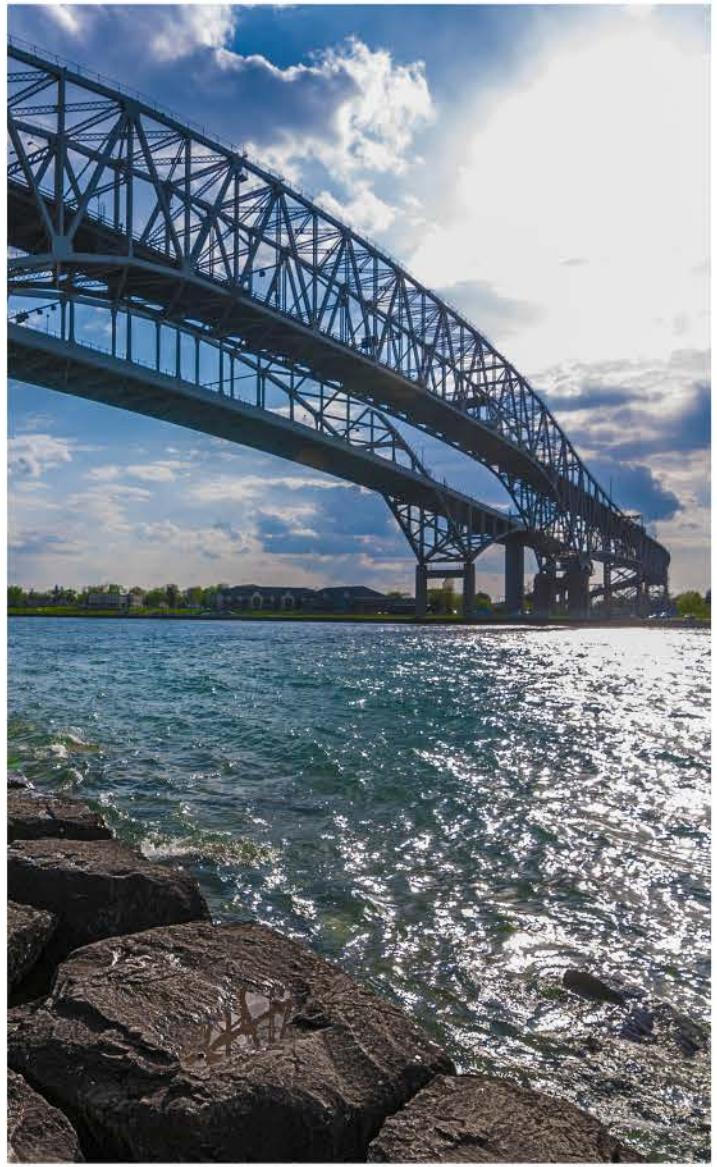

MI-ACE 2023

85th Annual Conference & Exhibits

Strategic Planning

For Small Water Systems

Speaker: John Sullivan, P.E.

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Our discussion today

- Needs and challenges of small systems
- Strategic planning for small systems using Effective Utility Management (EUM)
- The Great Lakes Environmental Infrastructure Center (GLEIC) is the EPA Region 5 multimedia Environmental Finance Center
  - Training and Technical Assistance for small water and wastewater systems under 10,000 population

Speaker

John Sullivan, P.E.
Senior Research Engineer

Great Lakes Environmental Infrastructure Center
Environmental Finance Center for EPA Region 5

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Great Lakes Environmental Infrastructure Center

Environmental Finance Center for EPA Region 5

- Serves small communities (population < 10,000) throughout EPA Region 5 primarily as well as nationally through the EFCNetwork

- Provides Training and Technical Assistance to increase technical, managerial, and financial capacity of utilities. Focus areas: Asset management, infrastructure funding, and financial management

GLEIC Staff

Tim Colling, PE, Director

John Sullivan, PE, Senior Research Engineer

Greg Pearson, MBA, Water & Wastewater System Trainer

Challenges of Small Water Systems

- Aging infrastructure
- Insufficient revenue
- Limited staff and resources
- Lack of knowledge about infrastructure project funding processes

