Flooding Task Force

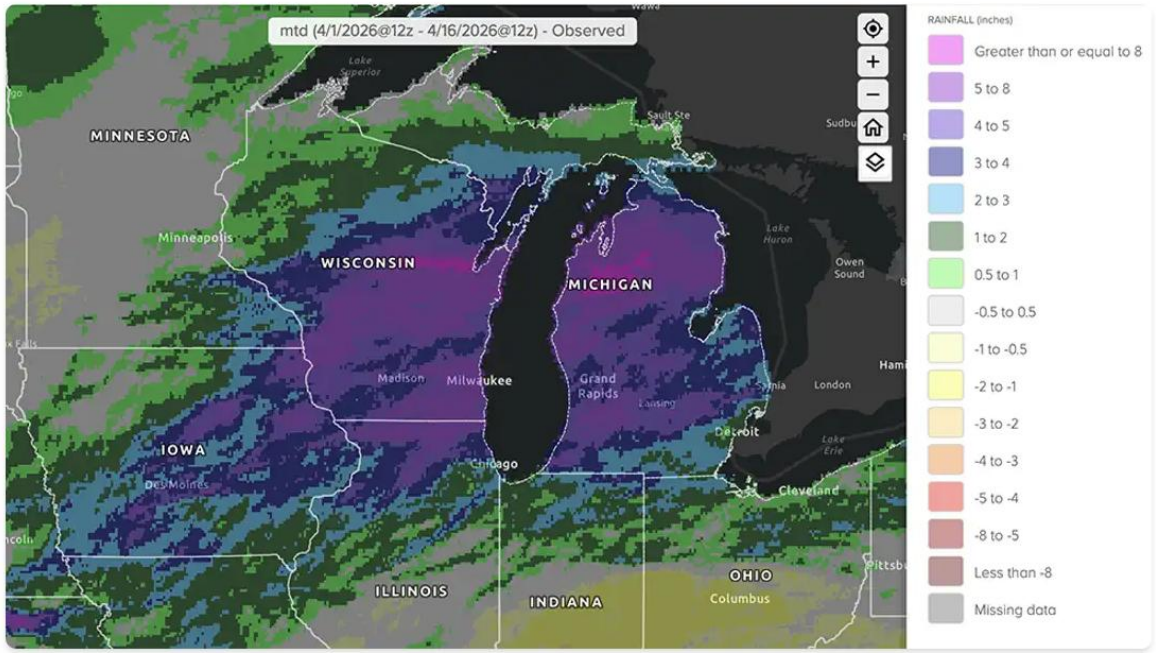
Meeting #3

April 29, 2026

SEMCOG
SOUTHEAST MICHIGAN COUNCIL OF GOVERNMENTS

Welcome

Don Brown, Deputy Commissioner, Macomb County Public Works – Task Force Co-Chair



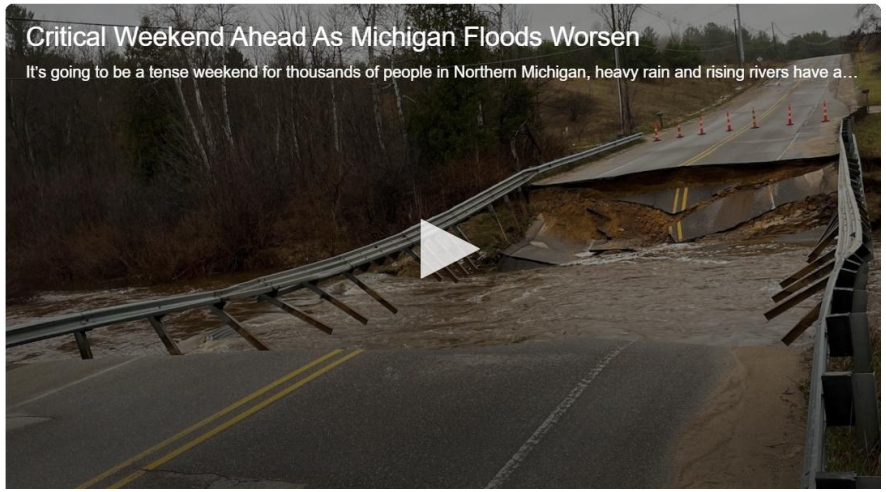
This map shows how much above (darker blue, purple, pink contours) and below (yellow contours) precipitation has been in April 2026 through April 16.
(NOAA/National Weather Service)

Michigan And Wisconsin's Record Flooding In A Historically Wet Spring

This spring has been one for the record books in the western Great Lakes. From a blizzard in March to torrential rain in April, here's how off the charts it has been in Michigan and Wisconsin, in particular.

