

Resilient Engineering: 6 Tips to Maximize Your Budget for Public Infrastructure

June 9, 2022



ILCMA-WCMA Conference 2022

Session Overview

The ability of keeping your infrastructure resilient when facing challenges from diminishing revenues, inflationary pressures and other competing priorities is both a science and an art. This session will provide six practical tips and tools to stretch that seemingly inflexible wallet to help keep your communities infrastructure needs on track.

Learning Objectives

The 6 Tips to Maximize Your Budget for Public Infrastructure

1. Grow your Budget by Finding Outside Funding
2. Reduce your “First” Costs of Building Infrastructure – Take a “Value” Engineering Approach
3. Don’t Reinvent the Wheel
4. Stay Resilient with Asset Management
5. Use Staff Augmentation for Peak Workload or Special Skills
6. Review Your Fee Structures

Today's Session



Russ Loebe, ICMA-CM

HR Green
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(Moderator)



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Nicholas Dragisich, P.E.

Baker Tilly
Managing Director



Dave Nord, ICMA-CM,

City of Lake Geneva Wisconsin
City Administrator



Whenever you're asked if you can do a job, tell 'em, 'Certainly I can!' Then get busy and find out how to do it. - Teddy Roosevelt

Step 1 - Grow your Budget by Finding Outside Funding

- **Strategic Budgeting**
- **Capital Project funding in 2022**
 - Traditional funding
 - Competitive Grants
 - Congressionally designated funding
 - American Rescue Plan Act (ARPA) - *final rules in place...*
 - Infrastructure Investment and Jobs Act (IIJA) – *lots of money, lots of rules...*
- **A Wisconsin and Illinois Perspective...**

Step 1 - Grow your Budget by Finding Outside Funding

Strategic Budgeting – *The Sources & Uses Matrix*

Project Task	Task Budget	Sources		Local Match Options		
		RISE	Local Match	TIF	Stormwater Utility	MPO - STP
Earthwork	\$66,860	\$33,430	\$33,430	\$16,715		\$16,715
Storm Sewer	\$207,000	\$103,500	\$103,500	\$51,750	\$51,750.0	
Inlets	\$120,000	\$60,000	\$60,000	\$30,000	\$30,000.0	
Pavement	\$333,300	\$166,650	\$166,650	\$83,325		\$83,325
Sidewalk	\$111,111	\$55,556	\$55,556	\$27,778		\$27,778
Pavement Markings	\$5,000	\$2,500	\$2,500	\$1,250		\$1,250
Sub-Total Construction Costs	\$843,271	\$421,636	\$421,636	\$210,818	\$81,750	\$129,068
Mobilization (5%)	\$42,164	\$21,082	\$21,082	\$10,541	\$4,088	\$6,453
Contingency (50%)	\$421,636	\$210,818	\$210,818	\$105,409	\$40,875	\$64,534
Engineering (15%)	\$196,061	\$98,030	\$98,030	\$49,015	\$19,007	\$30,008
Total Project Cost	\$1,503,131	\$751,565	\$751,565	\$375,783	\$145,719	\$230,063

Step 1 - Grow your Budget by Finding Outside Funding

- **Capital Project funding in 2022**

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Step 1 - Grow your Budget by Finding Outside Funding (cont.)

Capital Project funding in 2022

Examples of what we are seeing...

- National Perspective (ARPA, IIJA)
- Connection/Access fees updates to ensure new growth pays for benefits received
- Evaluation of cost to provide services to outside the City customers and wholesale customers
- Funding through state bonding bills
- Tax Increment Finance
- WIFIA
- SRF

Step 1 - Grow your Budget by Finding Outside Funding (cont.)

A Wisconsin and Illinois Perspective...

Wisconsin is incredibly constrained when it comes to revenue generating options for municipalities.

- No other Midwestern state has a local tax structure like Wisconsin's. Wisconsin is the only state in the Midwest that limits municipalities to the property tax as the sole major form of local taxation
- Generally speaking; virtually no municipalities collect a local retail sales tax

Step 1 - Grow your Budget by Finding Outside Funding (cont.)

A Wisconsin and Illinois Perspective...

