

SOUTHEAST METRO SUBREGIONAL WATER SUPPLY PLANNING CONSIDERATIONS

A CHAPTER OF THE METRO AREA WATER SUPPLY PLAN

SECOND DRAFT – MARCH 2024

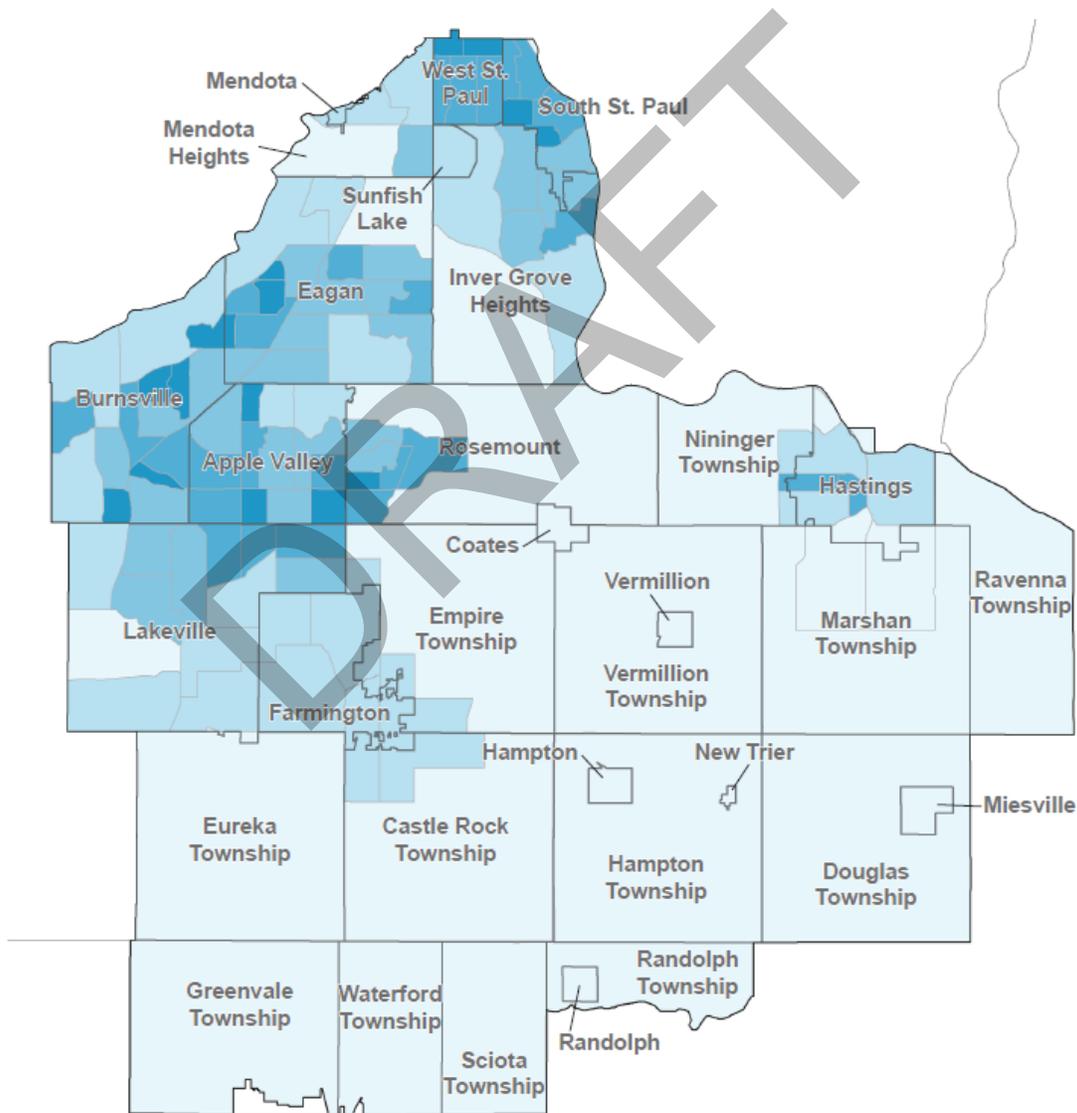


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Water supply planning context and current conditions

Everything that happens on land impacts water, and water is all connected.

