

# CITY OF GOLDEN

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## Utility Rate Citizen Committee Meeting #3

April 16, 2019



# Agenda

- Top ranked pricing objectives
- Cost of service review
- Rate structure alternatives assumptions
- Water rate alternatives and customer impacts
- Wastewater rate alternatives and customer impacts
- Next meeting - stormwater



# Assumptions

- Alternatives based on the initial pricing objectives selected by the URCC
- Results are for illustrative purposes
- All scenarios are revenue neutral
  - › Values based on 2020 projected expenditures
  - › Rate alternatives recover the same level of revenue as existing rates
- Alternatives based on a cost of service analysis



# Cost-of-service analysis

- Determines cost to provide service to each customer class based on the demands they impose on the utility
- Recognizes customer classes' differing service characteristics
  - › Water
    - Average demands
    - Peak demands
    - Number of customers
  - › Wastewater
    - Flow
    - Sewer strength
    - Number of customers
- Costs will vary by customer class



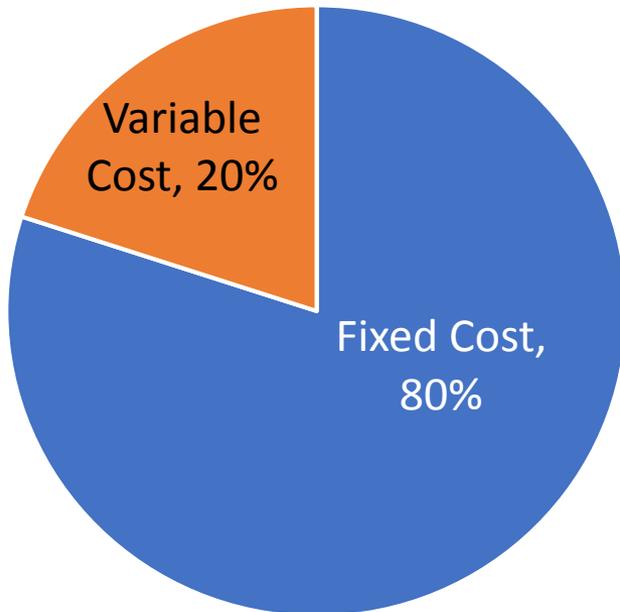
# Comparison of fixed/variable analysis and cost of service analysis

| Fixed/Variable Analysis  | Cost of Service Analysis  |
|--|---|
| <p>Fixed charge recovers:</p> <ul style="list-style-type: none"><li>• Capital costs</li><li>• Personnel costs</li><li>• Equipment costs</li><li>• All other costs that don't vary with usage</li></ul> | <p>Fixed charge recovers:</p> <ul style="list-style-type: none"><li>• Customer-related costs – billing, customer service, general admin</li><li>• Meters and meter field services</li><li>• Some capital recovery</li></ul> |
| <p>Variable rate recovers:</p> <ul style="list-style-type: none"><li>• Chemicals</li><li>• Utilities</li><li>• All other costs which vary with usage</li></ul>   | <p>Volume rate recovers:</p> <ul style="list-style-type: none"><li>• Water supply costs</li><li>• Cost of collecting, treating and distributing water to customers</li><li>• Includes capital and operating costs</li></ul> |

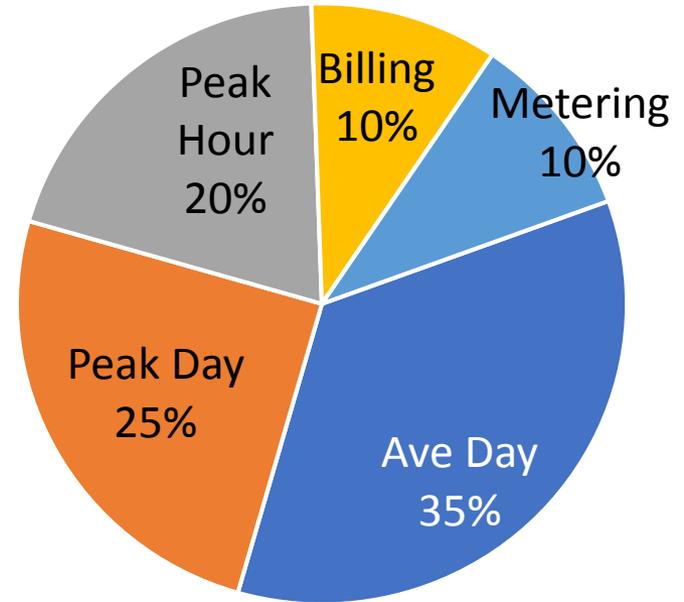


# Cost of service analysis is not a fixed and variable analysis

Fixed/Variable Analysis  
Annual System Costs



Cost of Service  
Annual System Costs



# Water pricing objectives

- Conservation
  - › The rate structure should contain a pricing signal that encourages the wise use of water
- Essential use affordability
  - › A rate structure should provide essential water use at the lowest possible cost while allowing the utility to generate revenue sufficient to maintain its financial health



# Water pricing objectives

- Equity between classes
  - › Costs are recovered proportionately from each customer class' rate structure based on their unique demand characteristics
- Revenue stability
  - › Rate structure should generate stable and predictable revenues sufficient to meet annual revenue requirements and bond covenants



