

March 2023

Water Infrastructure Policies and Actions

for Southeast Michigan

Public
Education



Data & Asset
Management



Legislative &
Regulatory Reform



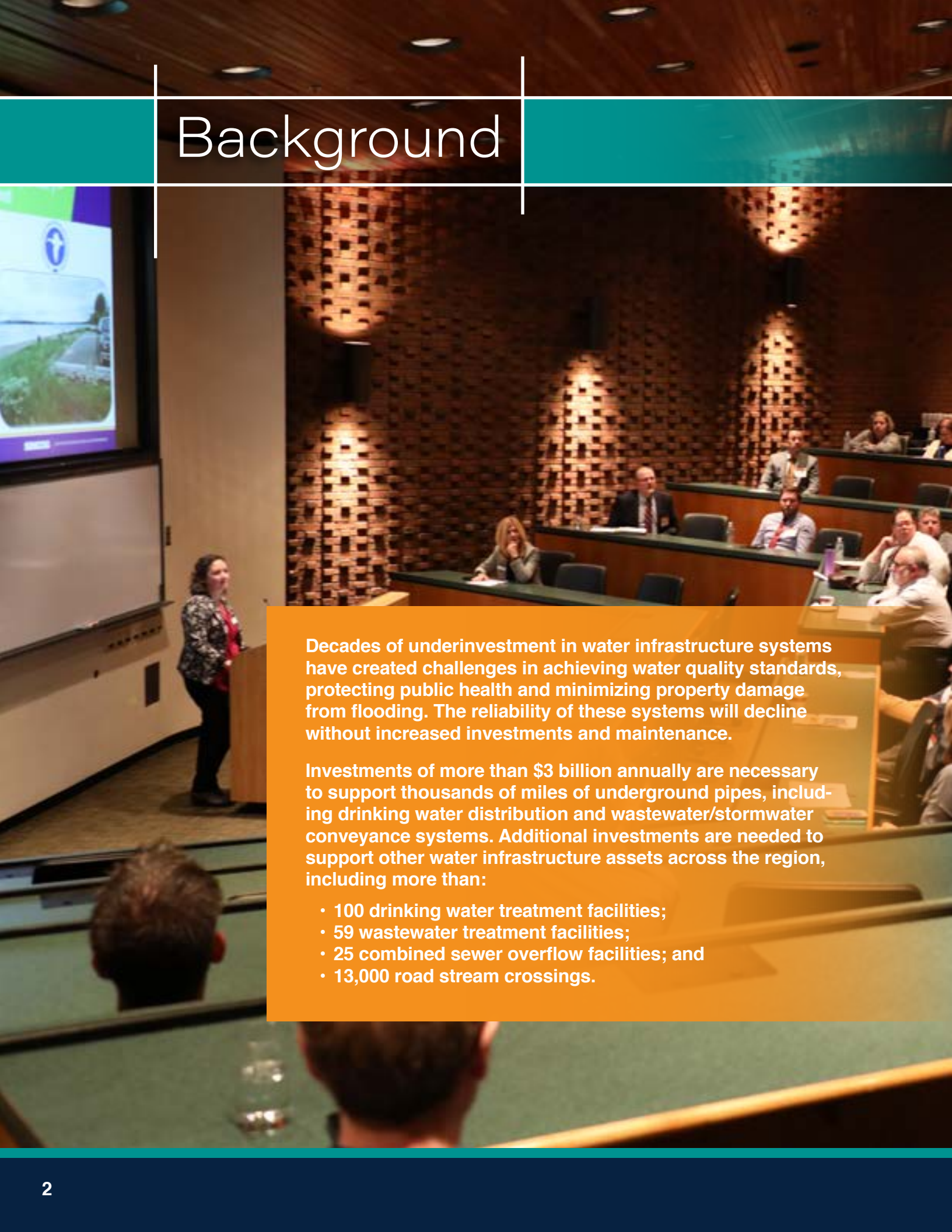
Infrastructure
Coordination



Funding &
Financing



Background

A woman in a patterned jacket stands at a podium on the left, presenting to an audience seated in a tiered lecture hall. A large screen on the left shows a landscape image with a blue circular logo. The background wall is covered in a grid of wooden acoustic panels, illuminated by warm lights.

Decades of underinvestment in water infrastructure systems have created challenges in achieving water quality standards, protecting public health and minimizing property damage from flooding. The reliability of these systems will decline without increased investments and maintenance.

