

Developing Regional Solutions



SEMICOG

Southeast Michigan Council of Governments

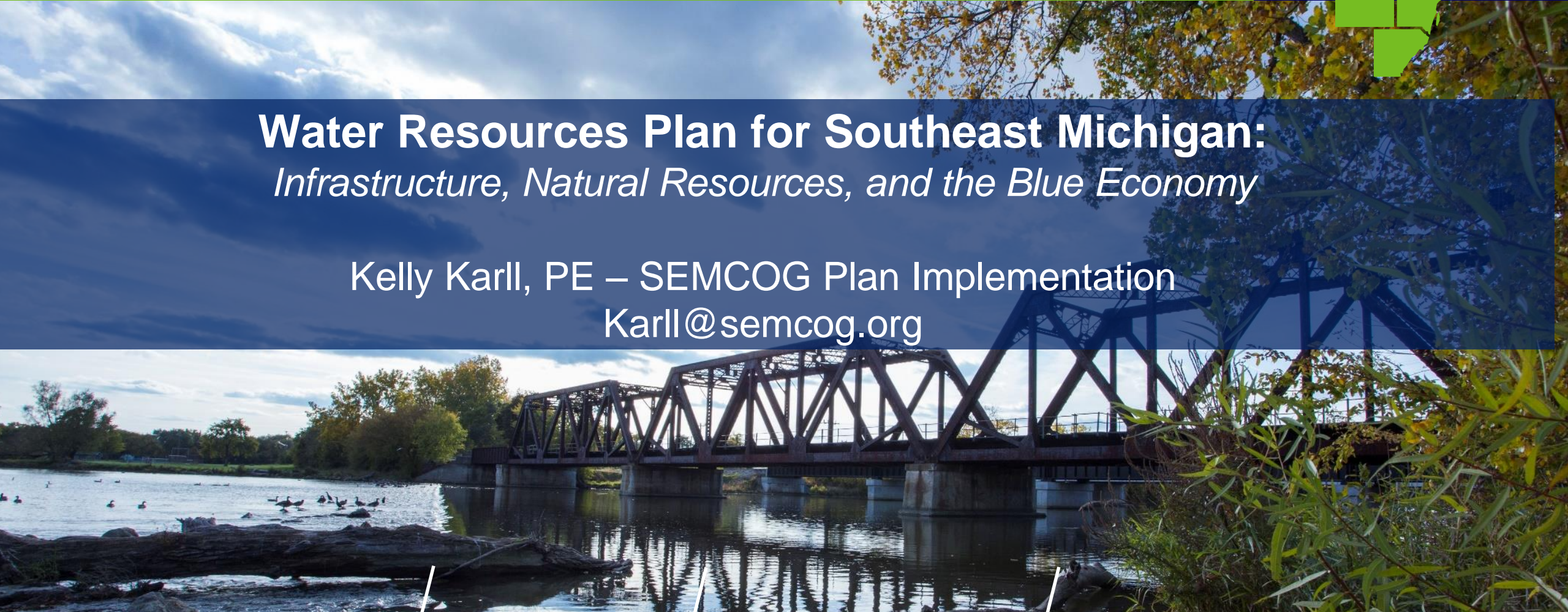


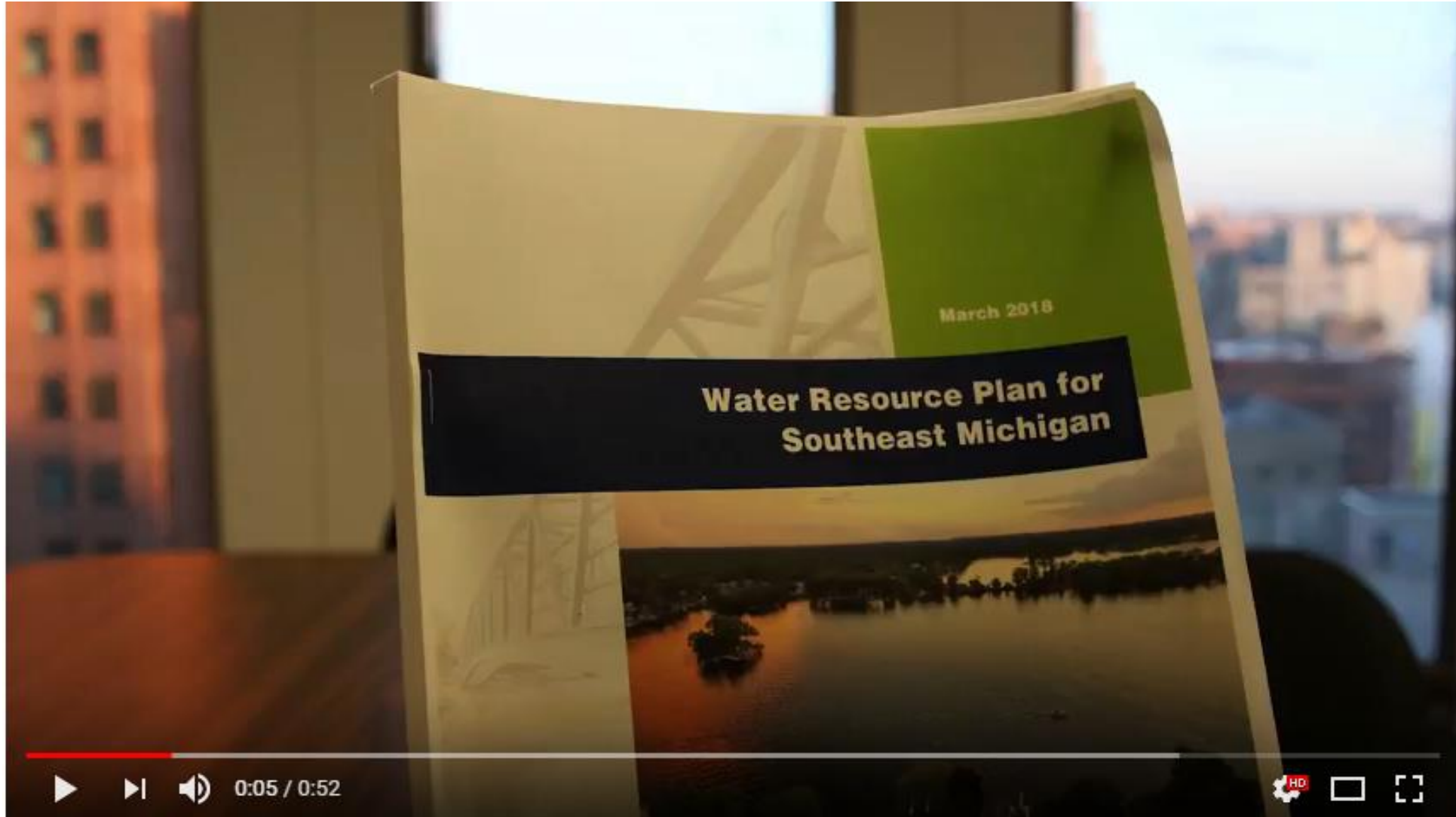
Developing Regional Solutions



Water Resources Plan for Southeast Michigan: *Infrastructure, Natural Resources, and the Blue Economy*

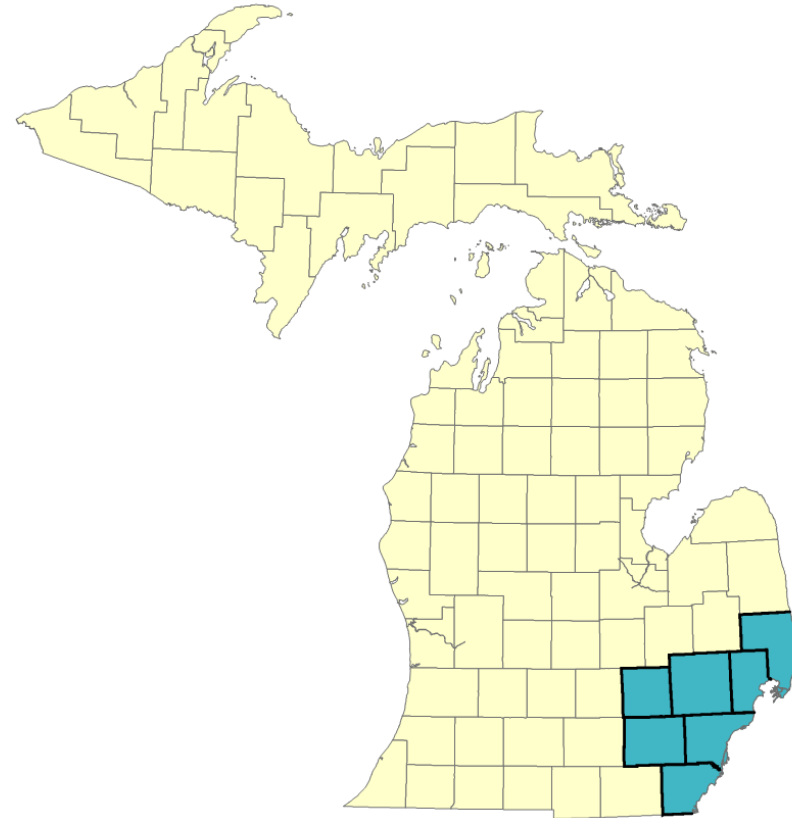
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What is SEMCOG?

- **Association of over 170 local governments**
 - Transportation
 - Infrastructure
 - Environment
 - Economic Development
 - Bicycle and Pedestrian
 - Parks and Recreation
 - Regional Forecasting



SEMCOG Region

- 7 counties
- 4,700 square miles
- 4.7 Million population
- 44% Residential
- 26% Agricultural
- 15% Impervious
- 30% Tree Canopy
- 50% Open Space



Successes

- **75%** uncontrolled CSOs removed
- **4,500** illicit discharges have been identified
- **2,400** people trained in IDEP
- **3** time-of-sale programs for OSDS
- **7** dam removals