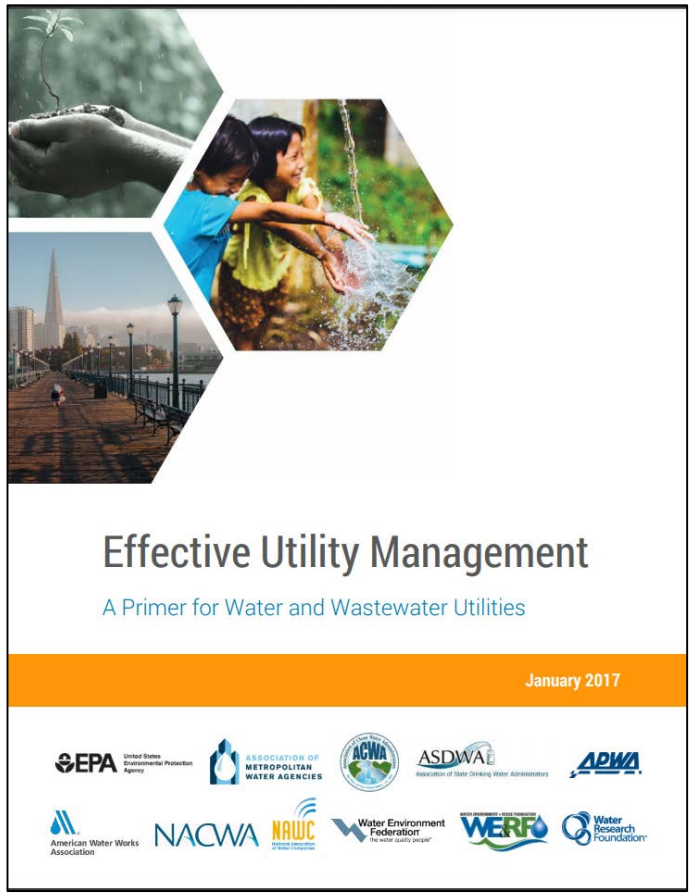
Strategic planning needs of small systems

- Limit to 3 or 4 measurable strategic objectives
- Specify how strategy will be tracked and measured
- Strategic goals should be attainable over a discreet time window
- Establish a review process to be conducted quarterly and annually
- Use simplified non-technical data methods whenever possible

Effective Utility Management (EUM)

Helps utilities develop a strategic plan

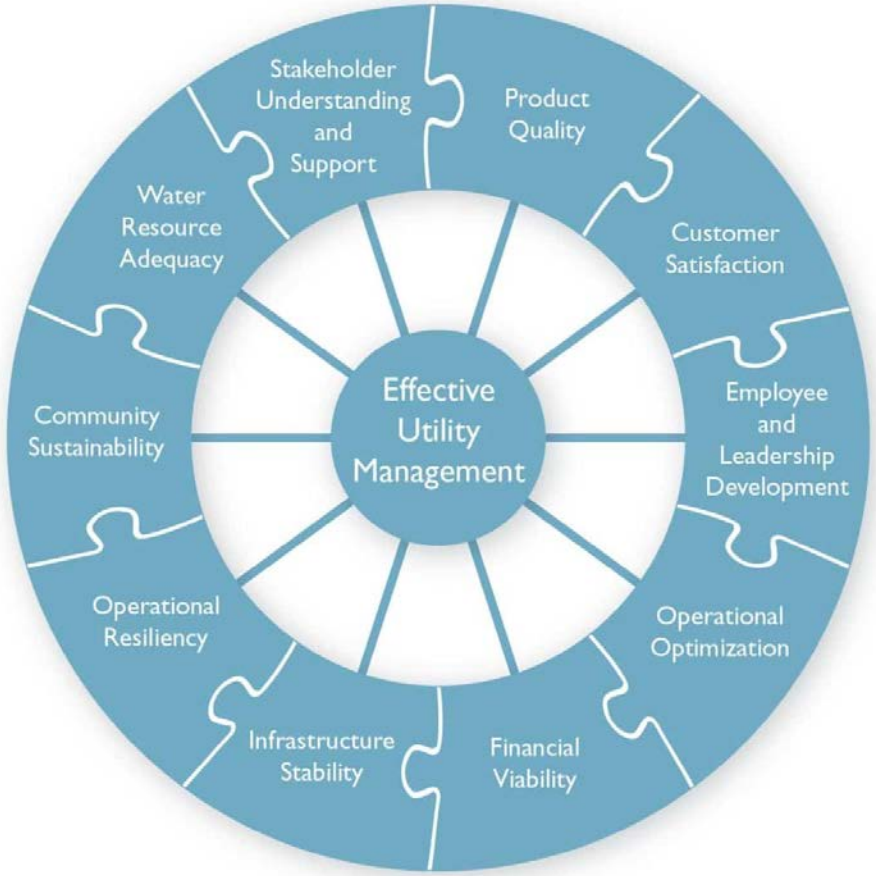
- 10 attributes of effective utility management.
- Assess performance and develop improvement strategies.
- The **EUM primer** is the guidance document and there is no cost to download and use this tool.



