Metro Area Water Supply Plan

Rationale for and approach to regional water supply planning

The Twin Cities seven-county metro region is home to three million people, over half of Minnesota's population. Securing residents' safe and plentiful water – while protecting the region's diverse water resources – requires coordinated, interdisciplinary and ongoing effort.

The seven-county region is relatively water-rich. However, communities face a range of challenges as they work to meet current and future water demand. The region's population continues to grow. Groundwater pumping is increasing. Land use is changing. Naturally occurring and man-made pollutants impact water supplies. And variable weather like floods and droughts, as well as longer-term climate change, affect water supplies.

Bringing together the many different and changing facets of water supply into a regional picture is outside the scope of any one community. Yet it is necessary to adequately plan for the region's growth and economic development, and is an appropriate role for the Metropolitan Council.

We recognize the responsibility and authority of local water suppliers to provide water. However, a regional perspective is also important, because the effects of local water supply decisions do not stop at community boundaries. Communities often share the same or interconnected water supply sources – aquifers cross many political lines, for example – and the cumulative impact of decisions made by individual communities can be significant.

Providing guidance for local water supply systems

The development of this plan is not motivated by widespread water shortages or crises. Rather, this plan is a response to the recognized benefits of coordinated action to support the water needs of current and future populations without adverse impact to natural and economic resources.

The plan provides guidance for local water supply systems and future regional investments; emphasizes conservation, interjurisdictional cooperation, and long-term sustainability; and addresses reliability, security, and cost-effectiveness of the metropolitan area water supply system and its local and subregional components.

The Metropolitan Area Water Supply Plan provides a framework for sustainable long-term water supply planning at the regional and local level in a way that:

- Recognizes local control and responsibility for water supply systems
- Is developed in cooperation and consultation with local, regional, and state partners
- Highlights the benefits of integrated planning for stormwater, wastewater, and water supply

The collaborative process to develop and implement this plan supports communities to take the most proactive, cost-effective approach to long term planning and water supply permitting to ensure plentiful, safe, and affordable water for future generations.

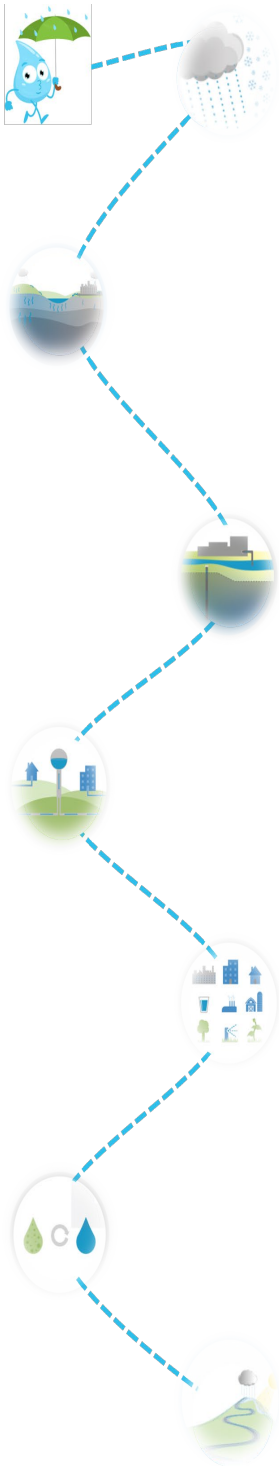
How this plan relates to other regional plans

The metro area water supply plan is informed by and supports the 2050 regional development guide, Imagine 2050, and is part of the 2050 Water Policy Plan. It more specifically provides water supply-related considerations for developing regional, subregional, and local plans as well as supporting programs.

Regional water supply context

General water supply setting

Effective water supply planning considers the complete water cycle. Recognizing key elements of the region's 'waterscape' helps identify upstream issues and opportunities, downstream consequences and benefits, and relationships among water stakeholders and agencies. It is useful to keep all of these elements in mind in conversations about water supply policy and planning.



Climate and weather
The ultimate source of water for the region is the precipitation that falls locally and in upstream watersheds.

Landscape (source areas)
The amount and quality of water that we are able to pump from surface water and groundwater sources is controlled by the environment that the precipitation moves through to reach those pumps. In this region, we have urban, suburban, and rural communities – all with different surface water resources, soils and geology, and land use patterns.

Water supply sources
We pump water from four extensive underground layers of rock, gravel and sand (aquifers) and from the Mississippi River which supplies huge volumes of water for commercial, industrial, and residential uses. We also have growing opportunities to use treated stormwater and reclaimed wastewater, which could provide water for potable uses such as cooling or irrigation, and potentially even for drinkable use in the future.

Water supply infrastructure
Over 100 local municipal public water supply systems serve the bulk of the region and include the surface water intakes, wells, and any interconnections; treatment; storage; and distribution pipes that provide safe water. Private wells also serve parts of many communities. Private well and subsurface sewage treatment system infrastructure processes are designed to meet well code and local ordinances and the systems are managed by their owners.