Investments of more than \$3 billion annually are necessary to support thousands of miles of underground pipes, including drinking water distribution and wastewater/stormwater conveyance systems. Additional investments are needed to support other water infrastructure assets across the region, including more than:

- 100 drinking water treatment facilities;
- 59 wastewater treatment facilities;
- 25 combined sewer overflow facilities; and
- 13,000 road stream crossings.

The Water Infrastructure Policies and Actions for Southeast Michigan present critical strategies to guide regional efforts to tackle the largest challenges associated with sustaining and improving our water infrastructure. These policies and actions provide the foundation of the Southeast Michigan Water Infrastructure Planning Guide, an online resource providing local communities, partner agencies, and stakeholders with access to key information and resources about water infrastructure.

These policies and actions were developed under the guidance and support of the Water Infrastructure Task Force (WITF), comprised of government, business, education, and nonprofit organizations. Chaired by Jim Nash, Oakland County Water Resources Commissioner, and Palencia Mobley, Michigan Infrastructure Councilmember, the Task Force held five meetings in 2022 with smaller workgroups meeting four times between task force meetings. Subject matter experts met in these smaller groups to identify the specific actions that align with policies developed by the task force.



POLICIES

These priorities articulate the timely need for action and specific opportunities to address each of Southeast Michigan's water infrastructure system types: Drinking Water, Stormwater, and Wastewater. The policies and actions further reflect regional priorities of infrastructure resiliency, workforce development, and equity. This work builds upon the 2018 Water Resources Plan for Southeast Michigan and emphasizes the following five key regional policies:



Public Education

Attain a greater public awareness and mutual shared responsibility of water resources.



Data & Asset Management

Enhance local agency opportunities to adopt sustainable and proactive asset management approaches that support economic, social and environmental priorities.

Achieve greater public health and environmental benefits through data-driven and integrated adaptive approaches for water infrastructure priorities at the local and regional level.



Legislative & Regulatory Reform

Protect public health and environmental quality through a science-based regulatory framework at the State and local levels that supports flexible, alternative compliance approaches.



Infrastructure Coordination

Enhance coordination of infrastructure projects across public and private sectors to ensure strategic and efficient investment of resources.



Funding & Financing

Achieve fiscally sustainable and reliable quality infrastructure through consistent funding and financing mechanisms that support the long-term, real costs of services.

On each of the following pages, policies are highlighted representing each of the three categories to the right.

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Public
Education

How can we continue to build public confidence, trust and support for the actions necessary to improve water infrastructure?

The health and sustainability of our water resources depends on our ability to understand the interrelationships, vastness, and value of the system. Public education strategies need to embrace the integrated water management approach to help residents understand that water resource protection and enhancement are shared responsibilities.



POLICY

Attain a greater public awareness and mutual shared responsibility of water resources.