Resources:
EUM Website: https://www.watereum.org/

The Ten Attributes of Effective Utility Management

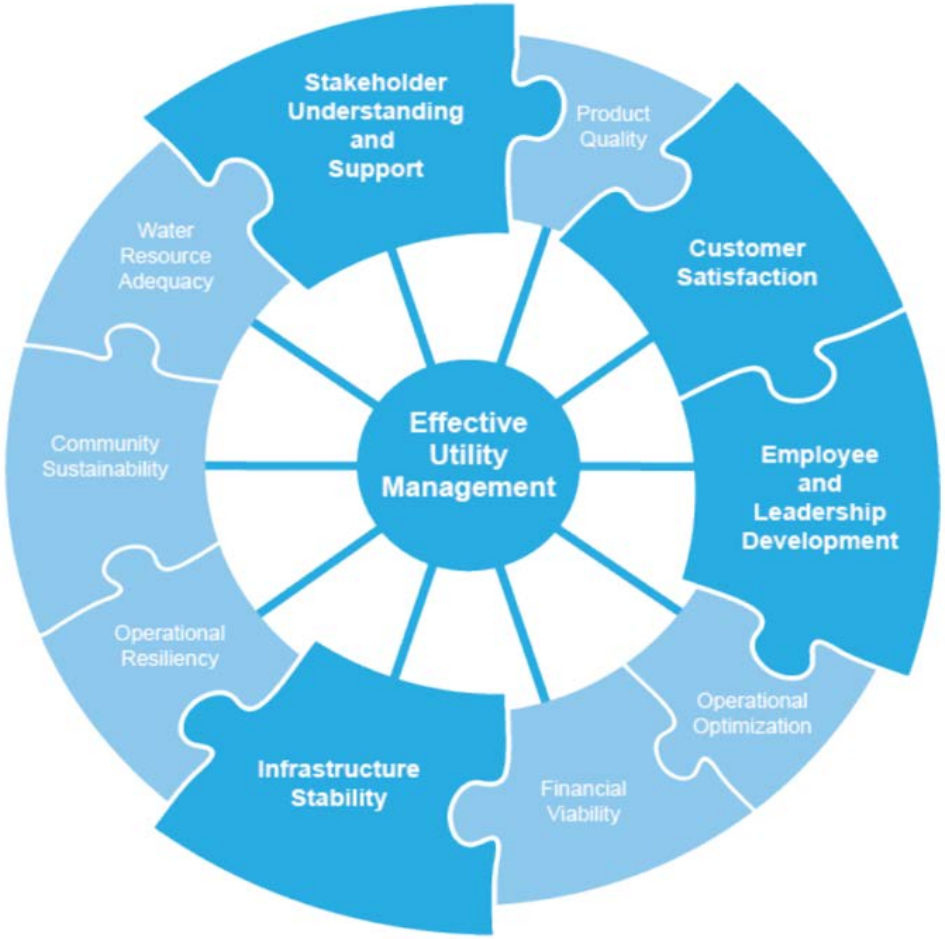
1. Product Quality **PQ**
2. Operational Optimization **OO**
3. Infrastructure Strategy **IS**
4. Financial Viability **FV**
5. Customer Satisfaction **CS**
6. Employee Development **ED**
7. Enterprise Resiliency **ER**
8. Water Sustainability **WS**
9. Community Sustainability **CS**
10. Stakeholder Support **SS**



What the EUM Process Does

1. Prioritize: Identify 3 or 4 important attributes that need improvement.

2. Strategic planning: A plan to improve performance for prioritized attributes over a 5-year planning period.



“By using the attributes, you can develop a great strategic plan, goals, and measures, or you can very simply and inexpensively update your existing plan, as we did.”

