

**DATE:** November 16, 2021  
**TO:** Wendy Wulff, MAWSAC Chair  
**FROM:** Mark Maloney, TAC Chair  
**SUBJECT:** Recommendations around infrastructure

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This memo includes information for the Metropolitan Area Water Supply Advisory Committee (MAWSAC) to consider as the committee develops recommendations around infrastructure. It reflects past MAWSAC and Technical Advisory Committee (TAC) committee meeting discussions, recent interviews with a limited number of TAC and MAWSAC members, and internal MCES conversations.

## **Request to MAWSAC**

Share your thoughts on what recommendations to make as a committee related to some of the region's water supply infrastructure challenges.

## **Background**

The Metropolitan Area Water Supply Policy Advisory Committee (MAWSAC) is responsible to assist the Council in its water supply planning work. One of the committee's responsibilities is to produce, by 2022, a set of recommendations and supporting information around high-priority water supply topics to support the update of the regional development guide and related policy plans. The Metropolitan Area Water Supply Technical Advisory Committee (TAC) informs MAWSAC's work by providing scientific and engineering expertise. Recommendations to the Metropolitan Council (Council) and Minnesota Legislature (Legislature) may address technical studies, policy updates, collaboration, and/or funding.

In March 2021, MAWSAC and TAC adopted a work plan to develop recommendations in the areas of:

1. Contamination and water quality
2. Intersection between land use and water supply
3. Groundwater and surface water interaction
4. Infrastructure

## **TAC Meeting Highlights**

At their meeting on October 19, 2021, TAC was asked to share information with MAWSAC to consider related to potential recommendations around infrastructure. This reflects MAWSAC's intention to approach the development of recommendations by working directly with local technical and scientific experts throughout the process to ensure their concerns are consistently understood and considered.

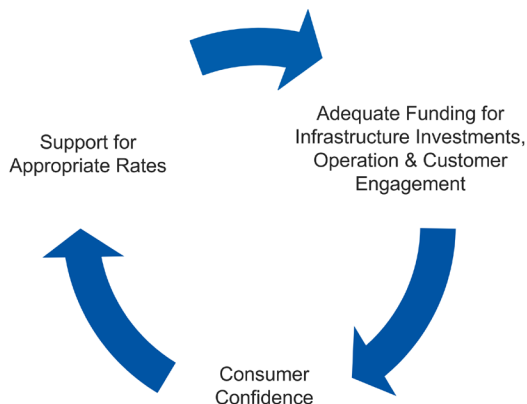
TAC provided input and suggestions to revising the draft problem statement, goal, and proposed actions on the pages below. They also shared the following high-level considerations:

- A more comprehensive regional look at existing data, and work to fill gaps, is needed to better understand the regional water supply system to make smart investments in infrastructure
- People making funding decisions will benefit from having a more in-depth understanding of the scale of maintenance/repair and magnitude of cost of infrastructure renewal

- Staffing shortage is a challenge now and will continue to be a challenge
- Decreased water demand and use through efficiency results in decreased revenue for public water suppliers unless rates change.
- Changing contamination limits and rules for water quality standards will be a large expense for PWS

## RECOMMENDATIONS RELATED TO WATER INFRASTRUCTURE

The TAC, serving at the pleasure of the MAWSAC, recommends that the MAWSAC, with the Metropolitan Council and the State of Minnesota, help maximize the value the region receives from existing water supply infrastructure investments by supporting communities to act nimbly and equitably in addressing changing water demand, climate impacts to water supply, aging infrastructure, consumer trust, and addressing water quality needs. Increasing collaboration across communities among utilities, city planners and other staff, and water resources managers to address one concern is likely to address other concerns, as shown in the figure below.



### Problem

Aging infrastructure, changing water demand, water affordability, decreased revenue, water contamination, management of public perception and confidence in water are a few of the ongoing challenges faced by utilities. Examples of unplanned events like contamination, new regulatory limits, or changing land use plans that do not consider the long-term public infrastructure costs add an additional challenge to maintain the ongoing sustainability of the region's water supply infrastructure.

### Questions to consider

Consider the following questions in preparation for the meeting, based on your experiences dealing with land use impacts on water supply systems and risks to source water. The [Master Water Supply Plan](#) and [Thrive MSP 2040](#) outcomes, principles, and goals are a resource to draw on.