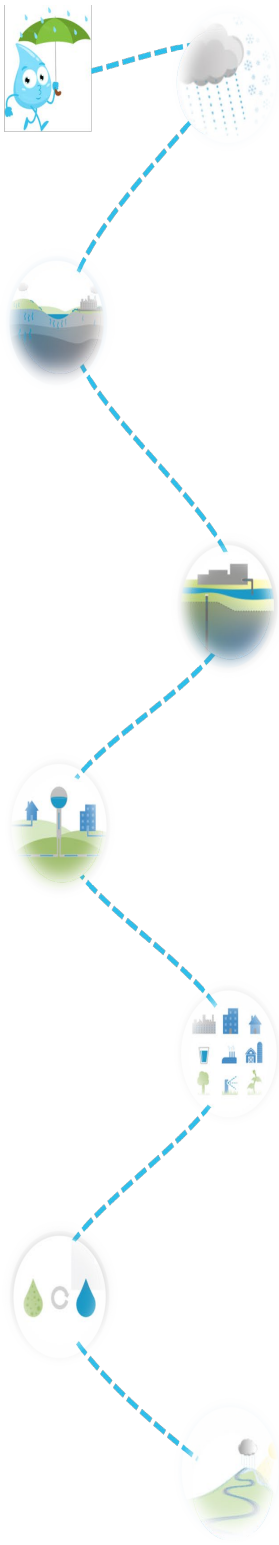
Water users/customers
People and businesses in our communities pay for the water supply infrastructure. They use water for a wide range of purposes across multiple communities. Clean water is critical for everyone to function. The same people and businesses also pay to dispose of the water once it has been used.

Wastewater and water resource recovery infrastructure
Over 10,000 miles of local wastewater infrastructure collects used water and conveys it to a regional system comprising 9 water resource recovery facilities. Private homes and businesses may use private subsurface sewage treatment systems or connect to a community wastewater system. Regional wastewater treatment reclaims water to meet state and federal water quality standards.

Discharge to environment
Treated effluent is discharged back into the environment, sometimes cleaner than the water it is being put back into. From there, water flows downstream to other users and eventually to the Gulf of Mexico.

Challenges for the region's water supply

Everything that happens on land impacts water, and all water is connected. Recognizing the upstream and downstream connections among water supply hazards helps to identify the biggest risks and focus monitoring and mitigation measures.



Climate and weather

Minnesota is known for its extreme seasonal differences, and precipitation varies significantly from year to year. Flooding, drought and recharge changes are current challenges, and climate change serves as a risk multiplier.

Landscape (source areas)

Land use can impact the quality and quantity of our water supply through agricultural and industrial practices, snow and ice removal, stormwater management practices, and other choices. There are a wide range of potential contaminants from point and nonpoint sources throughout the region, and the sensitivity of the landscape varies. The water supply impacts of development and redevelopment is an important challenge that local plans must address.

Water supply sources

The region's water supply sources come with a range of limitations and/or costs. Not all sources are equally available or productive. Some supplies are only seasonally available. Recharge rates vary. There may be nearby competing demands. Sources differ in their vulnerability to contamination and/or existing natural or manmade contamination. Their use may be impacted by regulated withdrawal limits and treatment requirements to protect public and environmental health.

Water supply infrastructure

Utilities face challenges to providing an affordable, safe, and trusted water supply. These include aging infrastructure, growth and development and related changes in water demand, decreased revenue, contamination, and a changing workforce. Challenges also exist for private well and subsurface sewage treatment system owners; although processes are designed to meet well code and local ordinances, this is only true for wells after a certain year, and many are no longer in compliance.

Water users/customers

Approximately 650,000 people and 500,000 new jobs will be added to the region by 2050 compared to 2020. If we continue to use water as we have in the past, this growth is expected to increase water demand in the region, putting pressure on existing infrastructure and water supply sources. Impacts to sources and infrastructure by new demand drivers need careful consideration by local planners to understand local costs and benefits.

Wastewater and water resource recovery infrastructure

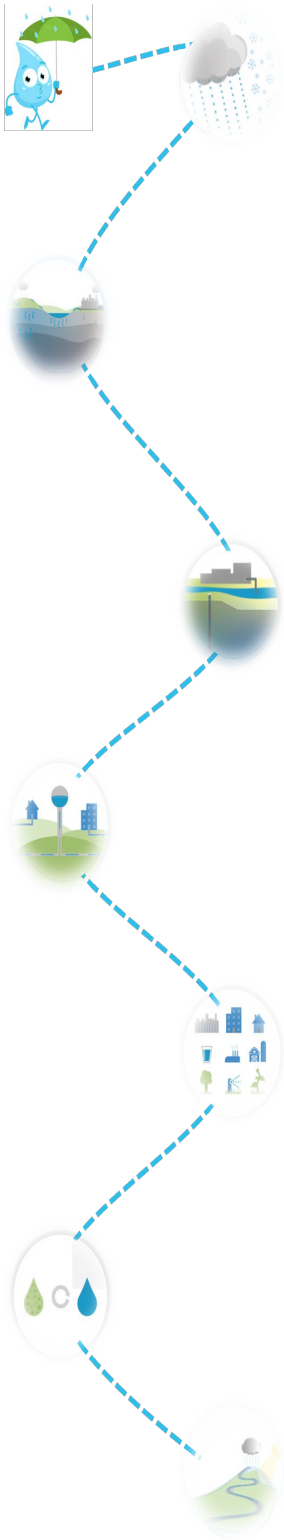
Utilities face challenges to providing affordable, safe, and trusted wastewater treatment. The choices customers make about their water use and disposal can impact local and regional wastewater system investments in capacity, increased treatment, and maintenance. Aging infrastructure, decreased revenue, contamination, and changing workforce exacerbate the challenges.

