

WATER RATE TRENDS STUDY

Finance/Rates Division

Customer Relations/Finance Committee

June 20, 2022

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BACKGROUND

1. Carollo was approved to complete the Water Cost of Service and Rate Design Project
2. Phase II Water Rate Trends Study
 - a. Ratemaking principles
 - b. Riverside's existing rate structures
 - c. Emerging and alternative rate structures
 - d. Technological trends
 - e. Recommendations



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RATEMAKING PRINCIPLES DRIVE RATE DESIGN

City Council
Approved
July 26, 2016

- Achieve full recovery of costs
- Equitably allocate costs across and within customer classes
- Encourage efficient use of water and electricity
- Provide rate stability
- Offer flexibility and options
- Maintain rate competitiveness in region
- Be simple and easy to understand

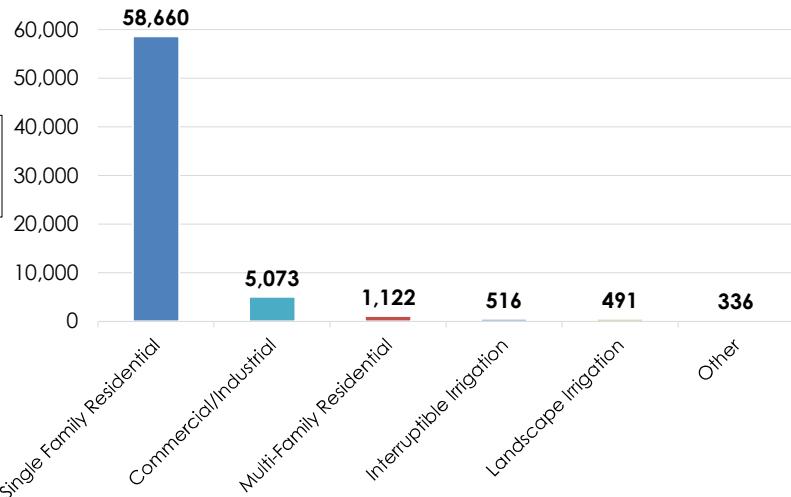


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WATER METERS

Number of Water Meters as of June 30, 2021

- 66,198 total water meters
- 59,782 or 90% are Single Family or Multi-Family Residential.



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RPU ADVANTAGES & DISADVANTAGES (TABLE 6-1)

Structure Currently used by RPU	Advantages	Disadvantages	Timeline
Uniform Rates	Ease of implementation	Does not promote efficient water usage	Short Term
Tiered Block	Recovers class-specific costs	Higher volatility in upper tiers	Short Term
Seasonal	Costs allocated to customers peaking in summer	Customer understanding	Short Term
Increased Fixed Charges	Fixed cost recovery/ revenue stability	Possible large rate increases to low-use customers	Short Term
Multi-Family Rates	Efficiency of water use	Requires additional billing information	Short Term



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RPU ADVANTAGES & DISADVANTAGES (TABLE 6-1)

Structure Currently used by RPU (cont.)	Advantages	Disadvantages	Timeline
Landscape/Irrigation Rates	Costs allocated to customer classes peaking in summer	Customer understanding	Short Term
Agricultural Water Allocation Rates	Incentivize qualifying agriculture	Administrative burden	Short Term
Recycled Water Rates	Reliable supply that frees up potable capacity	Additional infrastructure and high upfront cost	Short, Mid and Long Term
Interruptible Rates	Ability to curtail irrigation customers during drought conditions	Customer understanding and administrative burden	Short Term



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RPU ADVANTAGES & DISADVANTAGES (TABLE 6-1)

Potential Structures Not Implemented	Advantages	Disadvantages	Timeline
Decoupling of Fixed Charges	Possible improvement in fixed cost recovery	Difficult to quantify	Mid Term
Cost Adjustments	Specific cost recovery	Administrative burden	Short Term
Drought/Demand Pricing	Revenue recovery due to decrease in sales from mandatory drought restrictions	Customer understanding and acceptance	Short Term
Other Potential Structures	Advantages	Disadvantages	Timeline
Budget-Based Rates	Customized allocation based on customer characteristics	Complexity, administrative costs and information required	Mid to Long Term
Hybrid Budget-Based Rates	Customized allocation based on customer subclasses	Complexity and administrative costs	Short to Mid Term