- State law changes in 2010 and limited city's ability to raise property taxes. State aid is a relatively minor source of revenue for most cities. State funding comprised 14% of total Intergovernmental and local tax revenues for the typical city.
- First implemented in 2006, state caps on property tax increases have slowed the growth in municipal levies and helped to lower Wisconsin's overall tax burden. However, among the 10 states most reliant on municipal property taxes, Wisconsin appears to have the tightest cap on increases, restricting tax growth to the rate of net new construction.

Step 2 - Reduce your “First” Costs of Building Sustainable Infrastructure – Take a “Value” Engineering Approach

Three proven techniques of “Value” Engineering Concepts

- Peer Reviews
- Constructability Reviews
- “Envision” type process for Sustainable Infrastructure

Now some Examples...

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Peer Review Example –

Water Resource Recovery Facility, New Lenox, IL.

- ✓ New \$140 million, 5.4-million-gallon Regional WRRF
- ✓ Ultimately consolidating 3 plants into one regional facility (*gain efficiency, more appropriate land use*)
- ✓ Expanded major collection system improvements

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Peer Reviews Example - Water Resource Recovery Facility

- ✓ Two professional engineering firms; one for plant design, one for collection system design
- ✓ Each firm reviewed the other’s design work at 15%, 30%, 60% and 90%
- ✓ Looked for cost savings, process efficiencies, performance, constructability
- ✓ Competition for construction engineering services

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Peer Review Example - Water Resource Recovery Facility

Results so far –

- ✓ Regional plant sizing
- ✓ Alternate treatment process options
- ✓ Constructability issues
- ✓ Sewer Routing improvements
- ✓ Improved operational efficiencies
- ✓ Cost savings

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Peer Review Example - Water Resource Recovery Facility

Results so far –

- ✓ Continuous evaluation of components – immediate needs vs. full build-out
- ✓ Separate contracts for non-treatment plant components
- ✓ Paused design to study fees necessary to operate
- ✓ Political support

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Constructability Review - Typical Considerations

- Consider availability of material / equipment type
- Local Conditions (bad ground, challenging locations etc.)
- Contractor availability and workloads
- Alternative project delivery methods

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Constructability Review Example

- ✓ Deep Sewer Line under paved bike path requiring large quantity of material removal, replacement backfill – expensive
- ✓ Consider using excavated material as backfill, provide stone path for first year, re-pave in the future...
- ✓ Save time, save money

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Envision® type process for Sustainable Public Infrastructure

Sustainable development - ...development that meets the needs of the present without compromising the ability of future generations to meet their own needs...”

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

What is Envision® ?

It's a *LEED*® “like” process for infrastructure projects. A fee-based process that incorporates a series of sustainability goals and documents the process and scores the projects sustainability outcome... (gold, silver, bronze etc.).

Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach



Step 2 - Reduce your “First” Costs of Building Infrastructure – Take a Value Engineering Approach

Envision® - Example Project

Martinez IV WWTP San Antonio River Authority Envision Silver

- 41% solar powered
- Non-potable water used for irrigation and cleaning
- Invasive species removal, revegetated site with native plants including extensive pollinator habitat
- Can be retrofitted for water reuse in the event of drought

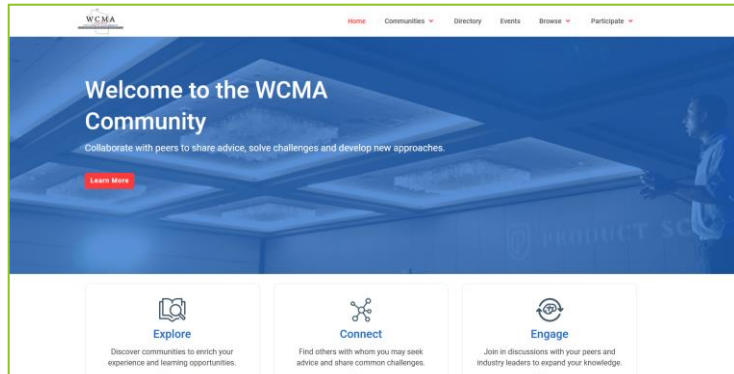


Step 3 - Don't Reinvent the Wheel

Odds are that other communities elsewhere have handled similar projects...