With the region as a whole expected to grow by more than 650,000 people between 2020 and 2050, the Southeast Metro will see growth. Preliminary estimates, which are being evaluated with community input through spring of 2024, suggest that approximately 88,000 more people, 44,000 more households, and 79,000 new jobs will be added to the area by 2050 compared to 2020.

Quality and quantity challenges already exist. See the [Southeast chapter of the Water Supply Planning Atlas](#) for examples.

Additionally, climate change serves as a risk multiplier, amplifying the impacts that drought and flooding can have on water supply.

In the southeast metro, collaboration on water supply planning is important because:

Communities rely on sufficient, reliable, and safe water supply for health, prosperity, and the function of local ecosystems. As growth occurs under a climate continuing to change, it is important to plan and collaborate to ensure there is sufficient, reliable, and safe water supply for people, the economy, and the function of local ecosystems.

Providing water supply is and will remain a local responsibility. However, given the many who do not have a public supply and the interconnected nature of our communities, a broader perspective is also needed to ensure we all reach a sustainable water future.

Definition of success for water supply planning in the southeast metro

In defining what it would tangibly mean if the Southeast Metro were to achieve the outcome of a sufficient, reliable, and safe water supply, participants identified the following vision concepts as central to their consideration:

- Water supply planning for the southeast metro is successful when there is an adequate supply for people and ecosystems—one does not compromise the other – and water is clean, safe, and drinkable.
- Communities proactively and collaboratively manage water in an integrated fashion. For example:
 - New development preserves open space for infiltration and incorporates reuse.
 - Regional collaboration to support water sustainability.
 - Norms have shifted to low-input crops and turf that support conservation.
- All people understand water-related issues and take action to protect and conserve water.
- Sound science informs decision-making.

Issues and opportunities

Achieving the identified success will require addressing barriers as well as advancing opportunities. In considering the full water supply picture, participants offered their thoughts for what barriers would need to be addressed or opportunities could be pursued to achieve the identified success. Those comments were merged with issues, goals, and actions identified at a January 19th CONDAC meeting and comments offered at the March 15, 2023, Subregional Workshop also hosted by Met Council. These were then summarized into the following focus areas.

Climate change

Climate change, mixed with land use changes, will increase challenges already impacting water supply: more runoff and less infiltration, heat island impact. etc.

Contamination

Water supply faces several quality-related concerns, with greater concern expressed for PFAS and chloride management and response, but concern as well for nitrate. Technical and financial support for communities as well as private well users are needed, as are cost effective solutions to reduce inputs and remove pollutants. Additionally, there is also a need for guidance and support to respond to stricter MCL requirements and changing regulations.

Land use and development

Land use is changing as farmland is developed. Population growth has put pressure on water supply, with some communities already exceeding permits or looking to drill new wells. As planning for new development takes place, there is a need and opportunity to manage open space and infiltration opportunities and promote conservation. Opportunities to set development standards for soil health and depth, irrigation, pervious surface, turf grass and other elements can also be used when that upfront collaboration is not available.

Change of behaviors and social norms

Everyone both impacts water and has a role they can play to protect water. Yet, that role is not fully understood. Education for a variety of audiences (including decision makers, developers, and schools) is needed, as is the development of trust in government, encouragement of behavior change, and the evolution of social norms regarding water use and contamination (ex: green lawns, fertilizer).

Funding

Funding to incentivize practices that benefit water quality and quantity, promote reuse, support and expand staffing, and maintain and repair systems is needed. Whether through adjusting rate structures and fees, statewide or regional grants, or other funding sources, existing funding is not sufficient for the work needed.

Governmental Collaboration

Agencies: Agencies can enhance their coordination within and across their organization, and increase transparency about the ways they do work together. The wellhead protection process is a specific opportunity to improve interagency coordination.

Jurisdictional coordination: Partnerships, resource- and knowledge-sharing, collaborative planning, and aligning goals across jurisdictional boundaries can lead to sustainable water outcomes. As such, there is value to subregional collaboration, planning, and technical assistance to support local action, though funding to support subregional collaboration would be needed.

Asset Management

Asset management to take care of the infrastructure we have should be encouraged, while taking into account the variety of challenges aging infrastructure produces (emerging contaminants, extension of pipes, etc.).