—Tyler Richards, Deputy Director of Operations and Environmental Services, Gwinnett County Dept. Water Resources

First arrange the attributes in order of importance (#1 is the most important attribute for your utility).

More important

1. **PQ** Product Quality
2. **OO** Operational Optimization
3. **IS** Infrastructure Strategy
4. **FV** Financial Viability
5. **CS** Customer Satisfaction
6. **ED** Employee Development
7. **ER** Enterprise Resiliency
8. **WS** Water Sustainability
9. **SU** Community Sustainability
10. **SS** Stakeholder Support

Less important

Utilities order of importance of attributes is based on the nature of current challenges.

TWO Examples:

- A community which is considering major development may give greater importance to attributes such as Stakeholder Support (SS) and Water Sustainability (WS).

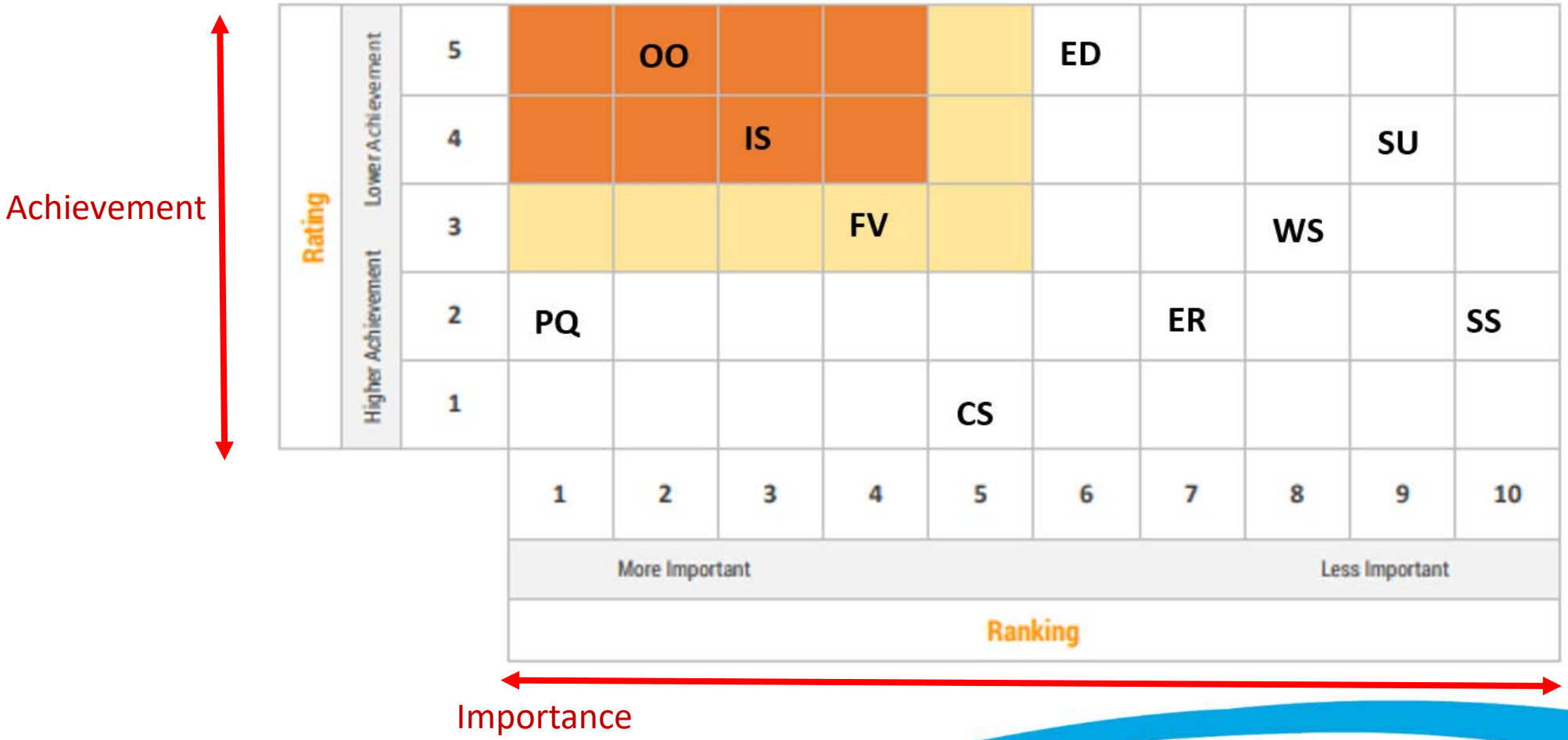
- A community that has already achieved an abundant and high-quality water source may not rate Product Quality (PQ) as the most important attribute.