By Jonathan Erdman • April 17, 2026

Start the conversation | Share



Send us your Flooding Photos and Videos!

This will help us as we developed education and outreach materials over the next year!

Send photos to:

Jon Clark

SEMCOG Multimedia Specialist II

clark@semcog.org

Project Updates & Resilience Strategies

Katie Grantham

SEMCOG Environment & Infrastructure

SEMCOG AT NATIONAL & REGIONAL CONFERENCES

Infrastructure Resilience Summit Award

Organizational Regional Resiliency Hero Award

- Delivering measurable reductions in overflow events
- Completion of the Chapaton Canal Project designed to handle extreme weather events
- Rehabilitation of the Bon Heur Pump Station designed for high performance and long-term reliability
- Cross-jurisdictional Collaboration
- Serving as a Building Block for Future Efforts

Macomb County Public Works

Infrastructure Resilience Summit Award

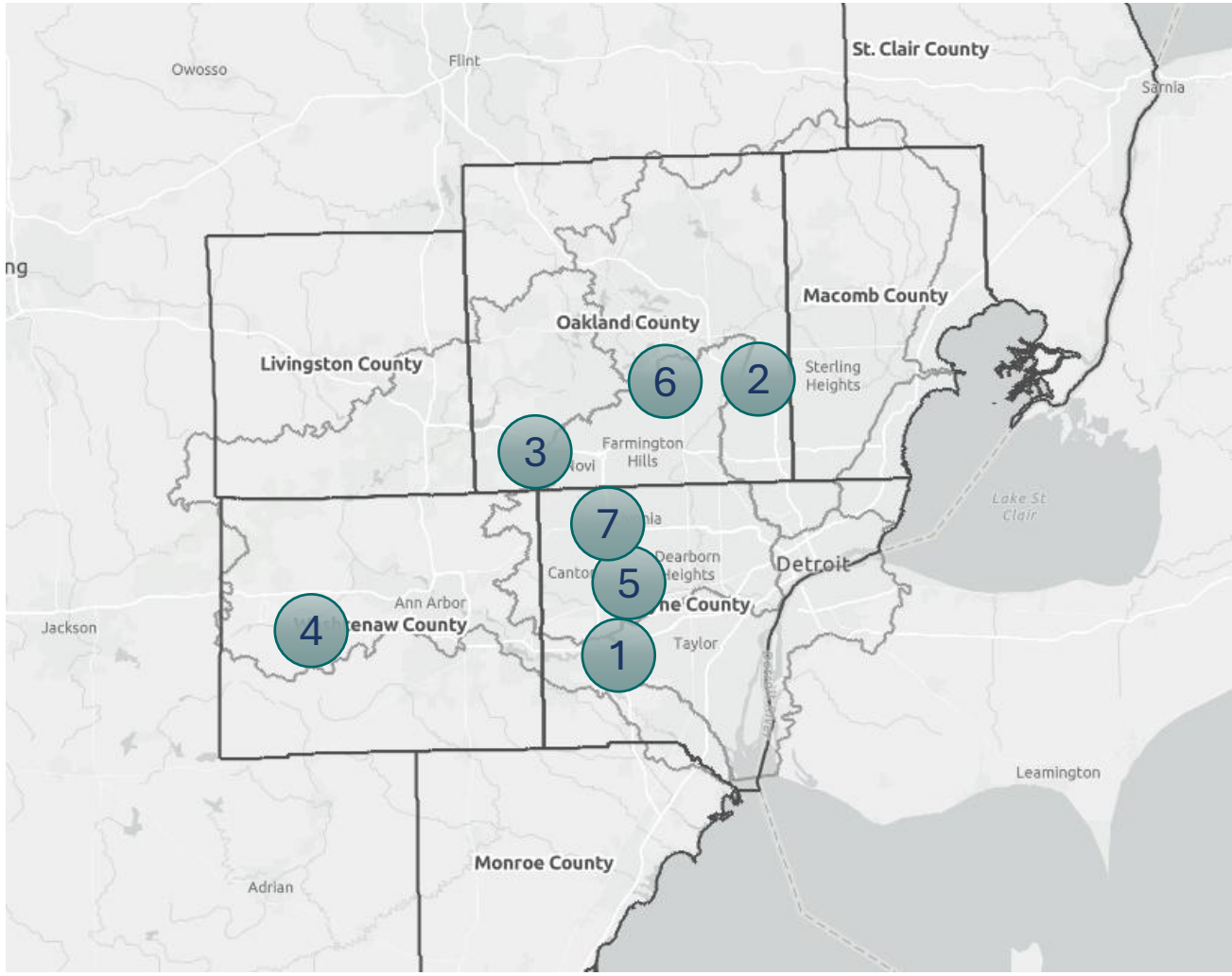
Individual Regional Resiliency Hero Award

