

The Role of Asset Management in Rates and Finance of Small Drinking Water Systems

05/18/17| Dalton, GA www.efcnetwork.org







Uh oh! How Do You Pay for This?



Emergency repair

VS.

Preventative rehab./
replacement (capital planning)

In the Old Days...

 Water systems took advantage of the federal government's construction grants program of the 1970s and 1980s

Everybody loved their "free" money

Capital Finance Today

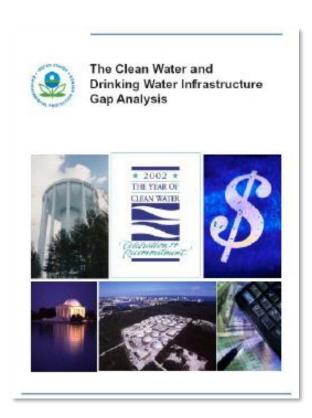
 The money never really was "free"—it came from tax dollars

 Today, the financial burden has been shifted away from federal and state tax dollars (grants) to funds raised by the water system itself (customer sales and loans).

Capital Finance Today

- In other words, you pay
- The harsh reality is that water and wastewater infrastructure is expensive, regardless of the size of your system. Smaller or poorer systems will likely have a hard time paying for capital improvements

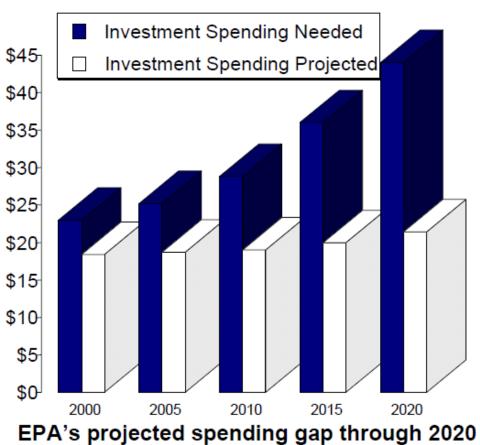
Nationwide, We Are Behind Where We Should Be



EPA Report on "Infrastructure Gap":

http://www.epa.gov/ogwdw/gapreport.pdf

And That Gap Is Growing Every Year



Long Term Capital Planning

- This is strongly related to asset management
- An official multi-year document that identifies and prioritizes capital projects, identifies funding sources, and sets timelines

Capital Improvement Program

- Identify regulatory deficiencies (discuss with regulatory agencies, look at proposed regulations, talk to consultants), in a 10-20 year window
- Identify growth needs, expansion

Capital Improvement Program

- Identify deferred maintenance problems or where current service is inadequate
- Prioritize based on need realizing that "hidden" infrastructure tends to be ignored

Capital Improvement Program - Timelines

 Use Asset Management Plan to plan for capital expenses in the long term (~20 years)

Capital Improvement Program - Timelines

 Create a Capital Improvement Plan with a narrower timeline (~5 years) in more detail.
 Specify the projects and accurate estimates of cost. Plan where money will come from.

Capital Improvement Program - Timelines

 Create a Capital Improvement Budget with an even narrower timeline (1 – 2 years) committing funds for the planned capital projects. Get it approved/adopted.

Example Capital Improvement Plan (CIP)

	F		ears (Valu	es in 000s	s)		
Project Name	FY 02	FY 03	FY 04	FY 05	FY 06	Future	Total
Section Complete Toward							
Water Supply & Treatment							
Water Treatment Objective							
_							
Lime pumps and slakers	740						740
Chemical Enclosures		500					500
Filter 7-18 Control			330				330
Filter Gallery Rehab	1,140						1,140
High Service Pumps		1,500					1,500
Upgrade or Replace Reclaim System Drier	200						200
New Membrane Skids				5,700			5,700
Sodium Hypochlorite Plant	2,000						2,000
Additional Storage Tanks					5,000	3,300	
Repair R/O Capacity		150					150
Filter Gallery Mech Parts	300						300
MMIS						150	150
VFDs - HSP		344					344
Membrane Replacement		1,600					1,600
Painting of Water Plant						3,000	3,000
Phase II Emergency Power Generator						1,500	1,500
Portable Generator - South Well Field				150			150
Repalcement of Fuel Tanks			170				170
Upgrade of Existing Control System @ WTP						580	580
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Water Treatment Total	4,380	4;094	:::::::::5QQ <u>:</u>	5,850 <u>;</u>	<u> :::::5;000</u>	8,530	28,354