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RPU ADVANTAGES & DISADVANTAGES (TABLE 6-1)

Other Potential Structures (cont.)	Advantages	Disadvantages	Timeline
Lease Back	Delayed infrastructure upgrades	Monitoring lease credit methodology	Short to Mid Term
Demand Charge	Assign costs to peaking and encourage lower system demand	Customer understanding and acceptance, cost of advanced metering	Long Term
Time of Use	Better recover system costs and encourage demand on system during off-peak hours	Assigning system costs by time periods, customer understanding, cost of advanced metering	Long Term
Regulatory Pass-Through Charge	Specific regulatory or mandated cost recovery	Administrative burden	Short Term
Supply/Infrastructure Charge	Specific supply and/or infrastructure cost recovery	Administrative burden	Short Term



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CUSTOMER ADVANTAGES & DISADVANTAGES (TABLE 6-2)

Structure Currently used by RPU	Advantages	Disadvantages
Uniform Rates	Easy to understand	Possible rate increase to lower users
Tiered Block	Increases efficiency awareness	Larger rate increases for higher volume users
Seasonal	Lower costs during off-peak seasons	Higher costs during peak seasons
Increased Fixed Charges	Lower commodity charges and less bill fluctuations	Possible large rate increases to low-use customers
Multi-Family Rates	Increase in equity between housing units	Need to be efficient based on number of units



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CUSTOMER ADVANTAGES & DISADVANTAGES (TABLE 6-2)

Structure Currently used by RPU (cont.)	Advantages	Disadvantages
Landscape/Irrigation Rates	Known rates for specific customer class	Increases cost to irrigate based on peaking factors
Agricultural Water Allocation Rates	Customized allocation for agricultural use	Initial effort to implement
Recycled Water Rates	Reliable supply	Ability for customer to use recycled water
Interruptible Rates	Lower rate for commitment to curtail	End users risk reduced quantities



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CUSTOMER ADVANTAGES & DISADVANTAGES (TABLE 6-2)

Potential Structures Not Implemented	Advantages	Disadvantages
Decoupling of Fixed Charges	Possible future credit for over collection	Possible rate increases due to unknown adjustment in future
Cost Adjustments	Possible future credit for over collection	Possible rate increases due to unknown adjustment in future
Drought/Demand Pricing	Reduced rate increases for those who do conserve/reduce demand	Increase in rate for reduced usage
Other Potential Structures	Advantages	Disadvantages
Budget-Based Rates	Customized allocation based on customer characteristics	Initial confusion; complexity
Hybrid Budget-Based Rates	Personalized rate structure based on subclass characteristics	Initial confusion; complexity



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RPU ADVANTAGES & DISADVANTAGES (TABLE 6-2)

Other Potential Structures (cont.)	Advantages	Disadvantages
Lease Back	Incentive for low-volume customers	Slightly higher rates for high-volume users
Demand Charge	Customers can control pricing by monitoring demand	Increased charges for increased demand, initial confusion, complexity
Time of Use	Lower rate for off-peak usage	Higher rate for on-peak usage, initial confusion, complexity
Regulatory Pass-Through Charge	Charge specific to cost recovery	Additional charge on customer bill
Supply/Infrastructure Charge	Charge specific to cost recovery	Additional charge on customer bill



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-3)

Structure Currently used by RPU	Short-Term (Within 1 Year)	Mid-Term (2-5 Years)	Long-Term (>5 Years)
Uniform Rates	Review charges and adjust if necessary	Review charges and adjust if necessary	Review charges and adjust if necessary
Tiered Block	Review cost structure and consider continuing with inclining tiers	Review charges and adjust if necessary	Review charges and adjust if necessary
Seasonal	Consider customer peaking factors and seasonal costs. Consider continuing seasonal structure	Review charges and adjust if necessary	Review charges and adjust if necessary
Increased Fixed Charges	Review charges and cost recovery, consider impact to customer and implement as feasible	Review charges and cost recovery, and adjust if necessary	Review charges and cost recovery, and adjust if necessary
Multi-Family Rates	Review charges and adjust if necessary	Review charges and adjust if necessary	Review charges and adjust if necessary



