Overview of Water & Sewer Rate Studies

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Water and Sewer Rates Overview

- Water and Sewer Funds
- Revenue and Rate Structures and Cash Flow
- Capital Funding Cash versus Connection Fees versus Loans/Bonds
- Rates and Rate Structure Trends

Water and Sewer Funds

Enterprise Funds

Revenue derived by "Users" of the system, receiving services

- Gallons of water supplied
- Gallons of sewage removed and/or treated

Expenses derived from providing those services

Not much different than any other service *business*...

Water and Sewer Funds

Enterprise Funds

Cash Flow is King

GASB 34 Accounting

- Important but not more related to asset management and auditing
- Depreciation
  - Typically NOT part of Water and Sewer Fund Cash Expense
  - Confuses policy makers and rate payers

Full Cost of Service Model

Charge what is REQUIRED to operate and maintain the system in good working order and meet all permit requirements

Typically subdivided in Water and Sewer sub categories

Storm Water is typically NOT included

- Storm water should be based on property area or other means, not water usage.

Water and Sewer Funds

Full Cost of Service

Operating Expenses

- Cost of Water (Producing or Buying)
- Administrative (Billing, Permits, HR, Penalties)
- Operators and Operations
- Commodities (Electric, gas, materials)

Capital Funding

Debt Service

Transfers to General Fund

Depreciation: NOT INCLUDED!

Fund Reserves

Minimum Operating Expenses

- Emergency capital or operations
- Funding shortfalls (economic downturns)

"Standard" per AWWA is 25% of Operating Expenses (not inclusive of capital or debt service)

- Can have higher reserves based on Experience/Ordinance/Debt Service

Revenue and Rate Structures

Revenue = Allocation of Costs

Uniform Usage Rate

Incline Block Rate Structure

- Classification
- Usage
- Equivalent Meter

Fixed Charges

Special Rate (Irrigation)

Revenue and Rate Structures

Revenue = Allocation of Costs

Uniform Usage Rate

Simple, easy to manage and understand

Typical for small, mostly residential communities

Common for sewer

- Sewer usage costs not as linear as water costs EXCEPT FOR WWTP's!

Encourages conservation

Lower users could be subsidizing higher volume users for capital improvements

Rate Structures

Incline Block Rate Structure

General

Higher Usage → Higher Rate

- Higher volume users "cost" more of the system for operations and capital
- Recover administration costs – Meter installation/checking

Sends more distinct price signals for conservation

Need to allocate costs to users

- Classifications,
- Volume Usage tiers
- Meter size

Revenue and Rate Structures

Incline Block Rate Structure

Classification

By some sort of category, such as residential, commercial, industrial, other

Common, easy to establish

Equitable? Some residential users may use more water that some commercial users.

Revenue and Rate Structures

Incline Block Rate Structure

Usage Tiered

Water Rates (or Sewer Rates) Based on Usage Volumes

- Lower Volume Users at One Rate
- Higher Volume Users (Commercial/Industrial) at Another Rate (Double Usually)

Common, mostly for water rates

- Direct correlation between operating costs for higher users (booster stations, electricity, etc) for water
- Not as direct for sewer (sewers do not operate in a linear fashion with usage as water mains do)

Revenue and Rate Structures

Incline Block Rate Structure

Per Meter Size: Equivalent Meter Ratio

Increasing costs allocated to higher users based on the ratio of a base meter capacity compared to increasing meter size capacity

Equitable, although based on maximum meter capacity

Hard to implement; need accurate meter size information and sophisticated billing system

More suitable for complex systems with many different types of users

Fixed Monthly Charges

Monthly Minimum Charge (Availability)

- Charged only if account uses less than minimum water volume
- Largely ineffective as most users use more than minimum and thus do not get charged

Administrative Charge (Availability)

- Fixed costs of doing business no matter how much water is used
- Billing, HR, insurance, etc.
- Structure: Uniform or incline block

Rate Structures

Fixed Monthly Charges

Debt Service

- Specific to annual debt service payments
- Good way to ensure debt servicing, which equates to financial stability

Capital Fund Charges

- Build up asset investment fund for capital funding
- Unless substantial, doesn't fund significant capital

Fixed Monthly Charges

Good for Stable Cash Flow

- Less reliant on volume usage
  - Water conservation is GOOD…but not for CASH FLOW!