- Outstanding leadership & vision
- Champions creative problem-solving
- Fosters a cross-jurisdictional collaborative culture
- Builds initiatives for future success
- Drives meaningful, measurable impact

Kelly Karll, Manager of Environment and Infrastructure, SEMCOG

NBS Concept Plans

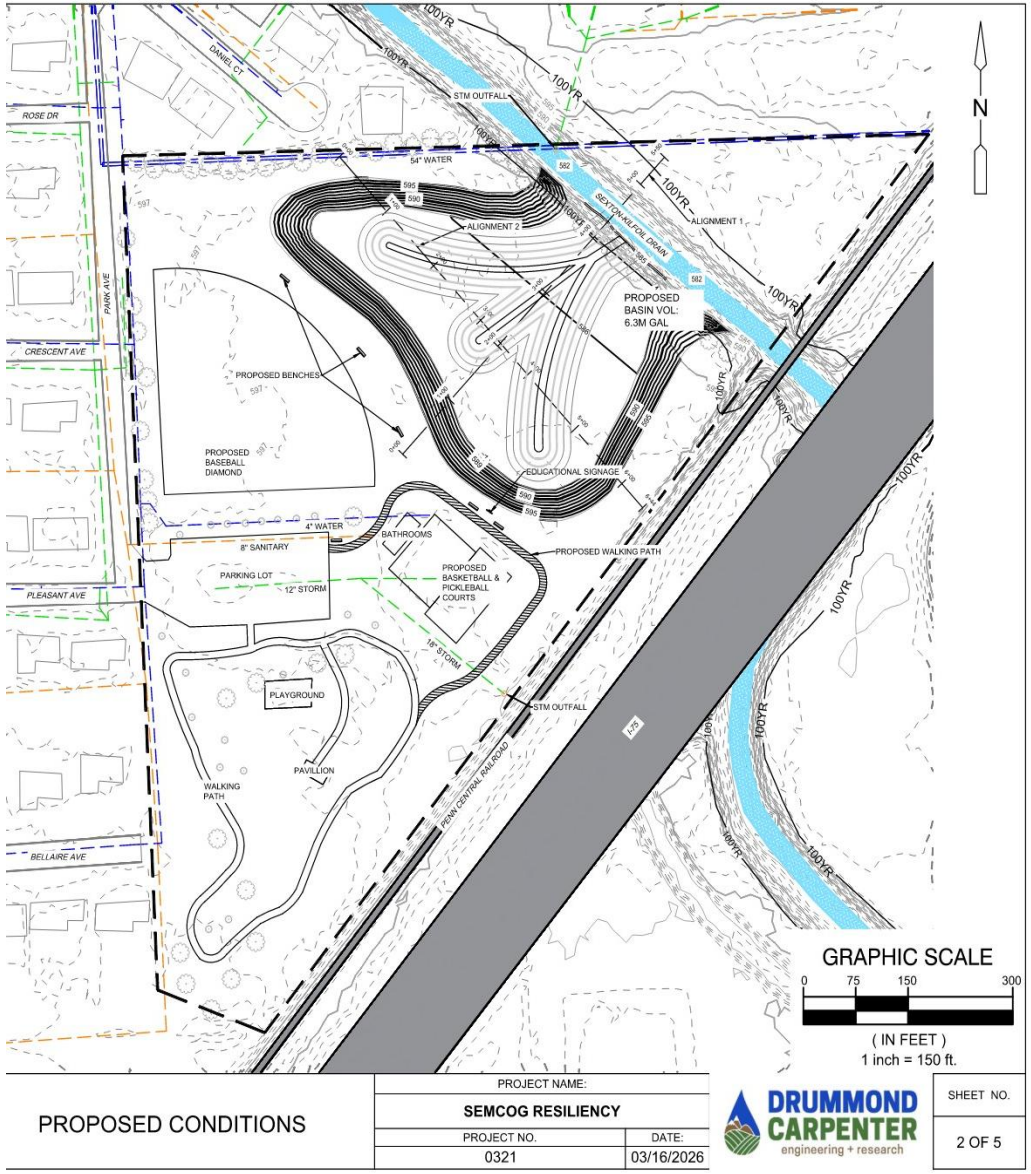
1. Millward Park – Allen Park
2. Meadowview Park – Sterling Heights
3. Minnow Pond – Oakland County
4. Former City DPW Site – Ann Arbor
5. Marvin Ave – Dearborn Heights
6. Nelson Drain Basin – Oakland County
7. Tireman Ave - DWSD



