

# Developing Water Tariffs for a Sustainable Future

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# Background

- **Louisville Water Company (LWC)**
- **Residential & Commercial water use per customer has declined 25 % in last 20 years**
- **Industrial usage has declined over last 30 years**
- **Reasons**
  - **Wet weather impacts**
  - **Economic downturn**
  - **Decline in number of persons per household**

# Current Structure – Retail Users

k-gal/mo	\$/k-gal
0 - 3	2.47
4 – 6	2.65
7 – 200	2.90
201 – 1,500	2.78
1,501 – 5,000	2.67
5,001 – 10,000	1.84
Over 10,000	1.72

k-gal = thousand gallons

- All retail users step through these tiers
- Service charge is \$6.45 / E.U. / month
  - E.U. = equivalent unit

# Reason for Considering a New Rate Structure

- Stabilize revenues
- Maintain economic incentive for commercial and industrial customers
- Create structure that is conservation – friendly in case conservation rates are needed

# Rate Restructuring Process

- Held three workshops with LWC staff to define goals, review results, and refine results
- Briefed facility steering committee
- Worked with LWC staff to finalize alternatives
- Presented final recommendations to facility steering committee

# Overall Charges Reviewed / Considered

- Increasing fixed revenues
- Alternative commodity retail rate structures
- Wholesale rates
- Elevated area surcharges

# Increase Fixed Revenue: Distribution Cost Allocation

- To increase revenue stability, assign a percentage of distribution main costs to customer cost component.
- Distribution main maintenance is not proportional to individual customer water usage
- Examined impacts of moving different amounts of distribution costs to the fixed cost component

# Increase Fixed Revenue: Reset Base Meter Size

- Current base meter size is 5/8" and 3/4"
- Change base meter size to 5/8" (EU = 1) and set ratio for 3/4" at 1.5
- Determined the number of accounts impacted by the change

# Alternative Retail Rate Structure - Overview

- Identify unique user groups, developing separate cost of service and rates for those unique users.
  - Separate residential into its own class
  - Separate irrigation into its own class
  - Consolidate tiers for commercial/industrial
- Better allocation of costs due to unique user characteristics
- Greater ability to send price signals.

# Alternative Rate Structure - Residential

- Developed a conservation-oriented rate structure

Existing		Alternative	
<u>k-gal/mo</u>	<u>% Usage</u>	<u>k-gal/mo</u>	<u>% Usage</u>
0 - 3	46	0 - 3	46
4 - 6	27	4 - 10	45
7 - 200	26	Over 10	9
201 - 1,500	0.5		
Over 1,500	0.2		

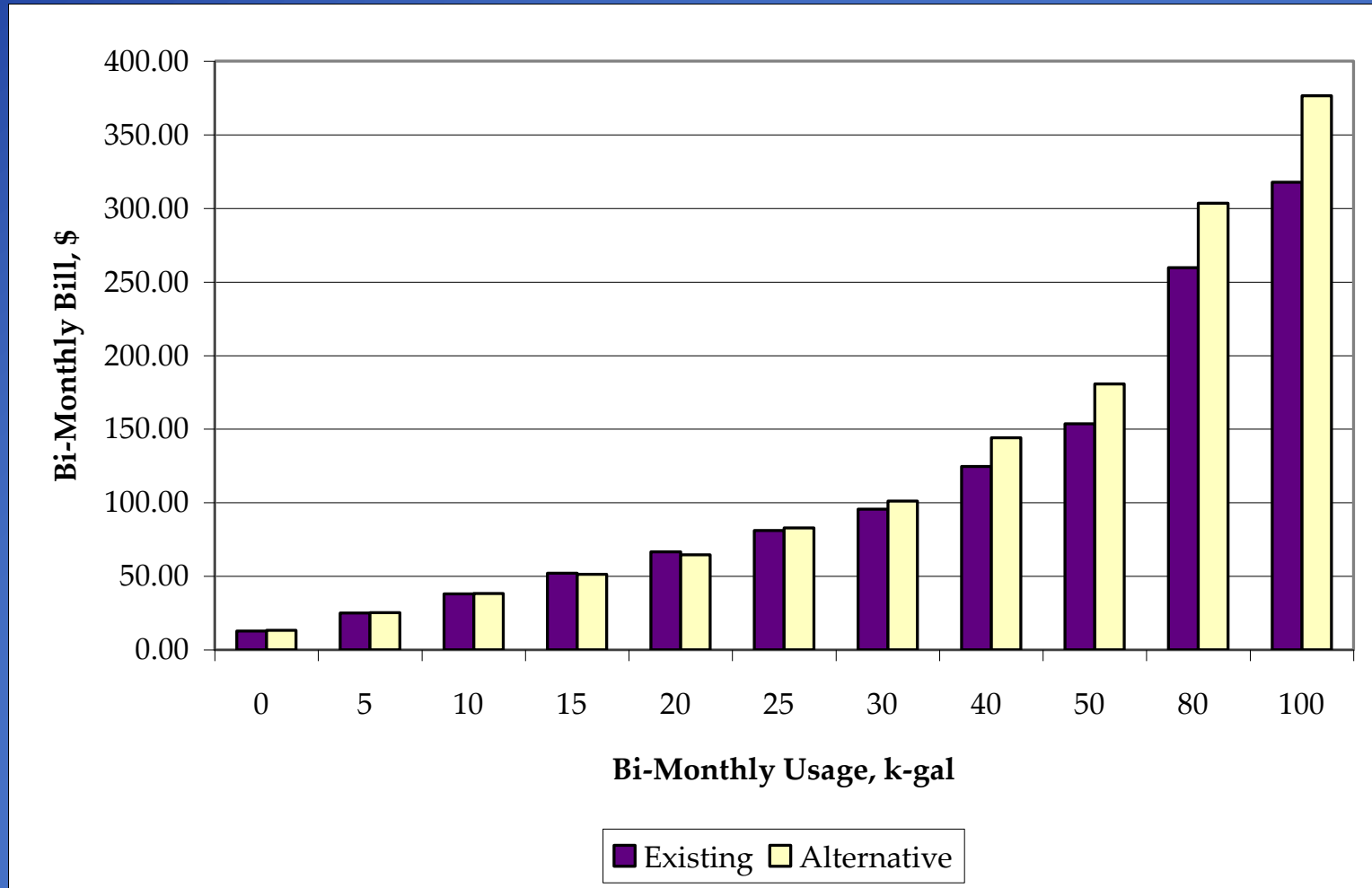
- Usage: essential, basic, discretionary
- Examined how many accounts impacted by new upper tier