Water quantity

Addressing water quantity concerns will require conservation, reuse (including stormwater and wastewater), and recharge. Each of these approaches have their own challenges which need to be addressed as well, including changes in codes or policies, developing certified training for practitioners, planning for land protection, research and (in some cases) assessment of feasibility.

Workforce

Staffing limitations impact the ability to apply for and track grants, enforce laws or policies, develop plans, create and implement programming, and more. Beyond just the number, there is a challenge with hiring qualified candidates while also facing a loss of institutional knowledge. There is a need to support existing staff, expand staff, provide certification and training, and create space for thoughtful planning and collaboration.

Agricultural Systems Change

The current corn and soybean paradigm is the result of market pressures. New, lucrative cash crops with lower water and fertilizer demand are needed--for both industrial as well as family farmers.

Consider aquaponics and hydroponics and urban agriculture, as well as new crops such as marijuana and hemp.

Prioritized focus areas and draft action plan

In a survey following the first workshop, participants were asked to share which of the focus areas they believed should have the most focused attention from the Southeast Metro subregion and Met Council in the next ten years, as well as why. The survey outcomes were shared for discussion at the second workshop, and based on that discussion, participants agreed to the following as the priority focus areas for the Southeast Metro: contamination, land use and development, water quantity, agricultural systems change, asset management, and workforce. Factors that should be considered as work is scoped in these areas include funding, governmental collaboration, changing behaviors and social norms, and climate change.

Workforce

If work focusing on workforce development is successful, in 10-years' time:

- There will be adequate staffing and expertise at state, county, municipal, and regional levels to sustain plans and to operate systems.
- Work toward grant funding

Contamination

If work focusing on contamination is successful, in 10-years' time:

- There will be financial/technical support for source water and private well testing
- Contaminants of concern will be prioritized based on location
- Maximum Contaminant Limits (MCLs) will be set for manganese

- There will be cost effective approaches for contaminants (contaminants of emerging concern, PFAS, chlorides)

Water quantity

If work focusing on water quantity is successful, in 10-years' time:

- There will be clear reuse guidance
- Summer-to-winter use ratio will be reduced
- We will have a dynamic model to give an accurate representation of sustainable/available groundwater
- We will understand sustainability of groundwater on a very localized basis
- Water rates will appropriately reflect the value of the water

Agricultural systems change

If work focusing on this is successful, in 10-years' time:

- Lower nitrogen and phosphorus and biosolids applications to agricultural land
- Lower water consumption or alternative uses from data centers, large water consumers, Niagara bottling
- **New and emerging agricultural systems are considered (aquaponics and hydroponics and urban agriculture, as well as new crops such as marijuana and hemp)**

Land use and development

If work focusing on this is successful, in 10-years' time:

- Infiltration rates are equal to predevelopment
- Use is maintainable/sustainable
- Better understanding of water use of land use type (use versus surface water impact)

Asset management

If work focusing on this is successful, in 10-years' time:

- Potable water leakage is reduced
- Aging treatment plants/piping/pumping systems are replaced
- The right maintenance at the right time
- Planning and funding of replacements
- Coordination between utility and surfacing (ex: conditions assessments)

The following pages reflect the action plan developed by participants at and following the second subregional workshop in order to address the priority focus areas. It is possible and expected that actions not reflected here may emerge as important steps needed to be taken in subsequent years. This list, therefore, is a reflection of what was being considered in late 2023. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework to achieve progress on regional goals.

Figure 1. The framework for action to achieve MAWSAC goals includes four general steps. Actions identified to address southeast metro focus areas generally fall across the framework steps.