Millward Park: Proposed Conditions

- Proposed NbS floodplain expansion area: 180,000 SFT
- Proposed floodplain expansion volume: 831,000 CFT

Note: Image depicts NbS shortly after rainfall



Resilience Workshop Series

1. Planning for Resilient Communities
2. Emergency Planning, Coordination, and Response
3. Engineering Flood Mitigation into the Future

Planning for Resilient Communities Workshop

- Integrating Flood Risk into Planning
  - Use flood-risk data to guide land use and steer development away from vulnerable areas.
  - Integrate flood resilience into local plans to strengthen coordination among stakeholders and communities.
  - Highlight strong regional examples, such as Ann Arbor's Stormwater Comprehensive Management Plan.
- Future Community Needs
  - Improve collaboration between upstream and downstream communities.
  - Expand public outreach and education on flood risk and resilience.
  - Standardize definitions across the region for consistent communication and planning.
  - Increase access to technical assistance and support for using data in planning, prioritizing, designing, and implementing projects.

Emergency Planning, Coordination & Response Workshop

- Understanding Emergency Management
  - Disasters begin and end locally: municipalities are first in, last out, and fund initial response
  - Local funding and financial readiness enable faster response and stronger community resilience
  - Local EM authorities include declaring emergencies, coordinating multi-agency response, protecting life/safety, and managing resources
- Future Community Needs
  - Develop consistent and clear regional flood preparedness messaging across all counties
  - Develop educational materials that provide guidance for pre- and post-flood events to help people prepare and respond

Engineering Flood Mitigation into the Future Workshop

- Engineering Priorities for Resilience
  - Distinguish acceptable flooding from system failure and communicate this to the public
    - Engage communities in defining acceptable risk
  - Align engineers, planners, developers, and agencies around shared outcomes
  - Document flood events, update floodplain mapping, and leverage data to justify mitigation investments
  - Coordinate funding, address combined sewer flooding, and pursue projects with shared regional benefits
  - Prioritize performance-based capital improvements, maintenance, and retrofits

Resilience Strategies

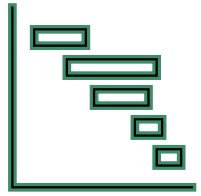
Resilience Strategy Categories

- *Planning Standards and Master Plans*
- *Implementation, Design, and Maintenance*
- *Emergency Management and Coordination, Response, and Recovery*
- *Outreach, Communication, and Education*

As we review strategies and example actions for each category on the following slides, please reflect on these questions:

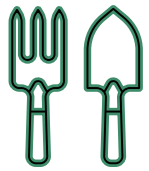
- **In general, have we covered all needs with these strategies?**
- **If not, what is missing?**

Planning Standards and Master Plans



- Promote alignment between land use planning and infrastructure planning to strengthen regional resilience
  - E.g.: *Integrate resilience principles into master plans, zoning ordinances, and development review processes to guide long-term growth and infrastructure planning*
- Build local capacity for planning, design, and capital investment practices
  - E.g.: *Develop and share best practice guidance on resilient planning and design standards, zoning, as well as master planning and capital improvement planning approaches*