Bad for Lower Volume Users

- Seniors/low income

Rate Structures

Special Rates

Irrigation/Landscaping

Use water for landscaping/filling of pools, etc

Assumption: Water doesn't go down the sewer

- YOU ARE RIPPING ME OFF!

Solutions: Irrigation Cap/Deduct Meter/Premium User Rates

Note: Costs DON'T CHANGE! Must make up the revenue somehow!

Capital Funding

Connection Fees

Usage or Capital Recovery Fees

Bonds and Loans

Connection Fees

Connection and other fees paid to capital accounts to fund required improvements

Ideal for specific projects or booming economic development

Not a significant source of revenue post Great Recession….but may be increasing

- Careful: Debt Service *reliance* on connection fees is risky!

Capital Funding

Usage Fees (Cash)

Part of Usage Fees or Fixed Fees

- Fixed Fee is NOT an SSA's

Typically supports minor capital funding
(short water mains, sewer lining, hydrant replacement etc.)

Not suitable for large improvements projects
(major pump stations, treatment facilities, etc.)

Capital Funding

Bonds/Loans (Debt Service)

Borrow for capital project, especially large ones

Results in annual debt service payments, far easier to manage cash flow

Most common capital funding mechanism

- Money is not expensive, *currently*
- Helps keep user rates low

Capital Funding

Bonds

General Revenue or Obligation Bonds

Collateral: User Fees, Taxes, etc.

- May have significant reserve requirements

Variable debt service periods

Ideal for General Service Project

- Involving other infrastructure such as roads, storm sewers, etc.

Get the money WHEN you need it

Interest rates *typically* higher than IEPA Loans

Capital Funding

Loans

IEPA State Revolving Loan Funds (SRF)

- Water Pollution Control Loan Program (WPCLP)
  - Storm water *may* to be included on a limited basis
- Public Water Supply Loan Program (PWSLP)

Clean Water Initiative

- More money available for loans and approval process easier.

Suitable for Specific Projects
(Water Mains, Pump Stations, Treatment Plants)

Capital Funding

IEPA SRF Loans

- Low interest rates
- Long and involved application process (~1 Year)
- 20 year payback
- Most common method of funding water and sewer capital infrastructure

Rate and Rate Structure Trends

Past Trends

Moderate or no rate changes for years

Recent Trends

City of Chicago Water Supply Increases

- 30%, 20%, 18%, 17% annually
- 43% overall in five years

Dupage Water Commission Water Transmission Increases

- 3% Annually

Will it continue?

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Rate Trends

Average Water Rate: 2014

Per 1,000 gallons:
$4 to $9

6000 gallons per Month Bill:
$36 to $54

Average Sewer Rates: 2014

Per 1,000 gallons:
$2 to $7

6000 gallons per Month Bill:
$12 to $42

Rate Trends

Typical Fixed Rate Fees

$1 to $6 month, residential

Total Average Rates: 2014

Per 1,000 gallons:
$6 to $16

Fixed Rates:
$1 to $6 per month

6000 gallons per Month
Bill: $48 to $112

What Impacts Rates the Most

Water Supply Costs (From Anyone)

Personnel Costs

Infrastructure Heavy

- Pump Stations
- Treatment Plants

Rate Trends

Defining Charges on Bill

- Water Supply Costs
- Capital Recovery Costs
- More information is usually good…but don't make it like the phone bill

Assessing Fixed Fees to Improve Cash Flow

- Administrative
- Debt Service
- Capital
  - Common for storm water utility

Rate Study and Planning

DO'S

- Involve policymakers in rate development process
- Define specific charges, like water supply costs, on your bill
- Assign Fixed Fees to stabilize cash flow
- Consider more frequent billing
- Codify rate increases in Ordinance
- Consider professional 3rd party assistance in rate studies/design

DON'TS

Absorb water supply or major commodity increases

Spring major rate increases and rate structure changes at open Council meetings!

Be afraid of debt –
Bonds and loans are there for a reason!

Neglect capital funding to "reduce rates"

- Repackage if you must

Questions?

Thank you!

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