#### 1) How can communities manage infrastructure to meet long-term (30+ years) growth?

How could the region grow and continue to optimize the use of current infrastructure? How would considering alternative water sources/solutions impact the ability of communities to develop and redevelop?

#### 2) What can be done to increase consumer confidence and use?

Community support of long-term water infrastructure investment is critical to achieving a greater level of sustainability. Do customers understand the value they receive? Is water pricing fair and equitable across the region? How can water suppliers assist those in need while still ensuring that utilities have the revenue they need to both operate and maintain systems?

**3) What capital projects, other than maintenance, are lacking funding now? How can the infrastructure problem be brought to light?**

Can water supply funding be added to planning efforts for transportation, housing, and natural resource protection? Are water suppliers aware of all funding available? How can support for infrastructure funding grow?

**4) How could the Council and/or organizations represented on TAC help?**

What actions will result in continual growth and support?

*Potential solutions or approaches*

The following proposed solutions or approaches come from conversations had by MAWSAC, TAC, LUAC, and Met Council staff. Recommendations were not prioritized by TAC staff based on impact versus ease of implementation. Instead, TAC members focused on discussion, shared a few additional recommendations, and ended by highlighting some recommendations to focus on (asterisks):

\*\*\* Highlighted by three TAC members during committee conversation on October 19, 2021.

\*\* Highlighted by two TAC members during committee conversation on October 19, 2021.

\* Highlighted by one TAC member during committee conversation on October 19, 2021.

**Financial support**

- a) Support for programs that fund the costs of infrastructure asset renewal by State of Minnesota and partners.\*\*\*
- b) Investment in water sustainability and resiliency of systems specifically addressing climate change mitigation, infrastructure rehabilitation and planning, and water use efficiency by State of Minnesota and partners.\*\*
- c) Support for multi-community planning of infrastructure and source water projects, that extends beyond political boundaries of one community, by State of Minnesota and partners.\*\*
- d) Grant funding to maximize water efficiency in low-income areas by State of Minnesota.
- e) Funding for accelerated replacement of lead service lines and related programming, supported by State of Minnesota and partners.

**Research**

- a) Create database of metro area interconnection and other emergency water supply options.\*
  - o Include feasibility analysis of interconnections (water quality and pressure requirements, agreements in place, ownership, data security of database)\*\*
- b) Explore relationships among equity and socioeconomic factors, water rates, and infrastructure investments (example: lead service line replacement), with support by MDH and cities.\*
- c) Investigate what an equitable water rate structure looks like and means for the metro area.\*
- d) Exploration of benefits and drawbacks for water supply infrastructure from redevelopment versus new development in the metro area

## Outreach, engagement, and training/technical assistance

- a) Support creation of educational materials specific to the region's water supply context, to help communities campaign regarding the value of water and water infrastructure.\*
- b) Continue supporting Public Water Suppliers (PWSs) to work with and educate city councils and managers about the value and cost of their city's water supply system.\*
- c) Support for regular multi-community emergency response planning and training such as table-top exercises.\*
- d) Broad engagement to understand residents' water values, to support more targeted and effective outreach.

## Regional policies and planning

- a) Identify criteria for targeting state and regional support for water supply infrastructure-related projects, to highlight and address priority areas of need (at risk).\*
- b) Regional policies, system plans, and local comprehensive plans acknowledge and address the long-term (30+ years) impact on water supply infrastructure and source water protection from planned land use and land use changes.\* Consider:
  - o Do proposed plans estimate the long-term cost of related water supply infrastructure?
  - o Do proposed plans support economic growth at the expense of protecting public health?
  - o Do proposed plans consider impacts to the value and safety of community water supplies?
- c) Guidance for regional agencies to support PWSs\* in addressing:
  - o Prioritizing replacement of lead service lines
  - o More and consistent infrastructure funding
  - o Investment in infrastructure improvements to reduce risks from droughts and flooding
  - o Long term planning for new infrastructure for areas of development or redevelopment

## Regulatory

- a) None identified at this time.

## Highlighted recommendations:

Three (3) TAC members highlighted the recommendation: support for programs that fund the costs of infrastructure asset renewal by State of Minnesota and partners.

