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Strategies to Address Infrastructure Funding Challenges



Dale Jutila/CH2M HILL

Pacific Northwest Section AWWA Conference

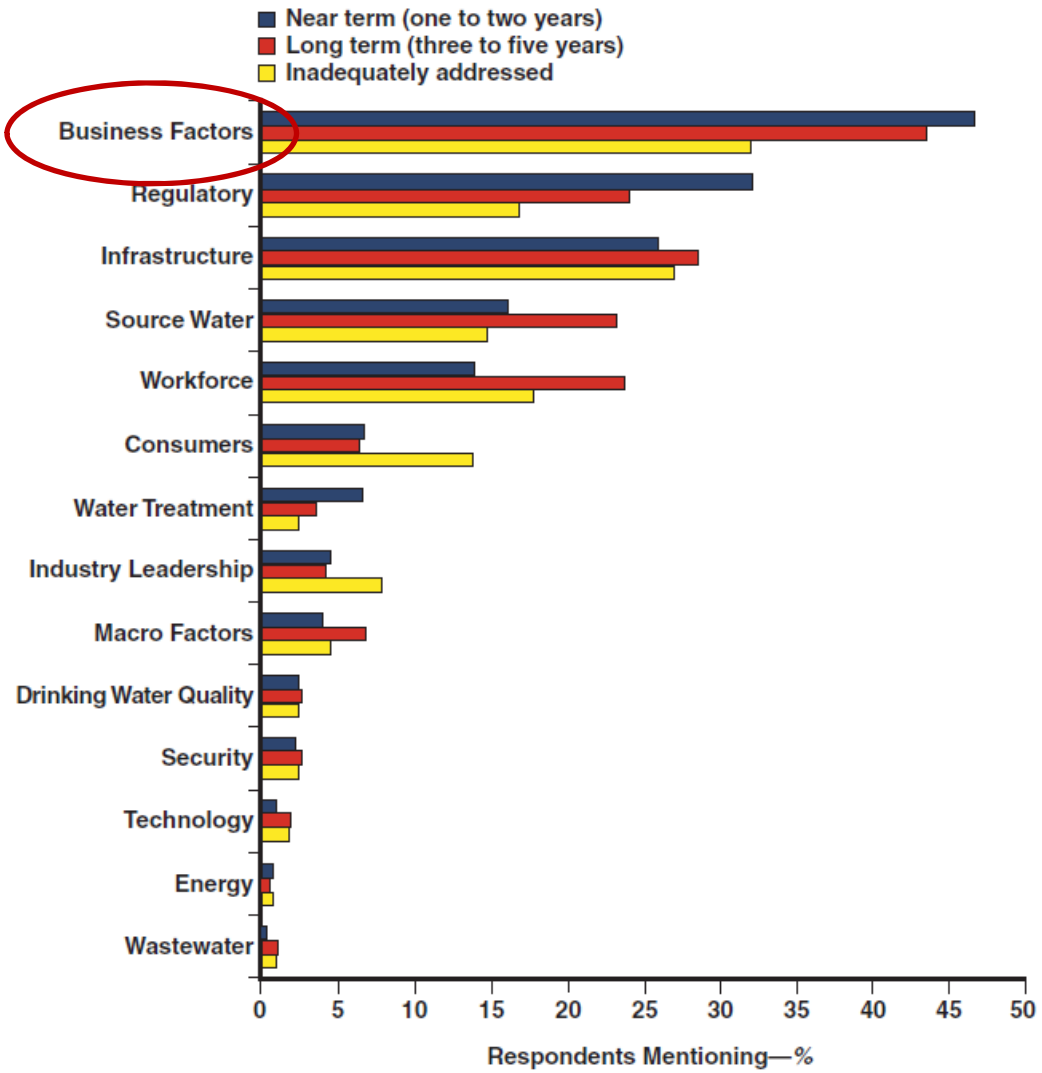
Eugene, OR

May 8, 2014

Overview of Session

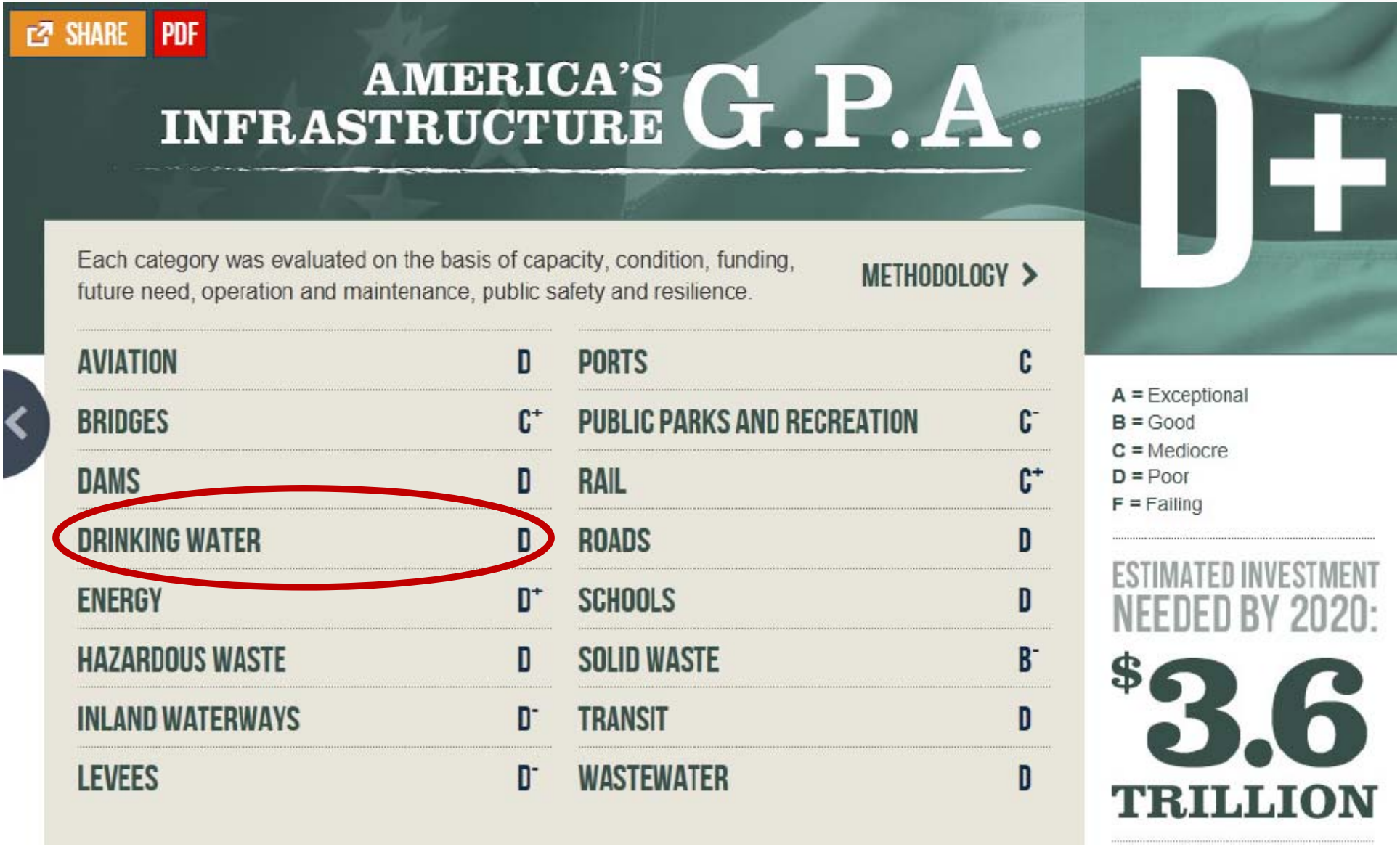
- Current State of Affairs
- Planning for Financial Support
- Ideas for Addressing Financial Challenges

October 2011 Journal AWWA, State of the Industry Survey lists top issues of utility respondents



ASCE Report Card gives low grades to America's infrastructure

ASCE Report Card gives low grades to America's infrastructure – **including Drinking Water**



Investment Needs are much bigger than Available Funding - $126 Billion vs. $42 Billion

2013 REPORT CARD FOR AMERICA'S INFRASTRUCTURE ASCE

NAVIGATION MENU

GRADE SHEET: AMERICA'S INFRASTRUCTURE INVESTMENT NEEDS

SHARE PDF

CUMULATIVE INFRASTRUCTURE NEEDS BY SYSTEM BASED ON CURRENT TRENDS EXTENDED TO 2020 (DOLLARS IN $2010 BILLIONS)

With each *Report Card*, ASCE estimates the investment needed in each infrastructure category to maintain a state of good repair. That is, approximately what amount of investment is needed to get to a grade of B?

The table below provides the estimated cumulative investment needs by infrastructure category based on current trends extended to the year 2020 (dollars in $2010 billions). Categories that are not shaded rely on data from ASCE's *Failure to Act* series.

INFRASTRUCTURE SYSTEMS	TOTAL NEEDS	ESTIMATED FUNDING	FUNDING GAP
SURFACE TRANSPORTATION[1]	$1,723	$877	$846
WATER/WASTEWATER INFRASTRUCTURE[1]	$126	$42	$84
ELECTRICITY[1]	$736	$629	$107
AIRPORTS[1,2]	$134	$95	$39
INLAND WATERWAYS & MARINE PORTS[1]	$30	$14	$16
DAMS[3]	$21	$6	$15

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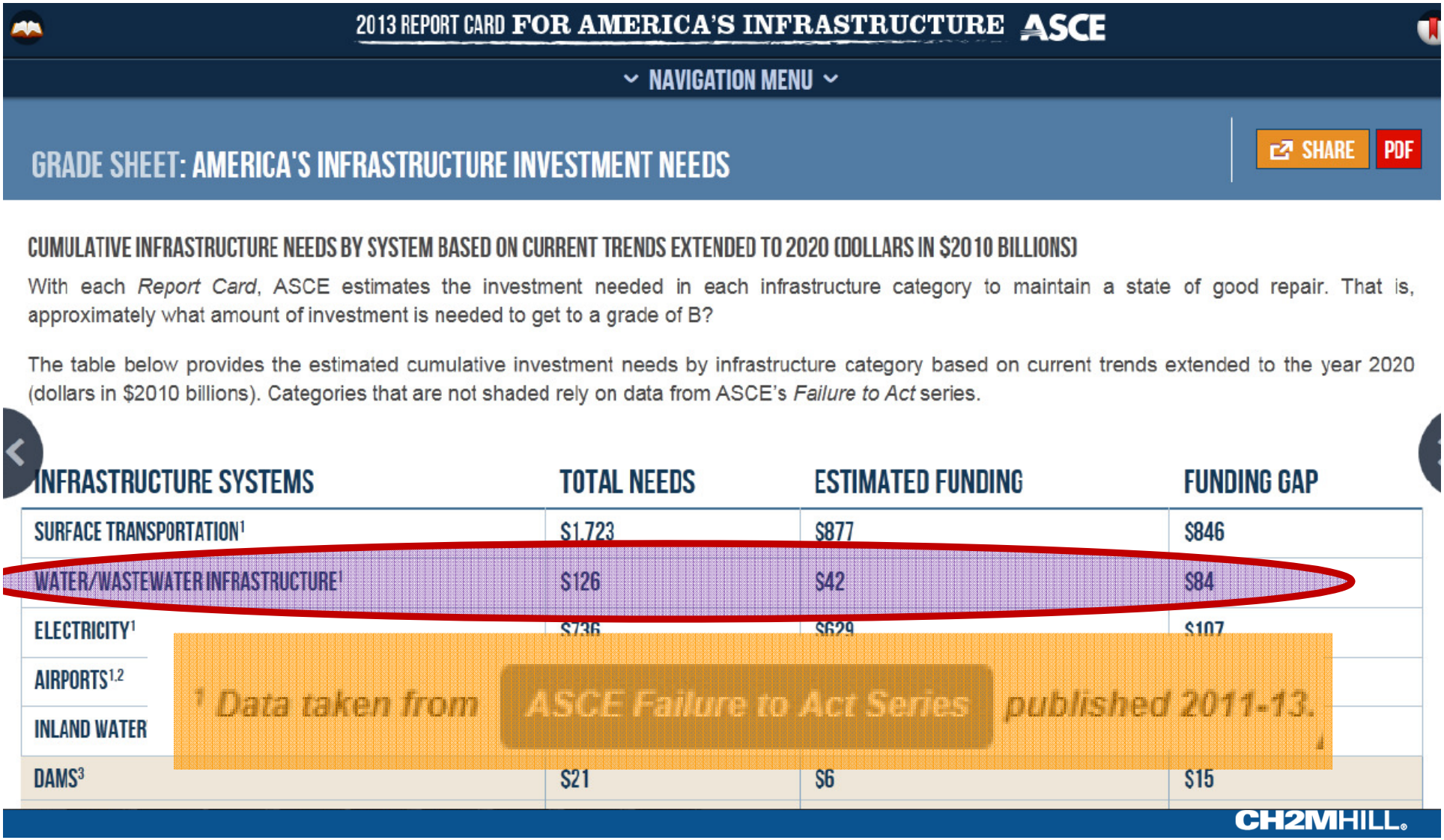
Investment Needs are much bigger than Available Funding - $126 Billion vs. $42 Billion



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[1] Data taken from ASCE Failure to Act Series published 2011-13.