# 2010 Water Rates – Residential

2010 Existing Tiers & Rates		Alternative - Residential	
<u>k-gal/mo</u>	<u>\$/k-gal</u>	<u>k-gal/mo</u>	<u>\$/k-gal</u>
Tier 1: 0 – 3	\$2.47	Tier 1: 0 – 3	\$2.40
Tier 2: 4 – 6	\$2.65	Tier 2: 4 – 10	\$2.63
Tier 3: 7 – 200	\$2.90	Tier 3: Over 10	\$3.65
Tier 4: 201 – 1,500	\$2.78		
Tier 5: 1,500 – 5,000	\$2.67		
Tier 6: 5,001 – 10,000	\$1.84		
Tier 7: Over 10,000	\$1.72		
Service Charge	\$6.45/E.U./mo	Service Charge	\$6.75/E.U./mo

Note: Alternative rates are revenue neutral

# Residential Bi-Monthly Bill Comparison



# Alternative Rate Structure: Irrigation

- Irrigation meters separated into a new Irrigation customer class
- Used AMI data during 2009 irrigation months and annual 2009 billing data to determine demand factors
- Estimated dry year ratios

	Rainy Year	Dry Year
Peak Hour to Avg Day	38.4	24.4
Peak Day to Avg Day	14.5	9.2

# Alternative Rate Structure: Irrigation

- In 2009, irrigation accounted for approximately 5% of total retail sales, mostly from residential and commercial
- In setting rate, kept in mind the MSD sewer charges that customers are avoiding by having a separate irrigation meter.
- All usage billed the same and rate set equal to residential tier 3