# Golden current water and wastewater rate structures

| Water Service Charge |                            |
|----------------------|----------------------------|
| Meter Size Inches    | Service Charge \$ per bill |
| ¾"                   | \$4.43                     |
| 1"                   | 4.90                       |
| 1 ¼" & 1 ½"          | 10.07                      |
| 2"                   | 12.15                      |
| 3"                   | 55.60                      |
| 4"                   | 66.81                      |
| 6"                   | 87.34                      |
| 8"                   | 114.41                     |
| 10"                  | 150.07                     |
| 12"                  | 197.18                     |

| Water Volume Rate                            |            |
|--|------------|
| Treated, \$ per 1,000 gal                    | \$5.26     |
| Bulk Water, \$ per 1,000 gal                 | \$6.26     |
| Wastewater Rates                             |            |
| Service Charge, \$ per bill                  | \$12.11    |
| Volume rate, \$ per 1,000 gal                | \$2.61     |
| Strength Charges                             |            |
| BOD, \$ per lb, >300 mg/l                    | \$0.466049 |
| TSS, \$ per lb, >300 mg/l                    | \$0.261723 |
| [1] Residential based on February water use. |            |
| [2] Commercial based on actual use.          |            |

# Water Utility

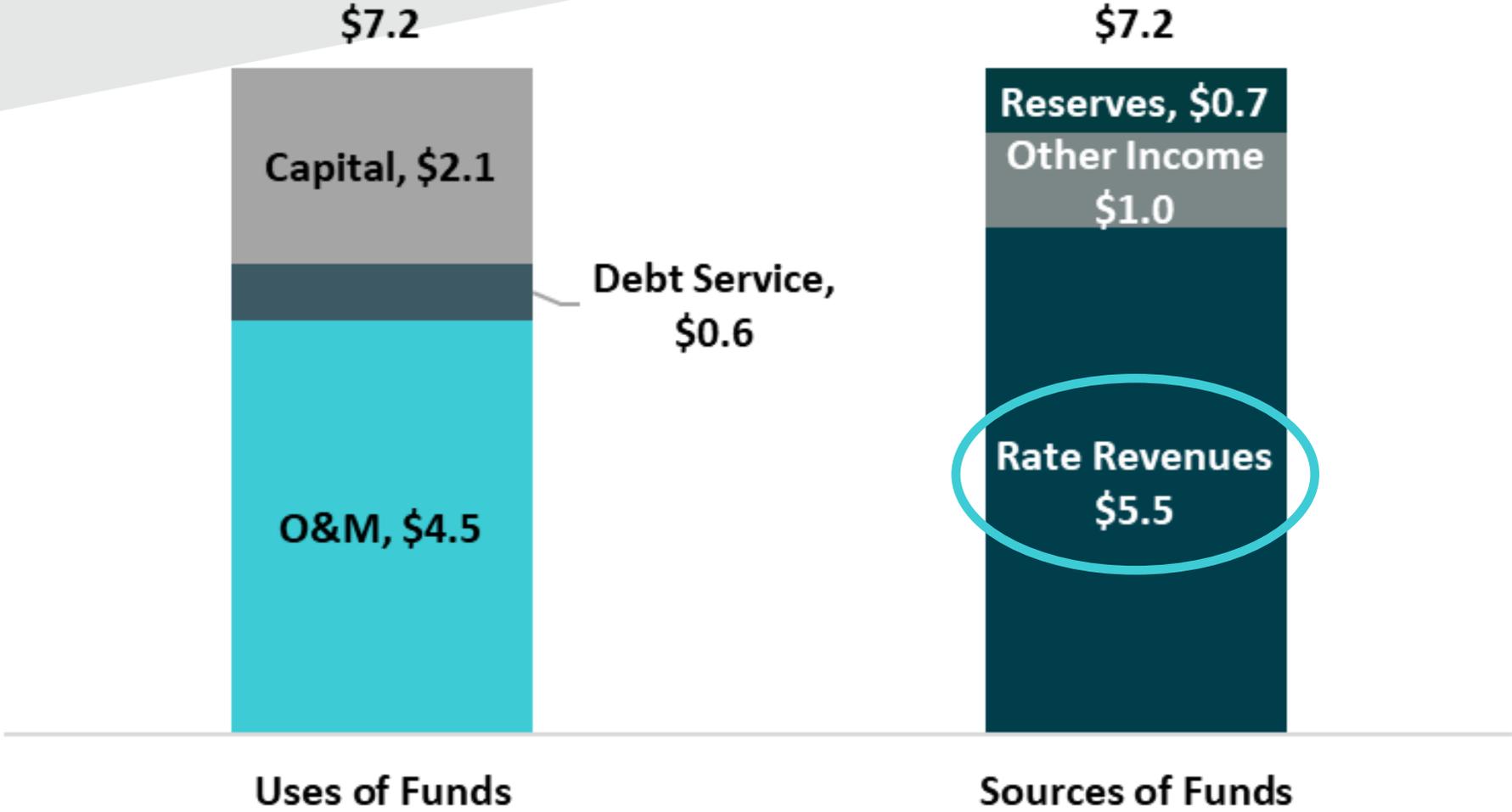
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Cost of service

Rate structure alternatives

Customer impacts

# 2020 water revenue requirement (millions)



# Water

## Comparison of COS and revenue under existing rates

| Customer Class | COS                | Revenue at Existing Rates | Change - \$ | Change %  |
|----------------|--------------------|---------------------------|-------------|-----------|
| Residential    | \$2,042,829        | \$2,008,517               | \$35,312    | 1.8%      |
| Comm/MF        | \$2,460,108        | \$2,798,783               | (\$338,675) | -12.1%    |
| Irrigation     | \$988,283          | \$684,920                 | \$303,363   | 44.3%     |
| <b>Total</b>   | <b>\$5,492,220</b> | <b>\$5,492,220</b>        | <b>\$0</b>  | <b>0%</b> |