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Actions to support success

Table 1. Subregional water supply stakeholders proposed several actions to work on over the next 10 years (and in some cases, 25 years) to set the subregion up for long-term success in the priority focus areas discussed in this chapter. The action plan includes possible roles for leads, Met Council, subregional groups, and local entities. This action plan is intended as a high-level, long-term, collaborative planning tool. The details may change as collaboration gets underway and on resource availability. **Action items in bold text were highlighted as a high priority by participants in a 2/29/2024 workshop.**

ACTION	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			PROPOSED ROLES (DRAFT)			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	POSSIBLE LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
COLLABORATION AND CAPACITY BUILDING										
Develop marketing resources for water supply field to create awareness with diverse audiences and address misconceptions/misunderstandings	Workforce	x	x	x	x	x	Public works (water)	Help get messaging out		
Enhance connections/partnerships between employers and educators to support youth outreach, scholarships, and college coursework to promote interest and build expertise in the water supply/water utility field and understanding about the true value of water	Workforce; Asset Management	X (start soon!)	x	x	x	x	Professional organizations, public works and cities, government agencies, schools (secondary, vocational, colleges), parents/society	Help get messaging out		
Highlight region to prospective employees/graduates of related programs	Workforce	x	x	x	x	x	Met Council and agencies/industry leaders	Help get messaging out		
Address/accommodate education/training/transportation needs to enable workforce	Workforce	x	x	x	x	X	Public works (water)	Help get messaging out		
Implement technology to assist work, enhance safety	Workforce	x	x	x	x	X	Public works (water)			
Advocate with elected councils for funding and legislative actions	Asset Management	X					Public works (water)			
Collaborate across departments on asset management (water utility, planning, finance, and others)	Asset Management	X					Public works (water)			
Build support from other group to be team players and convince council's to support asset management recommendations	Asset Management	x					Public works (water)			
Provide education about contaminants of concern by geographic location, with action steps	Contamination	x	X				Met Council, local governments, MDH			
Convene work groups to determine what types of re-use are feasible (small scale versus large scale, potable versus non-potable)	Water Quantity						Met Council			
Increase understanding, education for school-aged children regarding the value of water	Water Quantity						Schools, state agencies			
SYSTEM ASSESSMENT										
Use new technologies for asset management, including accurate GIS data and systems that produce high quality outputs based on high quality inputs	Asset Management	x					Public works			
Secure funding for improved and dynamic metro groundwater model	Water Quantity	x	x				Met Council with DNR	Legislative priorities and lobbying efforts		
Research the capacity/sustainability of aquifers	Land Use and Development	x	x				DNR, Cities, Met Council	Met Council funds		

ACTION	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			PROPOSED ROLES (DRAFT)			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	POSSIBLE LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
Coordinate with area labs to inventory the different analyses available at each and make it easier to pickup/drop-off water samples	Contamination	x					Met Council with local support from cities			
Conduct a technical review of biosolid applications and impacts to groundwater	Contamination	x					Met Council, MPCA	Alternatives for biosolids		
MITIGATION MEASURE EVALUATION										
Seek funding from LCCMR to study effective water conservation messaging/campaign, document success stories (what is the best bang for the buck?), and make recommendations for targeted, crafted outreach	Water Quantity	x	x				U of MN, Locals with DNR, Met Council	Continued funding of water efficiency grant		
Make recommendations and advocate for local businesses to sell drought-resistant grass seed and sod, to get away from a culture of thinking that green grass equals status	Water Quantity		x				U of MN Turfgrass, farmers			
Promote crop choices and best management practices that are more sustainable, such as timing fertilizer applications (don't apply when plants won't use them)	Ag Systems Change		x				Farmers, townships, SWCD, MDA			
Increase funding for drainage water (tile) management of nitrogen and phosphorus	Ag Systems Change	x	x				Met Council funding to watersheds, SWCDs	Funding		
Outreach to change mindsets to embrace science-backed approaches to lower water use and chemical applications (example: irrigation management - low plow heads, good transition implementation)	Ag Systems Change	x	x				MDA, County, SWCD, U of MN, all partners			
Use Met Council owned lands as demo projects of sustainable agriculture	Ag Systems Change	x					Met Council, MDA, U of MN, SWCD	Demonstration site		
Develop regional low-salt design guidance (less chloride, de-icing)	Contamination	x	x				Met Council, MPCA	Low-salt designs		
Provide guidance and standard messaging on treatment design/development for emerging contaminants such as PFAS	Contamination		x				MDA, MPCA			
Develop and communicate clear criteria on water permitting limits, to inform water supply-related decisions about new industries or changes in industry technology (data center mining, water bottling, etc.)	Land Use and Development	x	x				DNR, Cities			
Provide technical and financial support for private well testing and treatment	Contamination	x	x				MDH			
PLANNING AND IMPLEMENTATION										
Streamline and revamp water supply plans to make them more of a useful document	Water Quantity						DNR, Cities, Public water suppliers			
Include a description of the water needs of different land use types in local comprehensive plan updates	Land Use and Development		x							
Recommend and support changes to statutes and rules regarding Home Owners Association requirements related to irrigation and landscaping	Land Use and Development	x	x				Cities (lobbying), DNR, Extension?			

