# Understanding the Costs of Water Service

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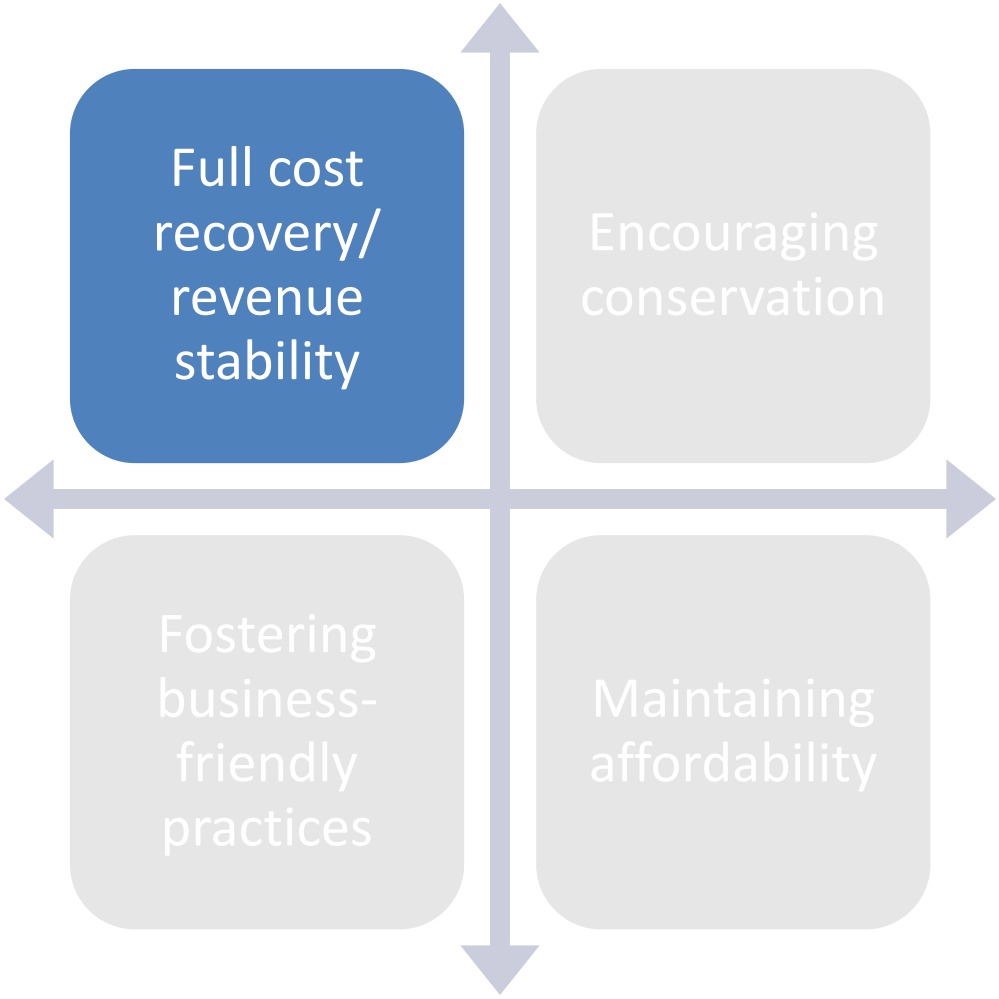
# Rate Setting Objectives



# Session Objectives

- Understand different types of costs for water systems
- Learn which costs change based on the volume of water produced vs. those that do not change
- Examine a water system budget

# “Full Cost Pricing”

- Charges for water cover the entire cost of running the water system today and into the future

# Types of Costs

Operating Costs

Capital Costs


Debt Service

# Fixed Cost vs. Variable Cost

- Some costs for a water system are fixed regardless of the volume of water treated. Others vary based on the amount of water treated

# Exercise:

## Costs of water systems

## Let’s make a list!

# Annual Budget

- All of these costs become part of the annual budget for our water system

- That budget can be helpful as we figure out what to charge for water service, so it is important that the budget be both accurate and complete