# Water service charge

- Existing service charge based on meter size
  - › Recovers approximately 6.6% of total rate revenue
- Service charge alternative
  - › Based on meter size
  - › Same for all classes
  - › Recovers cost of billing, meters, general admin
  - › Recovers approximately 9.4% of total rate revenue



# Water service charge – Existing and alternative Applies to all classes

| Meter Size  | Existing | Alternative |
|-------------|----------|-------------|
| 5/8 x 3/4   | \$4.43   | \$7.31      |
| 1           | 4.90     | 7.79        |
| 1 ¼ x 1 1/2 | 10.07    | 8.99        |
| 2           | 12.15    | 10.43       |
| 3           | 55.60    | 14.28       |
| 4           | 66.81    | 18.62       |
| 6           | 87.34    | 30.65       |



# Water volume rate alternatives

## Residential

- Uniform
- Fixed inclining block
- AWC fixed
- Seasonal

## Commercial/Multifamily

- Uniform
- AWC fixed
- Seasonal

## Irrigation

- Uniform
- Fixed inclining block



# Residential Existing and alternative volume rates

| Uniform Rate          |                          |
|-----------------------|--------------------------|
| Existing,<br>per kgal | Alternative,<br>per kgal |
| \$5.26                | \$4.95                   |

| Seasonal Rate           |                       |                       |
|-------------------------|-----------------------|-----------------------|
| Month of<br>Usage       | Existing,<br>per kgal | Seasonal,<br>Per kgal |
| Winter<br>(Dec - Feb)   | \$5.26                | \$3.93                |
| Summer<br>(March – Nov) | 5.26                  | \$5.10                |



# Residential

## Existing and alternative volume rates

| Fixed Inclining |              |          |                    |                       |
|-----------------|--------------|----------|--------------------|-----------------------|
| Block           | Block (kgal) | % of Vol | Existing, per kgal | Alternative, per kgal |
| 1               | 0-5          | 54.7%    | \$5.26             | \$4.35                |
| 2               | 5-20         | 37.0%    | \$5.26             | \$5.43                |
| 3               | >20          | 8.3%     | \$5.26             | \$6.79                |



# Residential

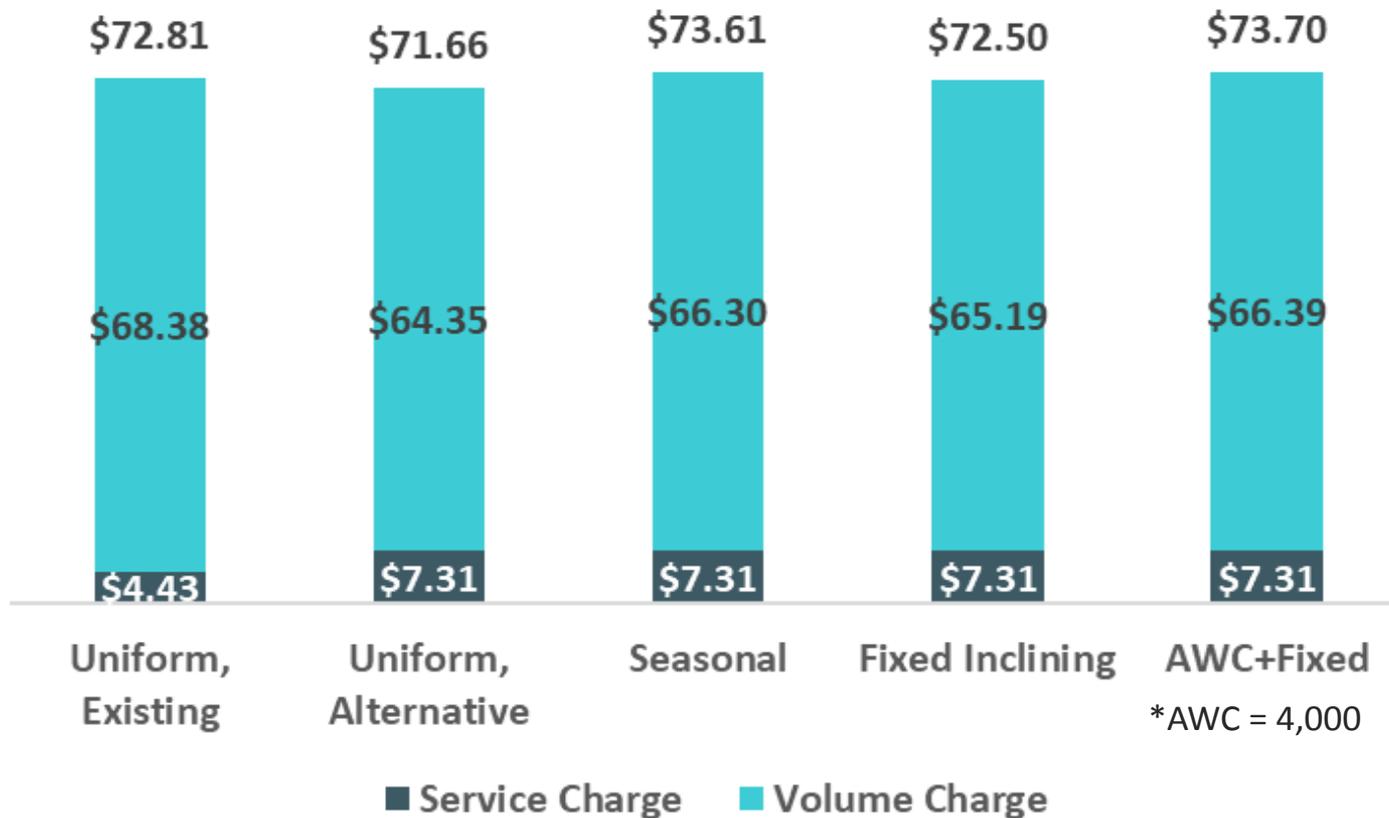
## Existing and alternative volume rates

| AWC + Fixed |                 |          |                    |                       |
|-------------|-----------------|----------|--------------------|-----------------------|
| Block       | Block (kgal)    | % of Vol | Existing, per kgal | Alternative, per kgal |
| 1           | AWC, min. 5 [1] | 59.4%    | \$5.26             | \$4.43                |
| 2           | AWC + 15        | 34.7%    | \$5.26             | \$5.53                |
| 3           | > AWC + 15      | 5.9%     | \$5.26             | \$6.91                |