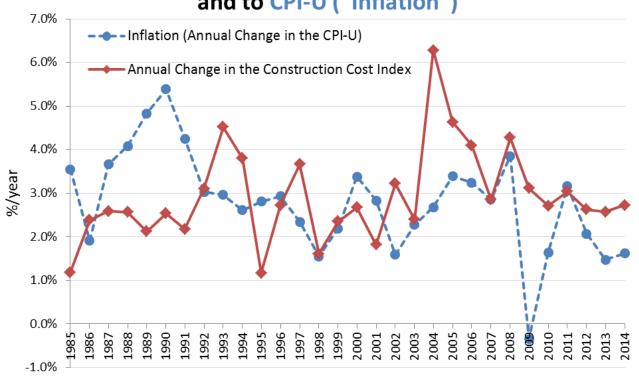
Where Can You Find the Prices?

- Call a vendor. Actually, call a few.
- Ask other systems
- Look at past expenses but adjust for increases in costs

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

Annual Changes to the Construction Cost Index and to CPI-U ("Inflation")



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill. Data Sources: Bureau of Labor Statistics, Engineering News-Record ENR.com, InflationData.com, USDA Natural Resources Conservation Services.

http://efc.web.unc.edu/2012/09/26/using-an-index-to-help-project-capital-costs-into-the-future/

Drive Down the CIP Cost

- Is it possible to
 - Eliminate projects?
 - Defer projects?
 - Repair or refurbish instead of replace?
 - Find a non-asset solution?
 - Find collaboration/partnerships alternatives with neighboring systems?
 - Improve balance of cash vs. debt-financed?
- Re-evaluate water demands of your customers. Many systems are now noticing that *total* demand is *decreasing* over time.

The Debt Market

- Why Borrow?
- Water infrastructure has a long useful life.
 You may wish to amortize the loan over the life of the equipment so that the people who benefit from the system pay for it

When You Need Cash Now: The Debt Market

 Lenders will look at your creditworthiness, your ability to repay the debt, in determining whether to loan to you and your interest rate

The Debt Market

- Two types—Loans and Bonds
 - Loans are more universally available
 - Bonds are typically only available to large systems with significant revenues and managerial capacity



- Typically from a bank
- Can be from a government-sponsored program

Bonds

- A written promise to repay borrowed money (on a definite schedule and usually at a fixed rate of interest for the life of the bond)
- Different types exist:
 - General Obligation (GO)
 - Revenue

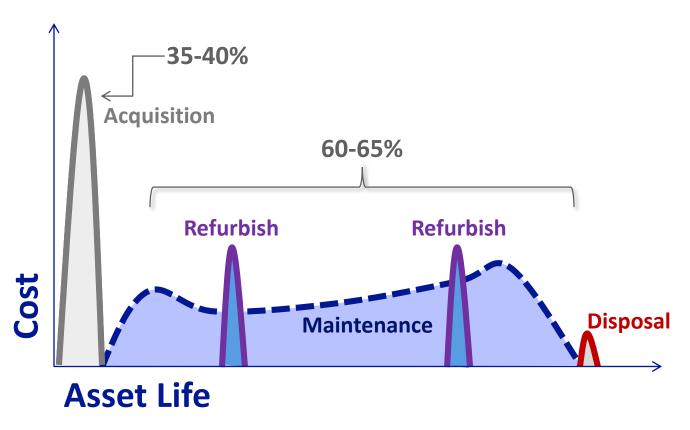


Source: bettermondays.com

Reminder: Life Cycle Costing

Purchase Price ≠ Total Price

Capital Investments are Just the Tip of the Iceberg...