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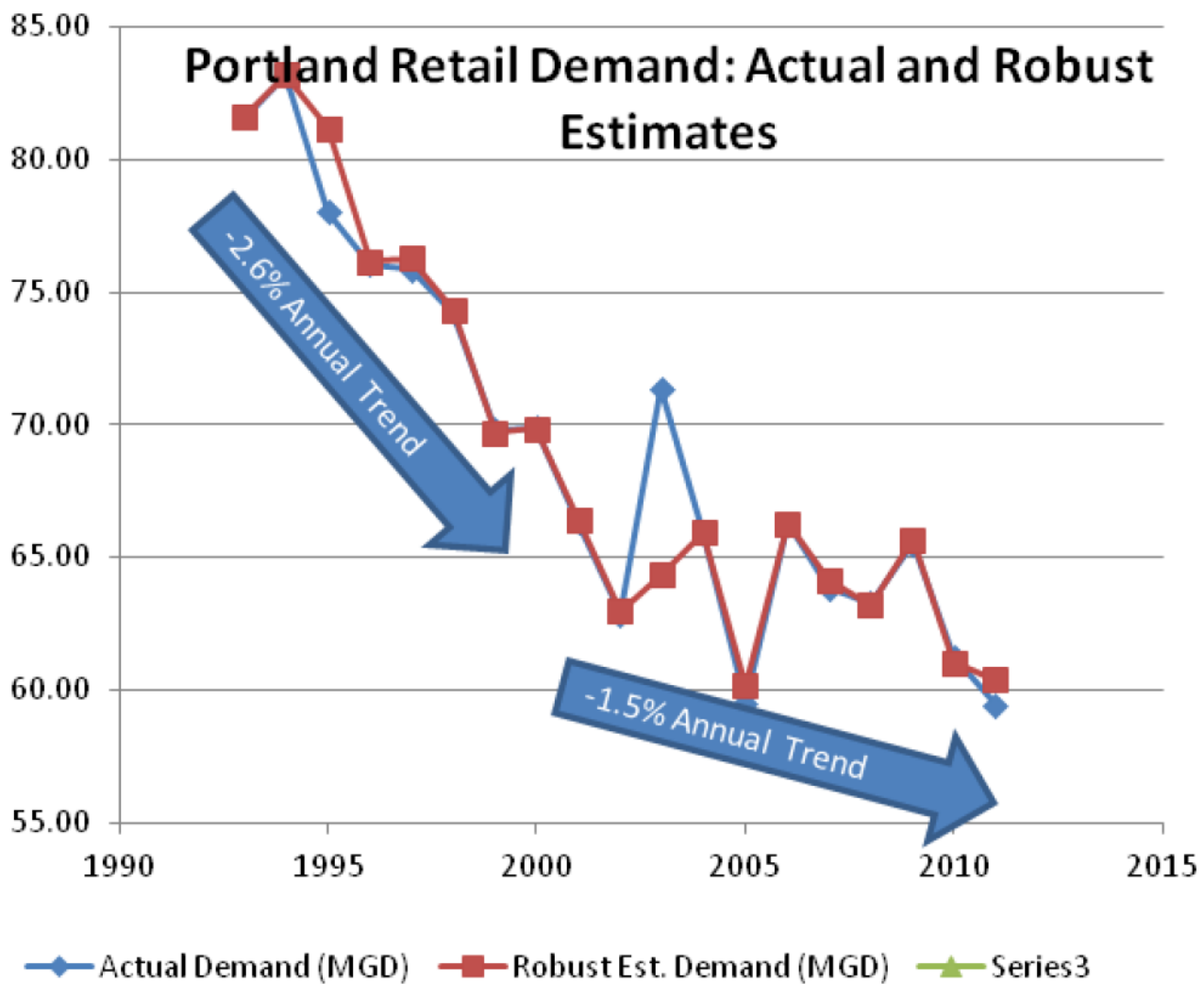
Per Capita Demand is Declining
Portland Water Bureau Example

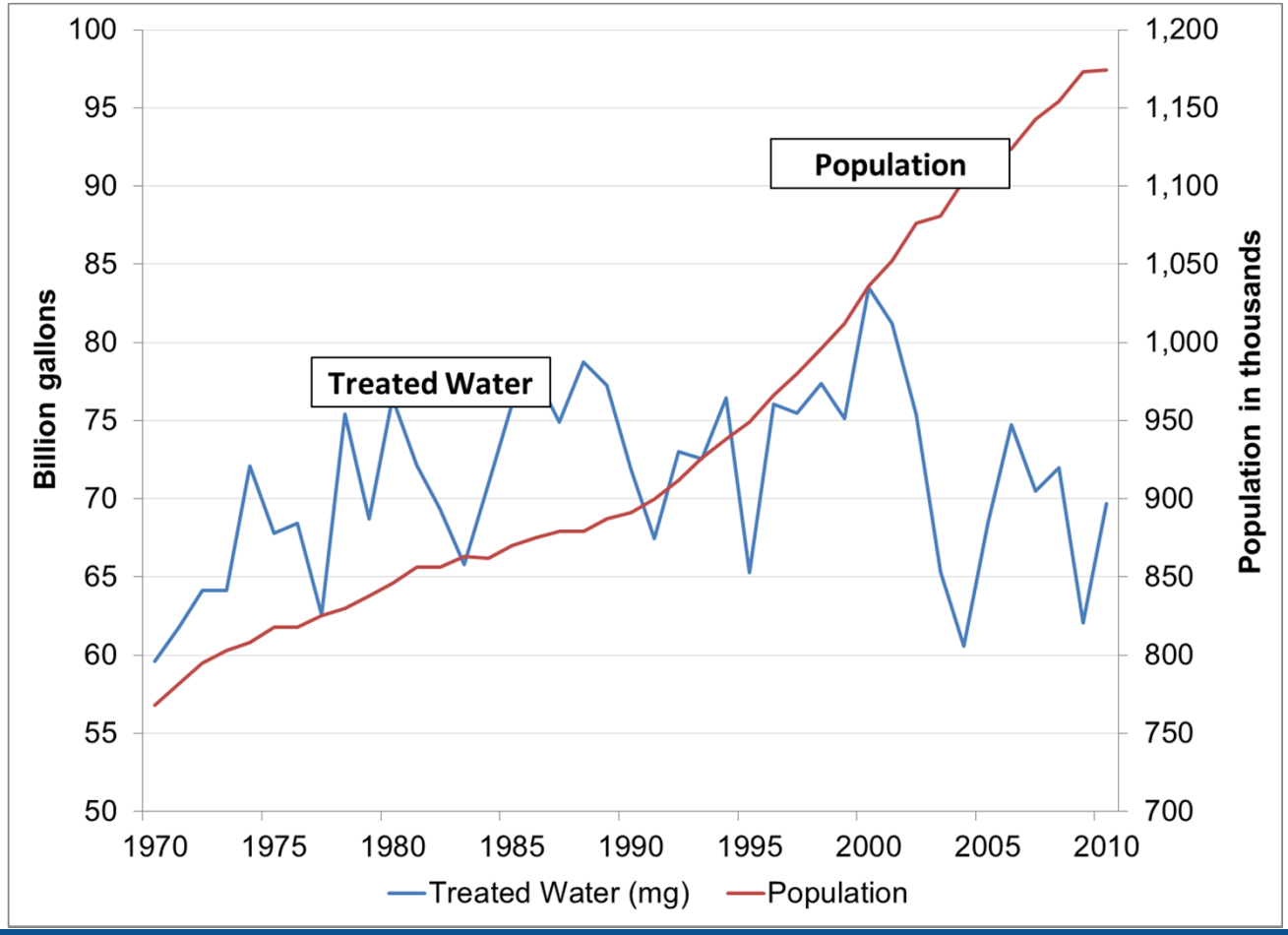


From Portland Water Bureau Retail Demand Modeling – Statistical Evaluation of Trends in PWB Retail Demand

For Denver Water – Population grew much faster than Treated Water Production between 1970 and 2010

Population: **53%** ↑

Treated Water: **17%** ↑



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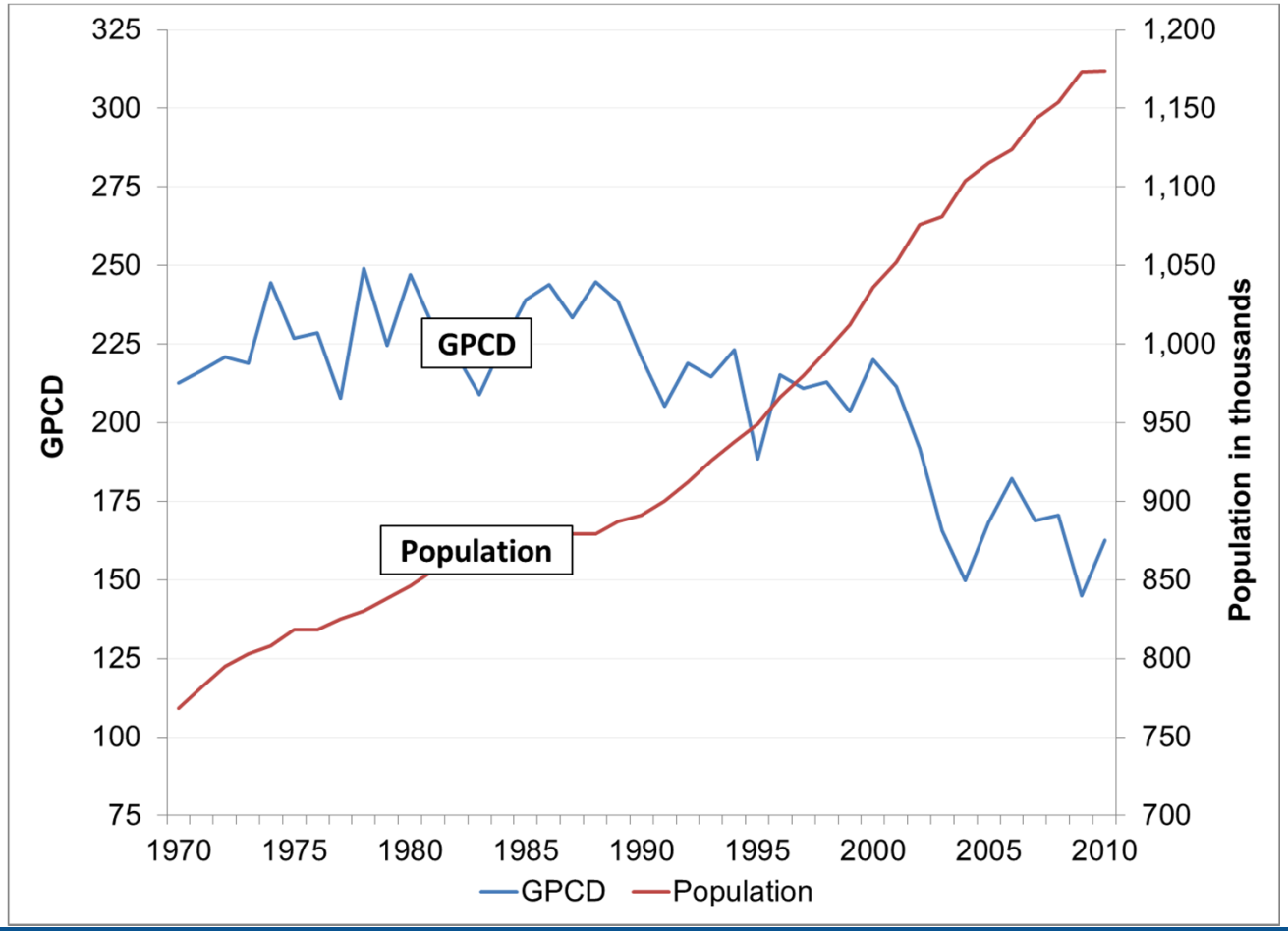
Denver Water – Population is up, Per Capita Consumption is down