Region-wide challenges

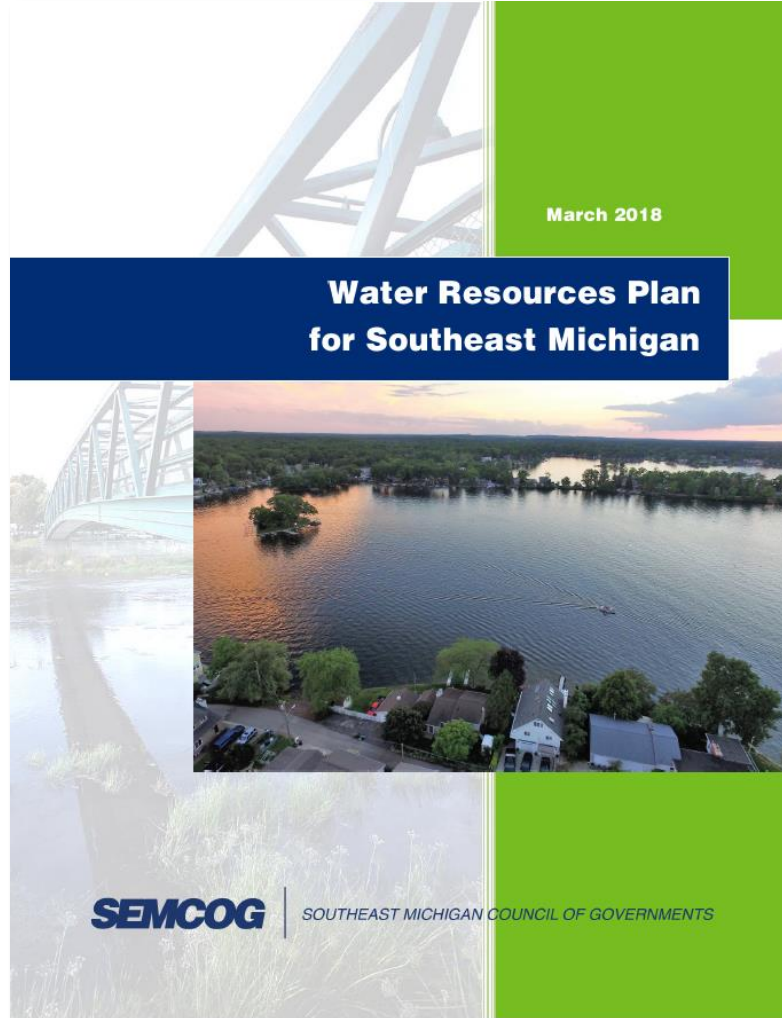
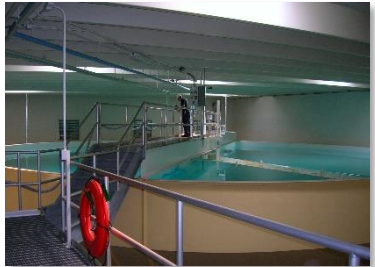
- **Investments**
- **Stormwater runoff & CSOs**
- **Habitat**
- **Green Infrastructure**
- **Enhancing recreation**
- **Infrastructure**
- **Water Quality**



Water Resources Task Force



Water Resources Plan



Blue Economy



Natural Resources



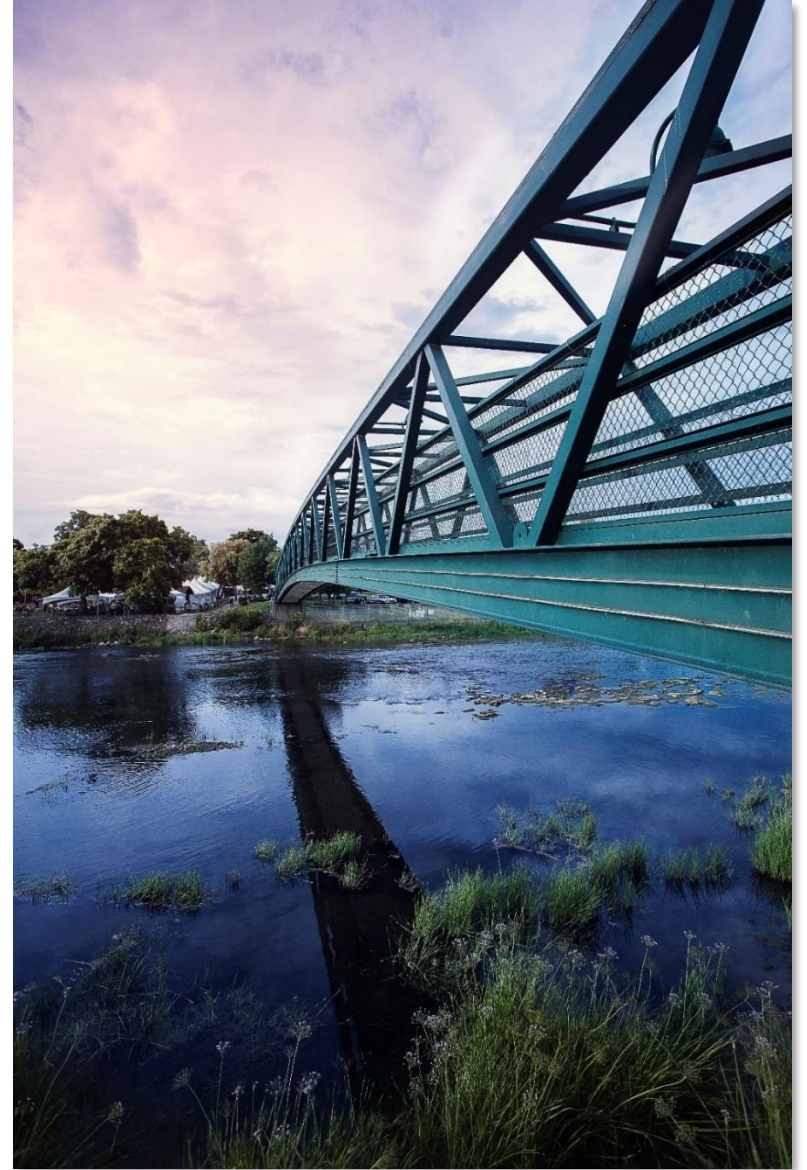
Infrastructure



**Integrated Water
Resources
Management**

What's in the Plan?