Next, assess the achievement level of your utility for each of the 10 attributes using a 1-5 scale (with 1 representing the highest achievement)

Importance	Attribute	Performance
1	Product Quality (PQ)	2
2	Operational Optimization (OO)	5
3	Infrastructure Strategy (IS)	4
4	Financial Viability (FV)	3
5	Customer Satisfaction (CS)	1
6	Employee Development (ED)	5
7	Enterprise Resiliency (ER)	2
8	Water Sustainability (WS)	3
9	Community Sustainability (CS)	4
10	Stakeholder Support (SS)	2

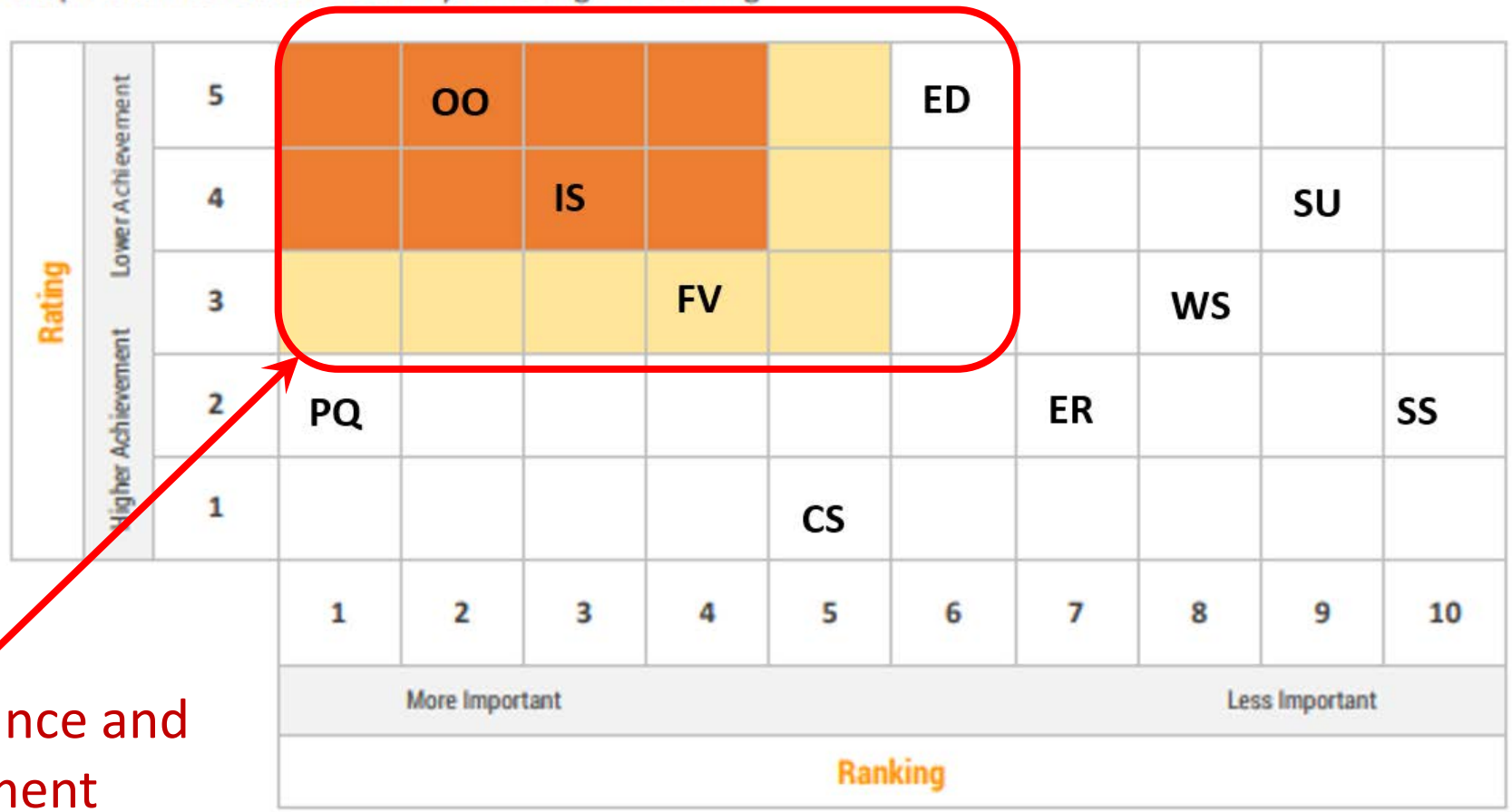
Graph the results (using importance for the x-axis and achievement for the y-axis)

Graph each Attribute based on your rating and ranking.