EPA
United States Environmental Protection Agency

# Setting Small Drinking Water System Rates for a Sustainable Future

## One of the Simple Tools for Effective Performance (STEP) Guide Series


https://www.epa.gov/dwcapacity/resources-setting-small-system-water-rates

# Exercise:

# Budgeting for the full cost of water service


Greetings from
Irvindale
USA

# Irvindale, USA Exercise

Determine what is missing from the budget

# Understanding how costs change

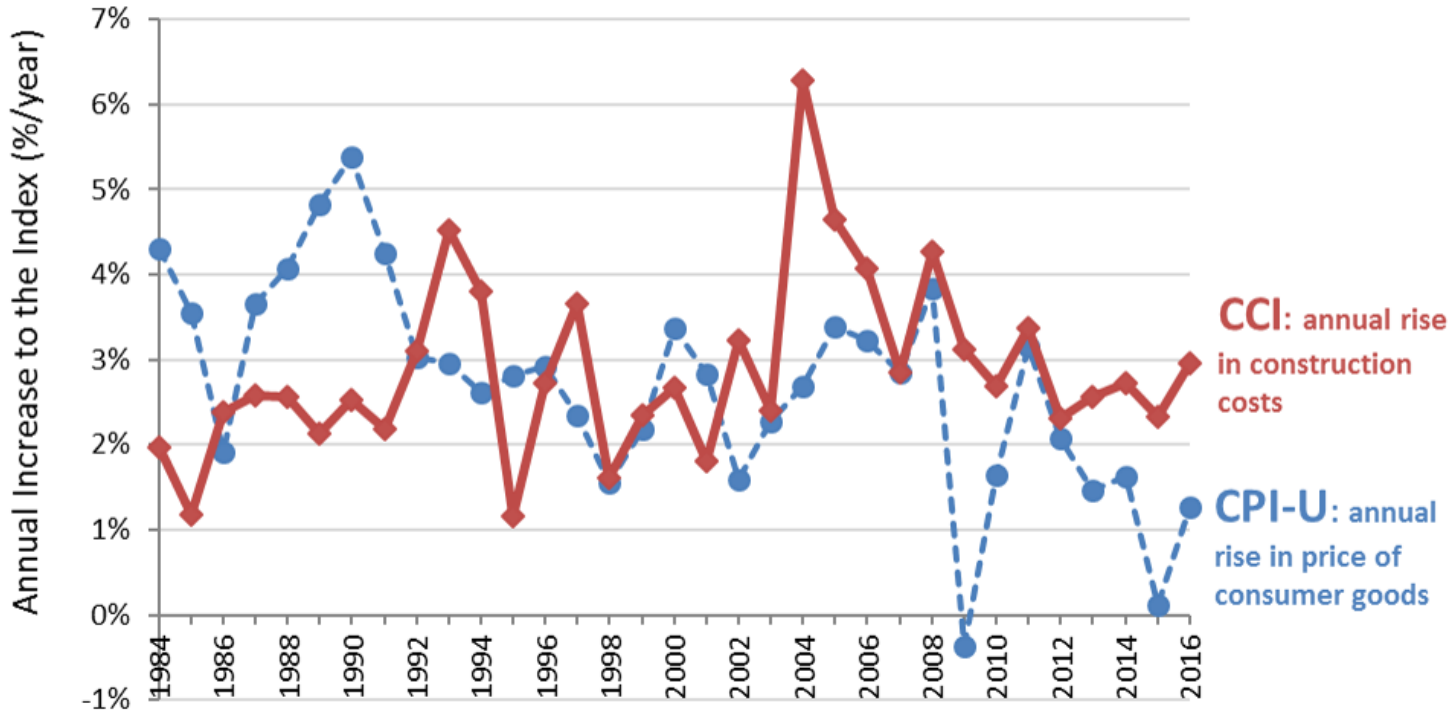
# Measures of Inflation

- **Consumer Price Index (CPI)**—measure of the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services

- **Construction Cost Index (CCI)**—average prices for labor and key construction materials from 20 cities across the United States

## The Construction Cost Index (CCI) has been rising faster than the Consumer Price Index-Urban (CPI-U) in recent years

Construction costs (CCI) rose on average of 2.6%/year in the last five years, while consumer goods (CPI-U) only rose an average of 1.3%/year in the same period




Data graphed by the Environmental Finance Center at the University of North Carolina, Chapel Hill.
Data Sources: Bureau of Labor Statistics (CPI-U), Engineering News-Record ENR.com (CCI), InflationData.com (CPI-U), USDA Natural Resources Conservation Services (spreadsheet containing CCI and CPI-U).

Source: *Environmental Finance* blog post available at http://efc.web.unc.edu/2012/09/26/using-an-index-to-help-project-capital-costs-into-the-future/

# Linear Projections

- Assume that costs go up by a fixed percentage per year over the course of several years

- Excel is your friend!