- **28** Regional Policies
- **101** Actions



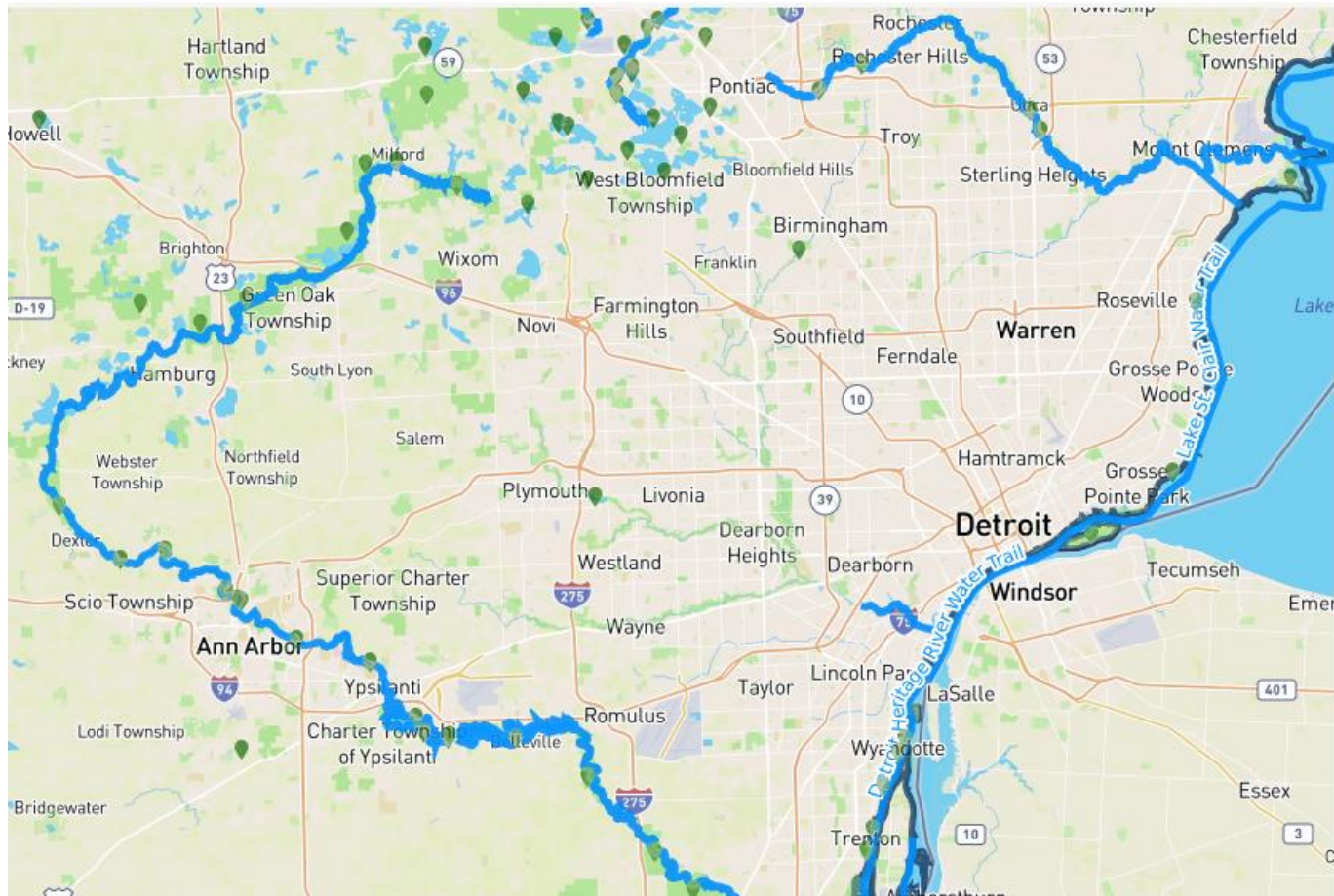
Blue Economy



Implementation – *Blue Economy*



Southeast Michigan ParkFinder Parks and Recreation Task Force









103 parks meet these criteria:

Location	Park Type
Park Size	

Filter Amenities by:

Trails & Fitness	Sports & Games
Water Recreation Paddling Launches & Water Trails	

-  Beach
-  Boat Access
-  Fishing
-  Paddling Launches & Water Trails
-  Swimming Pool
-  Water Park or Splash Pad

Outdoor Recreation	Winter Recreation
Amenities & Facilities	

Implementation – *Blue Economy*



Visual Mapping of Regional Water Trails *Terrain 360°*



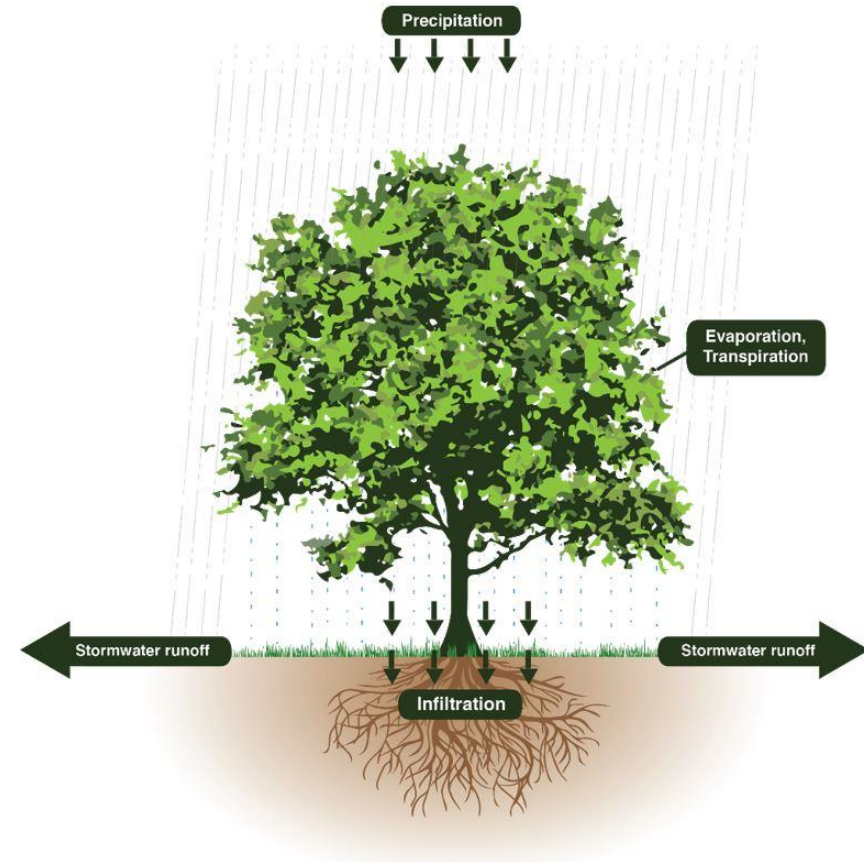
Natural Resources



- Wetlands
- Woodlands
- Riparian Corridors
- Agricultural Lands
- Aquatic Habitat
- Invasive Species



