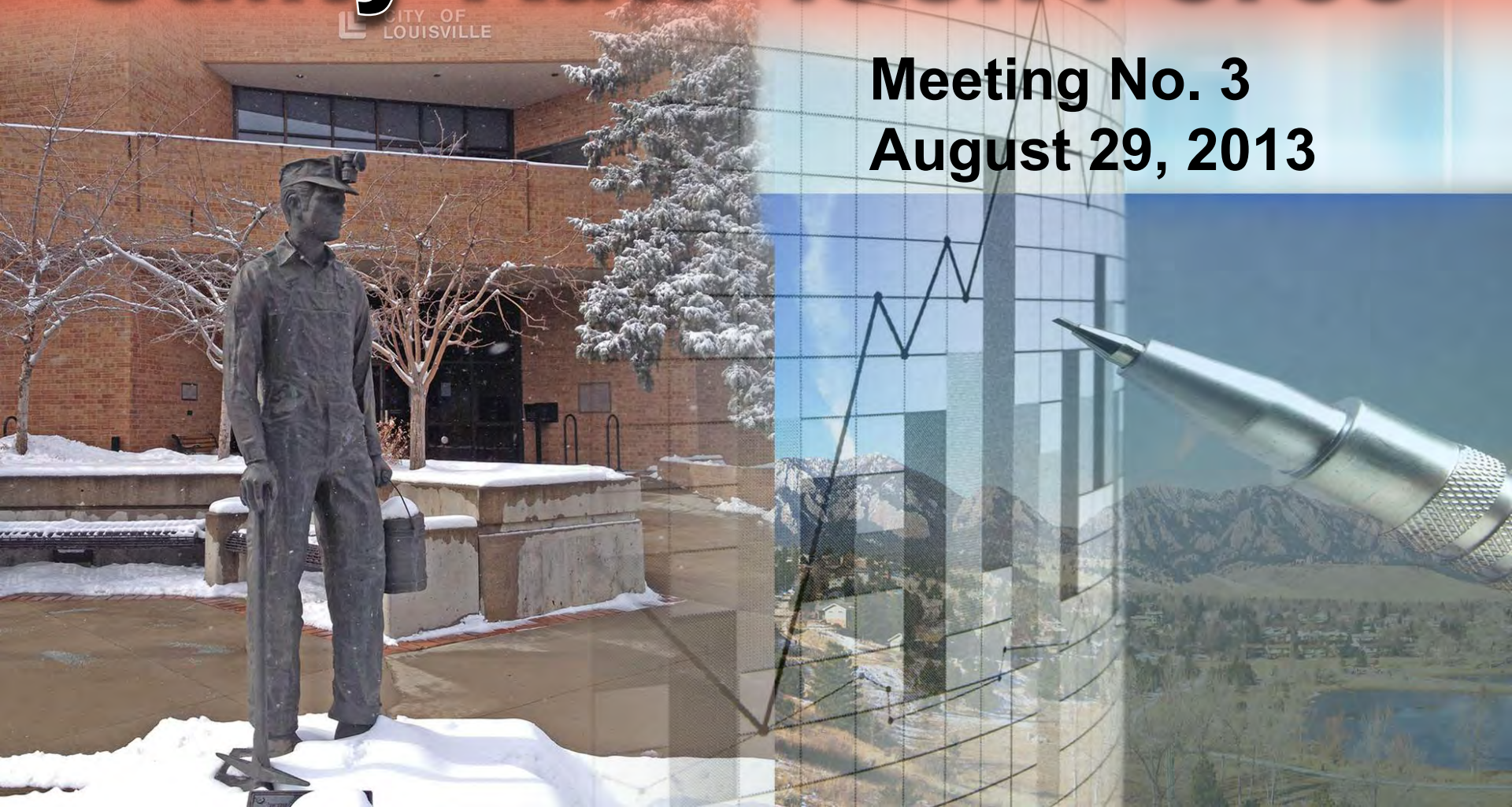


Utility Rate Task Force

Meeting No. 3
August 29, 2013



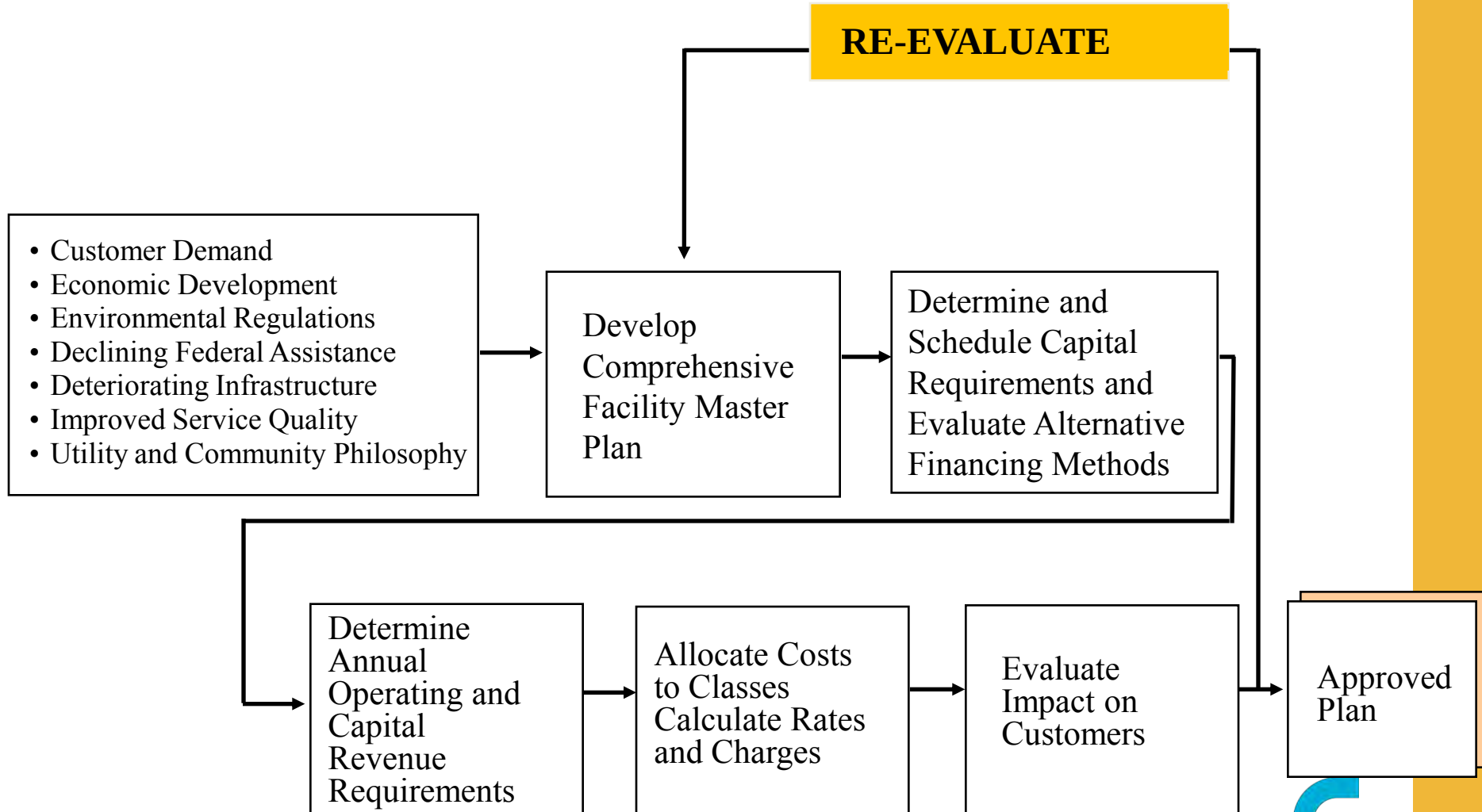
Agenda

- **Financial plan preliminary findings**
- **System development charges preliminary findings**
- **Pricing objectives summary**
- **Mr. Leary's water rate structure proposal**
- **Next steps**

