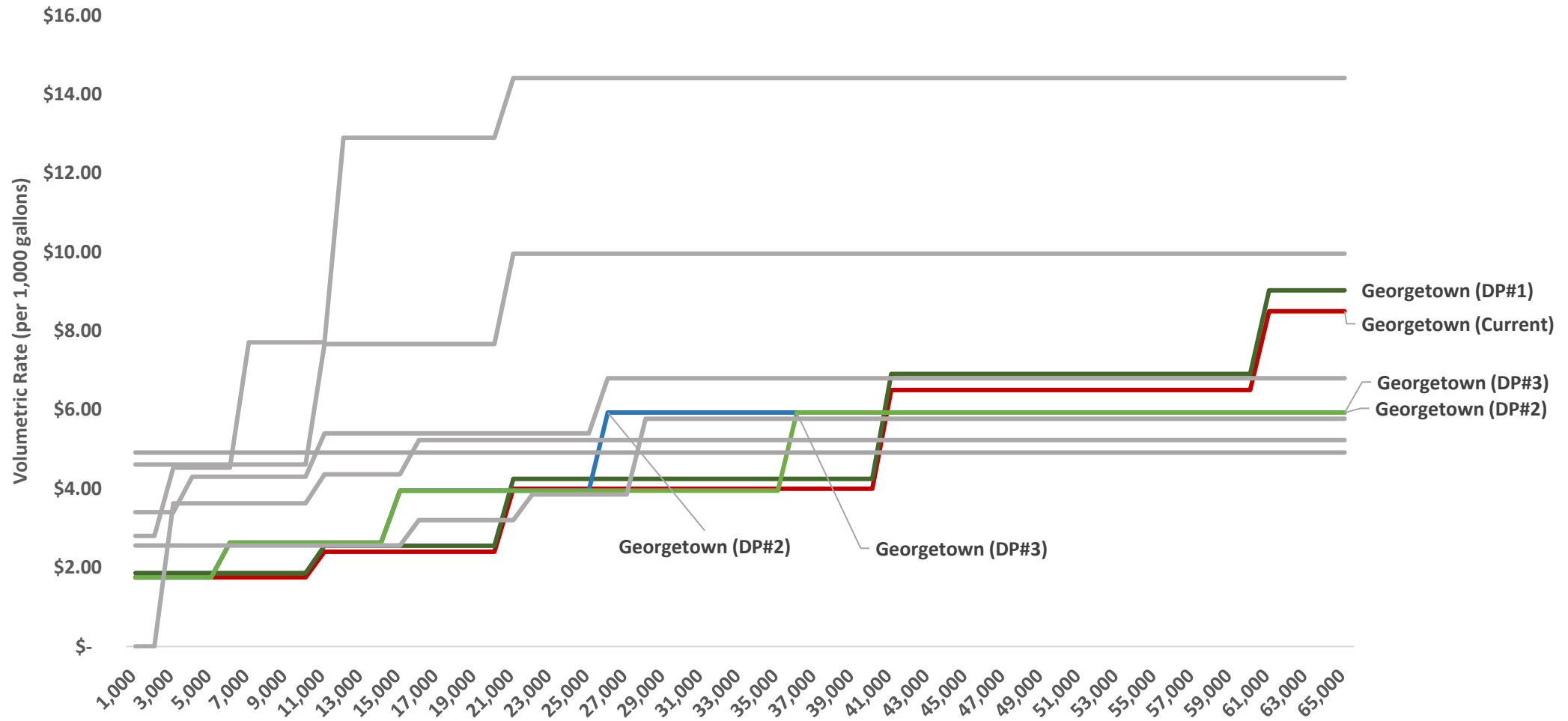
- Based on historical customer usage characteristics and feedback from the City, the following Residential alternatives were determined:

Current Volumetric Tiers (eff. January 1 <sup>st</sup> , 2019)	Decision Package #2: 25,000+ Gallons	Decision Package #3: 35,000+ Gallons
0 – 10,000 gallons	0 – 5,000 gallons	0 – 5,000 gallons
10,001 – 20,000 gallons	5,001 – 15,000 gallons	5,001 – 15,000 gallons
20,001 – 40,000 gallons	15,001 – <b>25,000</b> gallons	15,001 – <b>35,000</b> gallons
40,001 – 60,000 gallons	<b>25,001+</b> gallons	<b>35,001+</b> gallons
60,001+ gallons		