# Alternative Rate Structure – Commercial / Industrial

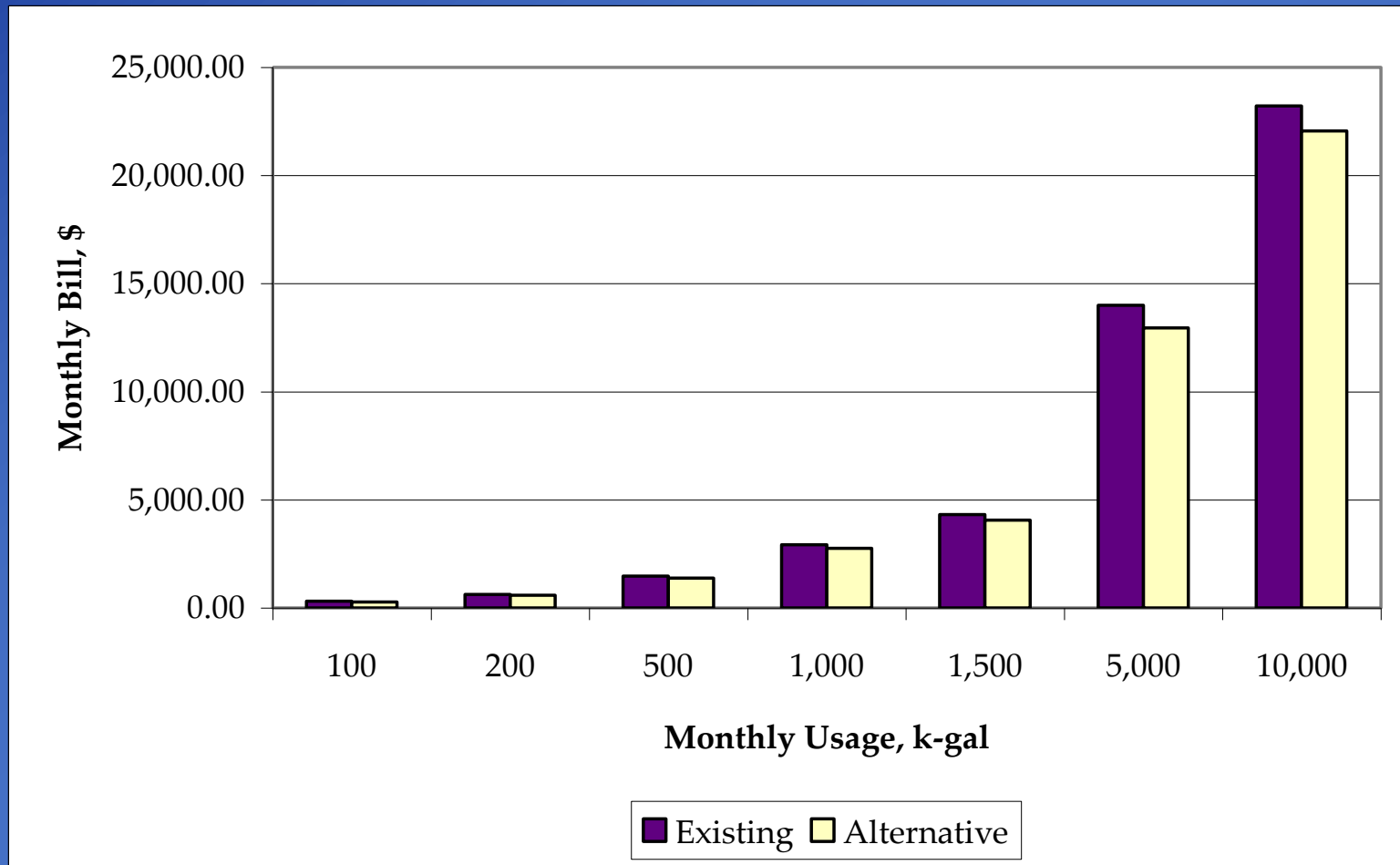
- Initially looked at establishing a high user class and uniform rates for each commercial, industrial, and high user class
- Via iterative process: condense tiers for non-residential customers

# 2010 Water Rates – Commercial / Industrial

2010 Adopted Rates		Alternative – Commercial/Industrial	
<u>k-gal/mo</u>	<u>\$/k-gal</u>	<u>k-gal/mo</u>	<u>\$/k-gal</u>
Tier 1: 0 – 3	\$2.47	Tier 1: 0 – 1,500	\$2.63
Tier 2: 4 – 6	\$2.65	Tier 2: 1,501 – 5,000	\$2.44
Tier 3: 7 – 200	\$2.90	Tier 3: 5,001 – 10,000	\$1.82
Tier 4: 201 – 1,500	\$2.78	Tier 4: Over 10,000	\$1.73
Tier 5: 1,500 – 5,000	\$2.67		
Tier 6: 5,001 – 10,000	\$1.84		
Tier 7: Over 10,000	\$1.72		
Service Charge	\$6.45/E.U./mo	Service Charge	\$6.75/E.U./mo

Note: alternative rates are revenue neutral

# Commercial/Industrial Monthly Bill Comparison



# 2010 Retail Volumetric Rates Summary

## 2010 Adopted Rates

### All Users (\$/k-gal)

- Tier 1: \$2.47
- Tier 2: \$2.65
- Tier 3: \$2.90
- Tier 4: \$2.78
- Tier 5: \$2.67
- Tier 6: \$1.84
- Tier 7: \$1.72

## Alternative Structures

### Residential (\$/k-gal)

- Tier 1: \$2.40
- Tier 2: \$2.63
- Tier 3: \$3.65

### Comm. & Ind. (\$/k-gal)

- Tier 1: \$2.63
- Tier 2: \$2.44
- Tier 3: \$1.82
- Tier 4: \$1.73

### Irrigation

All Usage: \$3.65 / k-gal

# Alternative Rate Structure - Wholesale

- Based on metering data and demand factor analysis, continue treating class as a whole
- Change service charge to reflect COS less distribution component
- Implementation Options
  - Phase in to move to COS rates for usage over a 3 year time period
  - Negotiate contract rates

# Elevated Service Area Charge

- Currently, \$0.27/k-gal elevated service charge on some retail and wholesale customers
- As system expands and accounts change, difficult to ensure that the charge is appropriately applied.
- Analyzed impact if eliminate the surcharge
  - ~ \$0.18/k-gal increase to commodity charge for those who did not pay ESA
  - ~ \$0.09/k-gal decrease to commodity charge for those who did pay ESA

# Implementation Issues

- Public outreach
- Billing frequency
- Database considerations
- Modeling anticipated water use reductions

# Recommendations

- Begin process of gradually increasing fixed cost recovery
- Set base meter size to smallest meter
- Establish irrigation class
- Implement tiered residential structure
- Simplify commercial/industrial structure
- Review elevated service area surcharge
- Implement wholesale rate transition plan