Discharge to environment

Changing water quality requirements for receiving waters can impact upstream wastewater and water supply systems.

Regional water supply opportunities

Successful water supply planning includes supporting opportunities throughout the region's 'waterscape' to implement practices to monitor, protect, and restore natural and built water resources.



Climate and weather

Increased attention and resources directed toward energy reduction, upgrading stormwater management infrastructure, etc. can also advance source water protection and demand management goals.

Landscape (source areas)

New development and redevelopment create opportunities for more efficient water use as well as to protect source waters and downstream water infrastructure. For example, more efficient indoor appliances and water fixtures and drought-tolerant landscapes minimize increases in both indoor and outdoor water use and summer-to-winter use ratios. Our choices about current and proposed land use can help maintain water use within sustainable limits and prevent long-lasting contamination in the future. Guidance for long term population forecasting is also needed to support planning for appropriately sized growth.

Water supply sources

With enhanced monitoring, mapping, and modeling, long-range planners have better information than ever before about the extent and vulnerability of source water areas, to inform their planning and investment decisions. Increased attention and resources are being directed toward exploring the feasibility of different water source options such as reuse, collaboration with neighboring systems, and expanding use of surface waters.

Water supply infrastructure

Increased attention and resources for water supply asset management planning creates opportunities for integrated water management within and among communities. Educating and incentivizing private well and subsurface sewage treatment system owners is another opportunity to protect public health and equip people with information to help them make decisions.

Water users/customers

Ongoing education and engagement is an opportunity to promote more water efficiency, support for sustainable water supply investments, and support for source water protection.

Wastewater and water resource recovery infrastructure

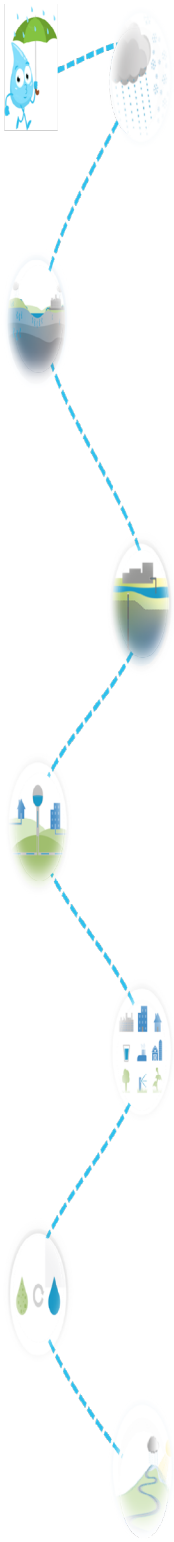
There are opportunities to get more value out of existing local and regional infrastructure investments. Examples include: reducing inflow and infiltration improves capacity, and reusing reclaimed water increases water supply availability.

Discharge to environment

Meeting downstream discharge requirements by looking at the complete water cycle can identify the most cost-effective spots to make changes that benefit the whole regio, while also improving natural systems, moderating temperature fluctuations during droughts, and increasing supply to downstream users.

High-level roles of the Met Council and its partners

Everyone – agencies, business, individuals – has a responsibility for ensuring sustainable water supply planning. Collaborative actions are needed at the individual level, the local government level, the regional level, and the state and federal levels. Some examples of key roles are summarized below.



Climate and weather

Local governments take a wide range of local actions to mitigate climate and climate change risks in their communities. Met Council implements its internal Climate Action Work Plan and supports local planning and implementation for climate resilience. The State of Minnesota provides statewide climate adaptation and mitigation action, critical climate research, convenes flood and drought response teams, and takes many other actions.

Landscape

Local governments have land use authority, as well as some counties. Watersheds, counties, and Metropolitan Council have roles guiding land use. State water agencies as regulators have a role incentivizing public and private sectors to improve service including land use activities.

Water supply sources

Local governments are responsible for identifying sustainable water supply sources and applying for and following water appropriation permits and/or or collaborating with neighbors. State water agencies as regulators play key roles: collect and analyze water information; assess water supply risks (quantity and quality); develop standards and rules; develop best management practices; approve local plans and permits; administer funding programs; and provide technical assistance and training. Met Council assesses regional water resources and provides planning, guidance and resources to protect them.