ACTION	RELATED FOCUS AREAS	10-YEAR PLAN		25-YEAR PLAN			PROPOSED ROLES (DRAFT)			
		2025-2030	2030-2035	2035-2040	2040-2045	2045-2050	POSSIBLE LEAD(S)	MET COUNCIL	SUBREGION	LOCAL
Develop opportunities for urban agriculture and access to fresh food, such as zoning guidance for urban farms	Ag Systems Change						Met Council, U of MN, NRCS			
Utilize existing tax credit programs to further incentivize conservation	Ag Systems Change	x					Met Council			
Address funding thinking about the utility (can they afford to build needed infrastructure?) to the customer (to defray cost). Consider the true "cost of water"	Affordability									

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Appendix A: Subregional engagement process

Scoping and gaging local support

MAWSAC, in the 2022 report to the Council and MN Legislature, recommended updating the 2050 regional development guide and related policy and system plans (which connect to the master water supply plan) to support MAWSAC goals, customized for subregional and local conditions. The committee also recommended taking a new subregional approach that leverages subregional water supply working groups to inform regional and local policy and plan updates.

On July 19th and September 8th, 2022, the Metro Area Water Supply Advisory (MAWSAC) and their Technical Advisory Committee (TAC) discussed an approach to subregional engagement and potential content for subregional chapters in the updated Metro Area Water Supply Plan. Meeting materials document those discussions and are available on the Council's website:

- July 19, 2022 MAWSAC meeting ([agenda](#), [presentation](#), [handout](#), [minutes](#))
- September 8, 2022 TAC meeting ([agenda](#), [presentation](#), [handout](#), [minutes](#))

On March 15, 2023, Metropolitan Council hosted a workshop for all the metro region's subregional work group participants. Six people from the southeast metro attended. The proposed approach for subregional engagement was presented, and workshop participants expressed support for it and shared some water supply priorities in their areas. A summary about the workshop was shared with MAWSAC at their May 9, 2023 meeting and is available on the Council's website ([presentation](#), [summary](#)).

Core team of local stakeholders to customize engagement for the Southeast subregion

On September 6, 2023, a kick-off meeting was held with core team members to scope an engagement approach in the southeast metro.

Core team members included:

- Ashley Gallagher, North Cannon River WMO
- Valerie Neppl, Dakota County
- Russ Matthys, City of Eagan

Outcomes that the core team sought from the engagement process:

- A shared vision for water supply in the subregion for 2050
- A shared understanding of the water supplies available in the southeast metro
- A list of all issues, with top issues identified (and inclusive of key opportunities)
- Action plans to address priority items
- An understanding of what the Metro Area Water Supply Plan is and how it benefits them

Subregional engagement: Workshops

On January 4, 2024, the first workshop for the southeast metro was held to introduce the project and the approach to updating the Metro Area Water Supply Plan, share subregional water supply information in the newly developed Water Supply Planning Atlas, and get input about what successful water supply planning should look like, what is already working well, what challenges exist, and what high-level goals do people have for the next ten years.

Attendees:

- Sandy Weber
- Kelly Perrine
- Paul Oehme
- Patrick Boylan
- Russ Matthys
- Jenna Olson
- Valerie Neppl
- Matt Saam
- Ashley Gallagher
- Matt Belanger
- Tony White
- Kathy Krotter

Draft focus areas that emerged from the first workshop were then shared with participants in a survey to identify priorities to work on at the second workshop. Seven people shared priorities.

On February 5, 2024, a second workshop for the southeast metro was held to focus on drafting action plans for priority focus areas identified at Workshop 1 and through the interviews. In small groups, participants filled out action plan worksheets for the focus areas identified at the first workshop. Groups rotated through three topics each, revising and adding to the ideas of the group who discussed the topic before them.

Workshop photos



Figure 1. Workshop 1 for the southeast metro water supply group was hosted by Dakota County and held at the Dakota County Western Service Center.