- Your neighbors, your friends, your professional advisors...
- Online resources “ICMA Connect”, “ILCMA Connect”, “WCMA Connected Community”, and other on-line resources
- Professional associations (AWWA, WEF, SEWRPC, GFOA, others)
- Corporate Partners

Step 3 - Don't Reinvent the Wheel



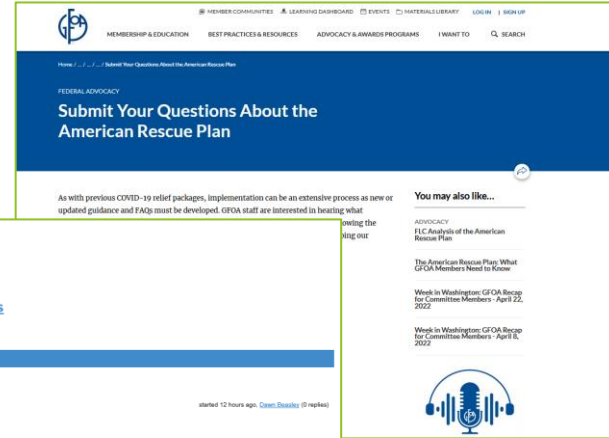
Welcome to the WCMA Community
Collaborate with peers to share advice, solve challenges and develop new approaches.

[Learn More](#)

Explore
Discover communities to enrich your experience and learning opportunities.

Connect
Find others with whom you may seek advice and share common challenges.

Engage
Join in discussions with your peers and industry leaders to expand your knowledge.

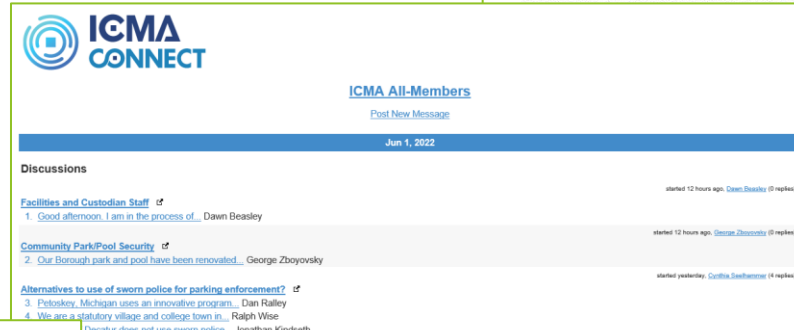


FEDERAL ADVOCACY
Submit Your Questions About the American Rescue Plan

As with previous COVID-19 relief packages, implementation can be an extensive process as new or updated guidance and FAQs must be developed. GFOA staff are interested in hearing what you have to say about the plan.

You may also like...

- ADVOCACY: FLC Analysis of the American Rescue Plan
- The American Rescue Plan: What GFOA Members Need to Know
- Week in Washington: GFOA Budget for Committee Members - April 22, 2022
- Week in Washington: GFOA Budget for Committee Members - April 8, 2022



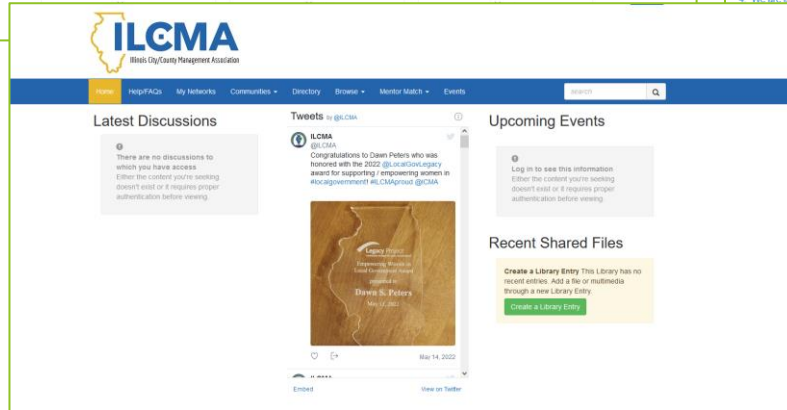
ICMA All-Members
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Discussions

Facilities and Custodian Staff [1](#)
1. Good afternoon. I am in the process of... Dawn Beasley
started 12 hours ago. [Dawn Beasley](#) (0 replies)

