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# WATER CONSERVATION IN THE OKANAGAN



## Water Finance & Rates

Karyn Johnson, Principal

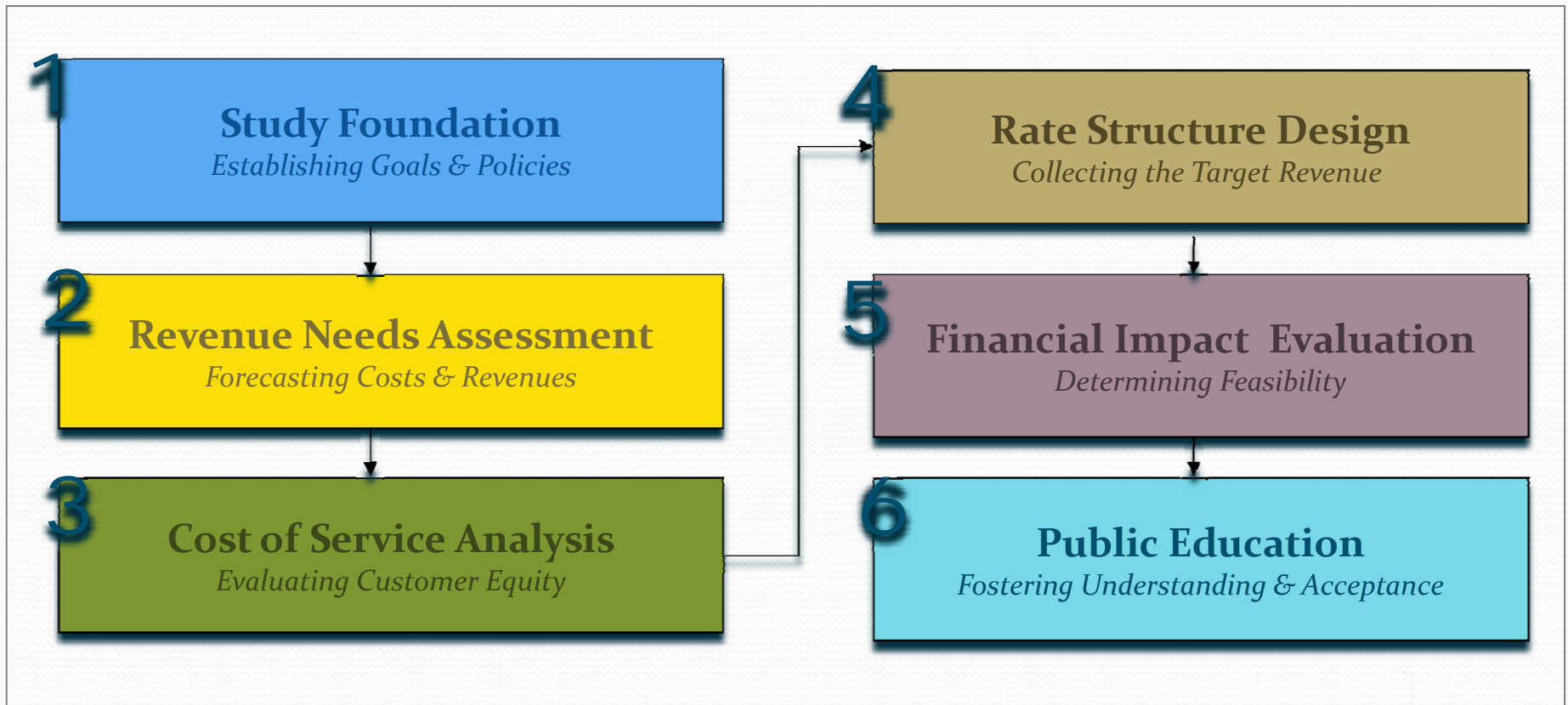


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# Steps to a Successful Rate Study



## Step 1: Study Foundation

# Identify Rate Setting Goals

### Financial Sustainability

- Sufficient & predictable revenue to recover costs
- Stable & predictable impacts to customers
- Adaptable to changing supply and demand

### Fairness & Equity to Customers

- Reflect cost of providing service to customers
- Recover fair share of costs based on usage patterns & service requirements

### Transparency & Simplicity

- Easy to understand and administer
- Compatible with billing system / meter reading

### Resource Management

- Promote conservation and efficiency of use
- Protect natural resources
- Meet regulatory requirements