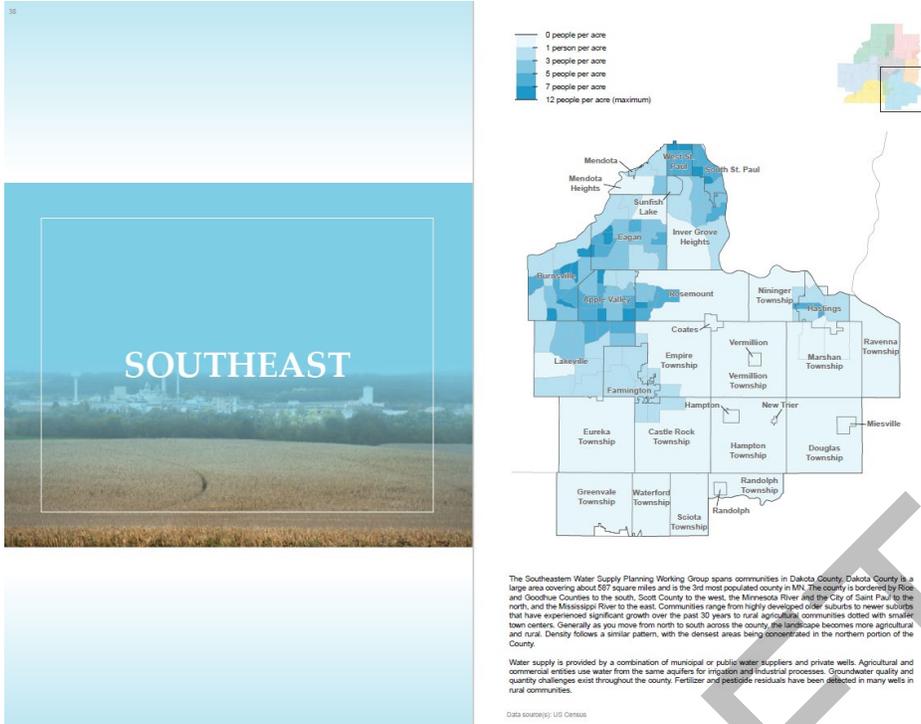


Figure 2. The [Southeast chapter of the recently-released Water Supply Planning Atlas for the Twin Cities Metropolitan Area](#) provided subregional water supply information and context to support group discussion.

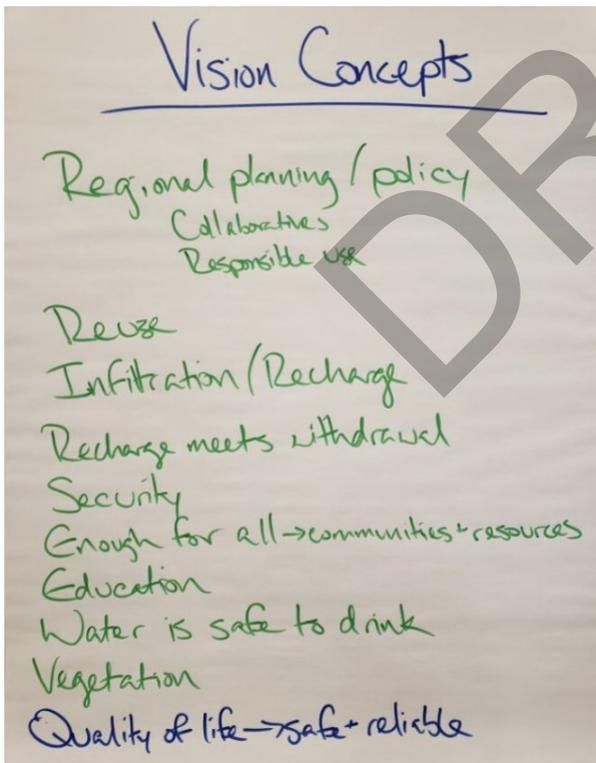


Figure 3. At Workshop 1, the southeast metro water supply group discussed what a successful water supply planning effort would look like.