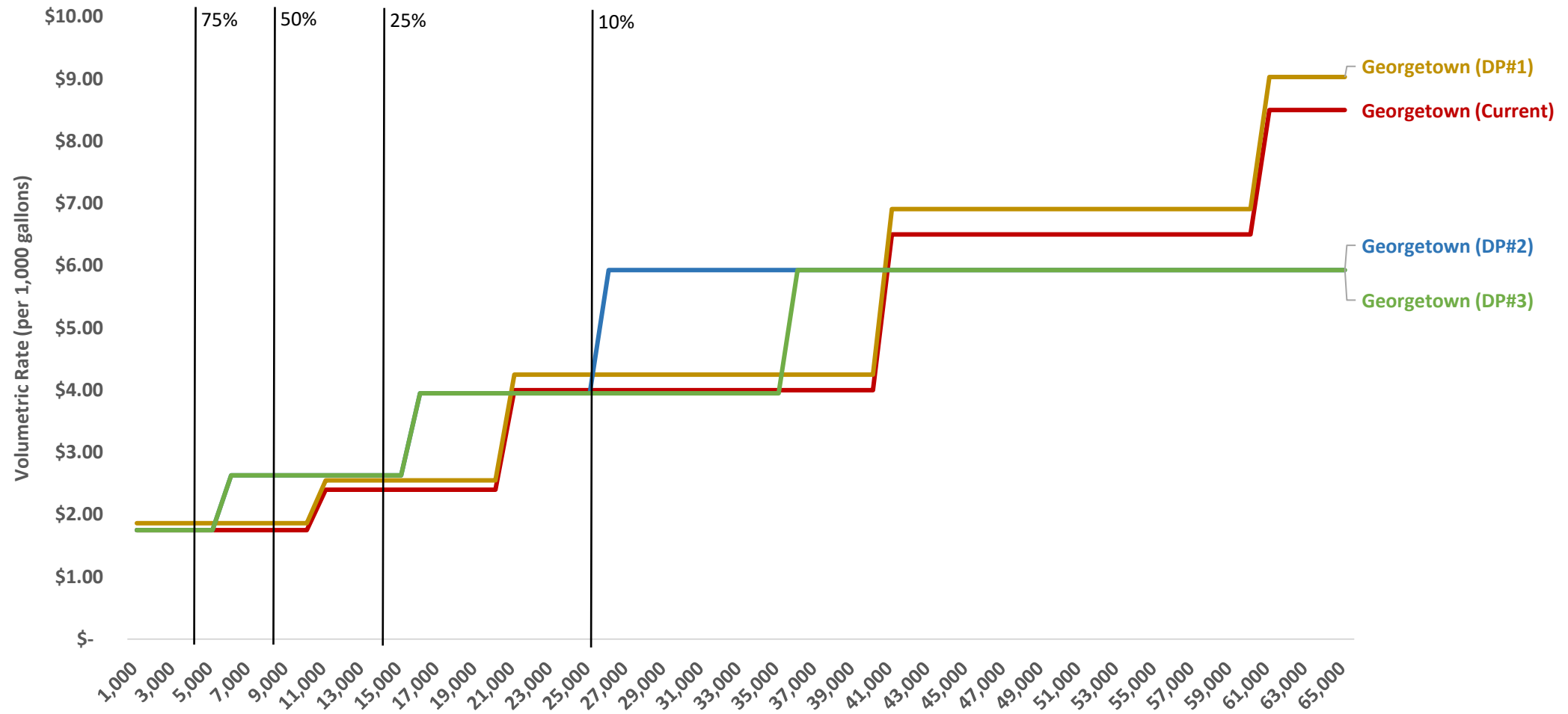
# RESIDENTIAL VOLUMETRIC RATE DESIGN



# RESIDENTIAL VOLUMETRIC RATE DESIGN

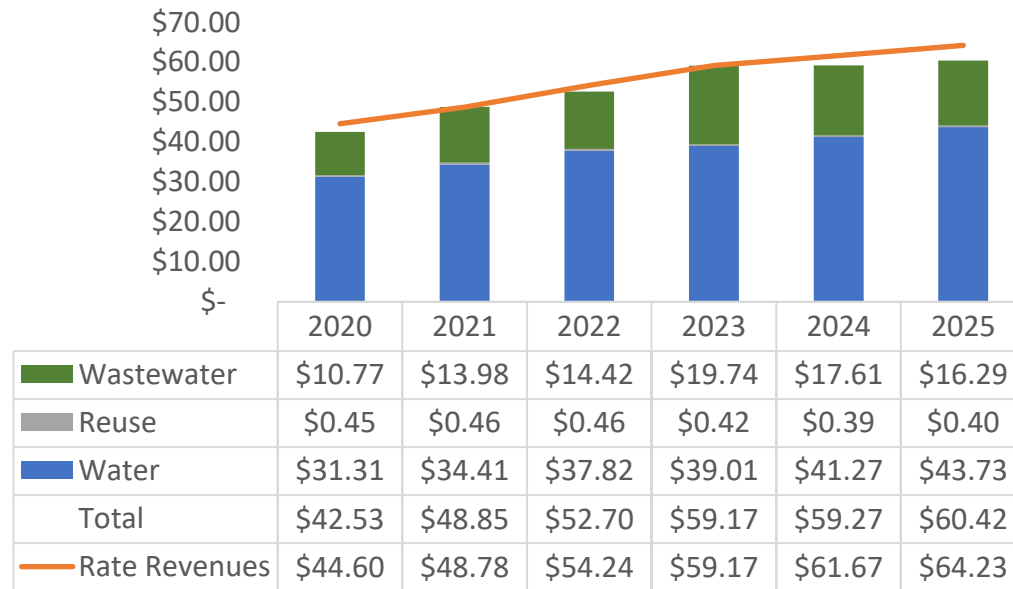


# RESIDENTIAL VOLUMETRIC WATER COMPARISON



# DECISION PACKAGE #2:

## REVISED RESIDENTIAL TIER DESIGN (25,000+ GALLONS)

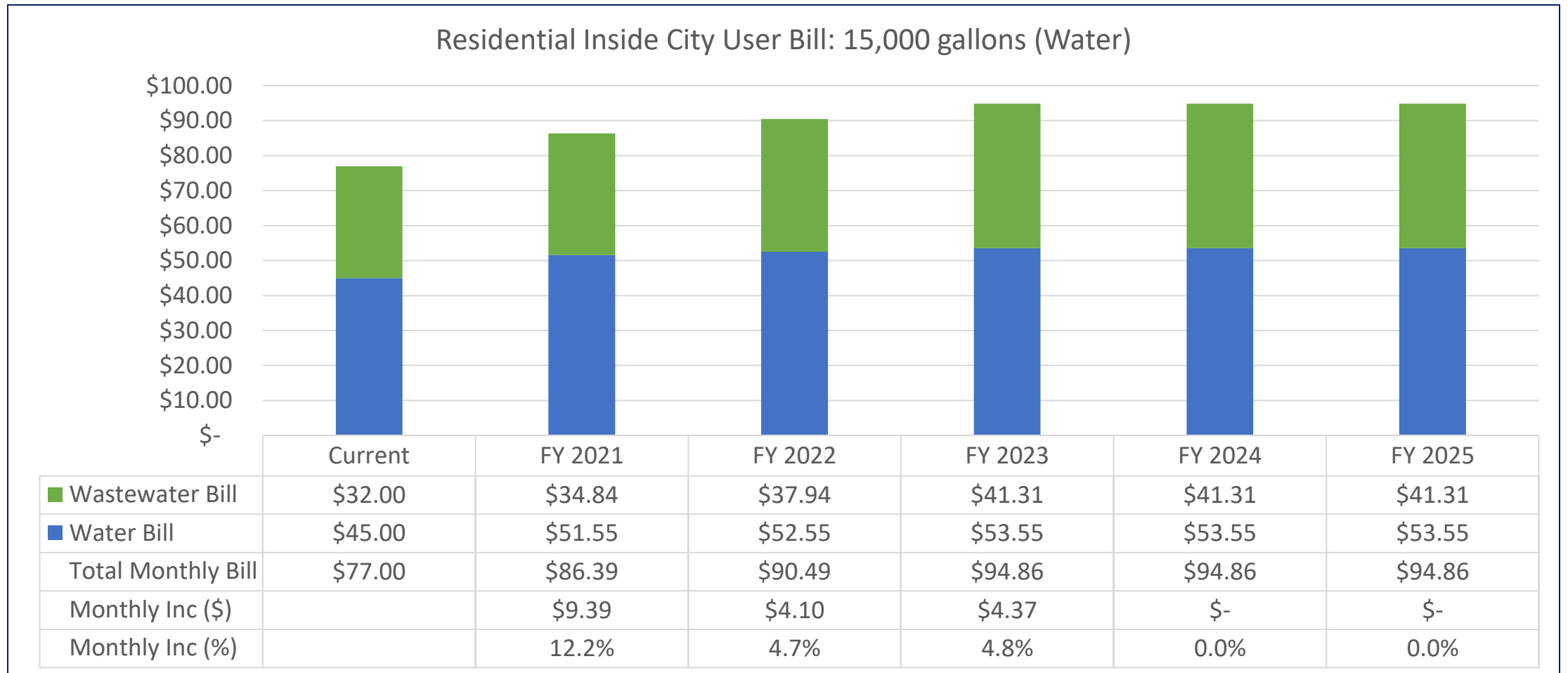


- Revenue adjustments driven by first debt payment for San Gabriel Interceptor (\$32.M) in **FY 2023**
- Water Base rate adjustments targeting Fixed COS metric and to mitigate significant Wastewater rate increases