### Affordability

- Support economic development / preservation
- Address low-income concerns

## Step 1: Study Foundation

# Establish Financial Policies

### Self-Supporting Utility

- User pay philosophy
- Eliminate reliance on taxes / other subsidies

### Operating Reserves (Working Capital)

- 45 to 90 days of annual operating & maintenance expense; tied to timing of expenditure payments and revenue collection

### Rate Stabilization Fund

- 10% to 25% of annual rate revenue; tied to revenue volatility and risk tolerance (e.g. conservation-based rate structures)

### Infrastructure Reinvestment Funding

- Regular, predictable amount of annual rate funding to provide cash resources to replace aging infrastructure; avoids rate spikes

### Debt Management

- Appropriate balance of cash versus debt financing; 5% to 25% of total revenues

## Step 2: Revenue Needs Assessment

# Forecast Total Costs for Rate Recovery

### Operating & Maintenance Costs

- Salaries & benefits, services & supplies, materials & equipment, etc.

### Allocated Portion of Shared Costs

- Administrative & overhead, support services, central services, etc.

### Infrastructure Reinvestment Funding

- Annual funding from rates to recover amortization / depreciation of utility system infrastructure assets

### Cash Funded Capital

- Rate funded non-capitalized (expensed) routine capital outlay
- Direct rate funding of major capital

### Debt Service Payments

- Rate funded debt service payments for debt-financed major capital

## Step 2: Revenue Needs Assessment

# Forecast Rate Revenue Needs

### Forecast Revenue Under Existing Rates

- Incorporate customer growth and demand forecasts

### Forecast Non-Rate Revenues

- Identify miscellaneous operating revenues
- Incorporate phase-out strategies for non-utility revenues (e.g. parcel taxes)

### Evaluate Sufficiency of Current Rates

- Compare forecasted annual expenses against forecasted annual revenues at existing levels
- Determine annual shortfall / surplus

### Develop Rate Revenue Adjustment Strategy

- Consider use of available cash reserves
- Implement “smoothed” utility-wide rate adjustment strategies to the extent practical

### Determine Annual Revenue From Rates

- Identify annual rate revenue requirement for use in the Cost of Service Analysis

## Step 3: Cost of Service Analysis

# Define Water System Functions

### Customer

- Costs associated with providing services to customers regardless of use (account setup, metering reading, billing, office support)

### Meters & Services

- Costs associated with installation, maintenance and repairs of meters and service connections