# Linear Projections

- Annual cost: $10,000
- Expected annual increase: 2.5%

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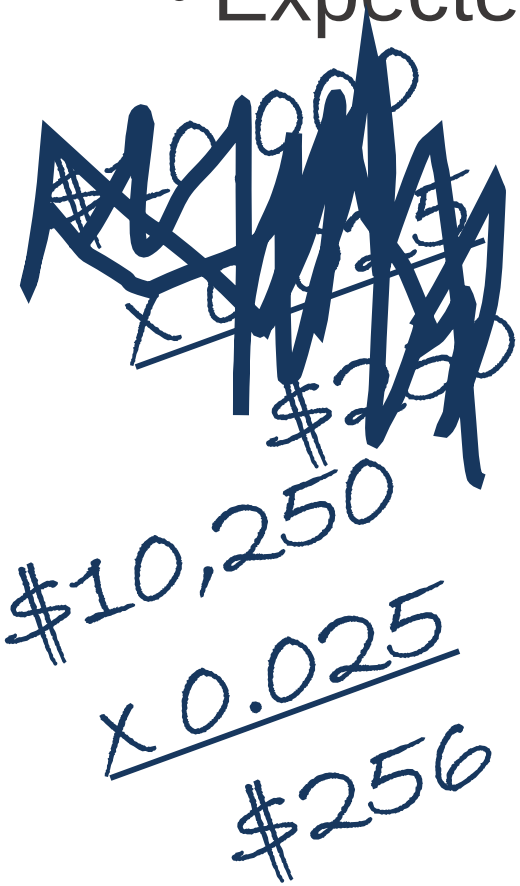
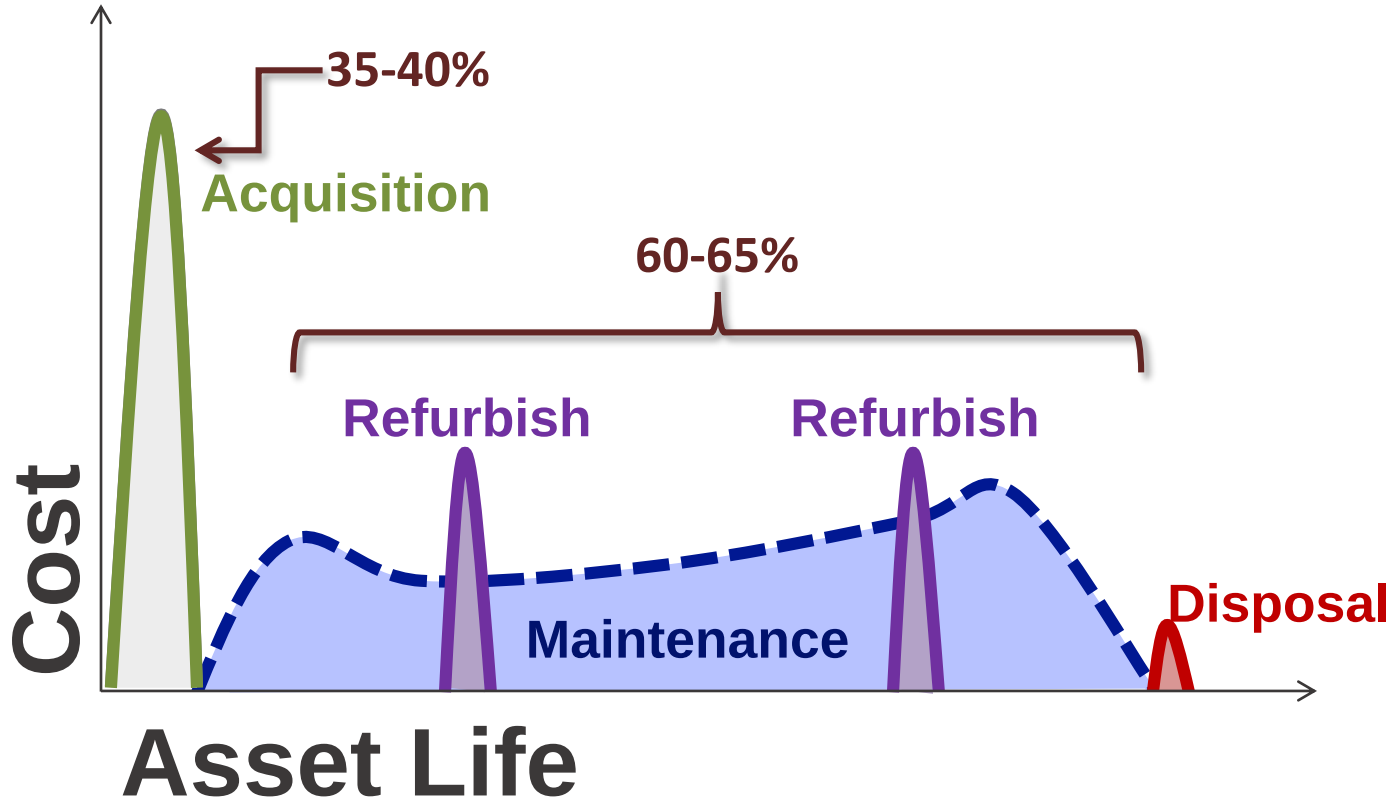



# Reminder: Life Cycle Costing

- Purchase Price ≠ Total Price

# Capital Investments are Just the Tip of the Iceberg…




Source: Adapted from Steve Allbee, USEPA

# Determine the Cost of Water Service

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