FY (Targets)	2021	2022	2023	2024	2025
DSC (1.50x)	4.25	3.95	3.47	3.25	3.01
Days Cash (90 Days)	314	302	291	300	318
Fixed COS (75%)	75%	77%	83%	82%	81%

Rate Adjustments	2021	2022	2023	2024	2025
Water (Base \$ Only)	\$1.00	\$1.00	\$1.00	-	-
Water (Volumetric)	Varies	-	-	-	-
Wastewater (All %)	8.89%	8.89%	8.89%	-	-

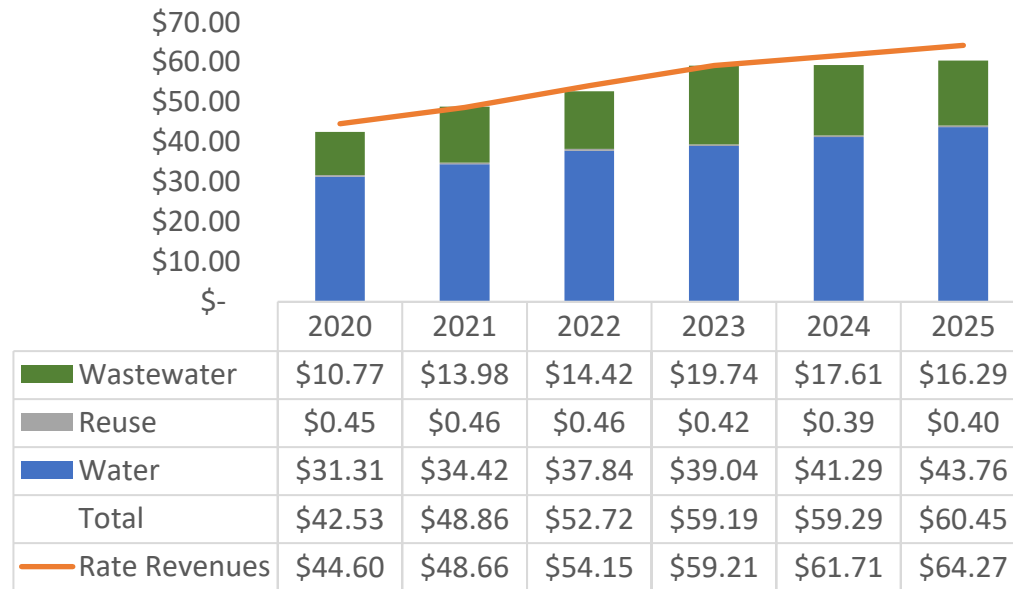
## RESIDENTIAL CUSTOMER IMPACT UNDER DECISION PACKAGE #2





# DECISION PACKAGE #3:

## REVISED RESIDENTIAL TIER DESIGN (35,000+ GALLONS)

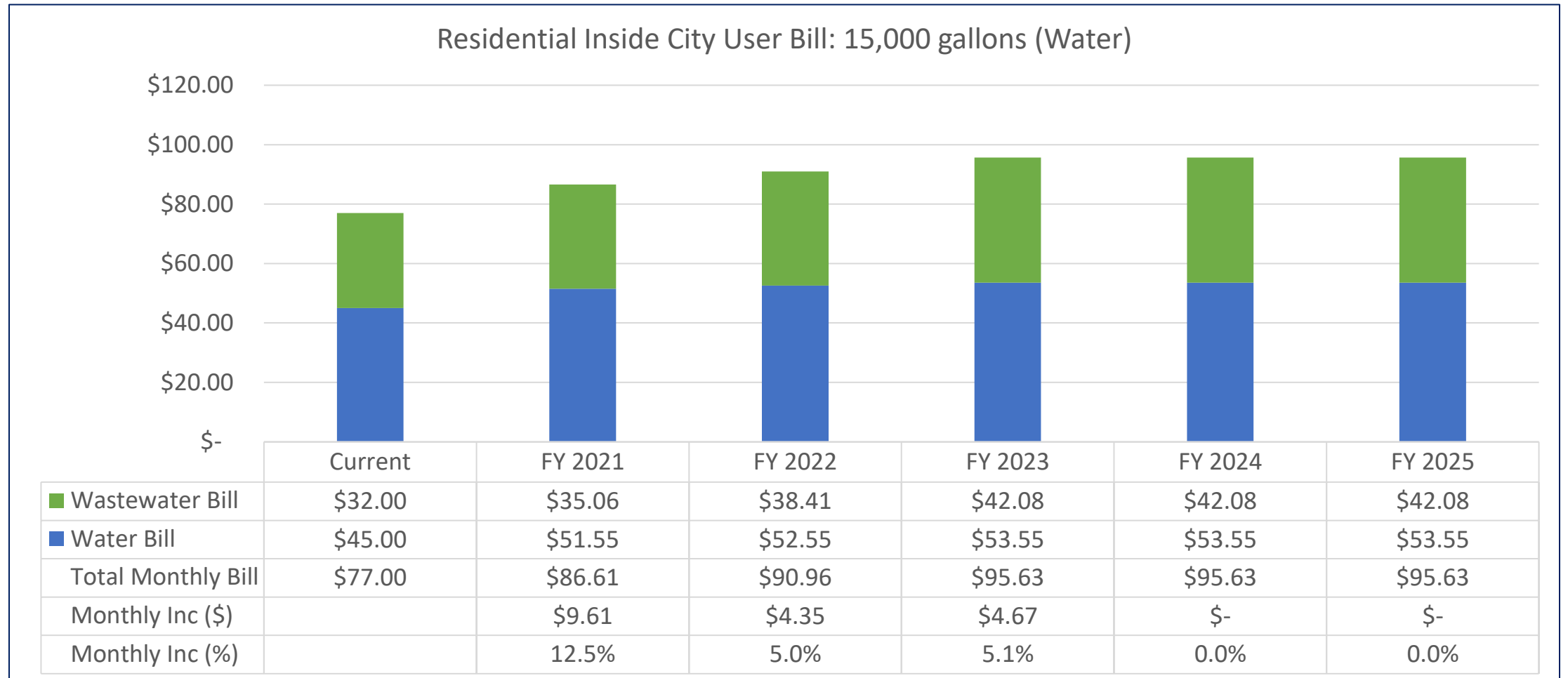


- Revenue adjustments driven by first debt payment for San Gabriel Interceptor (\$32.M) in **FY 2023**