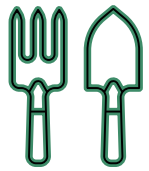
Engineering Design and Maintenance



- Improve risk assessment and planning tools
  - EX: *Update inland flooding projections, including data and modeling tools, to improve flood risk assessment and infrastructure planning*
- Explore novel and sustainable funding mechanisms
  - EX: *Support and utilize creative financing mechanisms, including public-private partnerships, infrastructure banks and resilience funds, to support resilient land use and stormwater investments*

Workshop discussion

Engineering Design and Maintenance



- Enhance data collection and management
  - EX: *Improve data collection for future tracking and implementation needs (e.g., past flood events, heat impacts, culvert information)*
- Adopt regionally coordinated infrastructure design policies that reflect current and future conditions
  - EX: *Update infrastructure design guidelines to consider projections for extreme rainfall, flooding, erosion, and extreme heat*
- Strengthen long-term infrastructure reliability through proactive asset management
  - EX: *Develop a collaborative asset management planning framework that facilitates stormwater and transportation agency coordination to jointly identify risks, prioritize investments, and address overlapping infrastructure challenges.*

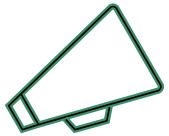
Workshop discussion

Emergency Management and Coordination, Response, and Recovery

- Strengthen emergency planning and coordination capacity
  - EX: *Build institutional capacity and leadership awareness by integrating climate risk and resilience considerations into onboarding and training for local and elected officials*
- Increase emergency preparedness
  - EX: *Strengthen integrated emergency communications and early warning to improve situational awareness and preparedness.*

Workshop discussion

Outreach, Communication, and Education



- Develop coordinated multi-channel communication systems
  - EX: *Develop consistent regional terminology and messaging related to hazard risks and solutions through coordinated campaigns, using clear, plain language*
- Enhance public flood awareness through education and signage
  - EX: *Use visible infrastructure, signage, and place-based communication tools to improve public understanding of flood mitigation systems, green infrastructure, and how these features function to reduce impacts and support community resilience*

Workshop discussion

Flooding and Heat Risk Assessment and Dashboard

Aashka Patel

Climate Resilience Consultant

ICF

2026 Update

NEW THIS YEAR

HAZARDS

- Flooding
- Extreme Heat

ASSETS

- Roads
- Bridges
- Pump Stations
- Culverts*
- Transit Stations
- Non-motorized Paths

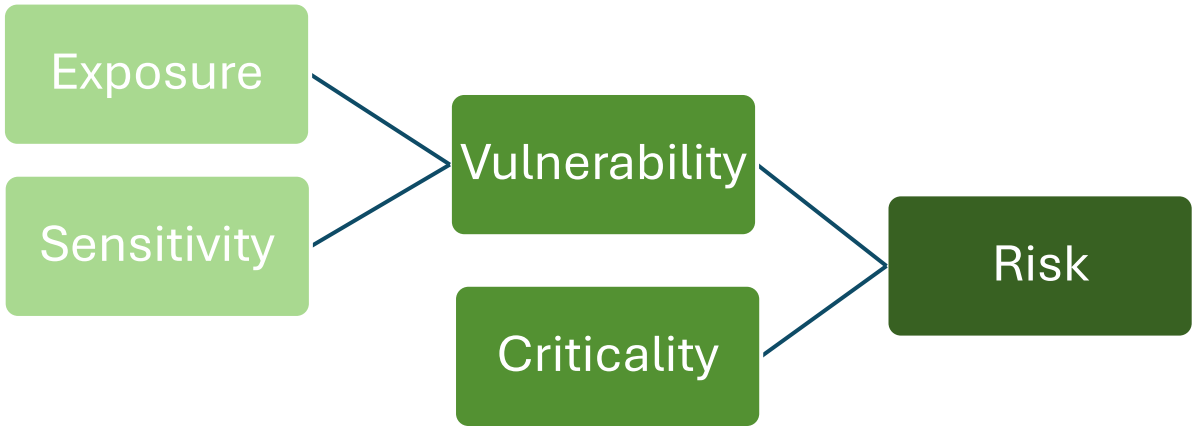
APPROACH

- Indicator-based assessment
- Improved flooding data
- Flooding-induced disruption in access to core services