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-3)

Structure Currently used by RPU (cont.)	Short-Term (Within 1 Year)	Mid-Term (2-5 Years)	Long-Term (>5 Years)
Landscape/Irrigation Rates	Review charges and adjust if necessary	Review charges and adjust if necessary	Review charges and adjust if necessary
Agricultural Water Allocation Rates	Review charges and adjust if necessary	Review charges and adjust if necessary	Review charges and adjust if necessary
Recycled Water Rates	Evaluate allocation of costs, current and alternative rate structures, and customer acceptance	Evaluate allocation of costs, rate structure and customer acceptance	Evaluate allocation of costs, rate structure and customer acceptance
Interruptible Rates	Review charges and adjust if necessary	Review charges and adjust if necessary	Review charges and adjust if necessary



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-3)

Potential Structures Not Implemented	Short-Term (Within 1 Year)	Mid-Term (2-5 Years)	Long-Term (>5 Years)
Decoupling of Fixed Charges	Consider fixed cost recovery and consider implementation	Consider fixed cost recovery and consider implementation	Consider fixed cost recovery and consider implementation
Cost Adjustments	Identify and assess risk of fluctuating costs and consider implementation	Identify and assess risk of fluctuating costs and consider implementation	Identify and assess risk of fluctuating costs and consider implementation
Drought/Demand Pricing	Determine type of surcharge/rate structures and implement	Review charges and adjust if necessary	Review charges and adjust if necessary
Other Potential Structures	Short-Term (Within 1 Year)	Mid-Term (2-5 Years)	Long-Term (>5 Years)
Budget-Based Rates	Consider costs vs. benefit and collect necessary data.	Consider costs vs. benefits and collect the necessary data. Consider implementation.	Consider full budget-based implementation
Hybrid Budget-Based Rates	Consider costs vs. benefit and collect necessary data.	Consider costs vs. benefits and collect the necessary data. Consider implementation.	Consider full budget-based implementation



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-3)

Other Potential Structures (cont.)	Short-Term (Within 1 Year)	Mid-Term (2-5 Years)	Long-Term (>5 Years)
Lease Back	Determine type of structure and consider implementation	Determine type of structure and consider implementation	Determine type of structure and consider implementation
Demand Charge	Begin assessment of how to implement and identify costs related to charge	Possible implementation on certain customers with pilot AMI program	Consider implementation once AMI has been established
Time of Use	Begin assessment of how to implement and identify costs for time periods	Possible implementation on certain customers with pilot AMI program	Consider implementation once AMI has been established
Regulatory Pass-Through Charge	Identify and assess regulatory or mandated costs and consider implementation	Review charges and adjust if necessary	Review charges and adjust if necessary
Supply/Infrastructure Charge	Identify and assess additional supply and/or infrastructure costs and consider implementation	Review charges and adjust if necessary	Review charges and adjust if necessary



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-4)

Structure Currently used by RPU	Customer Acceptance	Customer Behavior Changes	Technology Required	Customer Technology Cost	Utility Technology Cost	Barriers	Risks
Uniform	Easy	Easy	Easy	Low	Low	Low	Low
Tiered Block	Moderate	Easy	Easy	Low	Low	Moderate	Moderate
Seasonal	Moderate	Easy	Easy	Low	Low	Moderate	Moderate
Increased Fixed Charges	Difficult	Easy	Easy	Low	Low	Low	Low
Multi-Family Tiered Rates	Easy	Easy	Moderate	Low	Moderate	Moderate	Moderate



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-4)

Structure Currently used by RPU (cont.)	Customer Acceptance	Customer Behavior Changes	Technology Required	Customer Technology Cost	Utility Technology Cost	Barriers	Risks
Landscape/ Irrigation Rates	Moderate	Easy	Easy	Low	Low	Moderate	Low
Agricultural Water Allocation Rates	Moderate	Easy	Easy	Low	Low	Moderate	Low
Recycled Water Rates	Moderate	Moderate	Easy	High	High	Moderate	Moderate
Interruptible	Moderate	Difficult	Moderate	Low	Moderate	Moderate	Low