- Water Base rate adjustments targeting Fixed COS metric and to mitigate significant Wastewater rate increases

FY (Targets)	2021	2022	2023	2024	2025
DSC (1.50x)	<b>4.23</b>	<b>3.94</b>	<b>3.47</b>	<b>3.25</b>	<b>3.01</b>
Days Cash (90 Days)	<b>312</b>	<b>299</b>	<b>289</b>	<b>298</b>	<b>316</b>
Fixed COS (75%)	<b>75%</b>	<b>77%</b>	<b>83%</b>	<b>82%</b>	<b>81%</b>

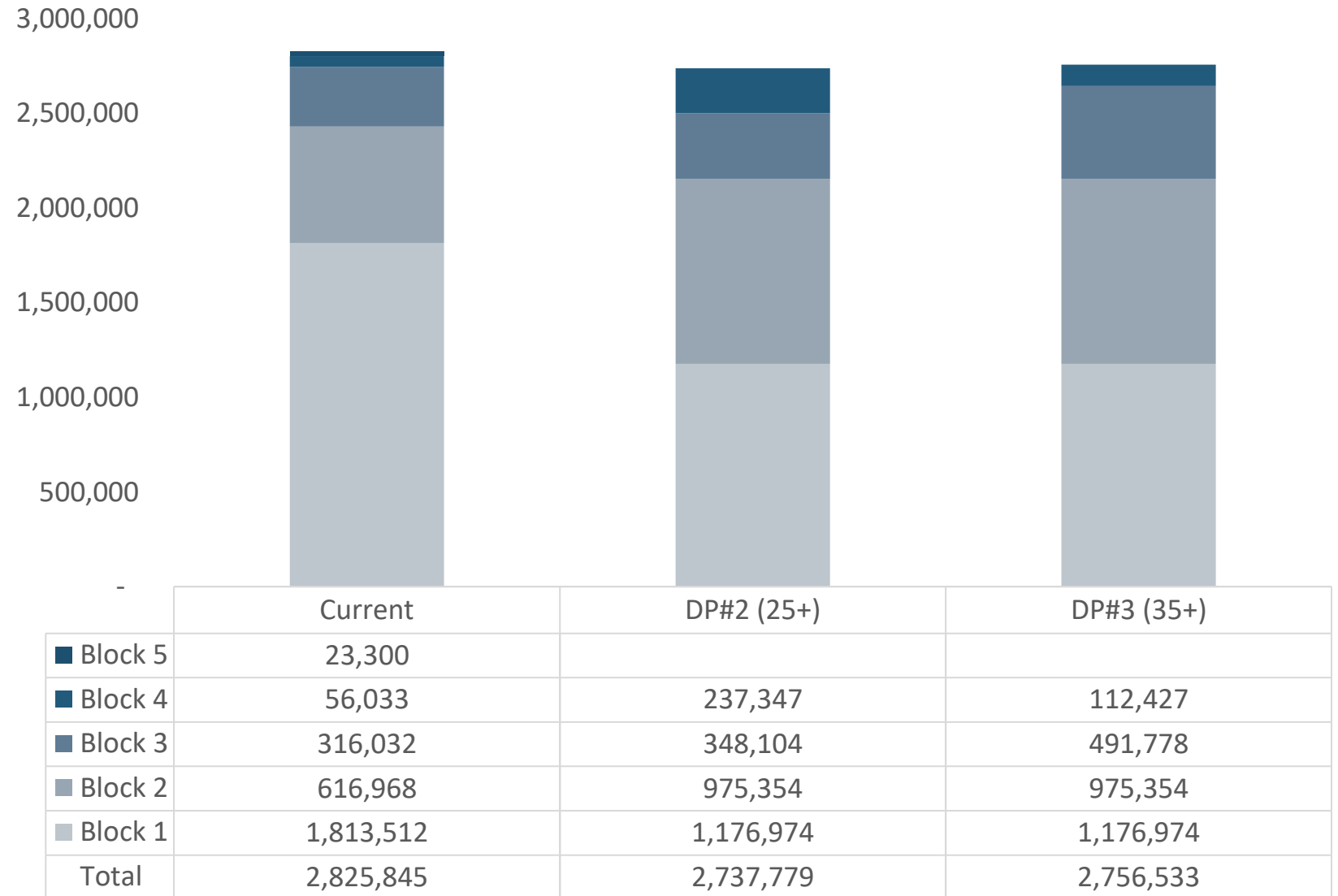
Rate Adjustments	2021	2022	2023	2024	2025
Water (Base \$ Only)	<b>\$1.00</b>	<b>\$1.00</b>	<b>\$1.00</b>	-	-
Water (Volumetric)	<b>Varies</b>	-	-	-	-
Wastewater (All %)	<b>9.55%</b>	<b>9.55%</b>	<b>9.55%</b>	-	-