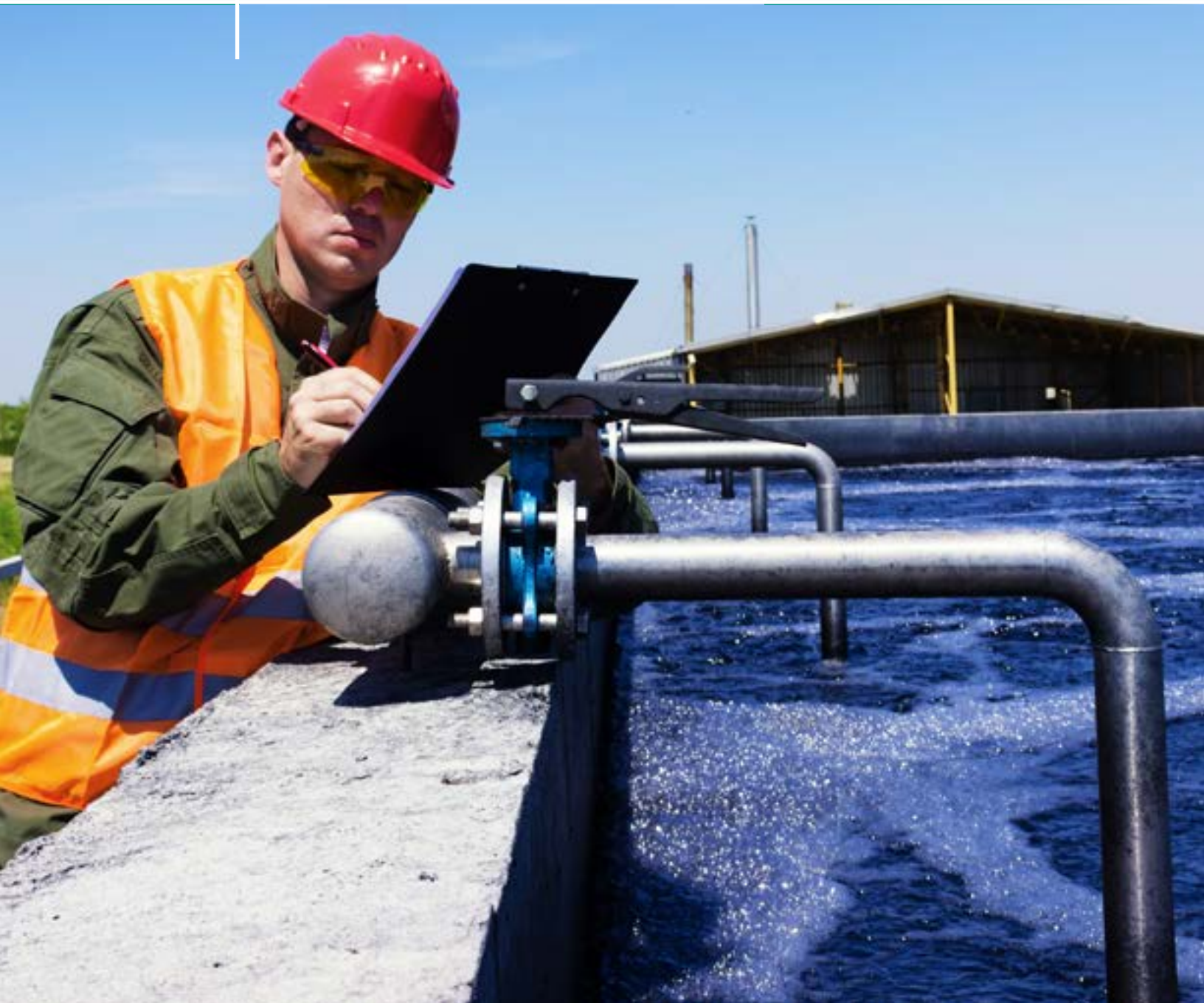


ACTIONS

- Expand the One Water Campaign to reflect timely water infrastructure messages.
- Develop water infrastructure educational resources with consistent messaging for elected officials.
- Provide tools to communicate the value of water and water professionals.
- Continue existing collaborative public education efforts between watershed organizations and local communities to meet stormwater permit requirements.
- Continue public education and outreach efforts for operation and maintenance of private onsite sewage disposal systems.
- Provide resources for water utilities to effectively communicate the cost of service coupled with how to use income-based assistance programs.
- Recruit and retain workers from disadvantaged populations that are vastly underrepresented in water workforce.
- Develop messaging to recognize how increasing rainfall intensity, the costs related to effective stormwater management, and current lack of funding will negatively impact the resilience of water infrastructure.
- Create new promotional materials aimed at educating students and job seekers about the water sector.
- Incorporate public sector water infrastructure careers into the Career Pathway Campaign to highlight the opportunities and benefits available in this field.



Data & Asset Management



Do we have the data, information, and prioritization of projects to make effective local and regional decisions?

Asset Management is an important tool for aligning departments within a community or utility, educating both the public and elected official, and bringing focus to the much-needed maintenance of aging water infrastructure. Data and adequate planning will inform priorities for future replacement, rehabilitation, and upgrades.

POLICIES



Enhance local agency opportunities to adopt sustainable and proactive asset management approaches that support economic, social and environmental priorities.

Achieve greater public health and environmental benefits through data-driven and integrated adaptive approaches for water infrastructure priorities at the local and regional level.