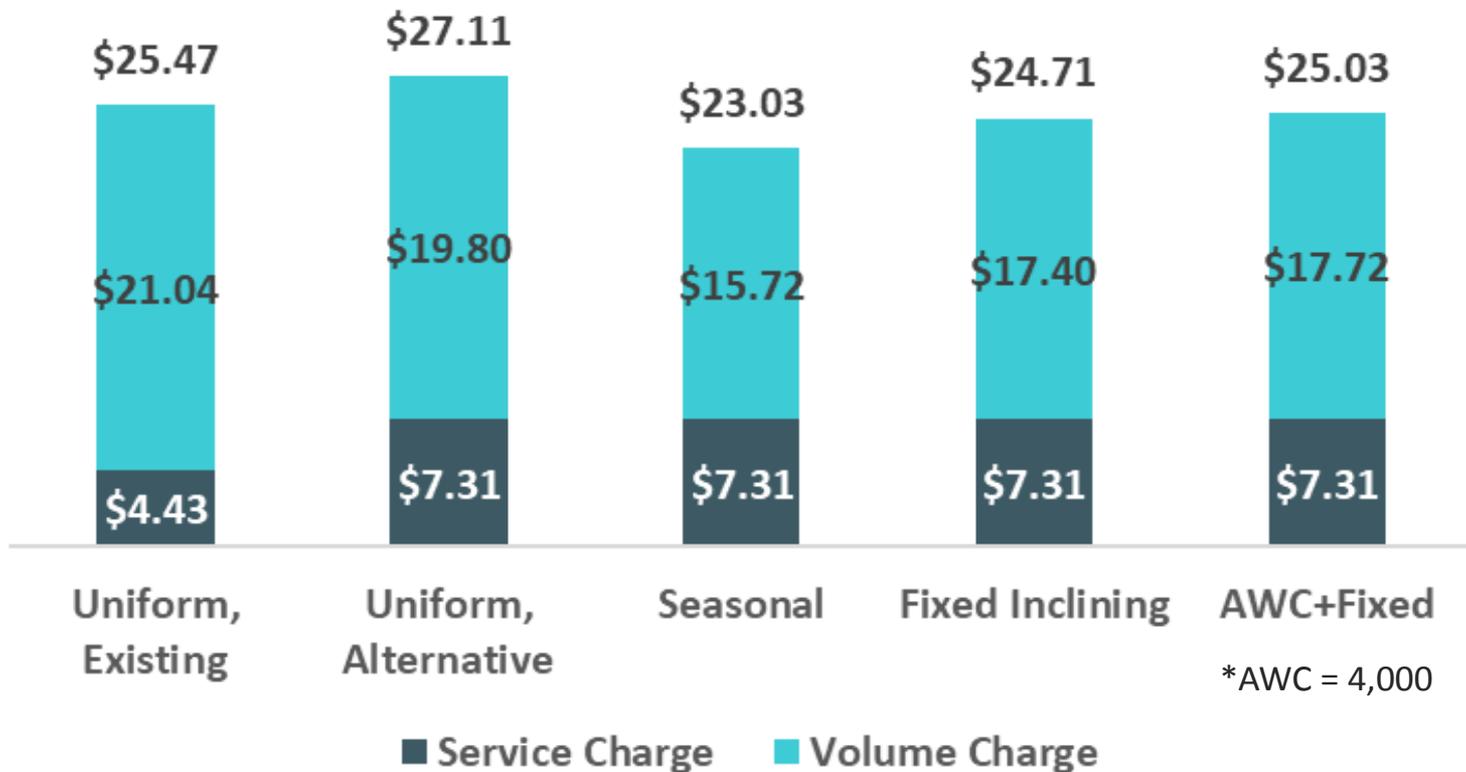
[1] Threshold is set at the maximum of AWC or 5,000 gallons. Customer is billed based on actual usage.



# Residential Typical summer monthly bill 13,000 gallons



# Residential Typical winter monthly bill 4,000 gallons



# Commercial/Multifamily

## Existing and alternative volume rates

| Uniform Rate          |                          |
|-----------------------|--------------------------|
| Existing,<br>per kgal | Alternative,<br>per kgal |
| \$5.26                | \$4.57                   |

| Seasonal Rate           |                       |                       |
|-------------------------|-----------------------|-----------------------|
| Month of<br>Usage       | Existing,<br>per kgal | Seasonal,<br>Per kgal |
| Winter<br>(Dec - Feb)   | \$5.26                | \$3.80                |
| Summer<br>(March – Nov) | 5.26                  | \$4.75                |



