Perspectives on Assessing System Vulnerability

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Supporting the fair, effective, and financially sustainable delivery of environmental programs through:

- **Applied Research**
  - Fees and finance
  - Regulatory and governance approaches
- **Teaching and Outreach**
  - Small to Very Large Systems...
- **Program Design/Evaluation**
  - Dashboard
  - Implementation advising
  - Capital planning tools

How you pay for it matters

SCHOOL OF GOVERNMENT
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Environmental Finance Center
Two-Prong Capacity Approach

- Tools that help utilities be better service providers and more financially sustainable
- Research to assist funding programs develop/promote programs
  - Needs assessments
  - Debt affordability and market studies
  - Data driven affordability criteria
  - Showing financial benefits of subsidized loans
Five Indicators to Consider

1. Asset value (depreciated or replacement) per customer/account (alternative miles of pipe per account)
2. Population growth/decline – 3 to 10 year trends if possible (alternative average resident age trends)
3. Percent of revenue from top 5 customers and assessment of customer vulnerability
4. Access to management leadership (percent access to full time qualified manager)
5. Current household expenditures for service (can be adjusted/recalculated in several ways to adapt to local conditions)
Beyond Indicator Selection

- Multiple indicators improve picture
- Multiple years improve picture
- There are always exceptional circumstances.....
- Start with scatter plots
- Approach scores and combined indexes with healthy skepticism
- Approach data with healthy skepticism

Access the Dashboards
Example of Failure.....

June 5, 2018

The Honorable [Redacted], Mayor
Board of Aldermen

[Redacted]

Dear Mayor [Redacted] and Town Aldermen,

We have been working with the Town for several years to help identify and correct the financial deficiencies in the Town's operations with little success. The Town's reserves have been depleted to the point that, based on our projections, the Town will run out of cash in October, 2018, if it maintains its current course. The cash could be depleted sooner than that if funds are needed for an unexpected but necessary expenditure, such as a repair at the water or sewer treatment plants.

While it is tempting to look backwards to see who or what is to blame for this predicament, that is not a very effective use of your time other than to make sure you don't repeat the same mistakes going forward. You, as the elected leaders of the Town, have the chance with the 2018-2019 budget, to begin to correct the course for the Town, in partnership with the comptrollership of the State and Local Government Finance Division (SLGFID).
Select service provided. (Display will not change if the utility has a combined water and sewer enterprise fund.)

- Water Bill
- Sewer Bill
- Water + Sewer Bill

**Ability to cover expenditures and debt service**
- Debt Service Coverage Ratio

**Measures of liquidity**
- Quick Ratio
- Days Cash on Hand

**Cost Recovery**
- Operating Ratio (Incl. Dep.)

**Leverage**
- Debt-to-Equity Ratio

**Condition of physical assets**
- Asset Depreciation

**Net Transfers**
- 0
Select comparison group:

Comparing to all

510 rate structures compared

- All Utilities
- Similar Number Of Accounts
- Similar Revenue Generation
- My Council Of Government
- My Watershed
- Same Water Source Type
- Using Same Rate Structure
- Similar Customer Income
- Same Economic Tier Counties
- Same Ownership Type
- Within 25 miles distance
- Within 50 miles distance
- Within 100 miles distance
## Cost Recovery
Operating Ratio Incl. Deprec. 2017

### What does this tool do?
This tool assists in the assessment of the financial performance of a water (and/or wastewater) utility fund. Financial data readily available in annual financial statements are copied into this tool, which computes key financial indicators that measure a variety of important metrics, such as the ability to pay debt service, availability of cash to pay for operations and maintenance, the sufficiency of revenues generated, etc. Each metric is compared against targets that are specified by the user. The tool demonstrates the financial strengths and weaknesses of the utility fund in the past 5 years.

### Features:
- Simple data entry (uses data already reported in your audited financial statements)
- 6 financial performance indicators with explanations
**Water & Wastewater Residential Rates Affordability Assessment Tool**

**Interactive Spreadsheet Tool**

**Version 1.5 (December 20th, 2017)**

This tool allows users to enter relevant Census data on their service community to help assess the affordability of their water or wastewater rates on their residential customers. The tool also allows for a new rate structure to be entered to see how affordability compares from one rate structure to the next.

In the "Inputs" worksheet, fill in all yellow-colored cells.

### Data Inputs

1) Utility Information

Name of the utility:

Select the state, District of Columbia, or Puerto Rico from the dropdown menu:

Assess affordability of water, wastewater or combined water & wastewater rates?

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Rivers Run Utility
District of Columbia
Water & Wastewater