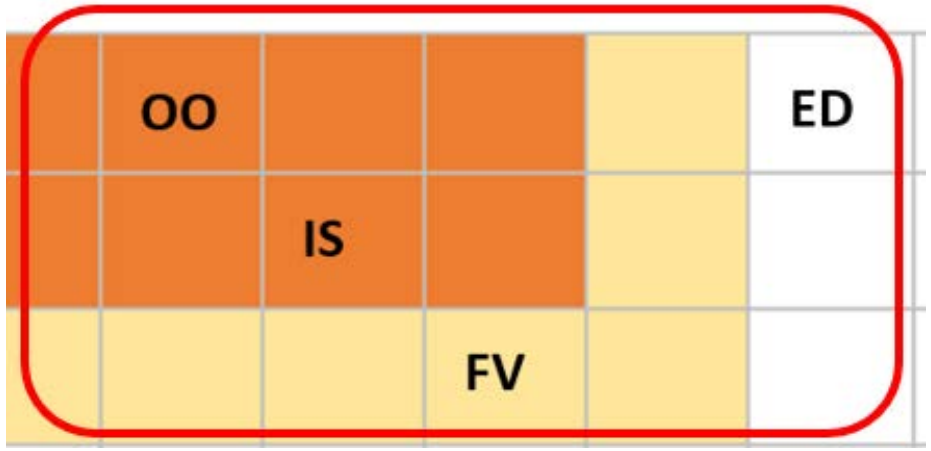
Graph the results (using importance for the x-axis and achievement for the y-axis)

Graph each Attribute based on your rating and ranking.



Higher importance and lower achievement

Identify attributes to work on.



Next, we will develop some strategic objectives to improve each of these prioritized attributes.

- The EUM primer provides tips on the types of factors to assess.

Strategic Priority 1: Operational Optimization (OO)

Strategic Priority 2: Infrastructure Strategy (IS)

Strategic Priority 3: Financial Viability (FV)

Strategic Priority 4: Employee Development (ED)

Operational Optimization (OO)

We can develop a strategic objective for this attribute using the planned maintenance ratio which measures how efficiently labor resources are used.

- *We will work to increase the percentage of planned maintenance over a 5-year window.*

$$\text{PM Ratio} = \frac{\text{Hours of planned maintenance}}{\text{Total hours of maintenance}} \times 100\%$$

Current PM Ratio: 45%

5-year PM Strategic Goal: 60%

Infrastructure Strategy and Performance (IS)

For this attribute, we will work to decrease the percent water loss that is due to system leakage over a 5-year window.

- Water audits followed by leak detection and repair, and measuring the results over time is an effective infrastructure strategy.

Current Leakage Water Loss: 35%

5-year IS Strategic Goal: 10%

(note, 10% leakage may still be too high, but is a realistic 5-year goal)

Financial Viability (FV)

For this attribute we can use the Operating Ratio which measures how well income from rates covers operating expense.

- *We will work to increase the operating ratio over a 5-year window.*

$$\text{Operating Ratio} = \frac{\text{Annual Income from Rates}}{\text{Annual Operating Expense including depreciation}}$$

Current Operating Ratio: 1.0

5-year OR Strategic Goal: 1.2

Employee Development (ED)

For this attribute we can develop a strategy of ensuring a minimum amount of continuing education training provided to operators each year.

- Small system operators have limited time, yet a large scope of task requirements.