Water supply infrastructure

Non-municipal well owners develop, maintain and use wells for domestic and commercial purposes. Local governments provide water to customers in compliance with Safe Drinking Water Act standards; set rates; develop and maintain infrastructure; monitor drinking water quality and quantity; ensure emergency procedures are in place; develop and enforce demand-reduction measures; and plan for land use, water supply and capital improvements. State agencies license contractors and other professions that impact drinking water; water well construction and sealing; approve local plans and permits; administer funding programs; and provide technical assistance and training.

Water users/customers

Residents, property and business owners have an important role to play as rate payers and choosing best practices, with their city councils.

Wastewater and water resource recovery infrastructure

Local governments plan for land use, water supply, wastewater (municipal and subsurface sewage treatments systems) and capital improvements. Met Council operates the state's largest wastewater treatment system.

Discharge to environment

Met Council monitors receiving waters. State water agencies as regulators collect and analyze water information, assess water supply risks (quantity and quality); and develop standards and rules.

Regional action plan

Regional approaches reflect how water supply conditions vary across the region

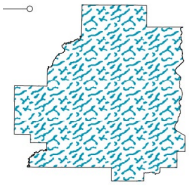
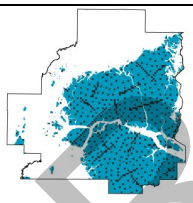
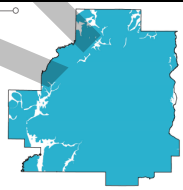
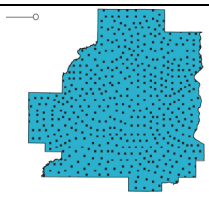
Water supply conditions vary across the region and from community to community. A key challenge for regional water supply planning is that each city is unique with access to different sources, using different treatment approaches, and supplying different uses. For example, some communities have large commercial and industrial demand while others use water mainly for residential purposes. What works for one community may not work or fit for another nearby community – which must be considered when setting regional goals and objectives and tracking progress for the region's shared water supply resources.

As communities plan for sustainable water supplies in the context of expected changes, their approaches will be shaped by their different water supply settings.

Locations of different water sources

Communities do not have equal access to the region's major rivers or aquifers.

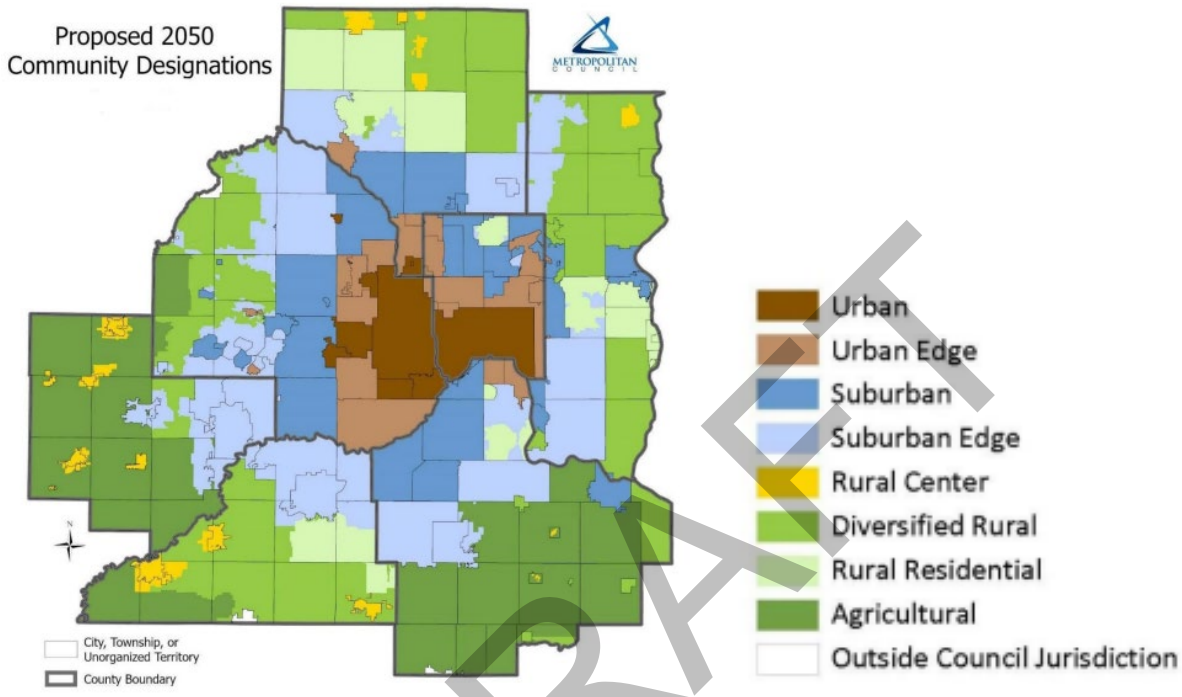
Table 1. There are three major rivers in the Twin Cities region, though the Mississippi River is the only one used in any significant quantity for non-power purposes. There are also four primary aquifers in the Twin Cities region although not all are available in the entire region; and each has different management considerations.