Population: **53%** ↑

Gallons per Capita per Day: **30%** ↓



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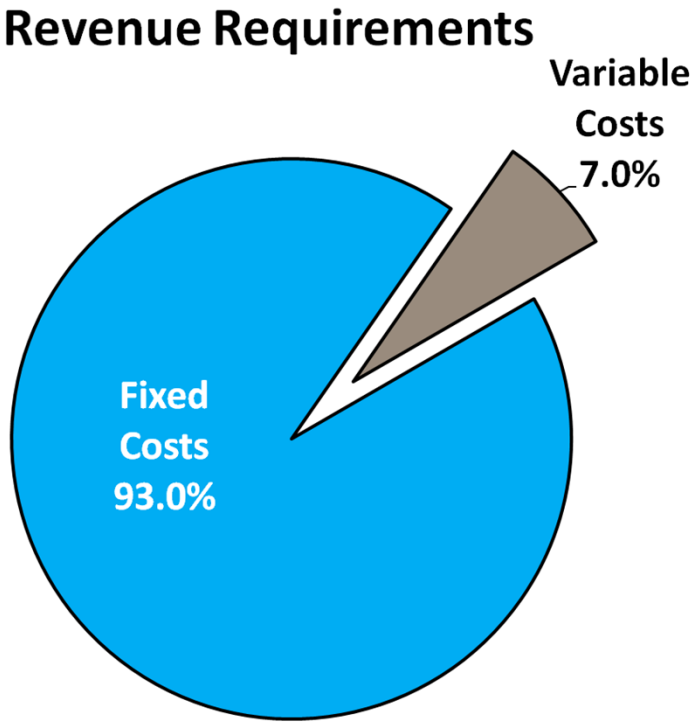
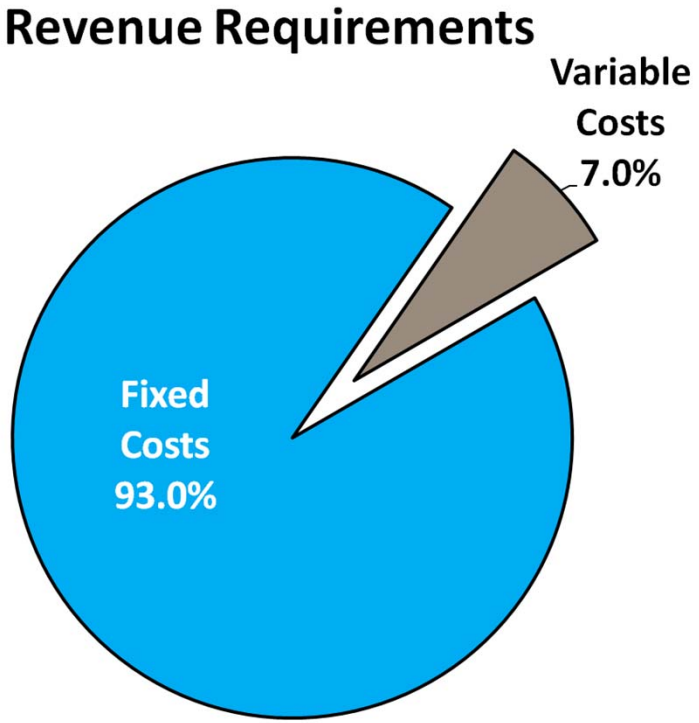
Another complicating factor: High percentage of O&M costs are fixed

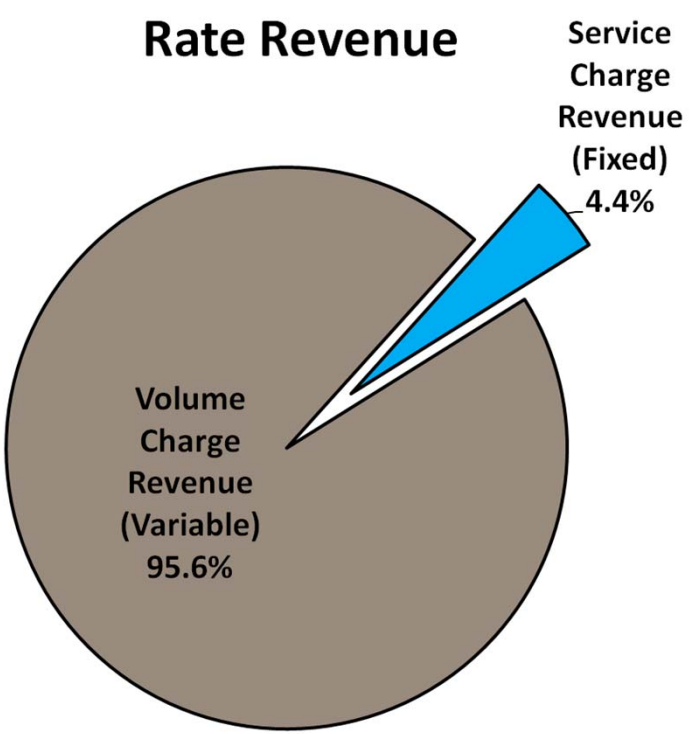
- Fixed costs: Salaries, maintenance, debt service
- Variable costs: Electricity, chemicals



But Fixed *Charges* are Low

- Fixed costs: Salaries, maintenance, debt service
- Variable costs: Electricity, chemicals





Planning for Financial Support

Having a systematic financial planning process is more important than ever given financial uncertainties