- Absorb **30%** of most rainfall events through leaf system
- Up to **30%** more through root structure



Regional Highlight



Green Macomb Urban Forest Partnership

- Build local capacity
- **1,000** trees planted
- **1,200** planned this year





Regional Wetland Inventory

- National Wetland Inventory
- Functions and Values
- Prioritization



Developing Regional Solutions



Infrastructure

- Drinking Water
- Wastewater
- Stormwater
- Dams
- Transportation
- Oil & Natural Gas



Infrastructure



By the Numbers

- Over **25,000** miles of public roads
- More than **2,900** bridges
- More than **13,000** road stream crossings
- Nearly **800** oil and gas extraction wells
- **377** dams
- **113** water treatment facilities
- **59** wastewater treatment plants
- **25** combined sewer overflow facilities, including retention treatment basins
- More than **\$1 billion** invested in CSO reduction
- **\$4 billion** gap in annual infrastructure funding

- Michigan
 - **1,390** drinking water systems
 - **1,080** wastewater systems
- GLWA provides:
 - **40%** of Michigan's population with drinking water
 - **30%** with wastewater



Infrastructure



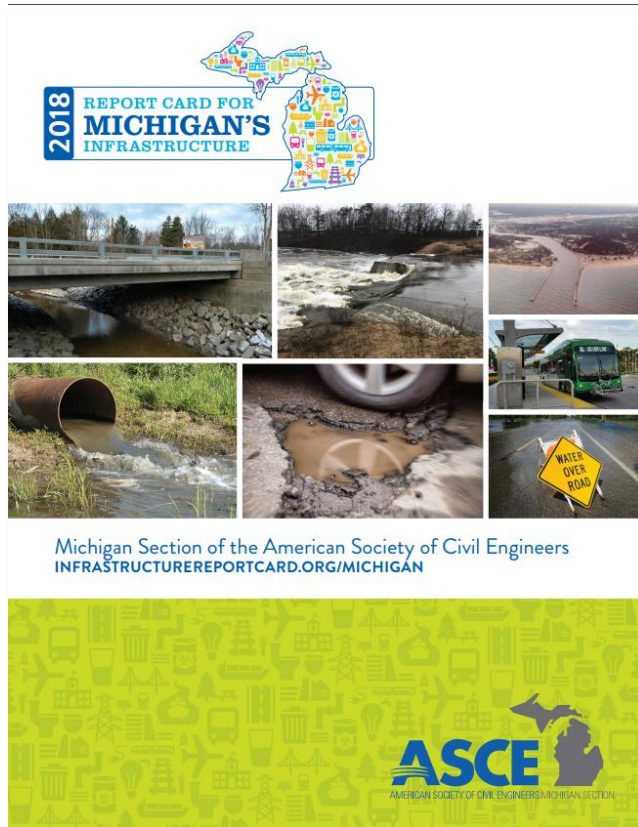
Overarching Priorities

- Asset Management
- Funding and Financing
- Regulatory Framework
- Workforce Development

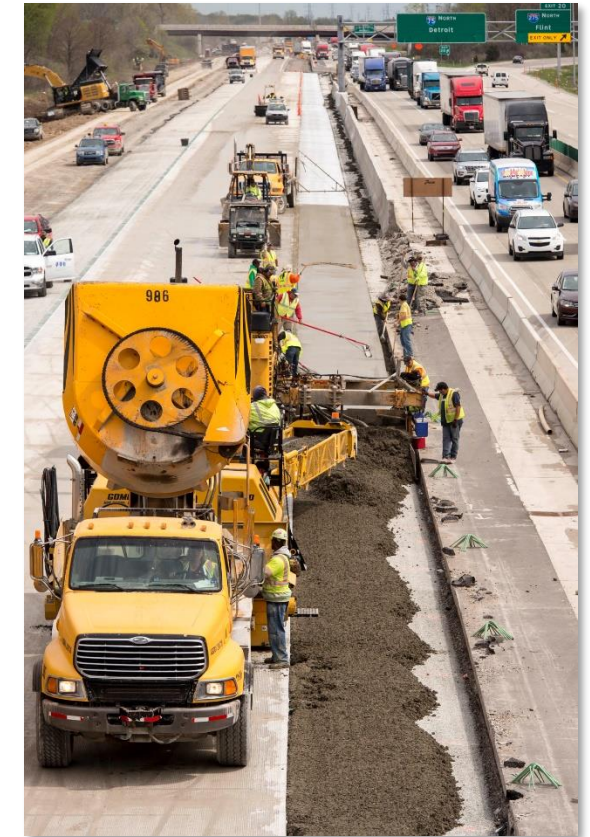
- Drinking Water
- Wastewater
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- Dams
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2018 Report Card on Michigan Infrastructure