Glacial Aquifer Considerations	Prairie du Chien-Jordan Aquifer Considerations	Tunnel City-Wonewoc Aquifer Considerations	Mt. Simon-Hinckley Aquifer Considerations
			
- Challenging to identify the location of the most productive sand and gravel layers - First aquifer to be recharged - Vulnerable to contamination - Water quantity and quality varies	- Not available to some growing communities - As the most heavily used aquifer in parts of the region, greater likelihood of water-use conflict - Connected to some protected surface waters - Vulnerable to contamination, particularly where fractures exist and where bedrock above it has been eroded	- Productivity varies greatly across the region and is highest where it is fractured or weathered - Connected to some protected surface waters - Vulnerable to contamination where fractured and where bedrock above it has been eroded	- Use restricted by Minnesota law - Very slow recharge rate - Significant groundwater mining has occurred historically, creating a regional cone of depression - Relatively low vulnerability to contamination

Type of community development

A range of community types – with different land use characteristics, density expectations and water supply needs – exist in the Twin Cities region. Some communities are highly urbanized, while others are agricultural and rural (Figure 6). Regional land use policies and supporting strategies, including those that connect to water supply priorities, are framed around community designations.

Figure 1. Community designations are one way to illustrate the different community types in the Twin Cities region, using the perspective of land use and density.



Type of water supply systems

While community designations highlight commonalities among communities regarding land use, water supply conditions can still vary quite a bit within those categories. When considering local water supply-related plan expectations, it is also useful to understand the different types of water supply situations that communities in the metro region generally fall into.

For example, communities in categories 1-3 need to development and implement local comprehensive plans, local water supply plans, and wellhead protection plans. Communities in category 4 develop local comprehensive plans and local water supply plans, but no wellhead protection plans. Communities in categories 5-8 develop and implement local comprehensive plans.

1. **Independent municipal public water supply with appropriation permit (Example: Shakopee).** People and businesses in 87 communities can access water through a public municipal water supply system that is owned by the community. The community has a permit from the Minnesota Department of Natural Resources to pump water from a local source for its municipal public supply. All of these communities have land that has been or is being designated as a Drinking Water Supply Management Area. *In 2020, almost 1.5 million people were served by the water sources supplying these public water supply systems. Between 2020 and 2050, the population in these communities is expected to grow by about 400,000 people.*

2. **Municipal public water supply with appropriation permit, also supplying neighbor(s) (Examples: Minneapolis, Burnsville, White Bear Township).** People and businesses in 10 communities can access water through a public water supply system that is owned by the community. The community has a permit from the Minnesota Department of Natural Resources to pump water from a local source for its municipal public supply. The community also provides water to people and businesses in one or more communities. All of these communities have land that has been designated as a Drinking Water Supply Management Area. *In 2020, approximately one million people were served by the water sources supplying these public water supply systems. Between 2020 and 2050, population in these communities is expected to grow by almost 200,000 people.*

3. **Municipal public water supply with both appropriation permit and purchasing sources water from neighbor (Bloomington, Edina, Lexington, Savage).** People and businesses in four communities can access water through a public municipal water supply system that is owned by the community. The community has a permit to appropriate (pump) water from a local source for its municipal public supply. The community also receives (buys) water from a neighboring water supply utility. *In 2020, almost 200,000 people were served by the water sources supplying these public water supply systems. Between 2020 and 2050, population is expected to grow by about 40,000 people in these communities.*

4. **Municipal public water supply purchasing source water from neighbor(s) (Examples: Little Canada, Golden Valley).** People and businesses in 13 communities can access water through a public municipal water supply system that is owned by the community. The community receives (buys) water from a neighboring water supply utility for its municipal public supply. All of these communities have land that has been designated as a Drinking Water Supply Management Area for one or more neighbors. *In 2020, almost 200,000 people were served by the water sources supplying these public water supply systems. Between 2020 and 2050, population in these communities is expected to grow by about 25,000 people.*

5. **Non-municipal wells - no municipal public water supply (Examples: Afton, Blakely Township):** People and businesses in 61 communities can access water through non-municipal wells alone. 41 of these communities (68%) have land that's been designated as a Drinking Water Supply Management Area for one or more neighbors. *In 2020, these communities had a combined population of approximately 105,000 people. Between 2020 and 2050, population in these communities is expected to grow by about 11,000 people.*

6. **Neighbor provides municipal source water and water supply service (Examples: Maplewood, Lakeland Shores):** People and businesses in eight communities can access water through a public water supply system that is owned by a neighboring public water supply system. The community's source of water is the responsibility of a neighboring water supply utility. Four of these communities (50%) have land that's been designated as a Drinking Water Supply Management Area for one or more neighbors. *In 2020, these communities had a combined population of approximately 82,000 people. Between 2020 and 2050, population in these communities is expected to grow by about 10,000 people.*

7. **Neighbor provides limited municipal supply (mostly non-municipal wells) (North Oaks, St. Mary's Point).** People and businesses in two communities can access water primarily through non-municipal wells. People and businesses in the community can also access water through a public water supply system that is owned by a neighboring public water supply system. The community receives (buys) water from a neighboring water supply utility. Both of these communities have land that has been designated as a Drinking Water Supply