4 Steps to Identifying and Evaluating Funding Options

STEP 1

Identify and Prioritize Goals and Objectives

STEP 2

Identify Candidate Strategies and Options

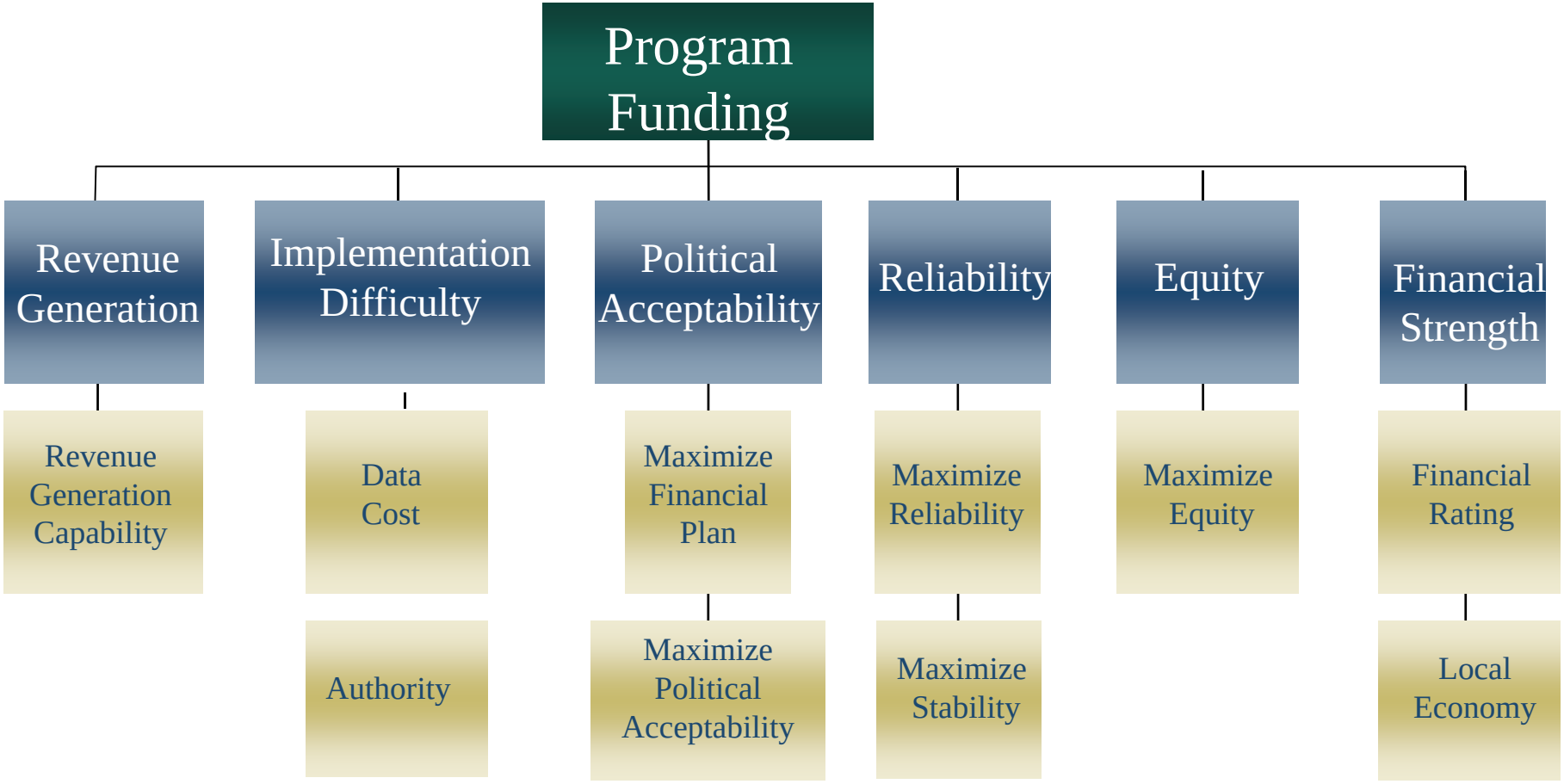
STEP 3

Test Revenue-Generating Capabilities Against Needs

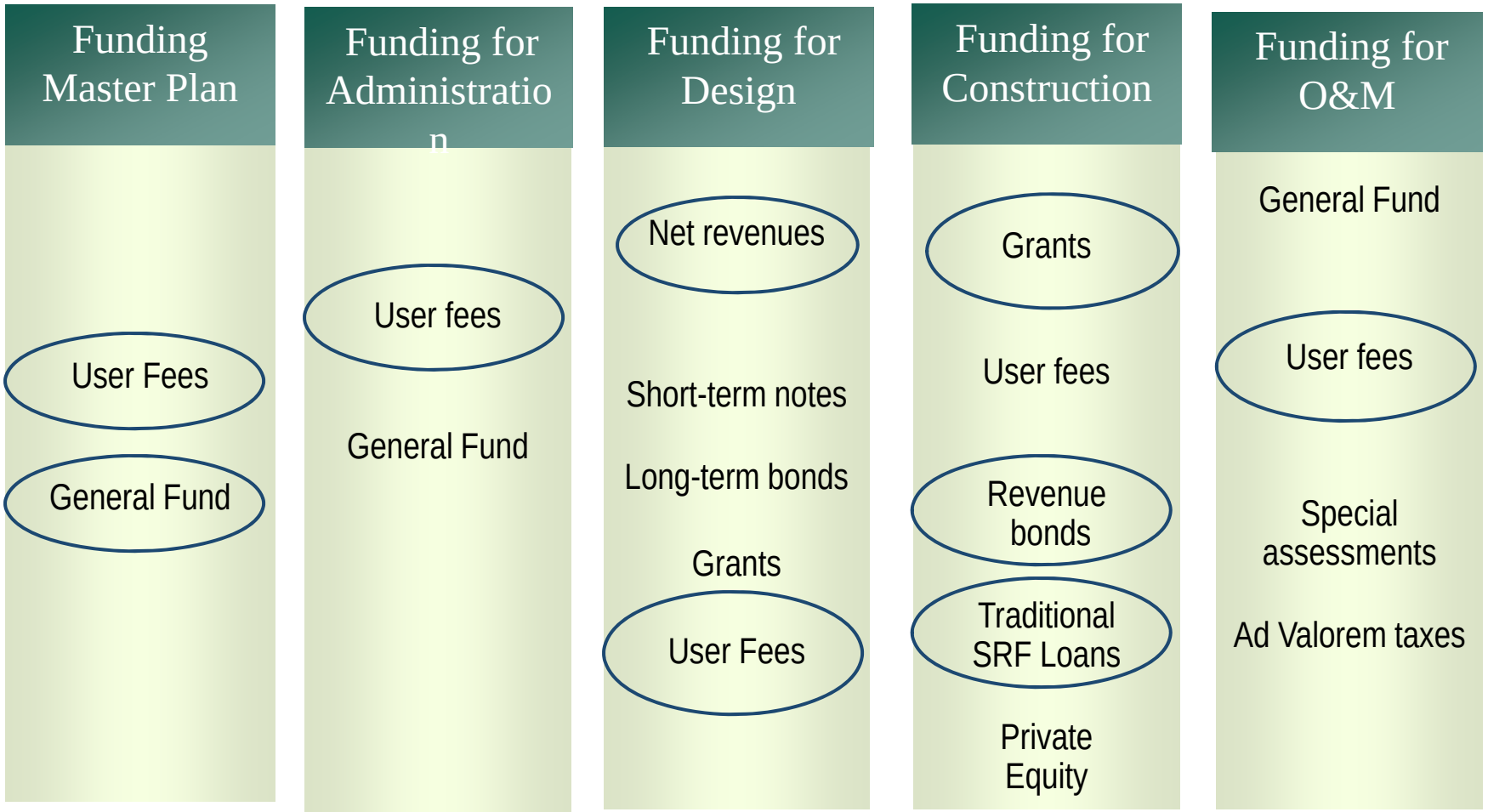
STEP 4

Recommend and Implement Financing Strategy

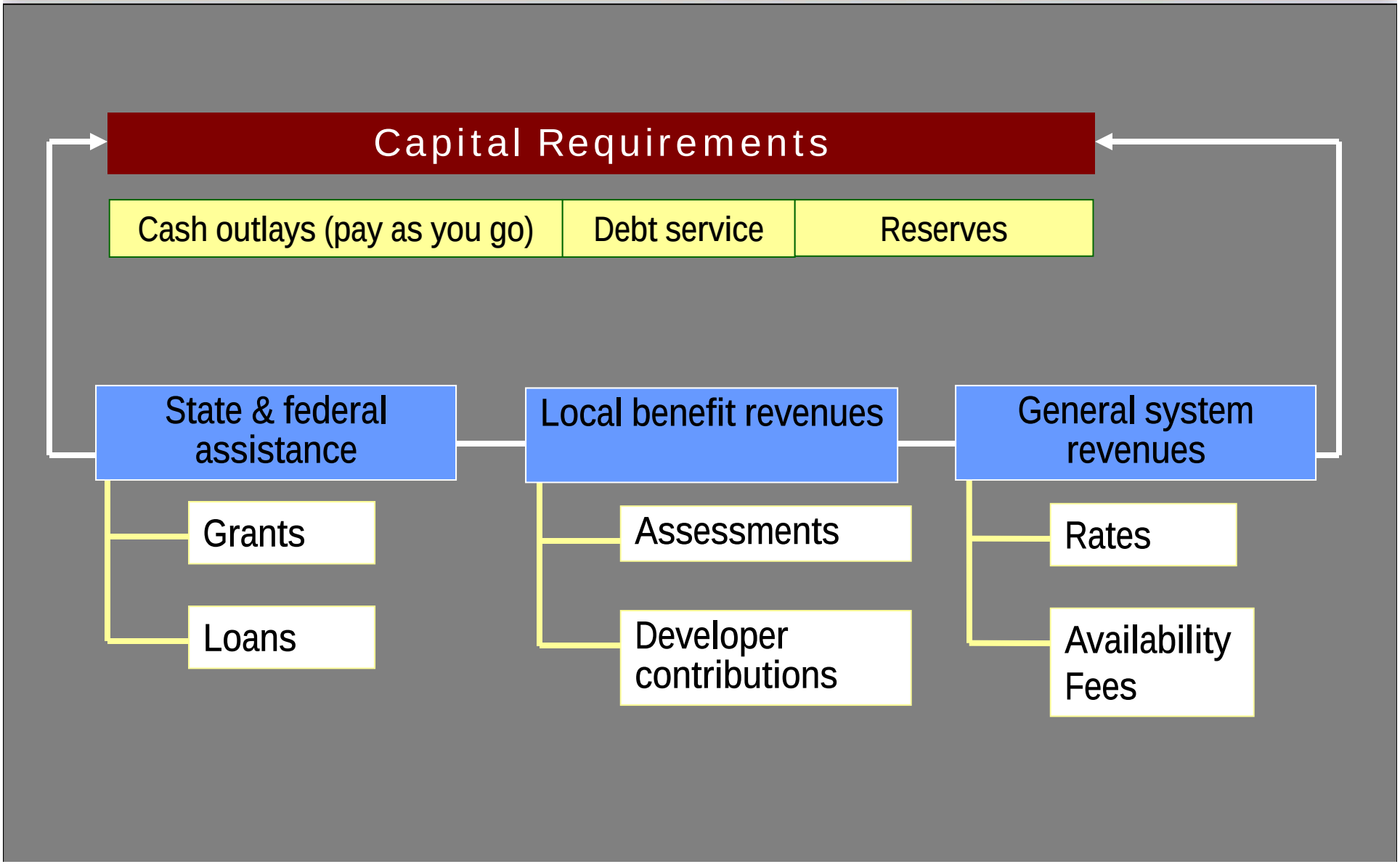
Step 1. Identify and prioritize objectives to meet stakeholder needs



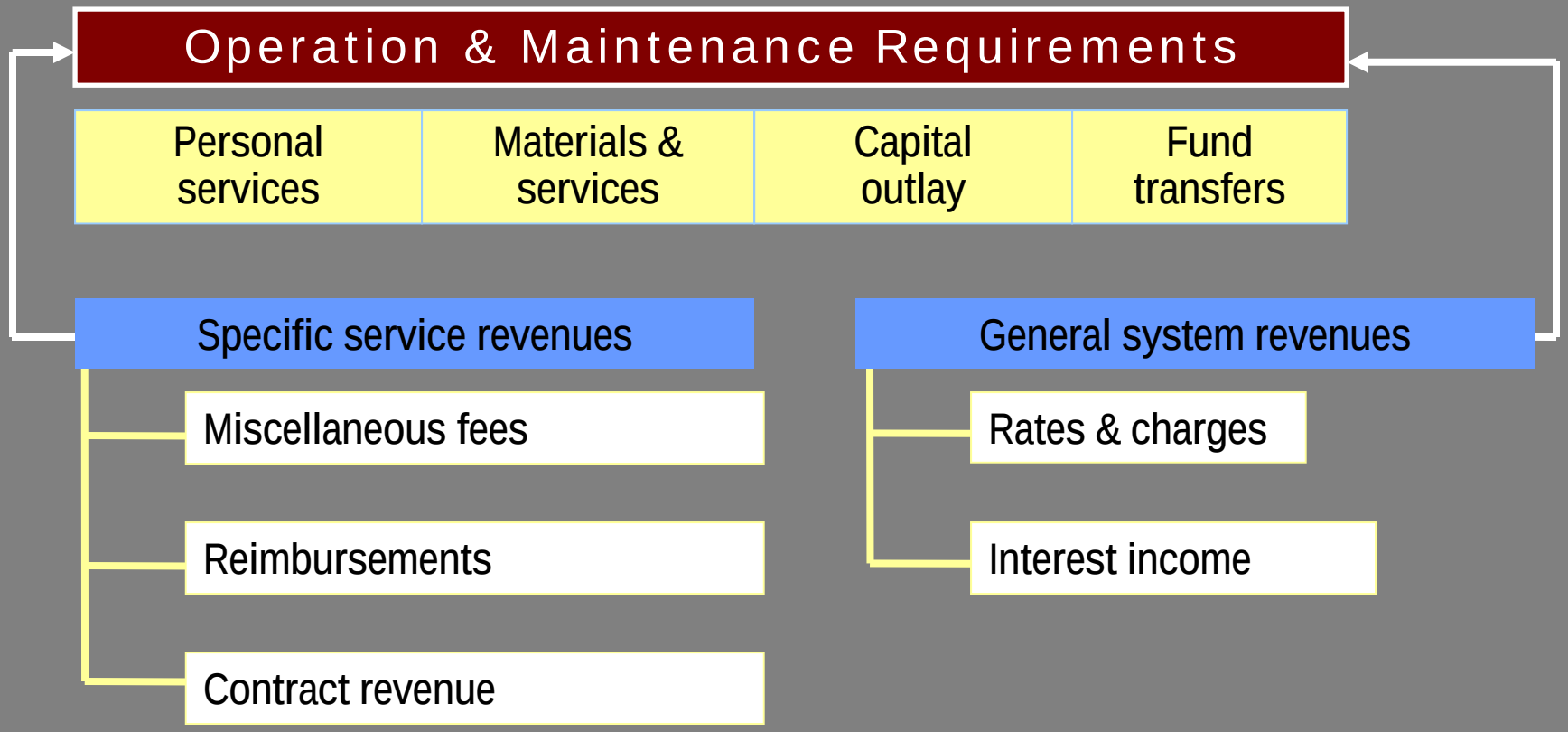
Step 2. Strategy table aids in combining funding options into coherent strategies for evaluation



Step 3. Identifying Funding Sources: Capital

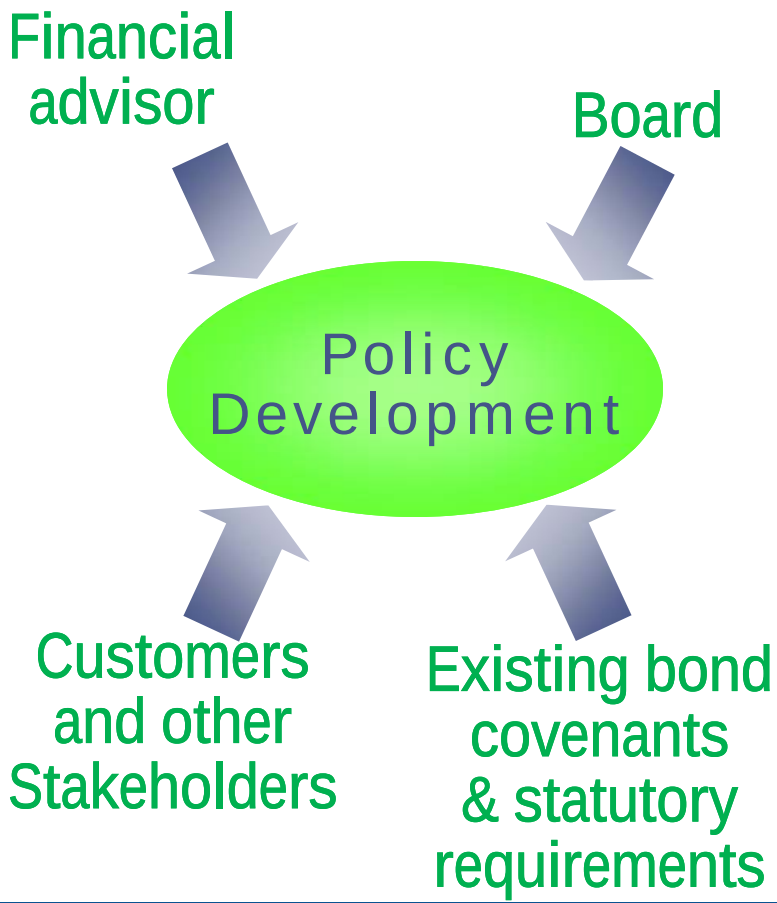


Step 3. Identifying Funding Sources: O&M



Step 4. Financial Policy Development

- Funding needs
  - Contingencies
  - Reserves
  - Debt coverage levels
- Funding sources
  - Debt vs. pay-as-you-go
  - Revenue vs. General Obligation Bond
  - Rate transitioning



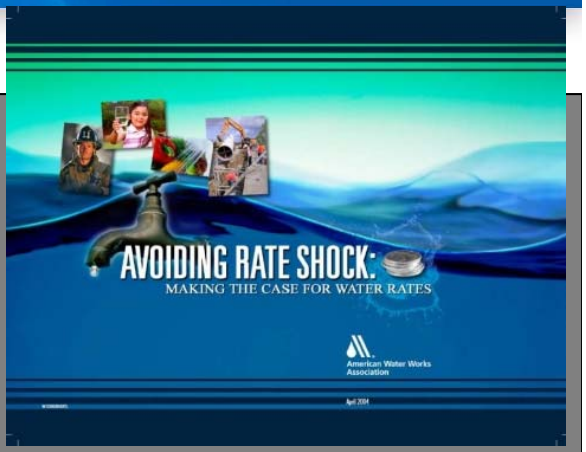
Proactive financial strategies can help to navigate challenging times:

- Strategic Business Planning
- Enhanced Tracking of Financial Performance
- Enhanced/Structured CIP Prioritization
- Rate/Fee Structure Refinements
- Enhanced Stakeholder Education and Engagement to Secure Buy-in for Financial Programs

Reviewing rate and fee programs might uncover opportunities for modified strategies:

- Increases in some ancillary fees to reflect true costs
- Realignment of rates to reflect the true cost split among existing customer classes
- Migration to higher fixed charges to buffer variability
- Opportunities to create new fees that are more directly linked to the cost of providing service

Securing stakeholder buy-in for the financial program may require increased engagement



Customer Advisory Board

Customer surveys

CIP

Operating budget

Compliance plans

Facilities plans

1. Determine annual revenue requirements

2a. ID rate/ fee options to consider

2b. ID affected stakeholders

3. Determine rate impacts

4.Accept-able?