# RESIDENTIAL CUSTOMER IMPACT UNDER DECISION PACKAGE #3



# RESIDENTIAL CUSTOMER BEHAVIOR

Estimated FY 2021  
Water Usage by Tier  
(Kgals)\* \*\*



\*Assumes Price Elasticity of Demand (10% increase in rates results in a 2% - 6% reduction in consumption)

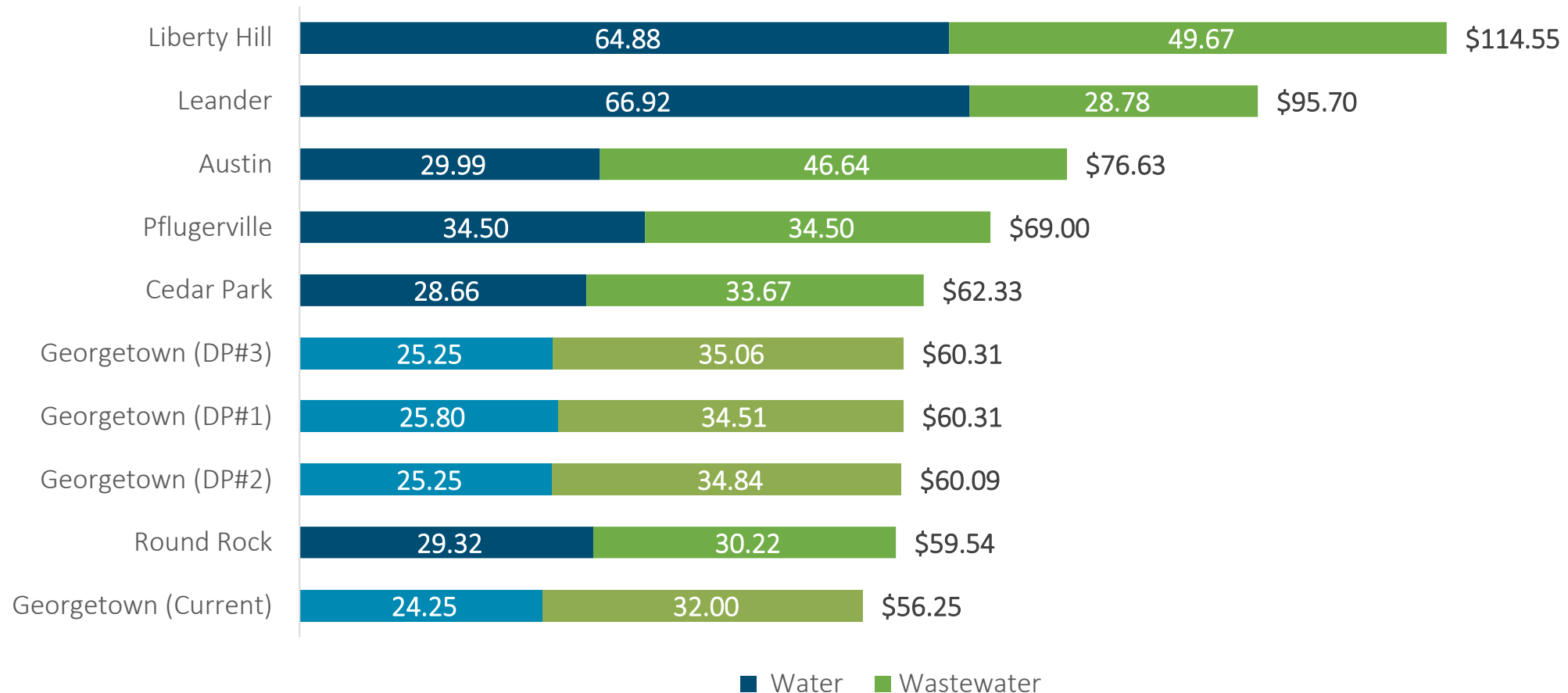
\*\*Residential Inside/Outside, Builder Inside/Outside