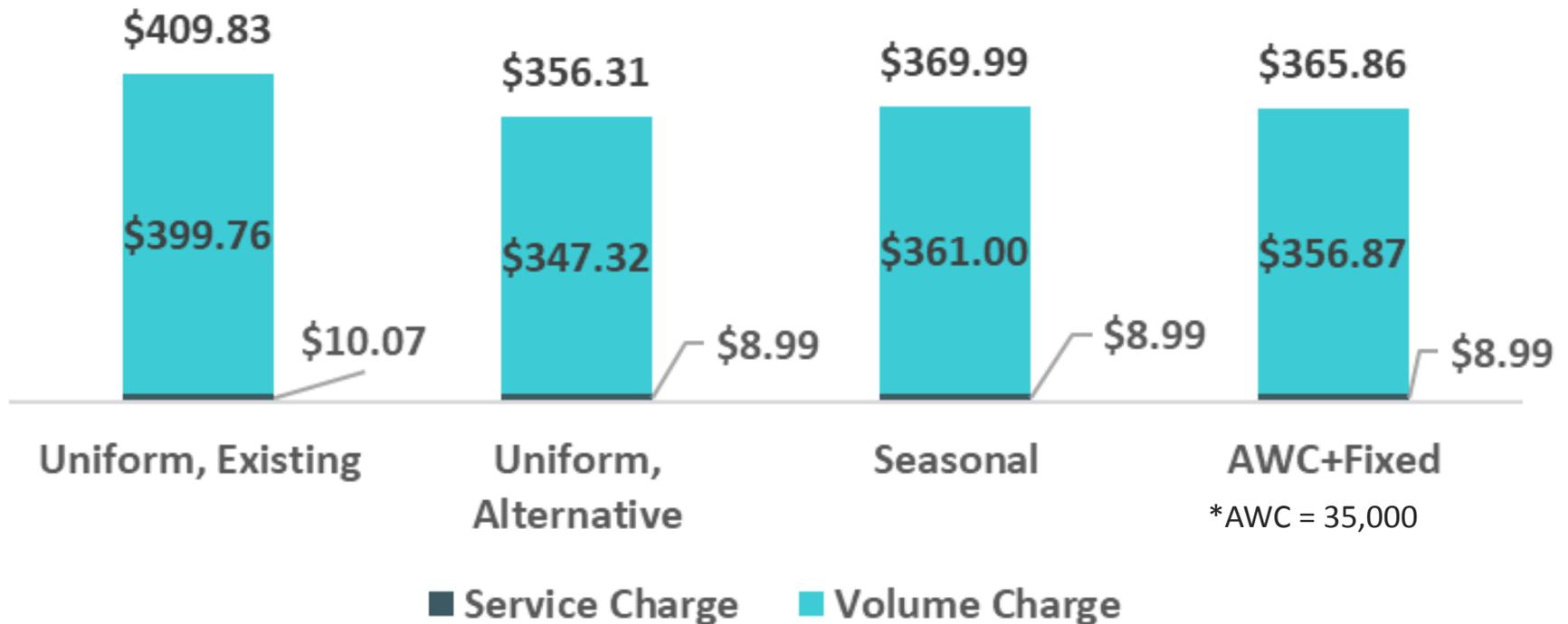
# Commercial/Multifamily

## Existing and alternative volume rates

| AWC + Fixed |              |          |                    |                       |
|-------------|--------------|----------|--------------------|-----------------------|
| Block       | Block (kgal) | % of Vol | Existing, per kgal | Alternative, per kgal |
| 1           | AWC, min. 5  | 67.5%    | \$5.26             | \$4.14                |
| 2           | AWC x 3      | 25.0%    | \$5.26             | \$5.17                |
| 3           | > AWC x 3    | 7.5%     | \$5.26             | \$6.46                |



# Commercial/Multifamily Sample monthly bill 76,000 gallons 1.5" meter



# Commercial/Multifamily Sample monthly bill 17,000 gallons 1.5" meter



# Irrigation

## Existing and alternative volume rates

| Uniform Rate          |                          |
|-----------------------|--------------------------|
| Existing,<br>per kgal | Alternative,<br>per kgal |
| \$5.26                | \$7.64                   |



# Irrigation

## Existing and alternative volume rates

| Fixed Inclining |              |          |                    |                       |
|-----------------|--------------|----------|--------------------|-----------------------|
| Block           | Block (Kgal) | % of Vol | Existing, per kgal | Alternative, per kgal |
| 1               | 0 - 80       | 40.3%    | \$5.26             | \$6.23                |
| 2               | 80 - 275     | 34.8%    | \$5.26             | \$7.79                |
| 3               | >275         | 24.9%    | \$5.26             | \$9.73                |