### Base Demand

- Costs associated with meeting a constant, or average, annual rate of use

### Peak Demand

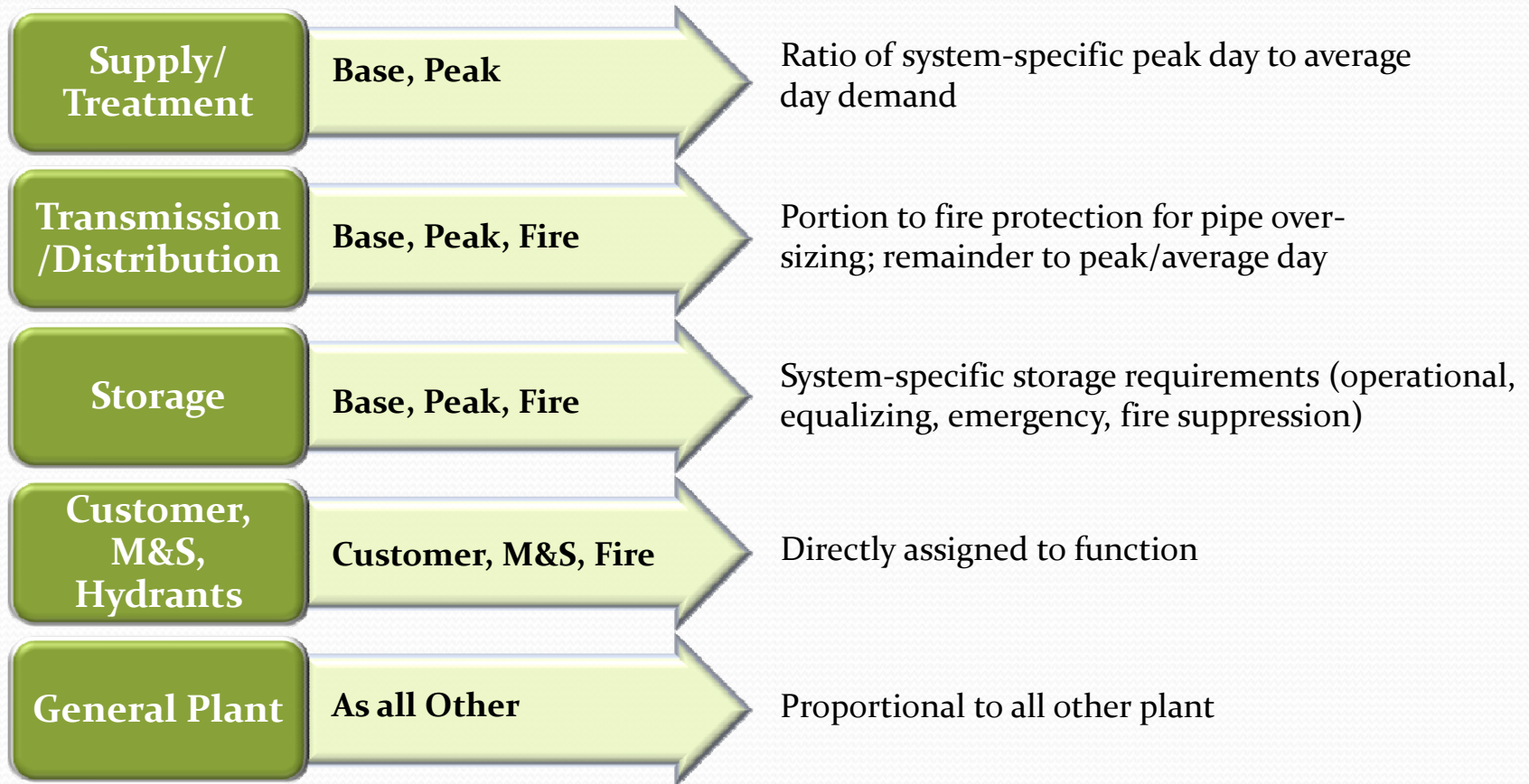
- Costs associated with meeting peak period demand

### Fire Protection

- Costs associated with providing fire suppression services

## Step 3: Cost of Service Analysis

# Allocate Costs to Functions





## Step 3: Cost of Service Analysis

# Define Customer Classes

- Land use
- Usage levels
- Usage patterns
- Seasonality of use
- Individual versus master metered
- Distinct service requirements
- Social policies (e.g. low-income)

## Step 3: Cost of Service Analysis

# Sample Customer Classes

### Single Family Residential (SFR)

- Typically largest customer group; relatively low usage per unit; high peak demand; lowest fire flow requirement

### Multi-family Residential (MFR)

- Lower usage per dwelling unit; usually master metered; relatively constant use; fire flow requirement between SFR & commercial

### Commercial/Industrial

- Diversity in use per account; relatively constant use; highest fire flow requirement