Financial Plan Preliminary Findings



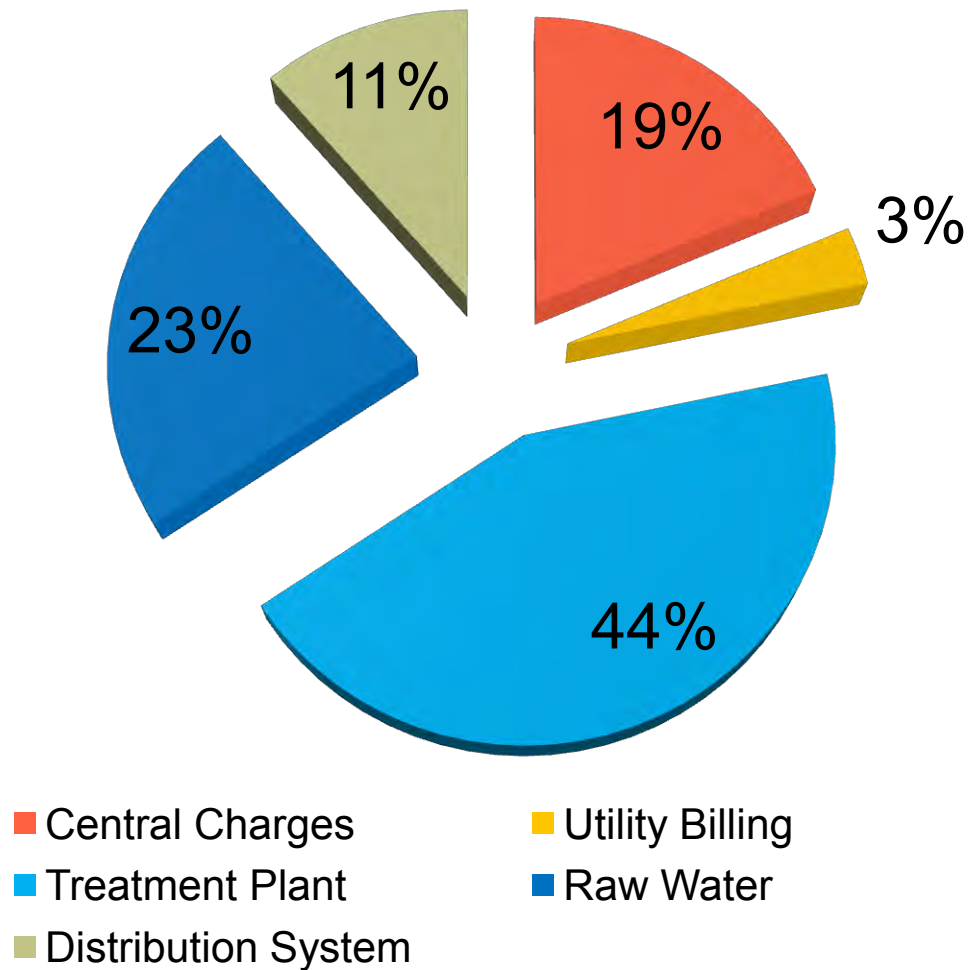
Capital and Financial Planning Process



2014 Water Utility Budget

Description	2014
Beginning Balance	\$5,456,000
Revenues	
Rates (a)	\$4,832,000
Tap Fees	4,138,000
Other Revenue	<u>135,000</u>
Total Revenues	\$9,105,000
Expenses	
Operating Expenses	\$3,374,000
Debt Service	1,372,000
Cash-funded Capital	<u>3,691,000</u>
Total Expenses	\$8,437,000
Surplus/(Deficit)	\$668,000
Ending Balance	<u>\$6,124,000</u>
Debt Service Coverage	4.18
(a) From existing rates.	

Water 2014 O&M Budget - \$3.4 million



Water Capital Costs, \$16.9 million

2014- 2018

Major Projects (*\$ million*)

- Sludge treatment / handling (\$2.7)
- Share (25%) of City services facility (\$2.1)
- Windy Gap firming (\$2.3)
- North WTP pump station (\$2.4)
- Clear well upgrade (\$3.4)

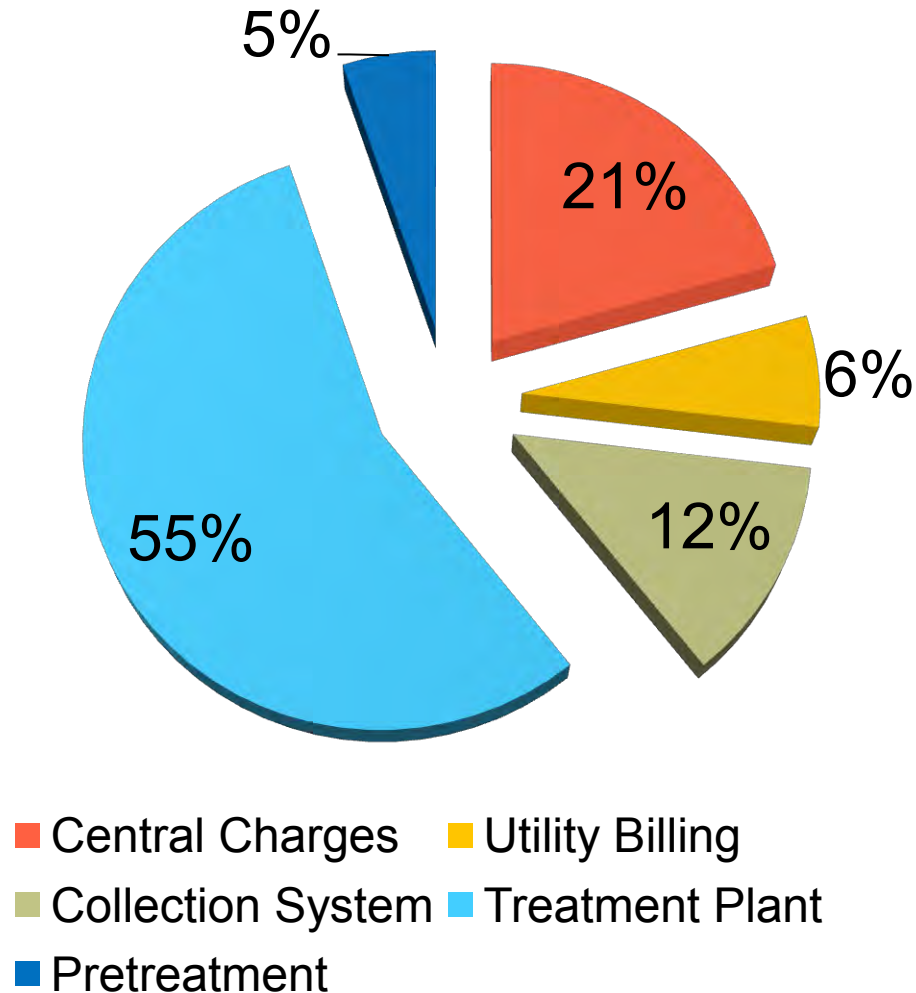
Other Projects (*\$ million*)