# COMMUNITY RATE COMPARISONS

- Comparisons between communities are very common, but may not tell the whole story
- Each system is unique in geography, age of infrastructure, capital maintenance efforts, and typical usage patterns

## REGIONAL BILL COMPARISON

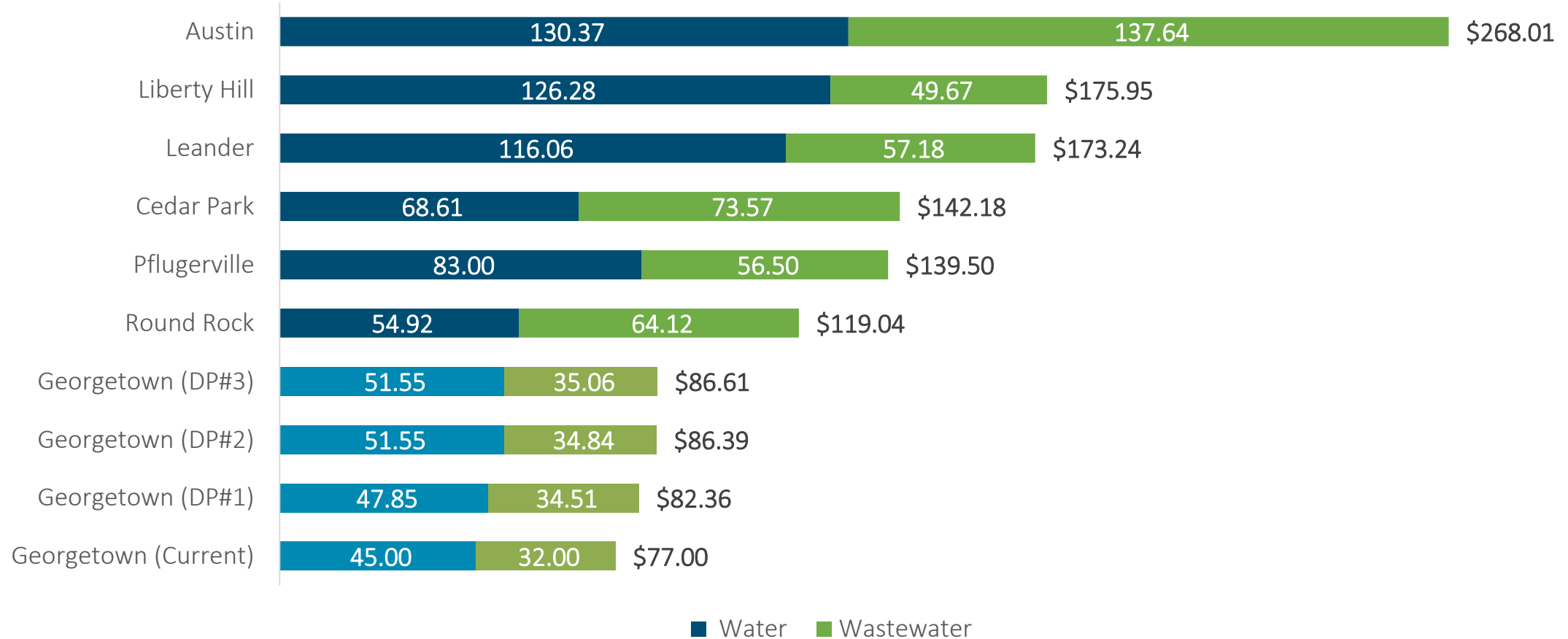
### RESIDENTIAL USER BILL (5,000 GALLONS – WATER; FLAT SEWER\*)