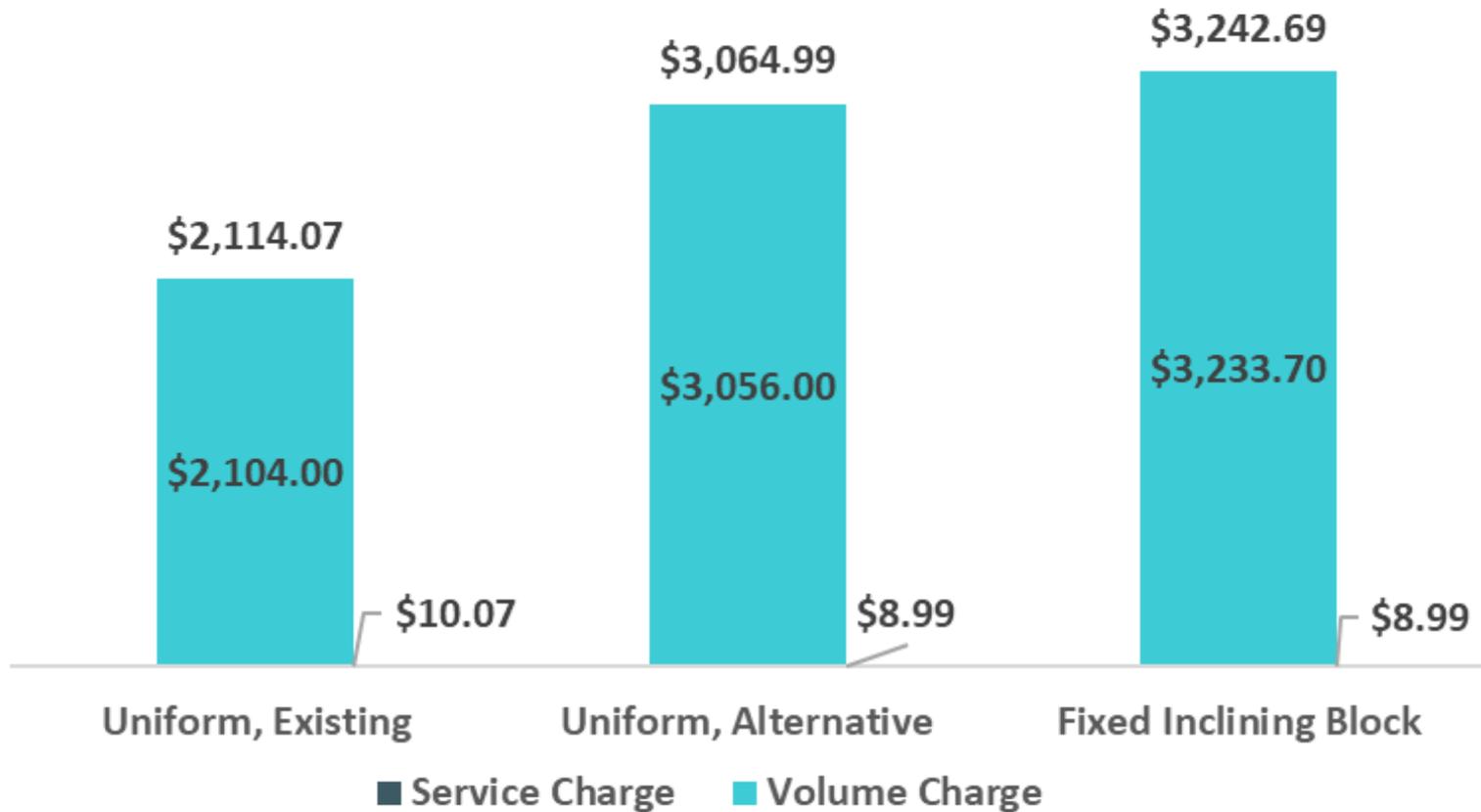


# Irrigation

Sample monthly bill for high-volume user

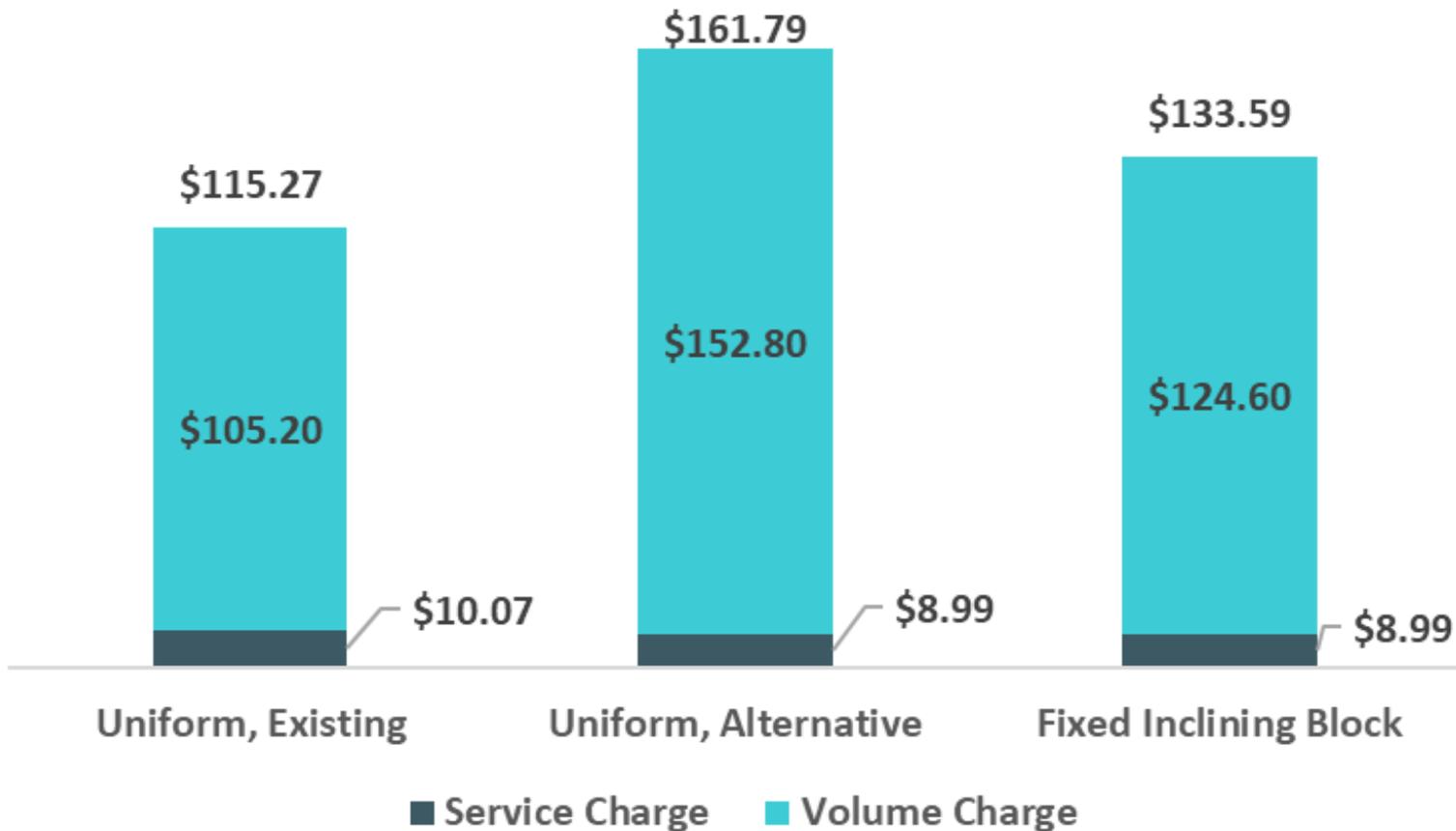
400,000 gallons

1.5" meter



# Irrigation

Sample monthly bill for low-volume user  
20,000 gallons  
1.5" meter



# Wastewater Utility

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Cost of service

Rate structure alternatives

Customer impacts

# Wastewater pricing objectives

- Essential use affordability
  - › A rate structure should provide essential water use at the lowest possible cost while allowing the utility to generate revenue sufficient to maintain its financial health