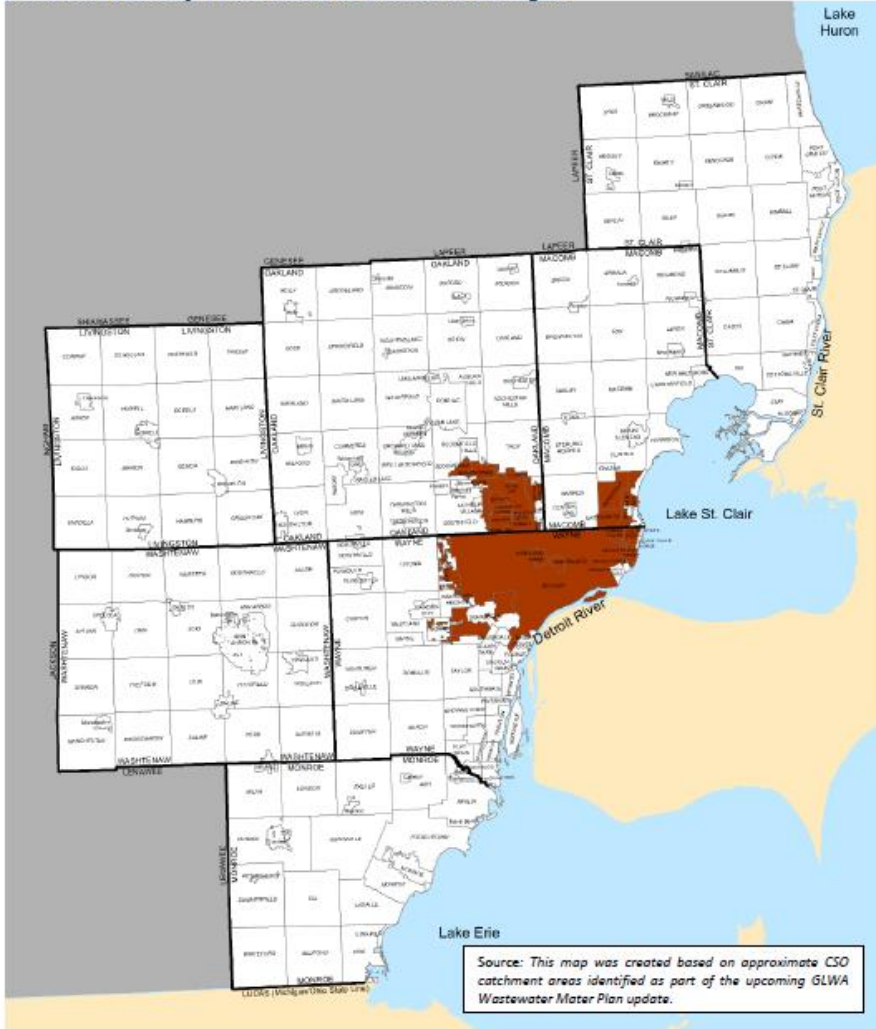
- Overall = **D+**
- Drinking Water = **D**
- Wastewater = **C**
- Stormwater = **D-**
- Dams = **C-**
- Roads = **D-**



Wastewater



Combined Sanitary Sewer Areas in Southeast Michigan



Multiple Assets

- **Public & Private**
 - **59** wastewater treatment plants
 - Combined and separated sewer
 - Septic systems

Current Challenges

- Combined Sewer Overflows (CSOs)
- Sanitary Sewer Overflows (SSOs)
- Basement Backups
- Illicit Discharges
- Funding

Opportunities

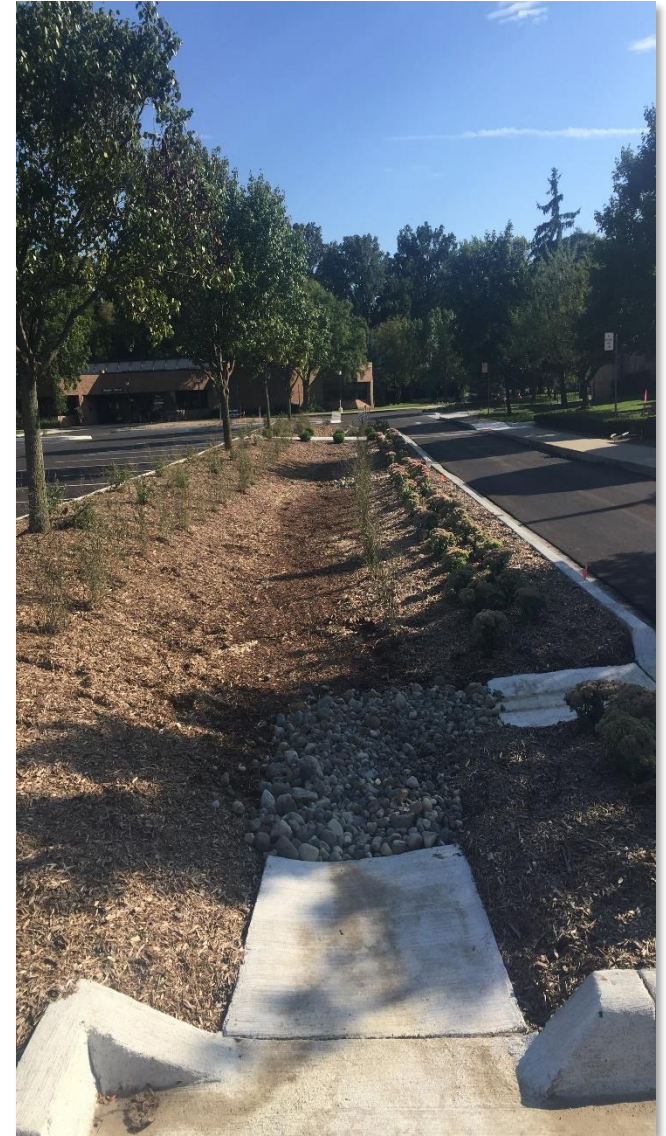
- Green Infrastructure
- Reducing Impervious Area
- Disconnecting Downspouts