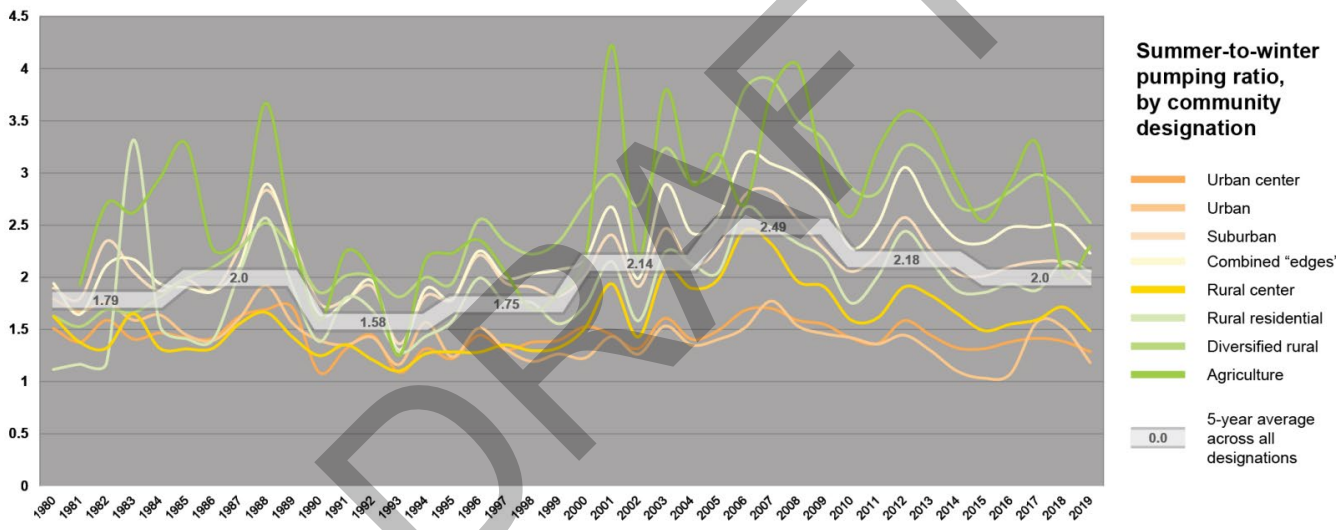
Management Area. *In 2020, these communities had a combined population of approximately 5,500 people. Between 2020 and 2050, population in these communities is expected to grow by about 500 people.*

8. **Planning for independent municipal public water supply (Credit River).** People and businesses in one community can access water through non-municipal wells alone, but the community is currently planning for a municipal water supply system. Part of the community has been designated as a Drinking Water Supply Management Area for one or more neighbors. *In 2020, this community had a population of approximately 5,500 people. Between 2020 and 2050, population in this community is expected to grow by over 1,000 people.*

Water use patterns differ by community type

Given the different development patterns in different communities, it is not surprising that water demand patterns and related infrastructure needs vary as well. Just one example of this is illustrated in Figure 2 – how summer versus winter water use varies by community designation.

Figure 2. How summer versus winter water use varies by Thrive MSP 2040 community designation. This information illustrates the benefit of tailoring regional water policy development and technical assistance by community type or designation; different communities have significantly different water demand patterns and challenges.



Given these eight different community designations, five different water sources, eight different water supply systems configurations, and the many other local differences, one size cannot fit all and we benefit from taking a subregional approach. See the subregional chapters of this plan for more detail about those approaches.

Definition of success for water supply planning in the metro

Stakeholders engaged in the update of this plan shared their hopes for the region's water future – if we are successful, what does the region look like? This plan is grounded in those perspectives, shared through the Metro Area Water Supply Policy and Technical Committees and through subregional water supply engagement in late 2023 and early 2024.

1. *Water supply infrastructure.* Communities can act quickly, thoughtfully, and equitably to address aging infrastructure, contamination, changing groundwater conditions, changing water demand, and financial challenges. Communities and their water supply are resilient to climate change and other impacts, because there is sufficient funding and other resources for water supply such as infrastructure, staff, new technology, etc.

2. *Water quality.* Communities have the resources they need to provide clean, safe water for everyone. A shared process is developed that allows communities, water utilities, and regulators to understand and respond in a more coordinated and effective way to both contaminants of emerging concern and existing contamination.
3. *Land use and water supply connections.* Public water suppliers, land use planners, and developers have tools, funding and authority to work together – supported by aligned agency directions – so that growth is responsible and supported by reliable and adequate water supply. Development is done in ways that balance communities' economic needs while protecting the quantity and quality of source waters that are vital to the region's communities.
4. *Understand and manage groundwater and surface water interactions.* Water resource managers, community planners, and leaders understand how groundwater and surface water interact and how those interactions impact water supply sustainability.
5. *Sustainable water quantity.* Communities and water agencies understand the sustainable limits of groundwater and surface water sources and make plans that sustain an adequate supply – for people, the economy, the function of local ecosystems. Agency directions are aligned and support local plans to supply demand that exceeds sustainable withdrawal rates using the most feasible combination of alternative groundwater or surface water sources, conservation, reclaimed wastewater and stormwater reuse.