Resource Webpage for Capital **Planning**

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Mission Statement

We work to enhance the ability of governments and other organizations to provide environmental programs and services in fair, effective and financially sustainable ways.

Project Tools

User-friendly Capital Improvement Plan (CIP) Tool for Water & **Wastewater Utilities**



Calculator, 03/20/2014 (MS Excel, 802 Kb) Enter in all capital

projects and this tool will project your fund balance (revenues,

expenses and reserves), and necessary rate increases for the next 20 years, and more!

What to Include in your Capital Plan:

PROJECT CAPITAL PLANNING AND WASTEWATER



This project, pa Support project Department of together many water and wast creation of a Ca Management P Last updated: February 2011

Blog Post on "Using an Index to I Future"

Dead a short blog nost on selecting an appropri

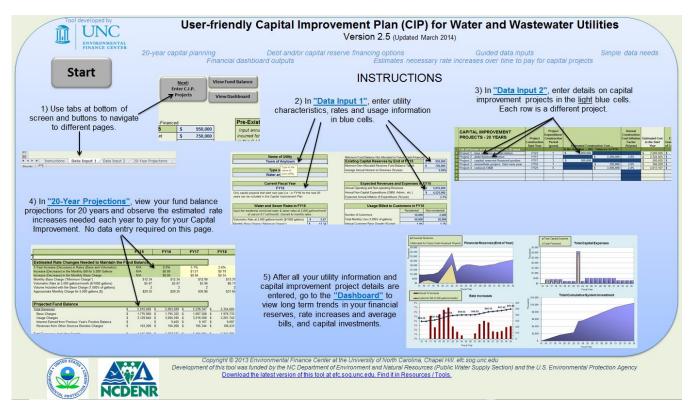
Summary of "What to Include in Your Capital Plan: A Reference Guide for NC Water and Wastewater Utilities'

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Goal statement/Introduction to your capital plan	Ť		Ť	Ť	Ť				Ť	Ť		
Date of documentation of capital plan	Ø			Ø						Ø		Ø
Capital planning time period	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø		Ø	Ø	Ø
Description of systems			Ø	Ø	Ø		Ø	Ø			Ø	Ø
Existing capacity and demand			Ø	Ø	Ø	Ø	Ø	Ø			Ø	Ø
Description of customers			Ø	Ø	Ø	Ø	Ø	Ø	Ø		Ø	Ø
Inventory of existing assets (details on each asset)	Ø		図	Ø	図			Ø			◩	Ø
Condition of systems			Ø	Ø	2	Ø	Ø	Ø	Ø		Ø	Ø
Project-specific details (complete for each project in every year)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø		Ø		Ø
Financial planning (complete for each year in time period)	Ø	Ø	Ø	Ø	2	Ø	8	Ø	Ø			Ø
Long-term planning descriptions (may be not project-specific)			Ø	Ø	2	Ø		Ø			Ø	Ø
Approvals		Ø		Ø	Ø	Ø	Ø	Ø		Ø		
Updating the capital plan	Ø		2					Ø		Ø		Ø
Ties or links to other studies	Ø			Ø	2	Ø	Ø	Ø			Ø	
For updates and to view details in each category, go to http://www.efc.unc.edu/projects/capitalplanning.html												

Created by the Environmental Finance Center at the UNC School of Government

User-Friendly Capital Improvement Plan (C.I.P.) for Water & Wastewater Utilities Tool

Free, simplified CIP tool using only MS Excel, developed by the Environmental Finance Center at UNC.



Download the latest version at http://efc.sog.unc.edu.

Find it in Resources / Tools.

Tool development was funded by the Public Water Supply Section of DWR/ NCDENR and partly by the USEPA.





What the Tool Does

Summarizes your utility's capital needs in the next 20 years, and estimates rate increases needed to fully fund the capital projects, based on debt and/or cash funding requirements