Current annual average training hours: 8

5-year ED Strategic Goal: 20 hours annually

Strategic objectives summary (simple, effective, & measurable)

1. Operational Optimization (OO) - Increase the planned maintenance ratio to 60% (*reducing reactive maintenance).*

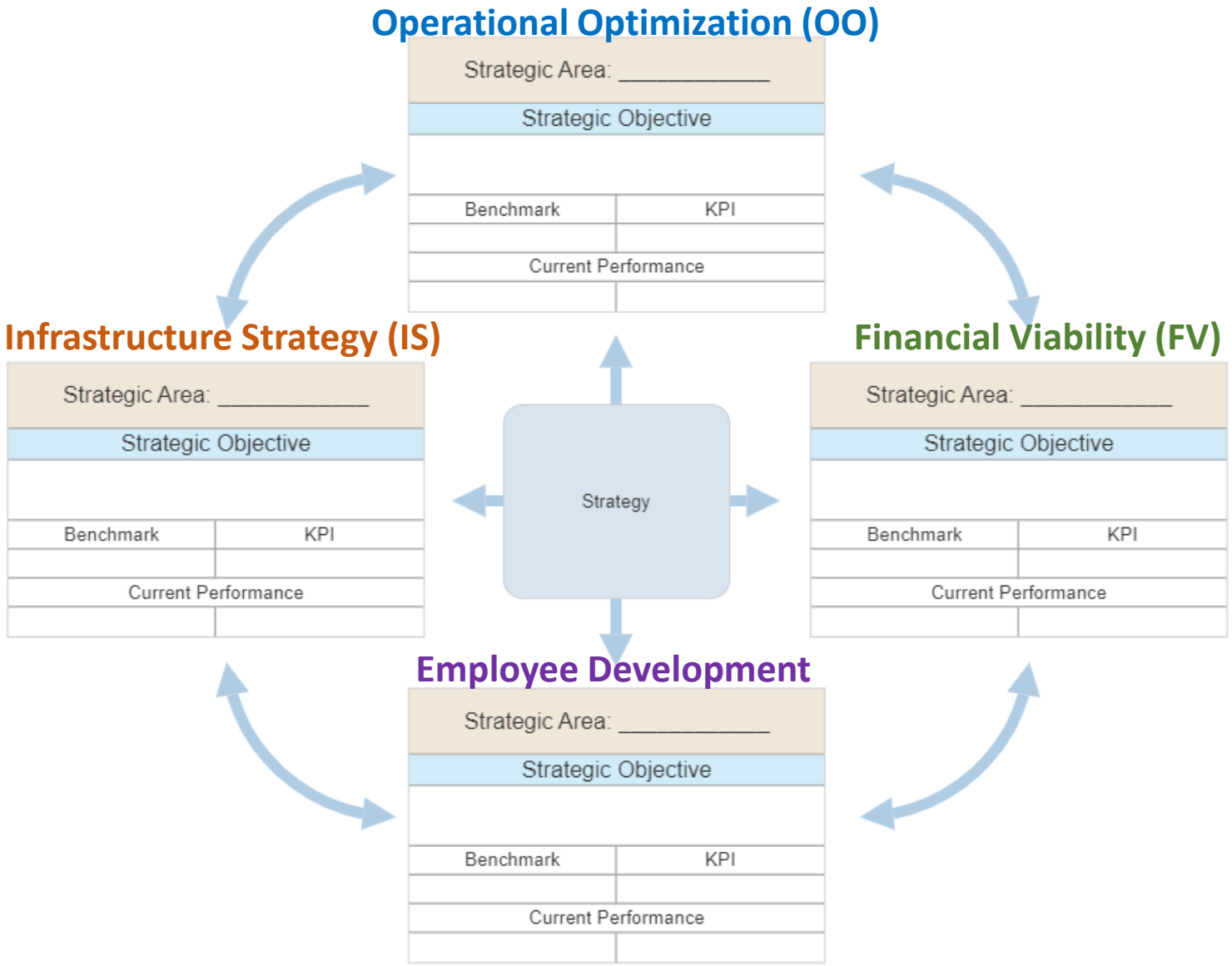
2. Infrastructure Strategy (IS) -Reduce water loss to less than 10% (*reducing leakage*)

3. Financial Viability (FV) -Increase operating ratio to 1.2 (adequate rates)

4. Employee Development (ED) - Ensure operators receive 20 hours of training annually

Notes:

- Specific tasks will be developed to support our strategic objectives.
- Ongoing measurement will let you know if strategies are working.



Balanced Scorecard

A balanced scorecard approach can provide a way for small utilities to measure, track, and communicate the results of strategic efforts.