To achieve success, stakeholders identified the following as necessary conditions:

- All the voices are heard as community plans are made and implemented – so that the full range of diverse water supply needs are met.
- Public trust and understanding are enhanced, and a culture shift around water use has occurred.
- Collaborative and proactive approaches for engagement, planning, and plan implementation are taken within and across communities.
- The policy framework is streamlined and improved.
- State and regional support for planning and plan implementation is increased.

Ensuring sustainable water supply for the region, now and in the future

This plan sets out to achieve a sustainable water supply for the entire region now and in the future.

The region's water supply may be considered sustainable when water users maximize their use of existing water supply infrastructure investments within the sustainable limits of available sources, and use water in a way that:

- Is efficient and conserves water.
- Maintains aquifer levels consistent with safe-yield conditions defined in Minnesota Statutes.
- Maintains surface waters by managing withdrawals, including diversions of groundwater that support them, to maintain protected flows and water levels.
- Minimizes impacts to groundwater flow directions in areas where groundwater contamination has, or may, result in risks to public health.
- Recognizes uncertainty and seeks to minimize risk.

Actions to support success

Key steps for action

The following steps set a regional framework for action in areas that will help achieve the desired outcomes for the region's water supply. Some actions are most effective region-wide. Recognizing the different conditions across the region, however, other activities vary and are described in more detail in the subregional chapters of the plan.

Figure 3. The framework for action to achieve Metro Area Water Supply Advisory Committee goals includes four general steps. Regional action to support successful water supply planning generally fall across the framework steps.

The following actions are expected to be ongoing, although the outputs are expected to shift through the region's decennial planning process. For example, activities in 2025-2028 will focus more heavily on supporting local plan updates; activities in 2028-2030 will be more focused on supporting for local plan implementation; and work in 2030-2035 is expected to shift to program evaluation to inform regional policy and plan updates.

Table 2. This action plan was developed in partnership with the Metro Area Water Supply Advisory Committee (MAWSAC) its Technical Advisory Committee (TAC) and participants of a subregional water supply stakeholder engagement process. 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 2024. They have been organized according to the Metro Area Water Supply Advisory Committee's 2022 proposed framework for action.

Regional water supply planning actions	Related Regional Policy
Collaboration and capacity building	
Met Council will continue to convene leaders across the water sector to set the scope and direction of regional water supply planning work through groups such as the Metropolitan Area Water Supply Advisory Committee (MAWSAC) and their Technical Advisory Committee (TAC).	Integrated water
Met Council will continue to connect technical experts with a wide range of perspectives and skills by convening work group to collaborate on water supply challenges and goals – supporting plans and scoping projects and deliverables on topics such as: the feasibility of reusing wastewater for recharge.	Integrated water, reuse
Met Council will seek resources to develop and maintain a public education and awareness campaign that supports identified water supply needs to promote a strong and shared understanding of issues, customized with local partners for local audiences. Some priorities include: high-school and middle school curriculum templates and videos to support workforce development, water reuse education needs identified by subregional water supply groups, information about water use versus source limitations, water conservation and efficiency, and water quality concerns for water supply.	Integrated water, workforce, reuse, pollution prevention

Regional water supply planning actions	Related Regional Policy
Met Council will seek resources to provide inter-organizational trainings focused on subregional water supply challenges to share lessons learned and build strong working relationships and open dialogue. Some priorities include: support for asset management and emergency preparedness.	Integrated water, workforce
Met Council will partner with trades and workforce development organizations to create water sector career skill development opportunities and strengthen the water sector workforce talent pipeline, including water supply workforce	Workforce
Met Council will support legislative initiatives that advance progress on locally-identified challenges and opportunities that align with regional water supply priorities such as reuse.	Integrated water, reuse
System assessment	
Met Council work with partners to seek resources to include water supply risks in its monitoring, data, and assessment work. Some priories include: evaluating water demands of potential new industries moving to the region and changing climate impacts on water supply infrastructure and sources.	Monitoring, data, and assessment; climate
Met Council will work with partners to seek resources to describe, document, and diagram the region's water supply system at a multi-community scale and in a way that acknowledges and respects water utility security needs. Some priorities include: consistent criteria across the region for describing water needs of different land use types, ongoing adaptive technical modeling support for supply and distribution, regional groundwater modeling.	Monitoring, data and assessment,
Mitigation measure evaluation	
Met Council will work with partners will conduct technical studies to identify and evaluate existing and potential mitigation measures for priority water supply risks. Some priorities include: evaluating the efficacy of native landscapes relative to other water use reduction strategies, return on investment (ROI) analyses to understand what conservation strategies are the most cost-effective.	Monitoring, data and assessment, conservation
Planning and implementation	
Met Council will center water supply planning as a key element as it convenes and supports ongoing subregional water planning. Through this collaboration with local governments, local planning and implementation that addresses high-priority water supply risks within each community and provides neighboring communities information to accurately assess and plan for their own risks will be supported. Results are expected to include updated comprehensive plans, budgets, and monitoring programs to support both economical growth and the implementation of risk reductions practices.	Integrated water, conservation and sustainability