- Waterlines (\$1.1)
- Pumps & valves (\$0.3)
- Marshall Lake evaluation (\$0.2)
- Water meters (\$0.1)
- Tie-in with Superior (\$0.6)
- Misc. WTP upgrades (\$1.3)
- Other (\$0.4)

2014 Wastewater Utility Budget

Description	2014
Beginning Balance	\$7,639,000
Revenues	
Rates (a)	\$2,050,000
Tap Fees	439,000
Other Revenue	<u>284,000</u>
Total Revenues	\$2,773,000
Expenses	
Operating Expenses	\$1,655,000
Debt Service	1,763,000
Cash-funded Capital	<u>3,344,000</u>
Total Expenses	\$6,762,000
Surplus/(Deficit)	(\$3,989,000)
Ending Balance	<u>\$3,650,000</u>
Debt Service Coverage	0.63
(a) From existing rates.	

Wastewater 2014 O&M Budget - \$1.7 million



Wastewater Capital Costs, \$28.2 million

2014- 2018

Major Projects (*\$ million*)

- WWTP Upgrade (\$22.8)
- Share (25%) of City services facility (\$2.1)

Other Projects (*\$ million*)

- Sewer lines (\$2.5)
- Misc. WTP upgrades (\$0.3)
- Other (\$0.5)

2014 Storm Water Utility Budget

Description	2014
Beginning Balance	\$1,734,000
Revenues	
Rates (a)	\$517,000
Tap Fees	0
Other Revenue	<u>22,000</u>
Total Revenues	\$539,000
Expenses	
Operating Expenses	\$155,000
Debt Service	577,000
Cash-funded Capital	<u>1,840,000</u>
Total Expenses	\$2,572,000
Surplus/(Deficit)	(\$2,033,000)
Ending Balance	<u>(\$299,000)</u>
Debt Service Coverage	0.67
(a) From existing rates.	

Storm Water Capital Costs, \$10.6 million

2014- 2018

Major Projects (*\$ million*)

- Citywide Outfall Improvements (\$8.2)
- BNSF RR underpass (\$0.8)
- DELO utility (\$0.6)

Other Projects (*\$ million*)

- Detention pond upgrades (\$0.6)
- South St. underpass (\$0.1)
- CCS drainage (\$0.3)

Review of Preliminary Financial Plans Using Excel Model



System Development Charges

Principles of System Development Charges

- Definition – one-time charge paid by new connector for system capacity or by existing customer requiring increased capacity
- Based on costs of:
 - Major backbone infrastructure
 - Water raw water mains and storage, treatment plants, transmission mains and storage facilities
 - Wastewater interceptors, treatment plants and disposal facilities
 - Water resources
 - Intangible assets such as water rights

Principles of System Development Charges

- Based on a reasonable relationship (*rational nexus*) between amount of SDC and costs associated with serving connector
- Most common methods of calculating SDCs:
 - *Buy-In – achieves capital equity between existing and new customers. Typically used for systems capable of meeting long-term capacity needs.*
 - *Incremental – assigns incremental cost of future system expansion needed to serve new development. Typically used for systems that need to expand facilities to serve new development.*
 - *Combined – uses weighted average of the buy-in and incremental methods.*