Stormwater



Challenges

- Impervious Cover
 - Nonpoint source pollutant loading
 - Water resource degradation
 - Multiple jurisdictions
 - Funding
 - Complicated network - multiple assets
- » Green + Grey Infrastructure



Solution – Green Infrastructure



- **Green Infrastructure Target Setting**
 - Most constructed GI designed to manage “first flush” (1-inch of rain)
 - **Benefits**
 - » **Water Quality**
 - Most pollutants in first inch
 - » **Localized Flooding**
 - GI designed for 1-inch manages 85% of storms annually



Grow Zones & Tree Plantings: ***Wayne County***

- \$1 million in cost benefits
- Reduced maintenance
- Improved water quality
 - 50 acres of grow zones
 - 2,000 trees

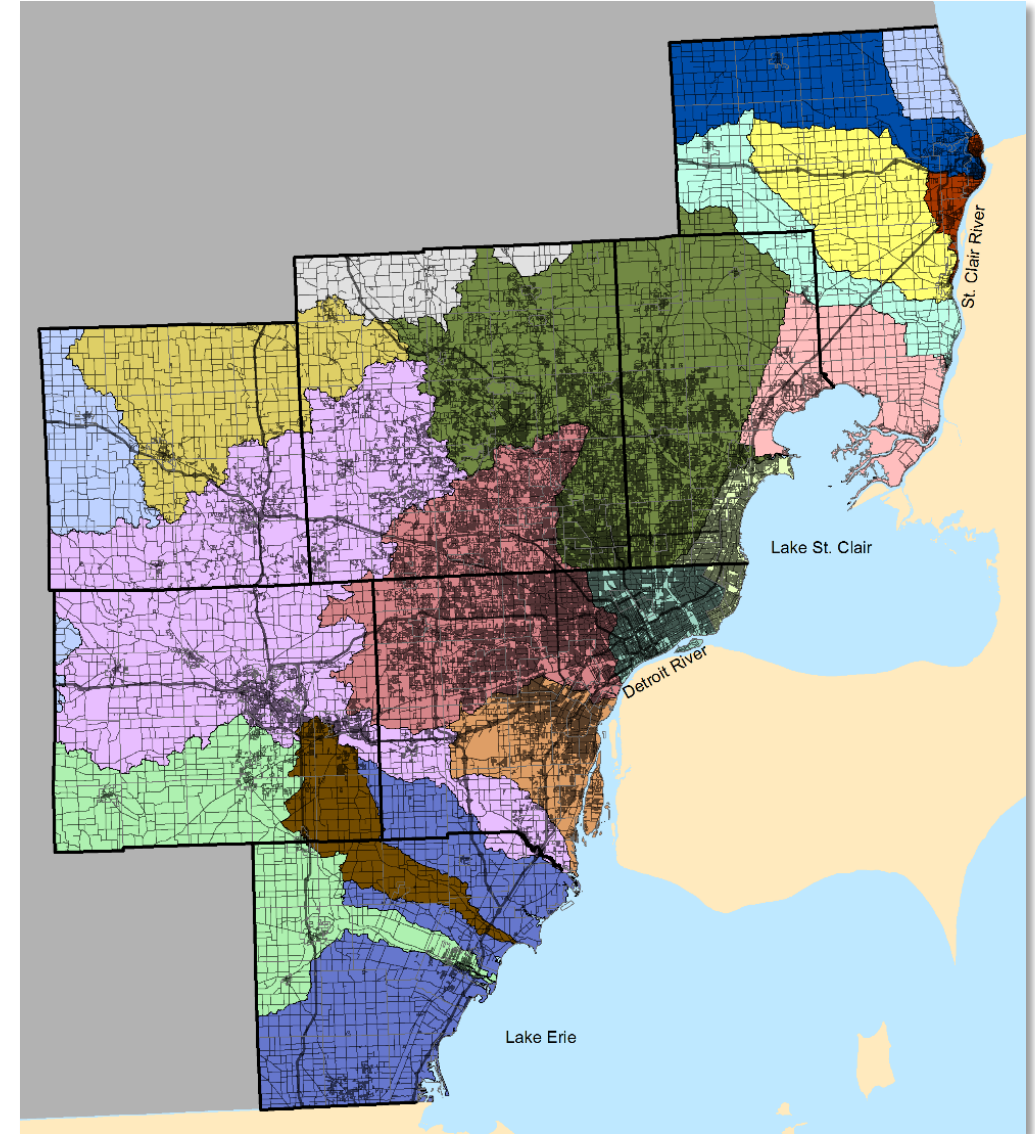


Transportation



The system:

- 25,000 miles of roads
- 2,900 bridges
- 1,000 miles of trails





Regional Highlight

I-75 Conservation Action Plan in Monroe County

Outcomes

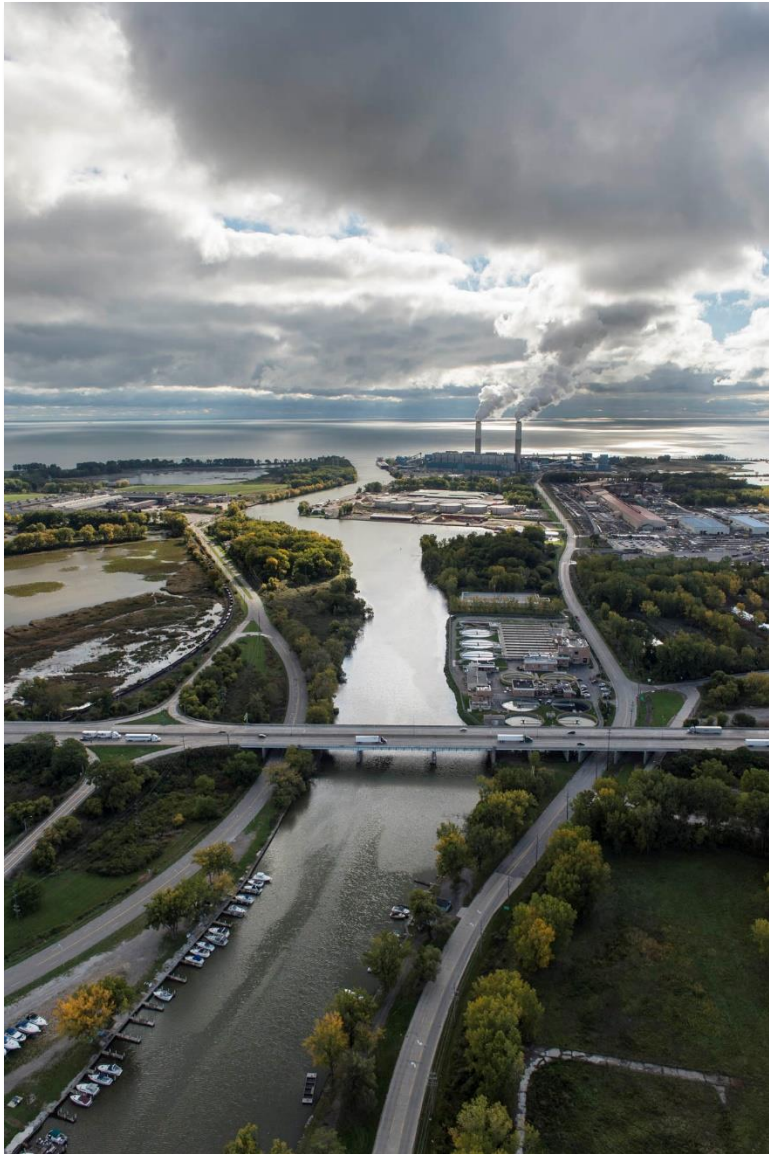
- Early planning & partnerships
- Enhanced mobility, environment, recreation
- Economic efficiencies, cost savings



Achievements

- 1,550 native plants relocated
- Wetland mitigation areas
- Otter Creek water trail
- Transportation and Environmental Curriculum





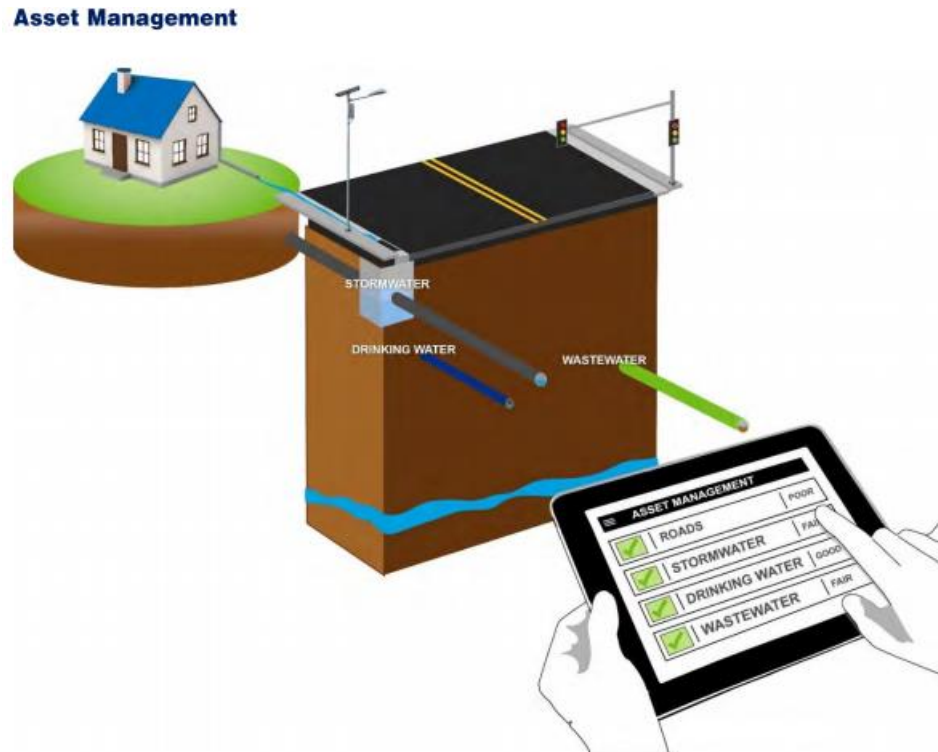
- **Updating Environmental Sensitivity Analysis**
 - Wetlands
 - Hydrology
 - Floodplains
 - Subwatershed location
 - Water quality
 - Role of Watershed Priorities

Implementation – *Infrastructure*



Regional Asset Management Pilot Program

- Identifies challenges
- Establishes baseline information
- Supports strategic, coordinated investments



Integrated Water Resources Management



- **Climate Resiliency**
- **Partnerships and Collaboration**
- **Public Education**
- **Investments**
- **Water Resource Monitoring**



Implementation - *Climate Resiliency*



- **August 2014 storm**
 - 6 inches of rainfall in an 8-hour period
 - \$1.8 billion in damages
 - Federal disaster declaration
- **Average annual precipitation is expected to increase**
 - 7-10 percent by 2050
 - Upwards of 13-23 percent by 2100
- **Integrated Climate Resiliency Analysis**
 - Identify vulnerable transportation assets
 - Develop a framework to address flooding



I-696 flooding; Photo courtesy of MDOT

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