Balanced Scorecard Example

Strategic Area: *Operational Optimization*	
Strategic Objective	
Increase the planned maintenance ratio	
Benchmark	KPI
60%	Planned ÷ Total x 100%
Current Performance	
45%	1,350/3,000 x 100%

Attribute and Strategic Objective: Shows strategy utility is using to improve achievement for the attribute.

Goal of the strategy and how it is measured. This calculation can be done quarterly and annually.

Shows current progress of strategy. This lets utility personnel know if the strategy is working and provides a metric which can be communicated.

What are some other strategic objectives we could use to improve achievement for these attributes? (Discussion)

1. Operational Optimization (OO) - Increase the planned maintenance ratio to 60% (*reducing reactive maintenance).*

2. Infrastructure Strategy (IS) -Reduce water loss to less than 10% (*reducing leakage*)

3. Financial Viability (FV) -Increase operating ratio to 1.2 (adequate rates)

4. **Employee Development (ED)** - Ensure operators receive 20 hours of training annually

Please share your ideas about other types of strategic objectives, and specific tasks you might recommend for a small water system!

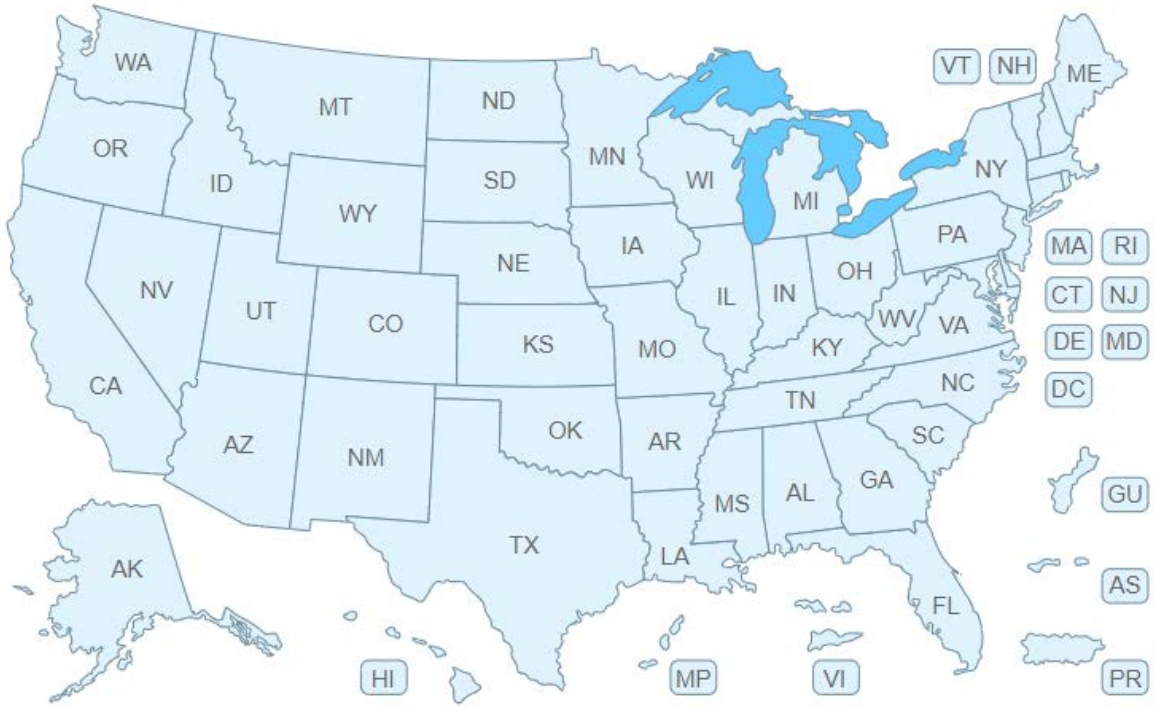
Major Environmental Infrastructure Funding Sources

- USDA Rural Development (RD)
- EGLE State Revolving Loan Funds

Funding Guides

GLEIC Funding Guide: http://ctt.mtu.edu/sites/default/files/resources/gleic funding-guide.pdf

EFCN Interactive funding map: https://efcnetwork.org/resources/funding-tables/



Technical Assistance Request Form:

https://gleic.org/form/technical-assistance-request-for

Questions and Discussion

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a better Michigan through
better water

Thank you for attending

Contact:

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