Yes

No

Customer Advisory Board (if required)

Public hearing (if required)

PUC filing (if required)

5. Develop rate increase campaign

6. Implement campaign

7. Governing bodies adopt rates

8. Communicate adopted rates to customers

Key:

Inputs

Actions

Typical Timeline (months)

1 | 2 | 3 | 4 | 5 | 6 to 8 | 9 to 12

Ideas for Addressing Financial Challenges

Ideas for Addressing Financial Challenges

- Traditional Revenue and General Obligation bonds
- Safe Drinking Water State Revolving Loan Fund (SRF)
- American Recovery and Reinvestment Act (ARRA)
- Few(er) grants

Water Infrastructure Finance and Innovation Act
WIFIA

Purpose:

- To lower the cost of capital for infrastructure investments;
- Increase the availability of lower-cost capital;
- Have no or little effect on the federal budget deficit
- Model after the successful Transportation Infrastructure Finance and Innovations Authority (TIFIA)

Action is Underway in Washington, DC

- Senate approved WIFIA as part of the Water Resources Development Act (WRDA)
- $50-million “pilot program” for EPA and same for Corps of Engineers water projects
- Funding amounts
  - Over 25,000 Population = Projects > $20 Million
  - Smaller communities = Projects > $5 million

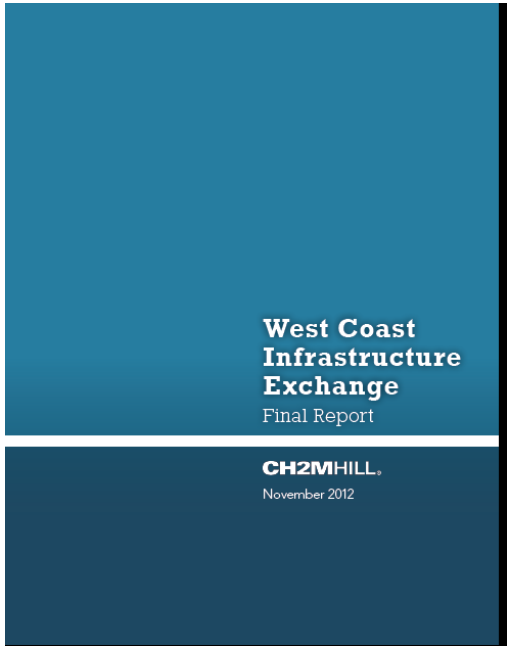
There are still challenges to be resolved in the Legislation

- 49% Funding Limitation (too much like TIFIA)
- Limitation on use of tax exempt bond financing for the remaining non-WIFIA funded share

The West Coast Infrastructure Exchange (WCX) recognized funding challenges

New Financial Reality

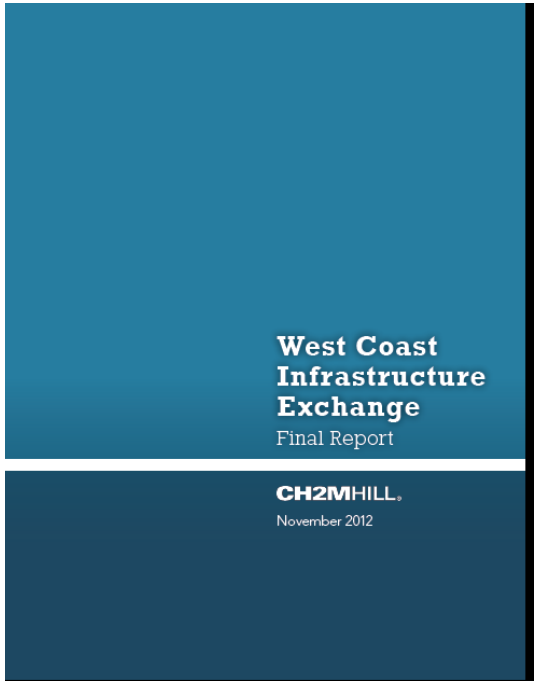
- $1 trillion infrastructure bill on the West Coast in the next 30 years
  - Need to re-think how we deliver and finance it
- Fewer Federal Grants
- Declining Revenues
- Falling General Obligation Debt Capacity



WCX report recognized that solutions are available

Solutions are available

- Strong demand from investors for infrastructure projects
- Need to aggregate smaller, rural projects into investment-ready opportunities
- Evaluate full life-cycle costs up front to manage effectively
  - Climate risk
  - Resilience



The beginnings of WCX

- Collaboration among California, Oregon, Washington, and British Columbia
- Initial study funding from Rockefeller Foundation
  - Oregon Legislature has allocated funds

- 1st of its kind regional platform for infrastructure funding
- Innovative infrastructure for market development, best practices, and improvements to the project pipeline.
- Translation point between public sector projects and private capital
- Provide support and technical assistance to procurement agencies

WCX 2014 Priorities

Pilot Projects

- Identify and screen potential projects from jurisdictions' project pipelines
- Provide early stage funding for project screening, feasibility evaluation and preparation
- Use existing loan guarantee tools

Capacity Building

- State and local agencies lack expertise in structuring projects to tap private capital
- Develop curriculum for project structuring and climate resilience evaluation
- Build capacity across jurisdictional and programmatic silos – Canadian/EU model

Focus on Water

- Huge unmet needs in water supply, drinking water, and sewage treatment in rural areas
- Drought is focusing attention on need for investment.
- Opportunity to minimize life cycle costs and demonstrate benefits of new deliver models

WCX anticipates use of P3* approaches; Level of interest and applicability will vary

- State enabling legislation on P3s varies considerably
- Governing boards and customers have varying levels of interest/appetite for P3 approaches
- Agency financing and CIP contexts also impact opportunities
  - Existing bond ordinances and covenants
  - Project characteristics

* Public/Private Partnership

There may be value in expanding the range of delivery and financing (P3) options for building and operating capital projects

Complete Public Ownership

Complete Private Ownership

Organization Development	Outsourcing of Services	Project Delivery	Contract Operations	Private Financing	Asset Transfer

A wide range of options is available to build capital projects

PROJECT DELIVERY MODEL SPECTRUM

Design Bid - Build

Program Management

Design CM@Risk

PM @ Risk

Design / Build

Design/Build/ Operate

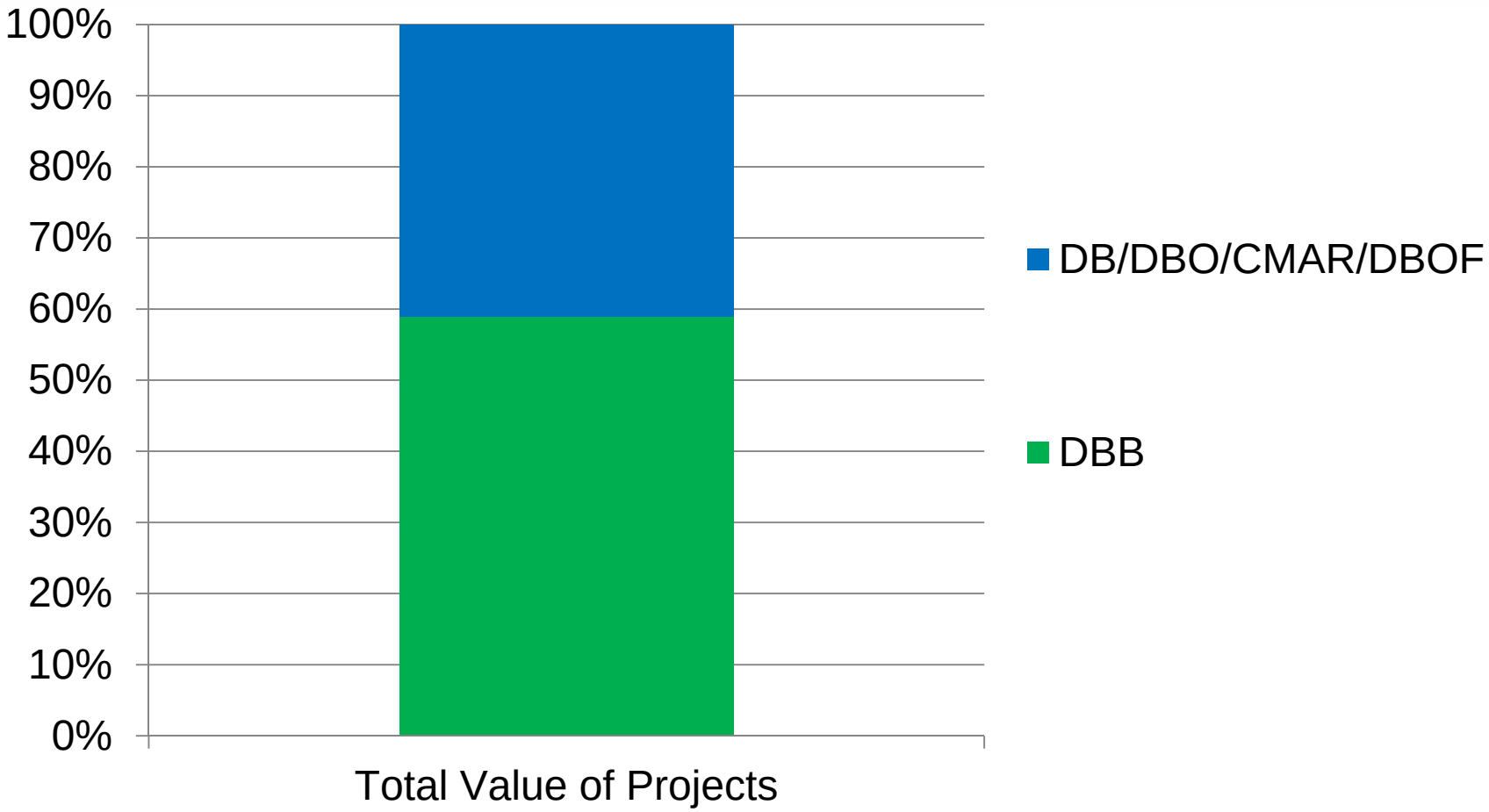
Pipelines

Pump Stations

Reservoirs

Treatment Plants

Alternative delivery is increasingly utilized for infrastructure projects



2012 US MARKET SECTOR W/WW AWARDED PROJECTS

Source: American Water Intelligence (AWI), February 2013

The DBOF option could provide several benefits to the community, compared with traditional delivery

- Preserves municipal bonding capability for schools, roads, or other pressing community priorities
- Reduces the municipality's administrative costs by providing more centralized reporting responsibilities for outside service providers
- Helps reduce interest rate for future borrowing by limiting outstanding municipal debt where that is a relevant factor

Drivers for considering additional options might include:

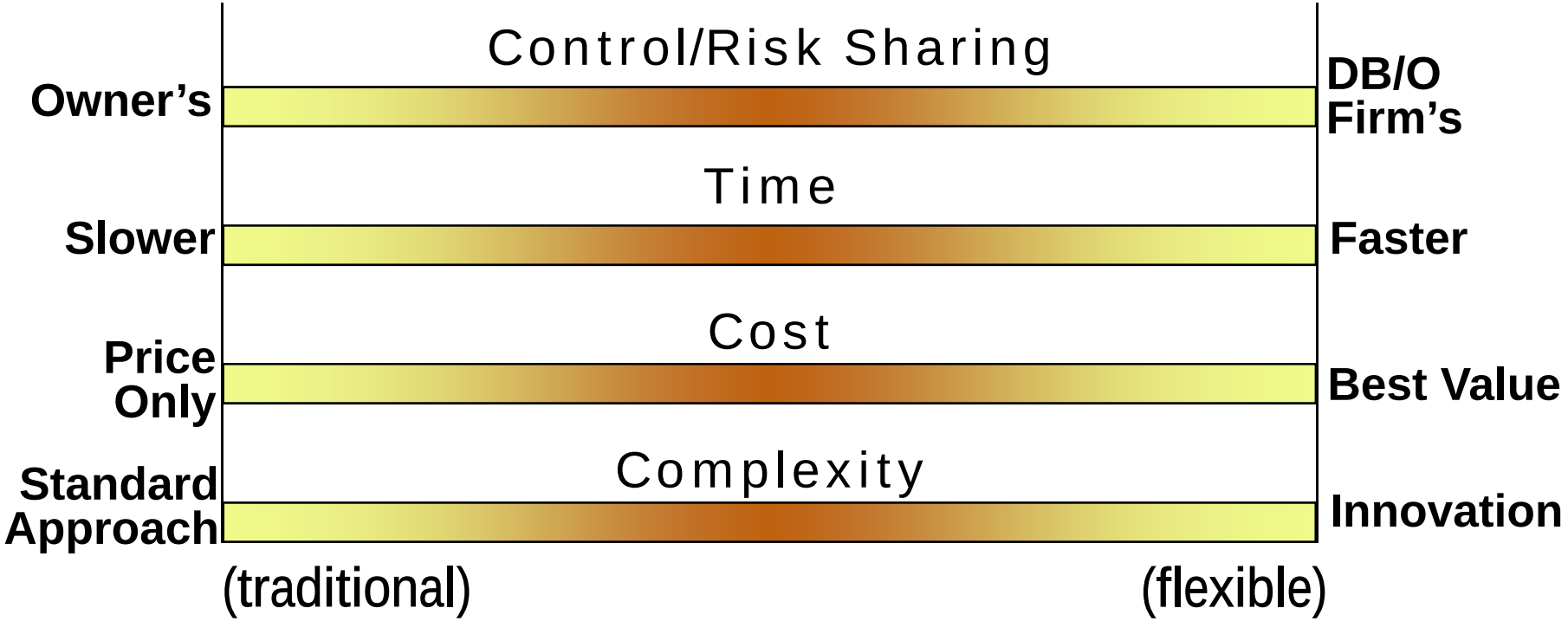
- Schedule
- Project and value considerations
  - Encourage technology innovations
  - Optimize processes
- Financial
  - Debt capacity limitations
  - Minimize life-cycle cost to customers

The Design-Build Spectrum accommodates differing owner comfort zones

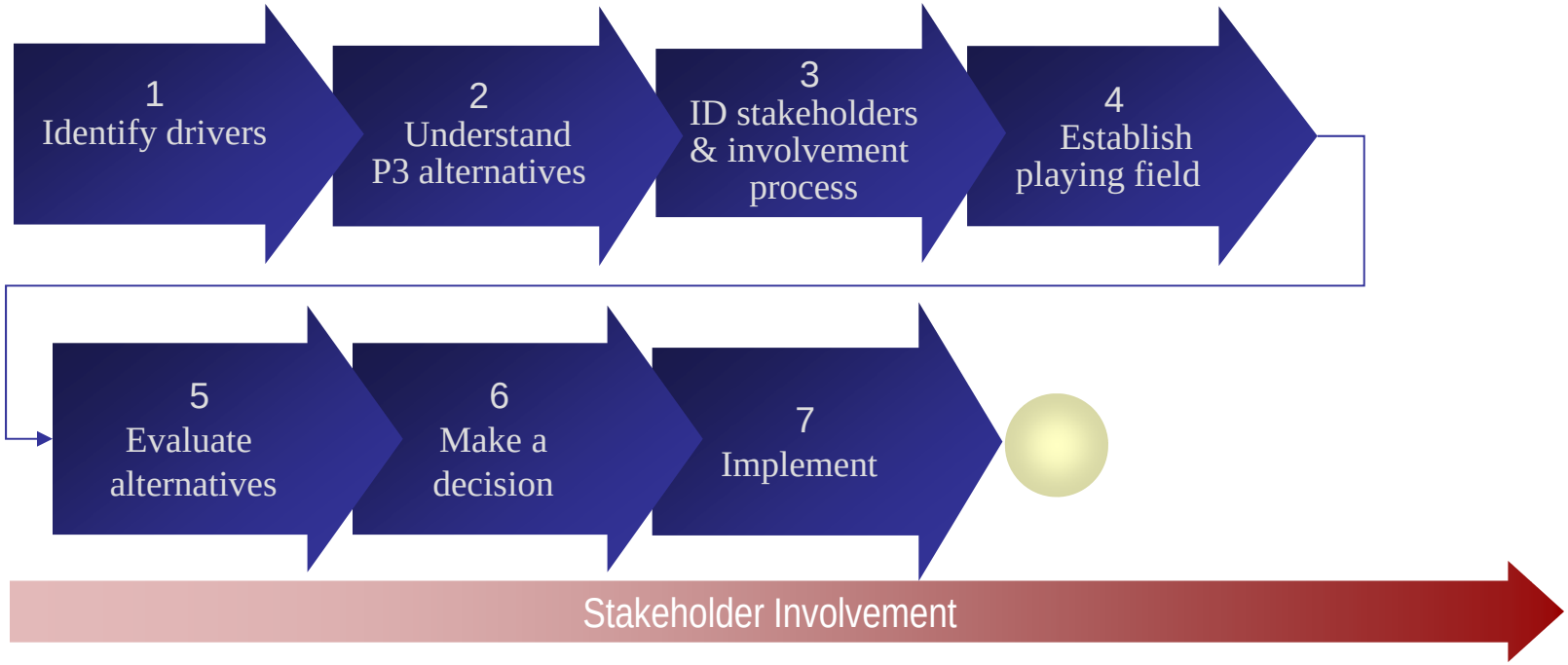
Relatively straightforward projects
result : known approaches and solutions, little opportunity for improvement

?

Complex projects with technical challenges
result : innovation varying approaches; "out-of-box" thinking



A Water Research Foundation manual identifies a systematic process for evaluating P3s in light of financial and stakeholder considerations



Lump Sum Performance Design-Build-Operate Wilsonville, OR, Wastewater Treatment Plant

- 4 MGD, $37 M capital cost
- Construction while plant in operation
- Transition of existing employees to CH2M HILL
- 20 year operations

Progressive Design-Build – Lebanon, OR Wastewater Treatment Plant

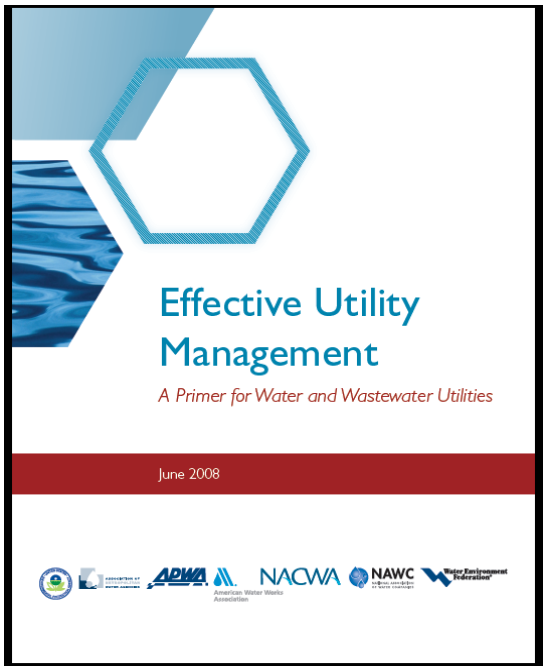
- CH2M HILL operated plant before and after construction
- $5 M solids handling upgrade

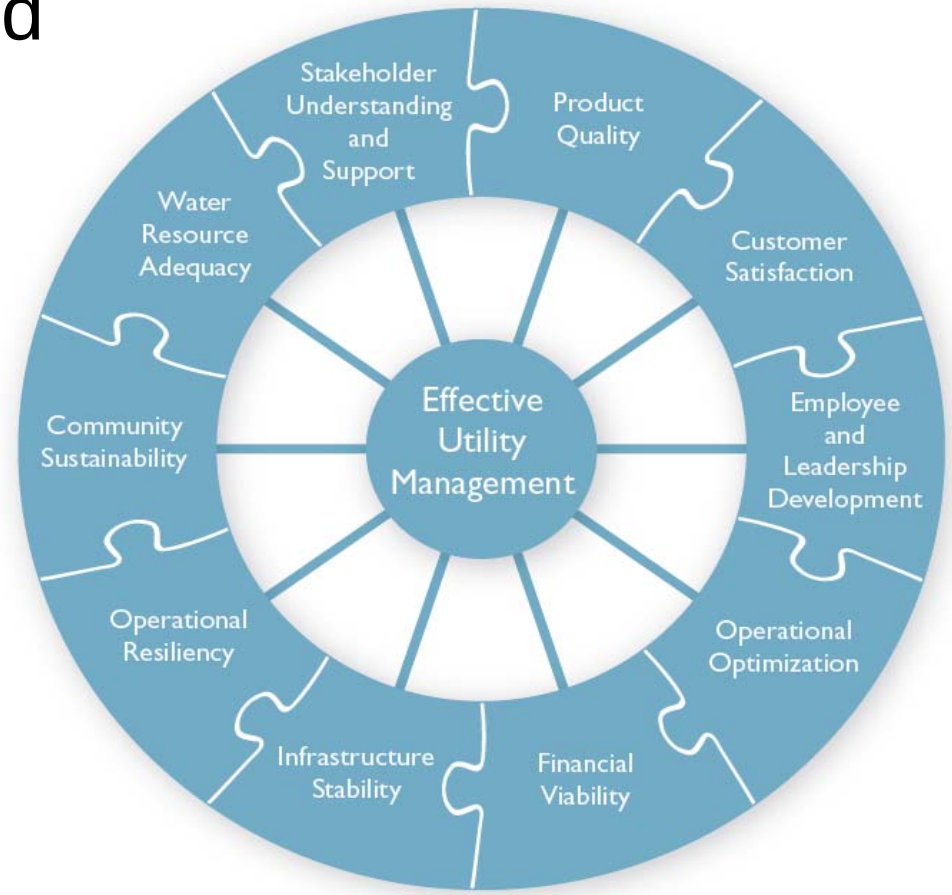
Developing a robust framework to evaluate delivery options is critical to success

- Consistent assumptions
- Comprehensive
  - Address all relevant risk considerations
  - Address non-financial considerations where relevant
- Appropriate to task at hand
  - Multi-attribute utility analysis?
  - Monte Carlo/expected value calculations?
- Number of options evaluated

Effectively Managed Utilities provides framework for communicating your careful management of funds