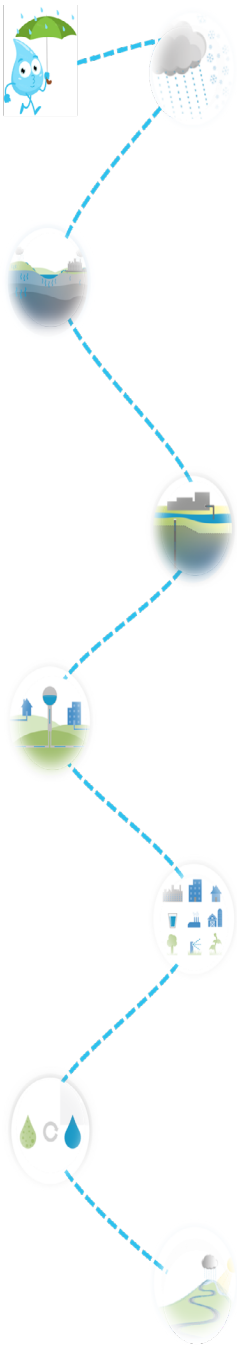
Regional water supply planning actions	Related Regional Policy
Met Council will develop and provide technical assistance (guidance and incentives) to local partners to advance progress on local plan implementation that aligns with regional water supply priorities such as: model ordinances for water reuse and water efficient landscaping and low flow appliances in new developments, model cost structures, expanding Met Council incentives for water efficiency beyond 2024 programming.	Integrated water, reuse, conservation and sustainability
Met Council will collaborate with the state departments of natural resources and health to support local planning and implementation that addresses high-priority water supply risks within each community and provides neighboring communities information to accurately assess and plan for their own risks. Priorities include: developing a framework for coordinated multi-community wellhead protection and land use planning, and improving coordination on local comprehensive plan and local water supply plan updates.	Integrated water, conservation and sustainability
Met Council will work with partners to advocate for increased state and federal funding to address impacts of water quality and quantity concerns on water supply infrastructure.	Conservation and sustainability
Met Council will collaborate with state and local partners develop, update, and implement emergency response planning linked to increased funding. One priority is a Minnesota Department of Natural Resources' led effort to enhance the State Drought Plan and plan implementation.	Conservation and sustainability, climate
Met Council will develop and track regional indicators and performance measures and use the information to continuously improve. This	Monitoring, data and assessment

Regional indicators and performance measures

Regional indicators and performance measures can be set and tracked for both the region and by subregion, to keep attention and resources focused on planned work and adapt to improve outcomes. A culture of continuous improvement increases the likelihood that plan updates incorporate lessons learned, knowledge is being shared among staff, and procedures are effective and up to date.

Regional indicators

Regional indicators are population-level measures that help provide context and build our shared understanding of past and current conditions. Met Council will work with partners to track the following indicators to help guide the regional water supply planning work and assess progress.



Climate
Tracking and promoting flood and drought conditions and related impacts and responses in the metro region promotes more consistent and well-supported actions to improve climate resilience.

Landscape (source areas)
Tracking and sharing information about current and future land use and associated potential contaminants and population served in Drinking Water Supply Management Areas and water quality of groundwater and surface water sources promotes more targeted efforts to reduce risk.

Water supply sources
Tracking and promoting estimated sustainable limits on sources, groundwater levels and river flow, the designation of areas as special well and boring construction areas; and metro-focused summary of well interference/conflict reports promotes more awareness of water supply source limitations.

Water supply infrastructure
Tracking and sharing metro-focused summaries of annual Minnesota Department of Health's drinking water report results, Public Facility Authority's estimated funding needs, American Society of Civil Engineers' water supply infrastructure report card, and the number of private wells drilled and sealed promotes better understanding of the value and condition of the region's water supply infrastructure.

Water users/customers
Tracking and sharing regional estimates of current and projected metro population (served and unserved) and current and projected water use by category, season, indoor vs. outdoor, and source promotes more targeted efforts to improve water efficiency. Note: If the region used an average of 80 gallons per person per day, 2050 growth could be supplied with the amount of water used regionally by municipal water supply systems in 2007 (the highest historic municipal water use).

Wastewater and water resource recovery infrastructure
Tracking and sharing wastewater flow supports work to understand indoor water use and opportunities for efficiency as well as potential reuse opportunities.

Discharge to environment
Tracking and sharing the water quality and quantity of waters receiving reclaimed wastewater promotes more awareness about the impacts of upstream water decisions on downstream resources.

Performance measures

Performance measures are information about Met Council operations, services, investments, programs and policy objectives. These measures relate to what Met Council has more control over and help provide evidence of whether objectives' targets are being reached.

- Subregional work group activity
- Task forces established with local stakeholders
- Technical assistance for local planners
- Financial resources for local partners (grant funding, state appropriations)