- Equity between classes
  - › Costs are recovered proportionately from each customer class' rate structure based on their unique demand characteristics

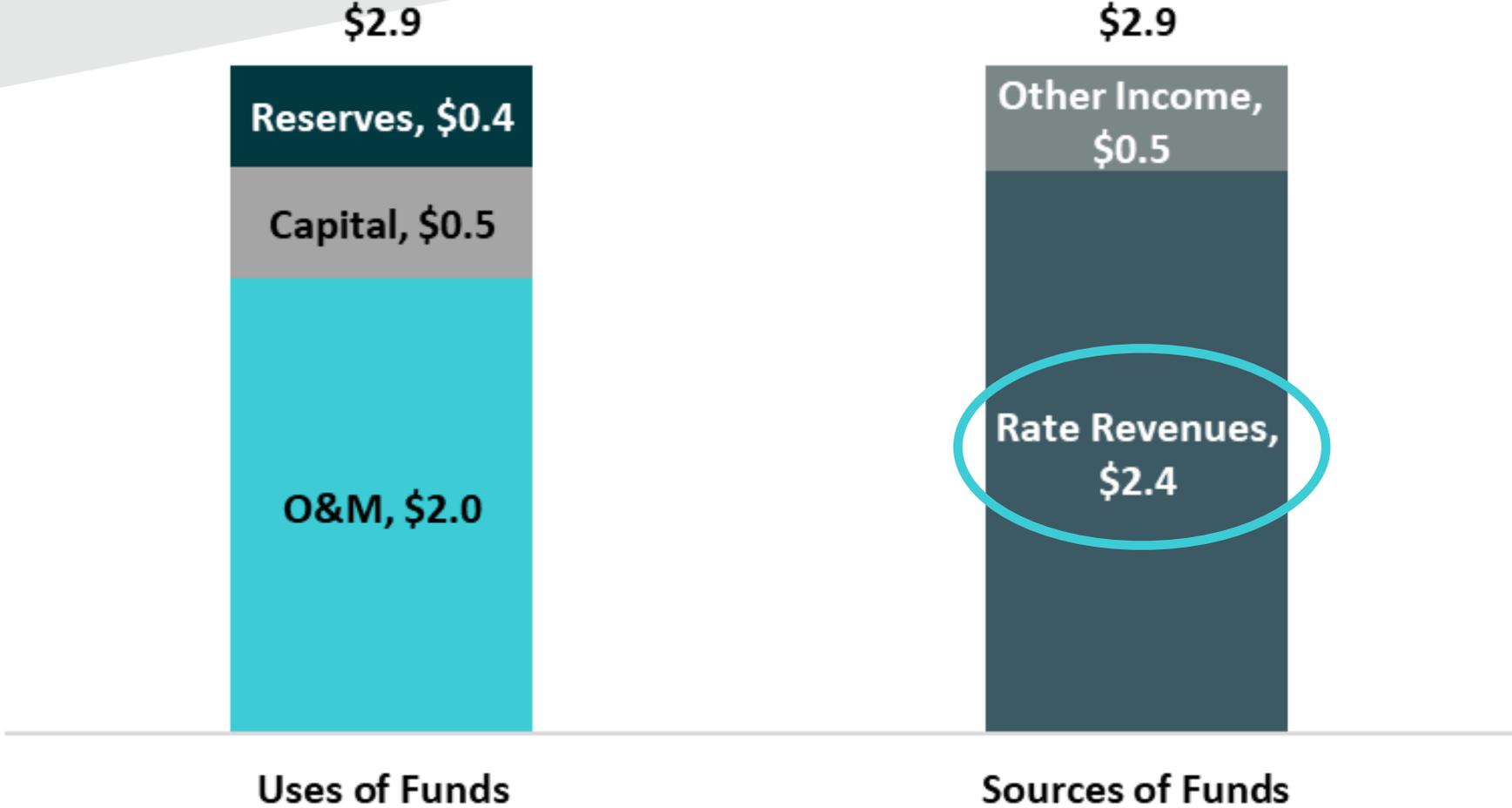


# Wastewater pricing objectives

- Equity within classes
  - › Intraclass equity is maximized when the rate structure results in individual customers paying, to the maximum extent possible, an amount that approximates their unique contribution to their customer class revenue requirement
- Revenue stability
  - › Rate structure should generate stable and predictable revenues sufficient to meet annual revenue requirements and bond covenants