ACTIONS

- Support local and regional opportunities to expand asset management programs, including collection of data and mapping in those areas lacking information.
- Provide tools and guidance for local agencies to develop and expand asset management programs.
- Collaborate across jurisdictions, public and private partners, environmental groups, and not-for-profit organizations to collect and share data, conduct analyses, and implement water infrastructure programs and projects.
- Collect data and develop resources for local agencies to support alternative financing, projects, programs, and compliance efforts.
- Align efforts with statewide goals of the Michigan Infrastructure Council to build a culture of asset management through education, measurement, and outcomes.
- Update the regional Flood Risk Tool with recent asset data and flooding occurrences to assign risk of flooding to roads, bridges, culverts, and pump stations.
- Conduct watershed-based stormwater analyses to understand the cost-effectiveness of options to mitigate flooding.
- Update land cover data for the region to support development of local stormwater utility programs.
- Develop methodology to apply an equity lens to localized flooding based on the Flood risk tool framework.
- Develop a regional initiative that identifies large-scale natural green infrastructure opportunities to manage stormwater runoff while ensuring a more equitable distribution of green stormwater infrastructure.
- Identify infrastructure assets vulnerable to changing precipitation patterns, and improve adaptive capacity of these systems.
- Review updated rainfall projections in partnership with the National Oceanic and Atmospheric Administration (NOAA).
- Support comprehensive resiliency planning efforts such as integrated water resources management, contingency and emergency preparedness, risk assessments, and energy management plans.
- Build upon existing programs to support the retention and advancement of the water workforce to retain institutional knowledge.

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Legislative & Regulatory Reform

What regulatory and legislative reforms would enable lower short-term and long-term costs that produce greater benefits to the public?

Science is always evolving. Researchers, consultants and practitioners are constantly identifying new and innovative approaches to protecting public health and water quality. A science-based framework that supports an adaptive process that allows us to revisit approaches based on lessons learned.



POLICY

Protect public health and environmental quality through a science-based regulatory framework at the State and local levels that supports flexible, alternative compliance approaches.



ACTIONS

- Work with local partners to recognize alternative compliance methods and remove outdated permit requirements to balance outcomes in environmental quality and public health protections.
- Participate in infrastructure stakeholder workgroups at the State and local levels to implement regional water resource policies and actions.
- Facilitate a regional workgroup that identifies engineering approaches to address future rainfall for desired levels of cost and design efficiencies.
- Pursue updates to State regulatory and permit programs to support integrated planning, asset management, and partnerships across water infrastructure sectors.
- Strengthen provisions for basement flooding liability protection when rainfall exceeds the design standards.
- Support updates to the Michigan Statewide Sanitary code that address sustainable onsite sewage disposal system standards.
- Streamline communication with the State on the challenges water agencies are facing with lead service line replacement and develop best practices for addressing commonly encountered issues.
- Evaluate historic flooding in disadvantaged communities in concert with planned infrastructure projects and needed regulatory reform.
- Support a balanced approach to combined and separated sewer overflows that recognizes the need to prioritize protection of private property in conjunction with protection of water quality.
- Given future rainfall projections that exceed existing infrastructure capacities, evaluate existing regulations to ensure protection of public health, property, and infrastructure.
- Incentivize local agencies to support continuing education, training, and licensing within water infrastructure operations.

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Infrastructure Coordination

How do we overcome the challenges of coordinating infrastructure projects across service sectors?

The coordination of infrastructure projects across various agencies and jurisdictions will provide numerous economic, social, and environmental benefits. The continued implementation of an integrated asset management approach can help address funding, flooding, and water quality challenges.



POLICY

Enhance coordination of infrastructure projects across public and private sectors to ensure strategic and efficient investment of resources.



ACTIONS

- Develop a regional infrastructure planning portal for infrastructure providers to share planned projects.
- Coordinate strategic planning discussions and review process to identify opportunities to align public and private infrastructure projects.
- Integrate the infrastructure coordination element into the transportation planning process.
- Ensure efforts align with and complement the Michigan Infrastructure Council's "Dig Once" Project Portal.
- Integrate multiple funding approaches to support coordinated decision making on infrastructure improvements and capital improvement programs.
- Work with funding agencies to streamline application processes in order to align multiple funding sources for infrastructure projects.
- Conduct workshops with partner agencies to develop a framework that institutionalizes a public – private infrastructure coordination process.
- Provide a framework to evaluate infrastructure projects through an equity lens.
- Develop a methodology to evaluate future rainfall projections in conjunction with infrastructure planning, design and coordination.
- Align and communicate water sector energy needs with energy providers to build more resilient water systems.
- Develop a network of infrastructure professionals that seek continuous improvement in coordinating projects across infrastructure sectors.

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Funding & Financing



How and where do we invest in water infrastructure to advance water quality improvements, flood mitigation, and resiliency?

A recent SEMCOG study collected much of the region's water infrastructure data to estimate condition and investment needs. Investments of more than \$3 billion annually are necessary to support long-term improvements in water infrastructure linear assets, including drinking water distribution and wastewater/stormwater conveyance systems. Recognizing that this estimate does not include required investments in treatment facilities or flood mitigation, the entire estimate of water infrastructure investment needs is considerably higher.