### Parks, Irrigation, & Agriculture

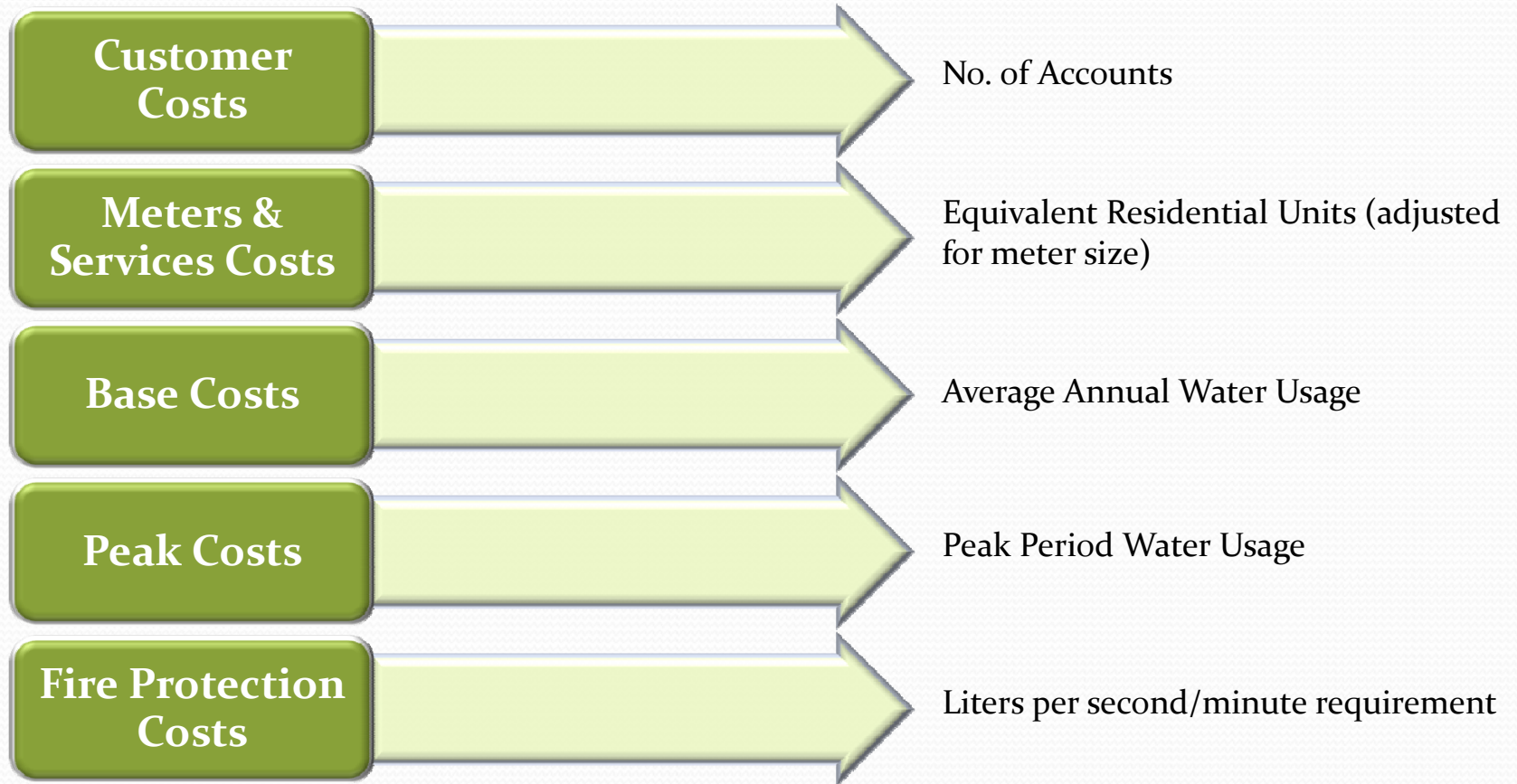
- Often smallest customer classes in terms of accounts; majority of use in peak season; no fire flow requirement

### Other

- Low-income; governmental; institutional; contract / wholesale service; interruptible service; outside city retail; bulk water

## Step 3: Cost of Service Analysis

# Allocate Costs to Customer Classes



## Step 4: Rate Structure Design

# Considerations

### Community Demographics

- Size of customer base
- Diversity of customer base
- Economics of customer base

### Unique Consumption Patterns

- Average annual use
- Winter period use
- Summer period use

### Specific Conservation Goals

- Reduce total usage
- Reduce peak demand
- Reduce targeted customer class usage
- Get conservation rate concept in place

## Step 4: Rate Structure Design

# Alternative Structures

### Flat Rates

- Flat charge per customer or equivalent customer
- Water usage data is not available
- Sustainability vs. equity / conservation

### Uniform Volume Rates

- Volume charge per unit of water for all customers
- Consistent usage patterns of customer base
- Sustainability / simplicity vs. equity / conservation

### Class Specific Volume Rates

- Volume charge varies by customer class
- Diverse usage, demand patterns
- Equity amongst customer classes

### Increasing Block Rates (SFR)

- Volume charge increases at water use thresholds
- Conservation highly valued
- Equity / conservation vs. stability / simplicity

### Seasonal Rates

- Volume charge varies by season; may combine with increasing block rate forms
- Equity / conservation vs. stability / simplicity

## Determine Feasibility

- Evaluate customer class bills at various usage levels
- Perform sensitivity analyses
- Select rate structure that best achieves balance of sometimes competing goals
- Develop phase-in strategies if needed

## Step 6: Public Education

# Fostering Understanding & Buy-In

### Tie to Important Public Policy Issues

- Environment & habitat preservation
- Resource conservation
- Responsible management
- Equitable treatment of citizens
- Safe and reliable drinking water
- Economic development opportunities
- Stewardship and legacy

### Link Rates to Key Outcomes

- Improved service
- Reliable, secure systems
- More stable rates
- Fairer rates
- Responsible stewardship