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-4)

Potential Structures Not Implemented	Customer Acceptance	Customer Behavior Changes	Technology Required	Customer Technology Cost	Utility Technology Cost	Barriers	Risks
Decoupling of Fixed Charges	Difficult	Moderate	Easy	Low	Moderate	Moderate	Moderate
Cost Adjustments	Moderate	Moderate	Easy	Low	Low	High	Low
Drought/ Demand Pricing	Moderate	Moderate	Easy	Low	Low	Moderate	Low
Other Potential Structures	Customer Acceptance	Customer Behavior Changes	Technology Required	Customer Technology Cost	Utility Technology Cost	Barriers	Risks
Budget-Based Rates	Difficult	Moderate	Difficult	Moderate	High	Moderate	Moderate
Hybrid Budget-Based Rates	Moderate	Moderate	Moderate	Low	Moderate	Moderate	Moderate



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RATE STRUCTURE IMPLEMENTATION (TABLE 6-4)

Other Potential Structures (cont.)	Customer Acceptance	Customer Behavior Changes	Technology Required	Customer Technology Cost	Utility Technology Cost	Barriers	Risks
Lease Back	Easy	Easy	Easy	Low	Low	Low	Low
Demand Charge	Difficult	Moderate	Difficult	Moderate	High	High	Moderate
Time of Use (Commercial)	Difficult	Moderate	Difficult	High	High	High	Moderate
Regulatory Pass-Through Charge	Moderate	Moderate	Easy	Low	Low	Moderate	Low
Supply/ Infrastructure Charge	Moderate	Moderate	Easy	Low	Low	Moderate	Low



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GENERAL RECOMMENDATIONS

1. Evaluate Customer Classes and Consider:
 - a. Refinements to class assignments
 - b. Additional customer classes
2. Fixed Cost Recovery
 - a. Continue to track fixed and variable costs
 - b. Evaluate fixed costs versus fixed revenues
 - c. Potential increases to proportion of fixed revenues



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GENERAL RECOMMENDATIONS

3. Volumetric Rate Structures
 - a. Review current demand patterns
 - b. Evaluate tier break points and seasonal assumptions
4. Drought and Demand Management Rates
 - a. Adequately recover costs during high conservation and decreased demands
 - b. Implemented with Water Conservation Ordinance stages
 - c. Full updated rate schedules for varied levels of conservation
 - d. Fixed or volumetric surcharge applied equally



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GENERAL RECOMMENDATIONS

5. Budget Based Rates

- a. Evaluate implementation
- b. Assess level of effort to implement
- c. Develop implementation plan

6. Recycled Water Rates

- a. Review recycled water system expansion
- b. Project customer connections and usage



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GENERAL RECOMMENDATIONS

7. Other Rate Structure Charges

- a. Supply/Infrastructure
- b. Regulatory pass-through

8. Long-Term Considerations

- a. Advance metering infrastructure implementation
- b. Time of use rates
- c. Demand charges



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PROJECT STATUS

Water Cost Of Service and Rate Design Project	Status
Phases I- Cost of Service Analysis	Underway
Phases II- Water Rate Trends Study	Draft
Phases III- Rate Design	Following Phase I and II
Phase IV- Recycled Water Rate Design	Following Phase III
Phase V- Budget-Based Rate Design and Implementation Plan	Following Phase III



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STRATEGIC PLAN ALIGNMENT



Strategic Priority 6 - Infrastructure, Mobility & Connectivity

Goal 6.2 - maintain, protect and improve assets and infrastructure within the City's built environment to ensure and enhance reliability, resiliency, sustainability, and facilitate connectivity

Cross-Cutting Threads



Community Trust



Fiscal Responsibility



Sustainability & Resiliency



Equity



Innovation



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RECOMMENDATION

That the Customer Relations/Finance Committee receive an update and provide feedback on Riverside Public Utilities' Water Rate Trends Study.



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