*\*The City currently does not charge a variable rate based on billed Sewer flows. Therefore, 5,000 gallons in Sewer flows used for surrounding cities*

## REGIONAL BILL COMPARISON

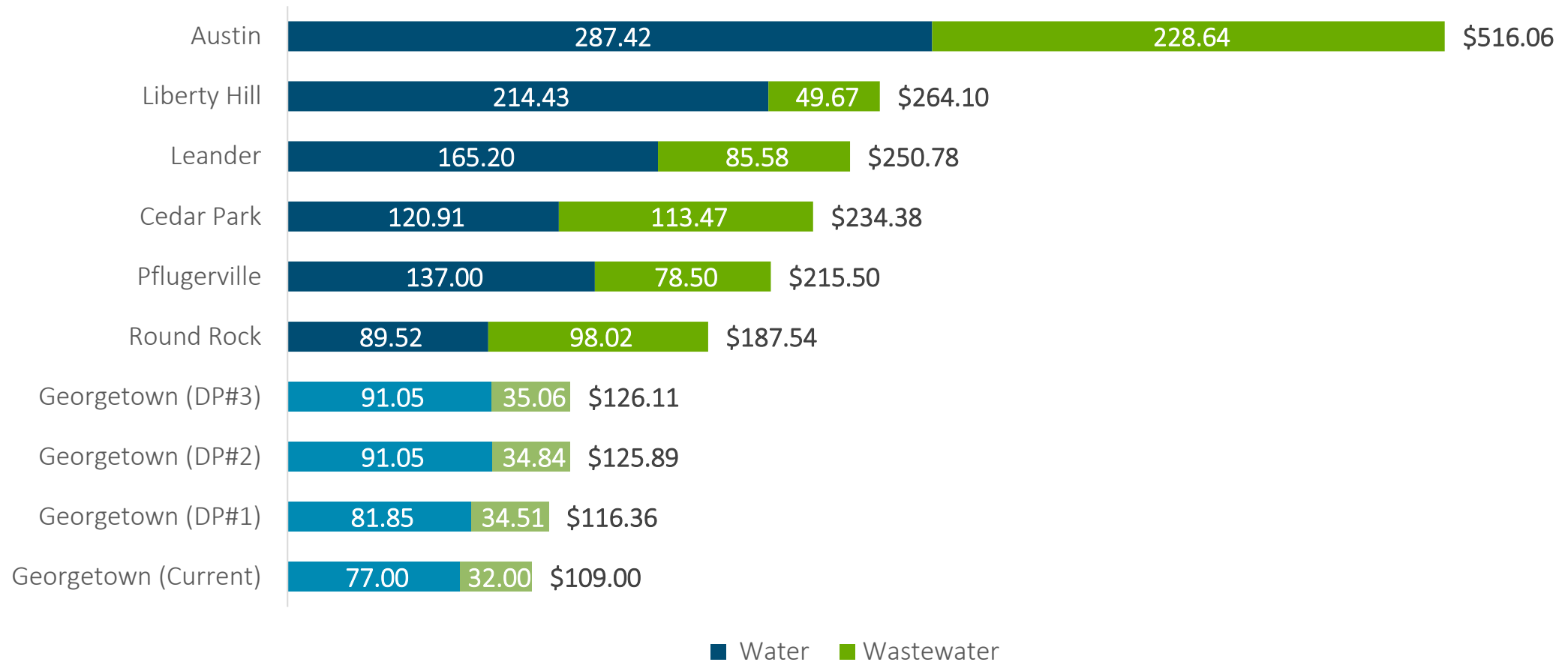
### RESIDENTIAL USER BILL (15,000 GALLONS – WATER; FLAT SEWER\*)



*\*The City currently does not charge a variable rate based on billed Sewer flows. Therefore, 15,000 gallons in Sewer flows used for surrounding cities*

## REGIONAL BILL COMPARISON

### RESIDENTIAL USER BILL (25,000 GALLONS – WATER; FLAT SEWER\*)



\*The City currently does not charge a variable rate based on billed Sewer flows. Therefore, 25,000 gallons in Sewer flows used for surrounding cities

# CONCLUSIONS

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- The Utility Board, in cooperation with the City Council, is empowered to have oversight over the City's Water and Wastewater enterprise
  - Must decide on the best course of action to meet the needs of the enterprise
- Guidance is needed to confirm the financial planning objectives to appropriately chart a path forward





# QUESTIONS

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