Ten Attributes identified

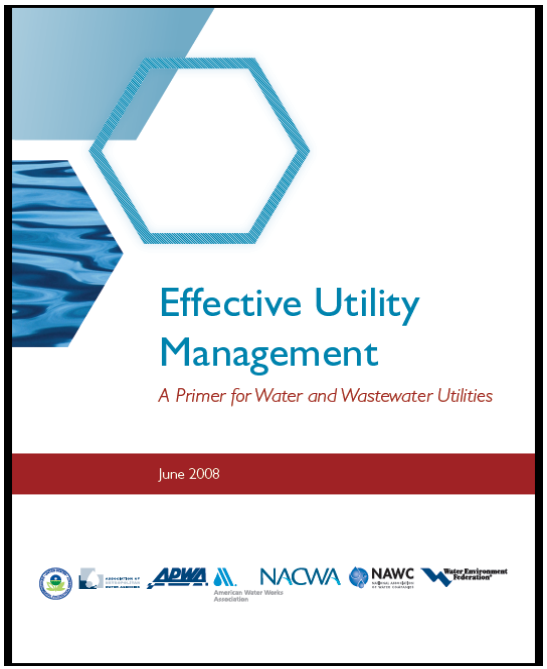


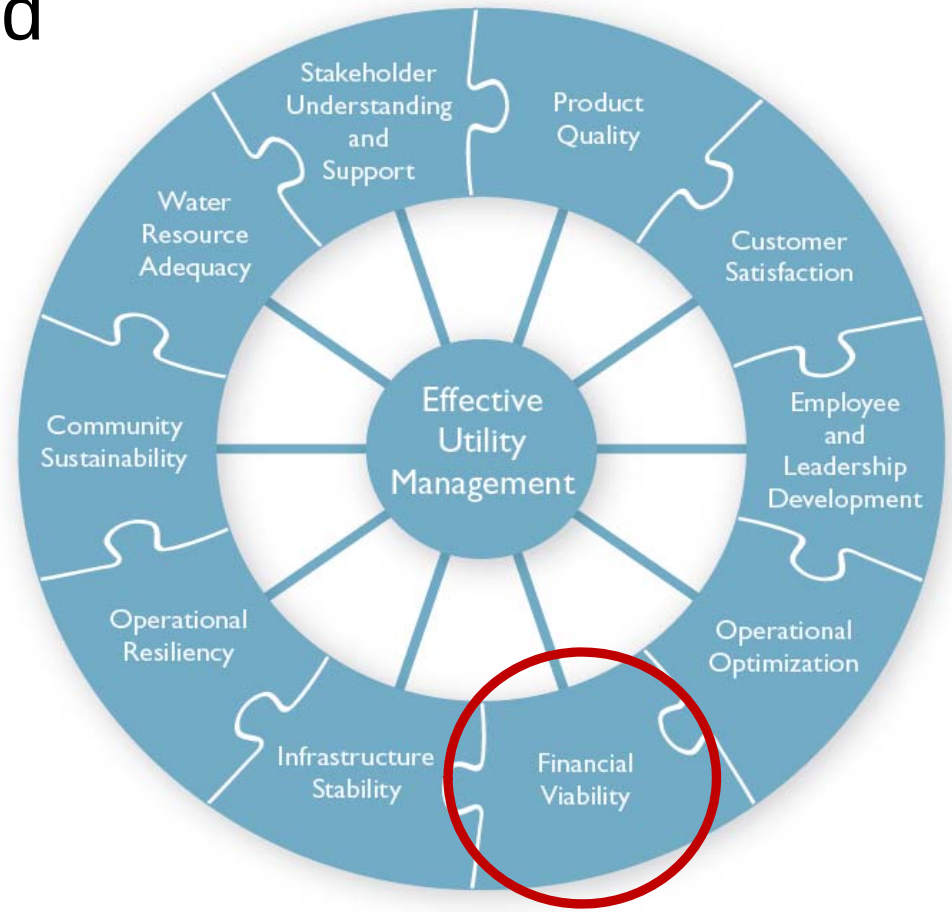


Ten Attributes of Effectively Managed Water Sector Utilities

Effectively Managed Utilities provides framework for communicating your careful management of funds

Ten Attributes identified





Ten Attributes of Effectively Managed Water Sector Utilities

Water Research Foundation EUM Benchmarking Project created framework and assessment methodology to pilot test usefulness

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Water Research Foundation

Performance Benchmarking Framework and Tool for Effectively Managed Water Utilities

Mike Matichich, Fair Yeager, and Yakir Hasit
AWWA Annual Conference & Exhibition
Denver, CO
June 11, 2013

BUILDINGSUSTAINABLESOLUTIONS

Water Research Foundation EUM Benchmarking Project included 3 Northwest utilities

Northwest Participants:

- Tualatin Valley Water District
- Clean Water Services
- Covington Water District

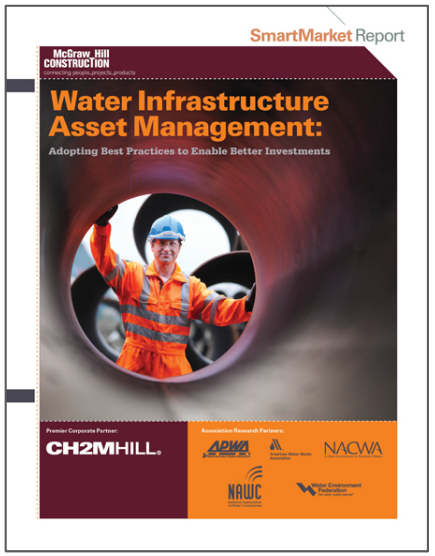
March 2013 report confirmed continuing need for Asset Management

"A holistic asset management program can help water utilities make better investment decisions for the challenges that they face..."

McGraw-Hill Asset Management study results

Survey conducted November 2012 in partnership with 5 leading industry associations

- APWA
- AWWA
- NACWA
- NACW
- WEF

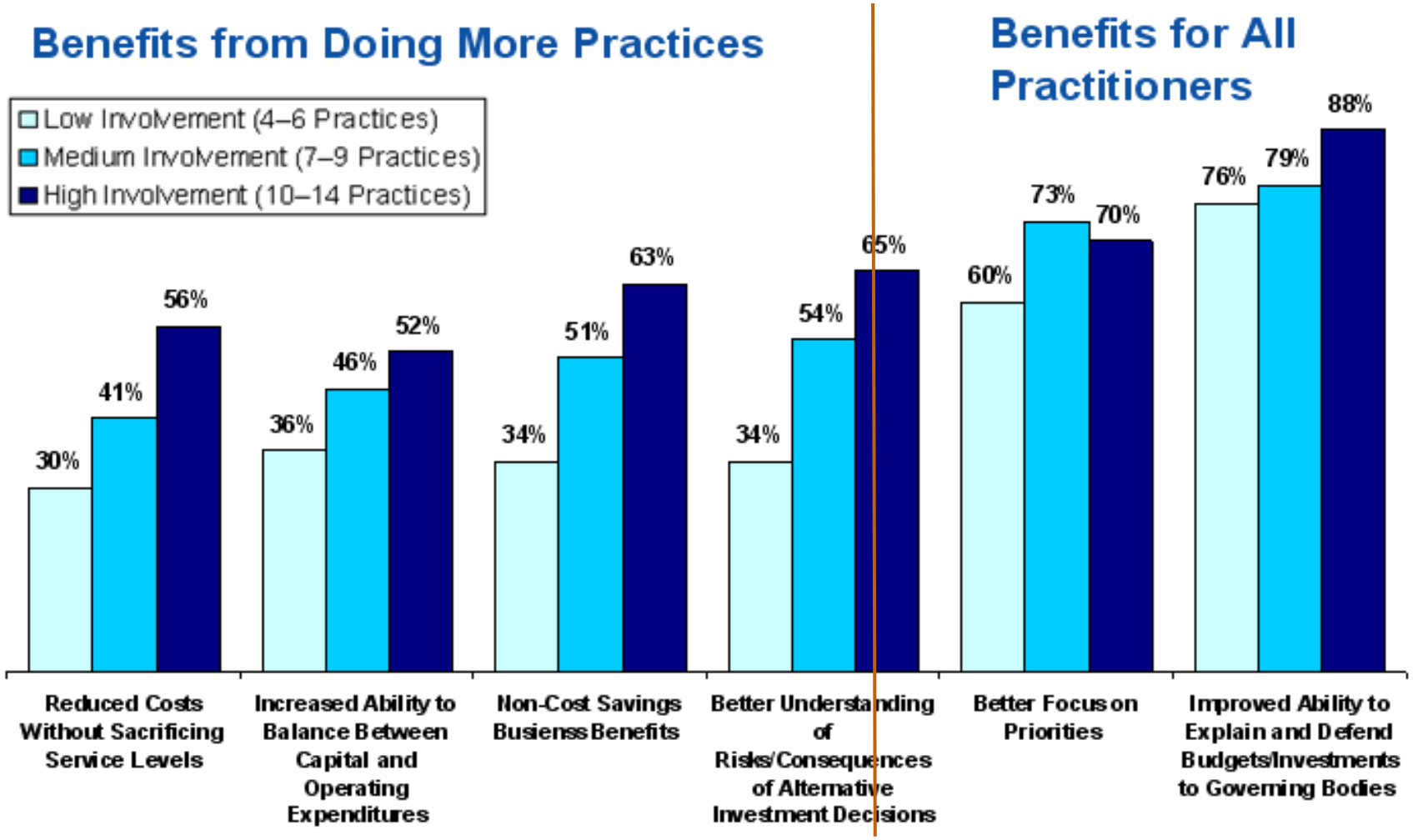


451 U.S. and Canadian participants

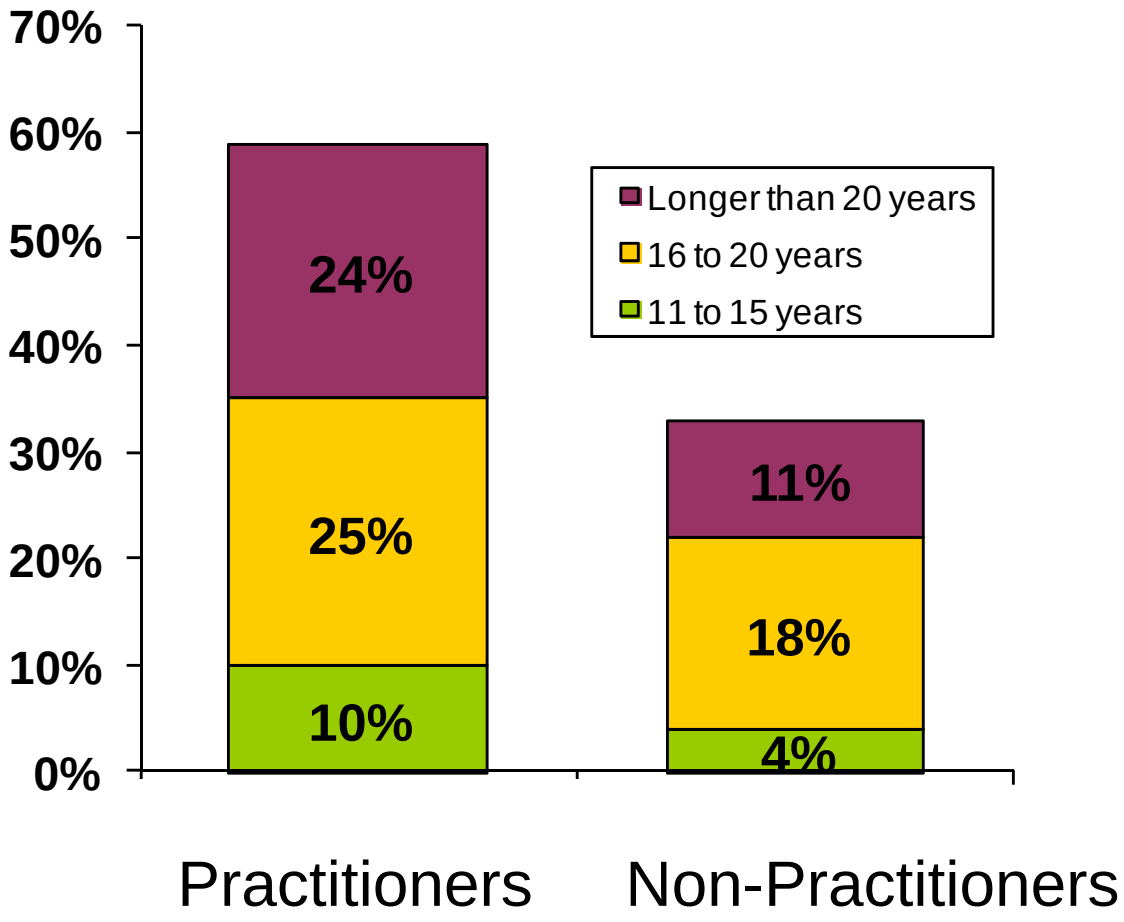
- 90% from the U.S.
- All offer water services
  - 70% also offer wastewater
- Median number of employees: 91
- Populations served 3,300 to 500,000+; 60% serving 50,000+