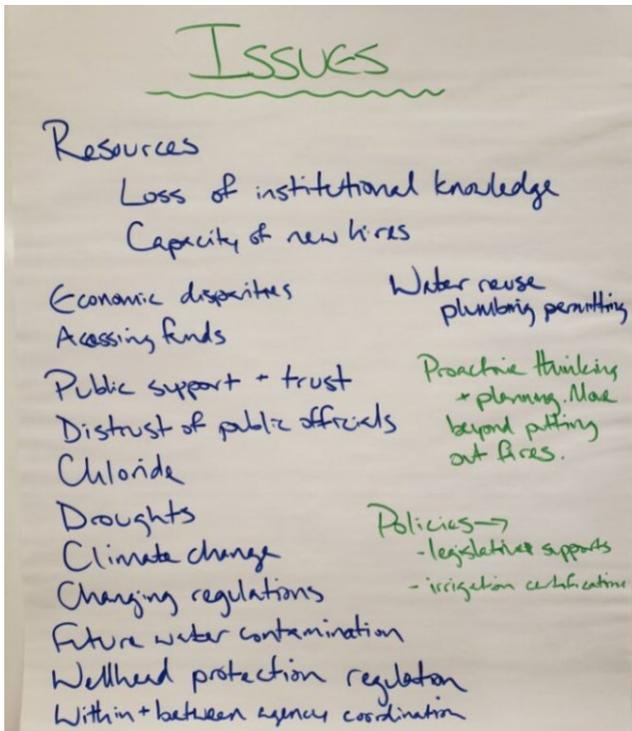


Figure 4. At Workshop 1, the southeast metro water supply group discussed water supply planning challenges.

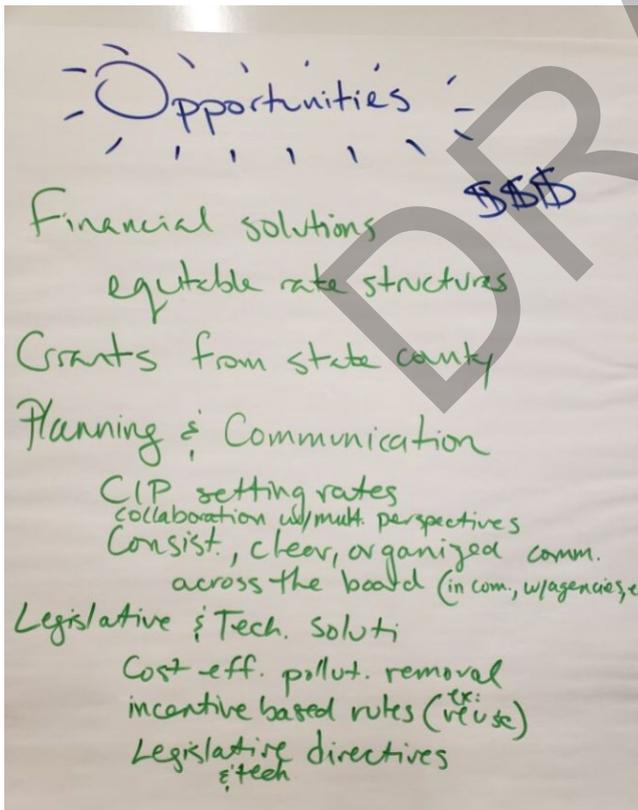


Figure 5. At Workshop 1, the southeast metro water supply group discussed opportunities for success.

Glossary and Initialisms

BWSR: Minnesota Board of Water and Soil Resources

CECs: Contaminants of emerging concern

Data standards: Data standards are documented agreements on representation, format, definition, structuring, tagging, transmission, manipulation, use, and management of data.

DNR: Minnesota Department of Natural Resources

DWSMA: Drinking water supply management area, designated by municipal water suppliers and the Minnesota Department of Health.

EMWREP: East Metro Water Resource Education Program, a partnership of 30 local units of government hosted by the Washington Conservation District.

HOA: Home Owners Association

MC: Metropolitan Council

MDH: Minnesota Department of Health

MIDS: Minimum Impact Design Standards

MPCA: Minnesota Pollution Control Agency

PFAS: Per- and Polyfluorinated Substances

SWCD: Soil and Water Conservation District

WD: Watershed District

WMO: Watershed Management Organization

VOC: Volatile organic compounds are compounds that have a high vapor pressure and a low water solubility.

What other terms should be included to ensure we all mean the same thing?

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