Sample Fee Calculations

$$\begin{aligned}
 \frac{d}{dt}[A^-] &= k_{Ar}[A^+] - k_{Ao}[O_2][A^-] - k_{Pr}^+[A^-][P_4^+] \\
 &\quad + k_{Pr}^-[A^+][P_4^-] - 2\left(\frac{k_c^+}{LI^2}[A^-]^2[P_4^-] - k_c^-[AP_2]^2\right) \\
 \frac{d}{dt}[P_4^-] &= k_{Pr}^+[A^-][P_4^+] - k_{Pr}^-[A^+][P_4^-] - k_{Po}[O_2][P_4^-] \\
 &\quad - \left(\frac{k_c^+}{LI^2}[A^-]^2[P_4^-] - k_c^-[AP_2]^2\right) \\
 \frac{d}{dt}[AP_2] &= 2\left(\frac{k_c^+}{LI^2}[A^-]^2[P_4^-] - k_c^-[AP_2]^2\right)
 \end{aligned}$$

Sample SDC Calculation for Normal City, USA

Assumptions:

- Currently serve 20,000 SFREs
- Current replacement value of facilities of \$200,000,000
- Principal on outstanding debt of \$50,000,000
- CIP includes growth-related facilities of \$50,000,000 that add 5,000 SFREs

Sample SDC Calculation for Normal City, USA

Buy-In Method

Replacement cost of facilities	\$200,000,000
Less outstanding debt	<u>(\$ 50,000,000)</u>
System equity	\$150,000,000
Current capacity, SFREs	20,000
Buy-in SDC, per SFRE	\$7,500

Incremental Method

Growth-related CIP	\$50,000,000
Capacity added by CIP, SFREs	5,000
Incremental SDC, per SFRE	\$10,000

Combined Method

Total facilities	\$200,000,000
Total capacity, SFREs	25,000
Weighted SDC, per SFRE	\$8,000

Review of Preliminary System Development Charges Using Excel Model



Pricing Objectives Summary

Pricing Objectives

Administrative Ease Minimize the administrative burdens associated with implementing and sustaining the use of a rate structure.	Customer Impact Minimizes rate impact among customers in similar classes, in both the short-term and long-term.
Cost-of-Service Equity Developing rates so that each customer's water bill equals the cost borne by the City in providing that service.	Fixed Income/Affordability Having rate structure that mitigates rates/cost to low income users.
Customer Acceptance Having rate structure that is both understandable and acceptable to customers	Growth Pays for Itself Supports new housing, commercial, and industrial development

Pricing Objectives

Large Volume Customers

Has minimum to moderate financial impacts on large water users and significant sewer accounts.

Peak Usage Reduction

Assigns cost of providing peaking facilities to those customers having significant peak to average water use patterns, i.e., discourages use of water during periods of peak demand.

Revenue Stability

Effective in providing a stable revenue stream to recover revenue requirements in the face of variable external factors such as tourism and weather.

Water Conservation

Effective in promoting efficient use of resources on a year-round basis.

Pricing Objective Rankings

Louisville Rate Study Task Force

Pricing Objective	Total	Average	Rank
Growth pays for itself	32	4.57	1
Cost of service equity	31	4.43	2
Water conservation	30	4.29	3
Environmental enhancements	26	3.71	4
Customer acceptance	23	3.29	5
Customer impact	21	3.00	6
Fixed income / affordability	20	2.86	7
Revenue stability	19	2.71	8
Administrative ease	18	2.57	9
Peak usage reduction	17	2.43	10
Large volume customers	12	1.71	11



Mr. Leary's Water Rate Structure Proposal

Rate Structure Proposal

- Flat Fee for all users - \$ per month per account regardless of actual water use
- Annual water use allocation distributed quarterly based on historical usage patterns
 - Use more than your allocation and pay a “premium rate” per 1,000 gallons
 - Use less and receive a “credit”
- Separate fixed fee for renewal/rehabilitation capital projects

Pros and Cons of Rate Structure Proposal

PROS	CONS
Simplicity - pay a flat fee regardless of use	Understandability: “True-up” the following month or quarter; assumes total “over” use will equal “under” use
Allocation based on unique attributes of each household and current supply conditions	Data compilation and management: unique allocation for every account, e.g., household and lot size
“Fair” method, e.g., use more pay more	Billing system challenges, e.g., ability to determine size of “water pool”
In a drought, allocations are “limited” based on annual allocation determined in the spring	Timely communication with customers regarding over/under use; customer understandability
	Account for individual customer characteristics, e.g., peaking v. non-peaking
	Revenue stability/uncertainty



Next Steps

Next Steps

- Cost of service analysis
- Rate structure alternatives
- Rate design alternative
- Customer impacts