# 2020 wastewater revenue requirement – revenue neutral (millions)



# Wastewater

## Comparison of COS and revenue under existing rates

| Customer Class  | COS                | Revenue at Existing Rates | Change - \$ | Change %  |
|-----------------|--------------------|---------------------------|-------------|-----------|
| Residential     | \$753,501          | \$1,057,055               | (\$303,554) | -28.7%    |
| Non-Residential | \$1,660,258        | \$1,356,704               | \$303,554   | 22.4%     |
| <b>Total</b>    | <b>\$2,413,759</b> | <b>\$2,413,759</b>        | <b>\$0</b>  | <b>0%</b> |



# Wastewater service charges – Existing and alternatives

- Service charge alternative same for all classes and meter sizes
- Recovers cost of billing, meters, general admin
- Percent of revenue recovered through fixed charge
  - › Existing: 33.6%
  - › Alternative 1: 16.7%
  - › Alternative 2: 20.0%

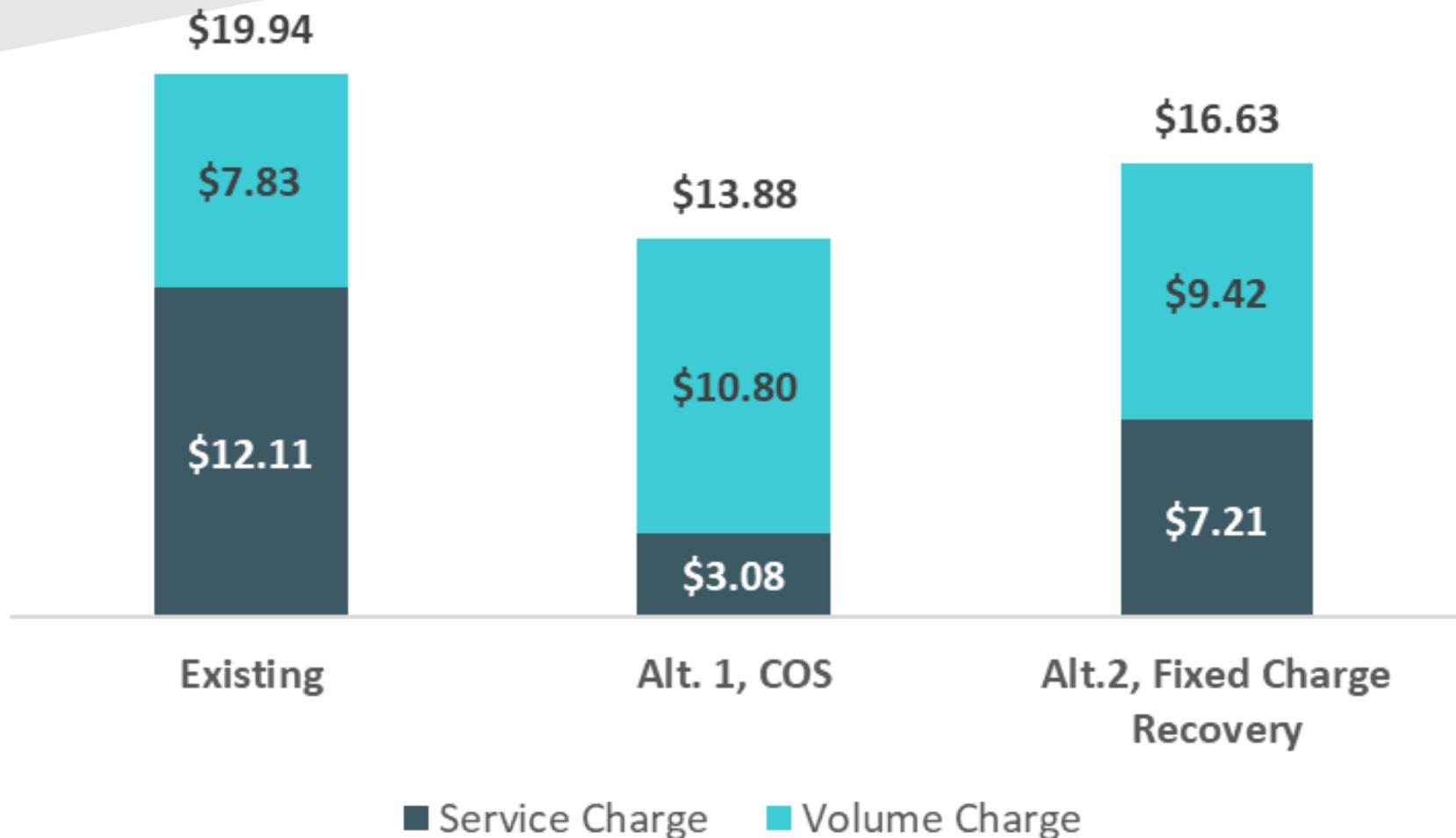


# Wastewater Existing and alternatives

| Rate Component              | Existing | Alternate 1<br>COS | Alternate 2<br>Fixed Charge<br>Recovery |
|-----------------------------|----------|--------------------|---|
| Service charge, \$ per bill | \$12.11  | \$3.08             | \$7.21                                  |
| Volume charge, \$ per kgal  | \$2.61   | \$3.60             | \$3.14                                  |



# Wastewater Sample monthly bill 3,000 gallons



# Wastewater Sample monthly bill 76,000 gallons