Community Park/Pool Security [2](#)
2. Our Borough park and pool have been renovated... George Zboyovsky
started 12 hours ago. [George Zboyovsky](#) (0 replies)

Alternatives to use of sworn police for parking enforcement? [3](#)
3. Petoskey, Michigan uses an innovative program... Dan Ralley
4. We are a statutory village and college town in... Ralph Wise
started yesterday. [Dan Ralley](#) (0 replies)



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Latest Discussions

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Tweets by @ilcma
Congratulations to Dawn Peters who was honored with the 2022 @ilcma Legacy Award for supporting /empowering women in #localgovernment. #ILCMAAward @ILCMA

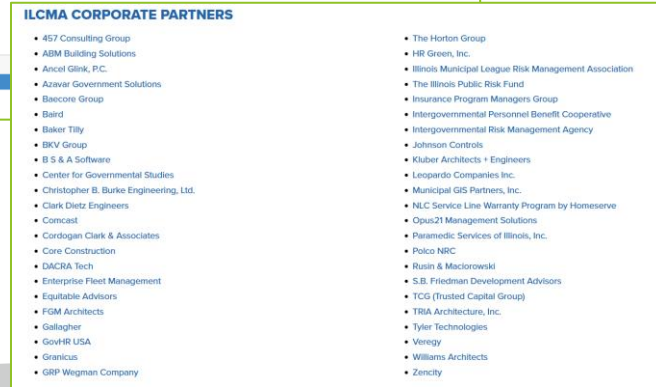
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- Leopardo Companies Inc.
- Municipal GIS Partners, Inc.
- NLC Service Line Warranty Program by HomeServe
- Opus21 Management Solutions
- Paramedic Services of Illinois, Inc.
- Polco NRC
- Rusin & Maciorowski
- S.B. Friedman Development Advisors
- TCG (Trusted Capital Group)
- TRK Architecture, Inc.
- Tyler Technologies
- Venngy
- Williams Architects
- Zenithy

Step 4 - Stay Resilient with Asset Management

People don't plan to fail; they fail to plan...

- Asset Management Plan... why?
- Asset Management plan vs Capital Improvement Plan
- Asset life needs to realistic
- Use knowledge of staff to assess asset condition/remaining life
- Develop annual funding needs based on probabilistic failure analysis

Step 4 - Stay Resilient with Asset Management

- **Why?**

- GASB 34:..., requires state and local government to value infrastructure in the public domain.
- Demands on capital exceed availability of capital
- Some forms of financing are subject to special referenda (e.g., local option sales tax)

- **Asset Management vs. Capital Improvement Program**

- They are not the same
- Asset Management Systems consider the entire scope of public infrastructure for virtually all departments with physical assets
- Assets are subject to data driven tailored models that evaluates the relative cost of maintenance or replacement based on the condition of the asset

Step 5 - Use Staff Augmentation for Peak Workload Special Skills

Technical people in high demand in local government just as many contemplate retirement...

- Staff Augmentation benefits
 - Peak Workloads
 - “One and done” projects
 - Specialty Skills

Step 5 - Use Staff Augmentation for Peak Workload Special Skills (cont.)

- **Staff Augmentation types**

- Service Consolidation – combined or joint provisions of service for two or more local government units
- Interlocal Agreements
- Contracting/Outsourcing
- Example of Staff Augmentation
 - New Lenox: Building Reviews & Inspections, Engineering, Village Attorney
 - Lake Geneva - assessing feasibility of shared services / interlocal agreements

Step 6 - Review Your Fee Structures

It pays to make sure your fee structures are up to date...

- A proactive, well-thought-out process that evaluates current and future operational and capital needs is a power tool
- Optimizing staffing resources through technology, right-sizing, etc.
- Asset renewal and replacement funding
- Evaluating impacts and equity of debt versus cash financing (pay as you go versus pay as you use)

Step 6 - Review Your Fee Structures (cont.)

- **Key Steps in preparing for and conducting a Fee Structure Plan**
 - O&M budgets vs Capital budgets
 - Rate making 101
 - Collaborative process – civic engagement, equity, affordability, inclusion and other drivers
 - Wholesale and out-of-town customers

Round table Presenters / Audience Q&A

Discussion and Q&A



Thank You !