In-depth interviews conducted with 5 utility executives

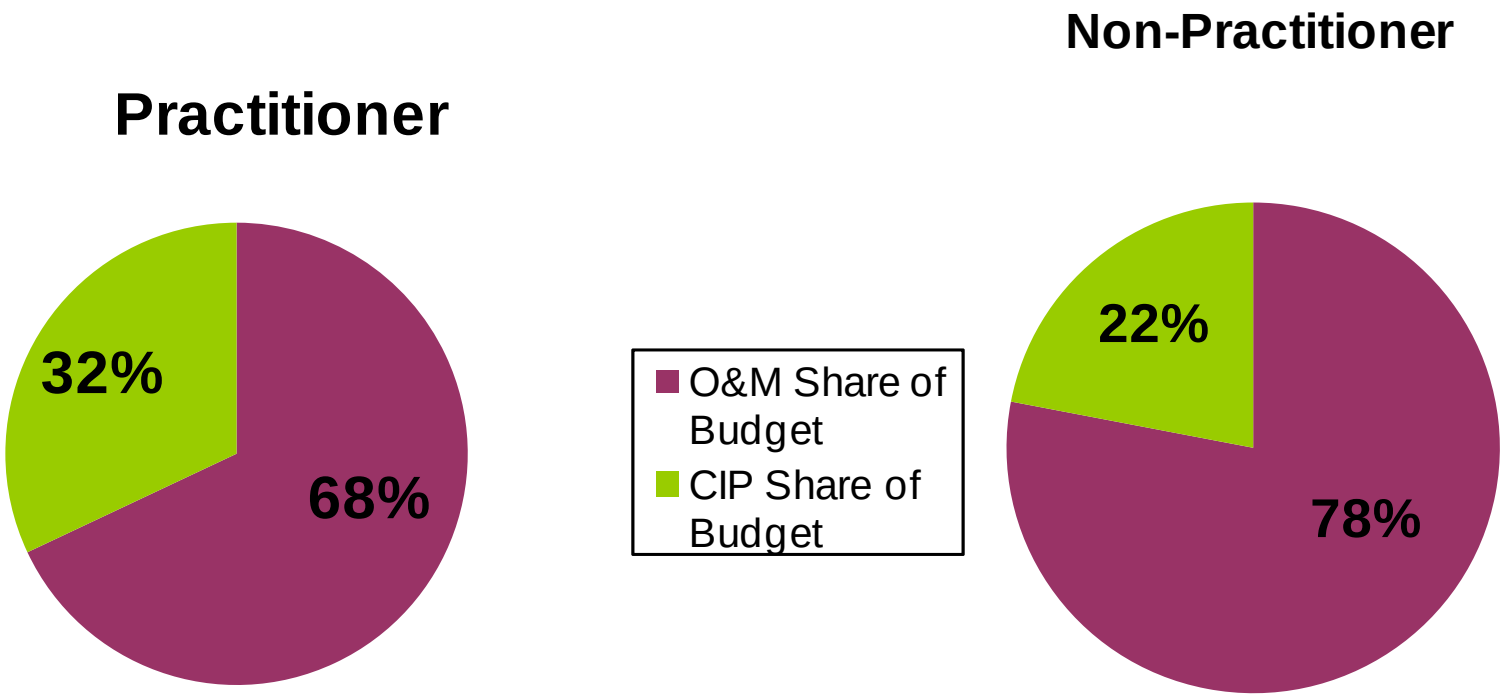
Utilities with higher asset management involvement achieve more benefits – starting with reduced costs



Practitioners have a longer planning horizon for investments



Practitioners devote more of their budgets to capital improvements



Strategic Asset Management includes basic principles

An integrated set of processes to minimize the lifecycle costs of infrastructure assets, at an acceptable level of risk, while continuously delivering established levels of service.
(NACWA, WEF, AMWA)

Risk = (consequence x likelihood)

How severe are the consequences of asset failure?

How likely is it for the asset to fail?

Thoughts forward

- Employing a systematic process to identify and evaluate financing and funding options helps ensure:
  - Alignment with stakeholder values
  - Consider a robust range of options
- New finance and project delivery models can provide the opportunity to move forward with needed projects and realize savings
- Several choices exist for completing projects
- Worth considering alternatives in the face of new circumstances
- The devil is in the details and the new models do not fit all contexts and projects

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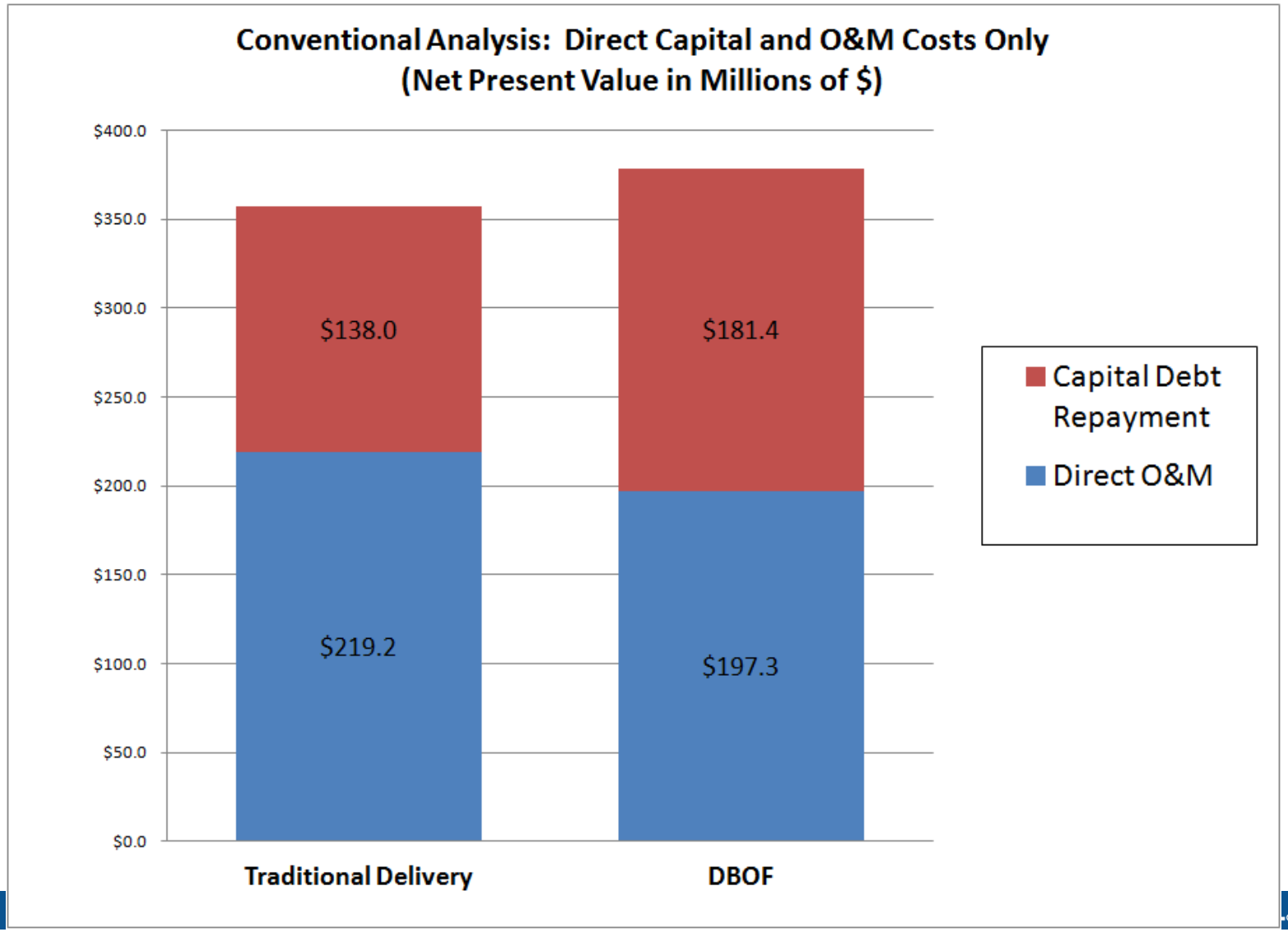
Thanks for listening!

Dale Jutila
CH2M HILL
dale.jutila@ch2m.com
503-736-4125

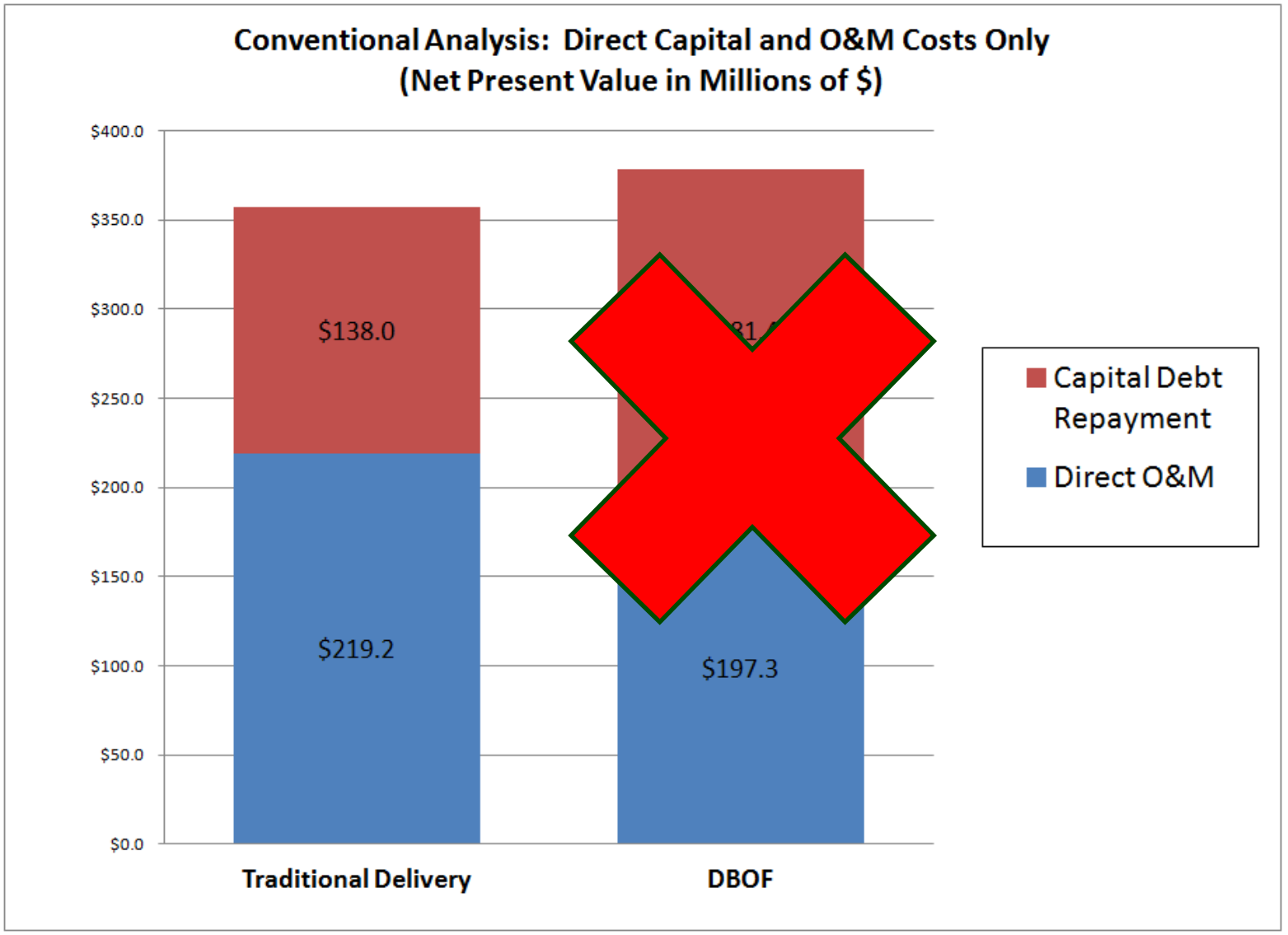
Q&A/Discussion

“Value for Money” case example

Historically, the decision among financing & delivery options has looked only at direct capital and operating costs



It might at first glance seem like a no-brainer that higher financing costs rule out the DBOF option.



A more robust ‘value for money’ analysis levels the playing field by incorporating relevant risk transfers