Three (3) TAC members highlighted the recommendation: Create database of metro area interconnection and other emergency water supply options. Two of them specifically highlighted the sub-recommendation for a feasibility analysis of interconnections (water quality and pressure requirements, agreements in place, ownership, data security of database)

Two (2) TAC members highlighted the recommendation: Investment in water sustainability and resiliency of systems specifically addressing climate change mitigation, infrastructure rehabilitation and planning, and water use efficiency by State of Minnesota and partners.\*\*

Two (2) TAC members highlighted the recommendation: Support for multi-community planning of infrastructure and source water projects, that extends beyond political boundaries of one community, by State of Minnesota and partners.\*\*

One (1) TAC members highlighted the recommendation: Explore relationships among equity and socioeconomic factors, water rates, and infrastructure investments (example: lead service line replacement), with support by MDH and cities.\*

One (1) TAC members highlighted the recommendation: Investigate what an equitable water rate structure looks like and means for the metro area.\*

One (1) TAC members highlighted the recommendation: Regional policies, system plans, and local comprehensive plans acknowledge and address the long-term (30+ years) impact on water supply infrastructure and source water protection from planned land use and land use changes.\*

One (1) TAC members highlighted the recommendation: Guidance for regional agencies to support PWSs\*

One (1) TAC members highlighted the recommendation: Identify criteria for targeting state and regional support for water supply infrastructure-related projects, to highlight and address priority areas of need (at risk).\*

One (1) TAC members highlighted the recommendation: Support for regular multi-community emergency response planning and training such as table-top exercises.\*

One (1) TAC members highlighted the recommendation: Continue supporting Public Water Suppliers (PWSs) to work with and educate city councils and managers about the value and cost of their city's water supply system.\*

One (1) TAC members highlighted the recommendation: Support creation of educational materials specific to the region's water supply context, to help communities campaign regarding the value of water and water infrastructure.\*

## Resources related to water supply infrastructure

The following resources were shared or referred to during conversations with committee members or highlighted by staff as this document was developed. They may be useful to review related to committee conversations around water supply infrastructure. This is not intended to be a complete list of resources.

### Examples of funding considerations:

- The 2021 Infrastructure Investment and Jobs Act information ([Minnesota-focused factsheet](#) and [Kare11 news article 'Minnesota delegation reacts to passage of \\$1T infrastructure bill'](#))
- Minnesota Public Facilities Authority Infrastructure Funds and Programs ([website](#))
- MDH Drinking Water Revolving Fund 2021 Intended Use Plan ([pdf](#))
- MN Public Facilities Authority 2021 Estimated Funding Needs Report (water supply in Table 1 on pages 9-10) ([pdf](#))
- MDH 2020 Project Priority List for MN Drinking Water Revolving Loan Fund ([pdf](#))
- The Trust for Public Land 'The Cost of Not Protecting Source Waters' ([website](#))

### Examples of local work:

- City of Fridley Well Finder ([ArcGIS interactive map](#))
- City of Hugo stormwater reuse ([Met Council article](#))
- Conceptual Drinking Water Supply Plan for 14 East Metro communities ([website](#))

### Research examples: understanding infrastructure challenges

- MN Section of American Society of Civil Engineers Minnesota 2018 Infrastructure Report Card ([website](#))
- MDH Minnesota Drinking Water Annual Report for 2018 (see figure 17 on page 35) ([report](#))
- MDH drinking water treatment database (how well is our treatment infrastructure working) ([website](#))
- 2021 Freshwater Society and University of MN report: Banking Groundwater: Managed Aquifer Recharge ([report](#)) ([55-min seminar presentation](#))
- Metropolitan Council regional feasibility assessments ([website](#))

### Examples of existing infrastructure data:

- Key water information catalog, hosted by Metropolitan Council ([database](#))
- MN Office of the State Auditor Infrastructure Stress Transparency Tool ([website](#))

### Examples of guidance (technical assistance, best practices, planning, funding):

- American Water Works Value of Water Campaign ([online toolkit](#))
- American Water Works Risk & Resilience ([website](#))
- America's Water Infrastructure Act (AWIA) ([website](#))
- Minnesota Water/Wastewater Utilities Agency Response Network (MnWARN) ([website](#))

### Community data

- Metropolitan Council Water Rates comparison tool ([online data](#))
- Metropolitan Council Long-Range Forecasts ([website](#))
- Metropolitan Council Community Profiles ([interactive datasets](#))
- Metropolitan Council Equity Considerations for Placed-Based Advocacy and Decision Dataset ([website](#))
- MPCA Understanding Environmental Justice ([interactive map](#))