POLICY

Achieve fiscally sustainable and reliable quality infrastructure through consistent funding and financing mechanisms that support the long-term, real costs of services.



ACTIONS

- Maintain and support existing water affordability programs while also expanding opportunities to develop a more comprehensive financial water assistance approach.
- Integrate asset management processes and decision-making into local, state and federal funding programs.
- Support legislative proposals that fund water resource and water infrastructure priorities through low- to zero-match grant and loan programs and direct appropriations for both public and private water infrastructure owners.
- Develop a new state-financing program to support local water infrastructure system assessments in a manner analogous to the Pavement Surface Evaluation and Rating program managed through the Transportation Asset Management Council.
- Encourage local agencies to establish water/sewer rate programs based on true cost of service for resilient systems and, where necessary, to support a mechanism for financial assistance to water users.
- Work with state agencies to ensure that new regulatory programs are supported through direct funding sources to local agencies and to provide funding for resiliency-related projects.
- Broaden Clean Water State Revolving Fund (SRF) program eligibility to include critical infrastructure categories, increase principle forgiveness and grant components, and enhance local participation.
- Develop a funding resource that categorizes grants, loans, and financing structures across water resource topic areas.
- Establish a dedicated source of funding for stormwater systems based on legislation or guidance that clarifies the structure for stormwater utility fees.
- Develop a comprehensive summary of stormwater infrastructure projects and information to support the EPA Clean Water Needs Survey
- Support creation of an equitable statewide, sustainable low-income water assistance program, which may be modeled after existing energy assistance programs to provide for rate assistance, conservation, education, leak detection, and repairs.
- Ensure that water assistance programs are resilient and able to respond to updated rate programs based on true cost of service.
- Review public sector water industry staffing needs and ensure rate structures support competitive wage and benefits compensation.

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Southeast Michigan Water Infrastructure Planning Guide

Providing local communities, partner agencies, and stakeholders access to key information and resources about the region's water infrastructure.



SEMCOG has developed the Southeast Michigan Water Infrastructure Planning Guide to provide local communities, partner agencies, and stakeholders access to key information and resources about the region's water infrastructure. This interactive resource showcases the critical infrastructure systems that provide drinking water to millions of people, manage wastewater from homes and businesses, and treat and convey stormwater runoff from rainfall. It was designed to describe the challenges while highlighting actions and resources for improvement.

In the Planning Guide, find:



Public Education

Resources to build awareness, trust, and support for infrastructure stewardship.



Data and Asset Management

Models and support for developing asset management practices, including priorities for data needs and improved system management, maintenance, and upgrades.



Legislative and Regulatory Reform

Summary of reform opportunities and how they can be applied to local, regional, and State regulations and legislation.



Infrastructure Coordination

Context and guidance for coordinated infrastructure improvements across different sectors.



Funding

Up-to-date funding opportunities from regional, State, and federal agencies.



Stormwater

System overview, focusing on challenges related to flooding, investment needs, and resources.



Drinking water

System overview, including focus on priorities related to challenges such as emerging contaminants and lead service lines.



Wastewater

System overview, including combined sewer systems and septic, with a focus on sewage overflows, regional priorities, and additional resources on Southeast Michigan's systems.



Affordability and Equity

Local, State, and national resources to support efforts to provide the most vulnerable communities with access to safe, affordable, and equitable water infrastructure services.



Resilience

Data and resources to integrate expectations for future precipitation and resilience across water infrastructure programs as well as coastal resilience resources.



Workforce Development

Information on water infrastructure career opportunities and the importance of building a lasting pipeline for future workers.

Contact Us

Call to learn more about how we can help. You can also visit the Water Infrastructure Planning Guide on our website at semcog.org/wipg.

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Additional Resources



[Exploring Southeast Michigan's Water Resources map](http://maps.semcog.org/onewater)
maps.semcog.org/onewater



[Flooding Risk Tool Dashboard](http://semcog.org/FloodingRiskTool)
semcog.org/FloodingRiskTool



[One Water public outreach program](http://mionewater.org)
mionewater.org



SEMCOG Vision

All people in Southeast Michigan benefit from a connected, thriving region of small towns, dynamic urban centers, active waterfronts, diverse neighborhoods, premier educational institutions, and abundant agricultural, recreational, and natural areas.

SEMCOG

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