FLOOD & HEAT RISK TOOL

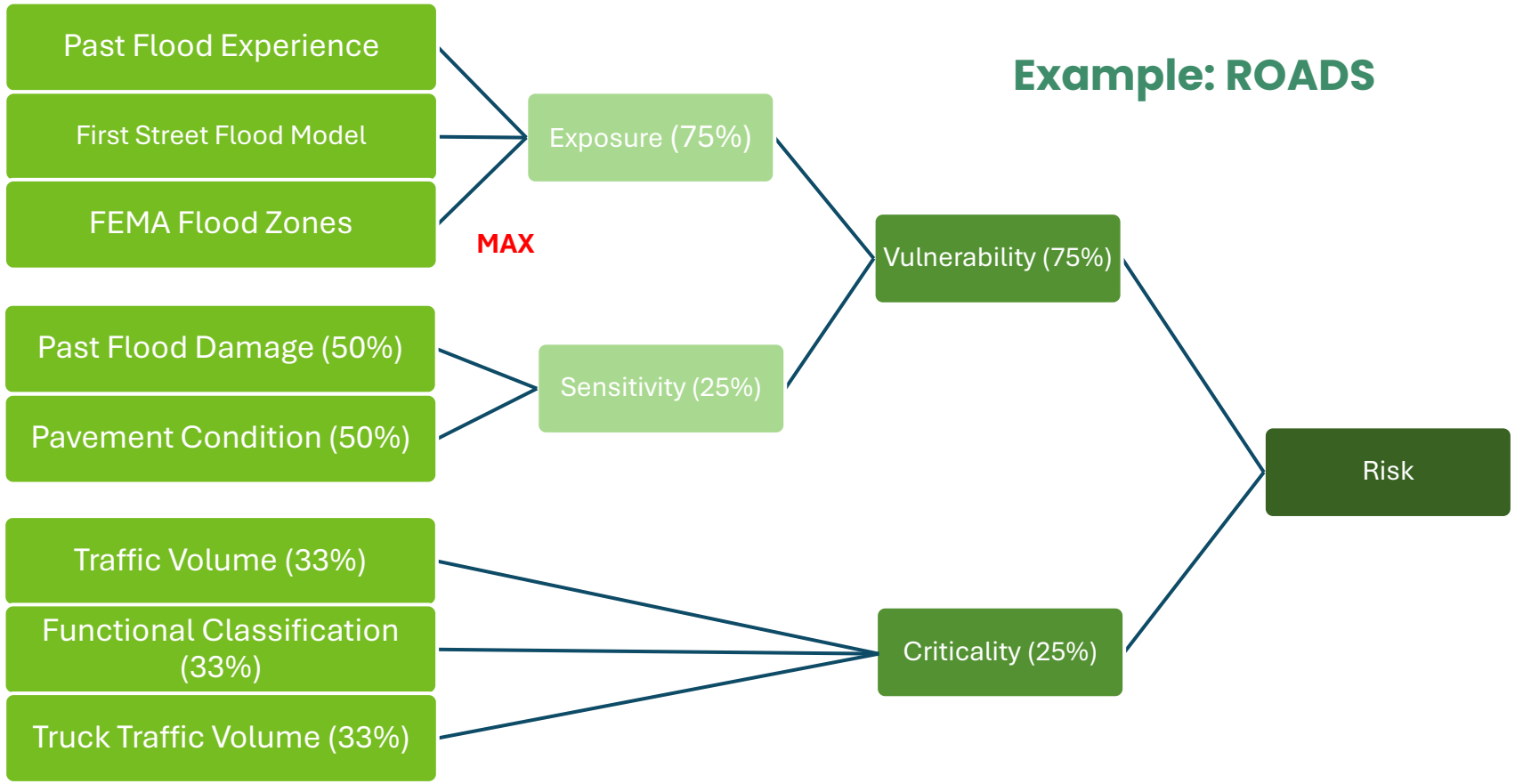
Flood Risk Assessment: Approach

Characteristics of assets and flood hazard are as used as **INDICATORS** of risk.



Flood Risk Assessment: Approach

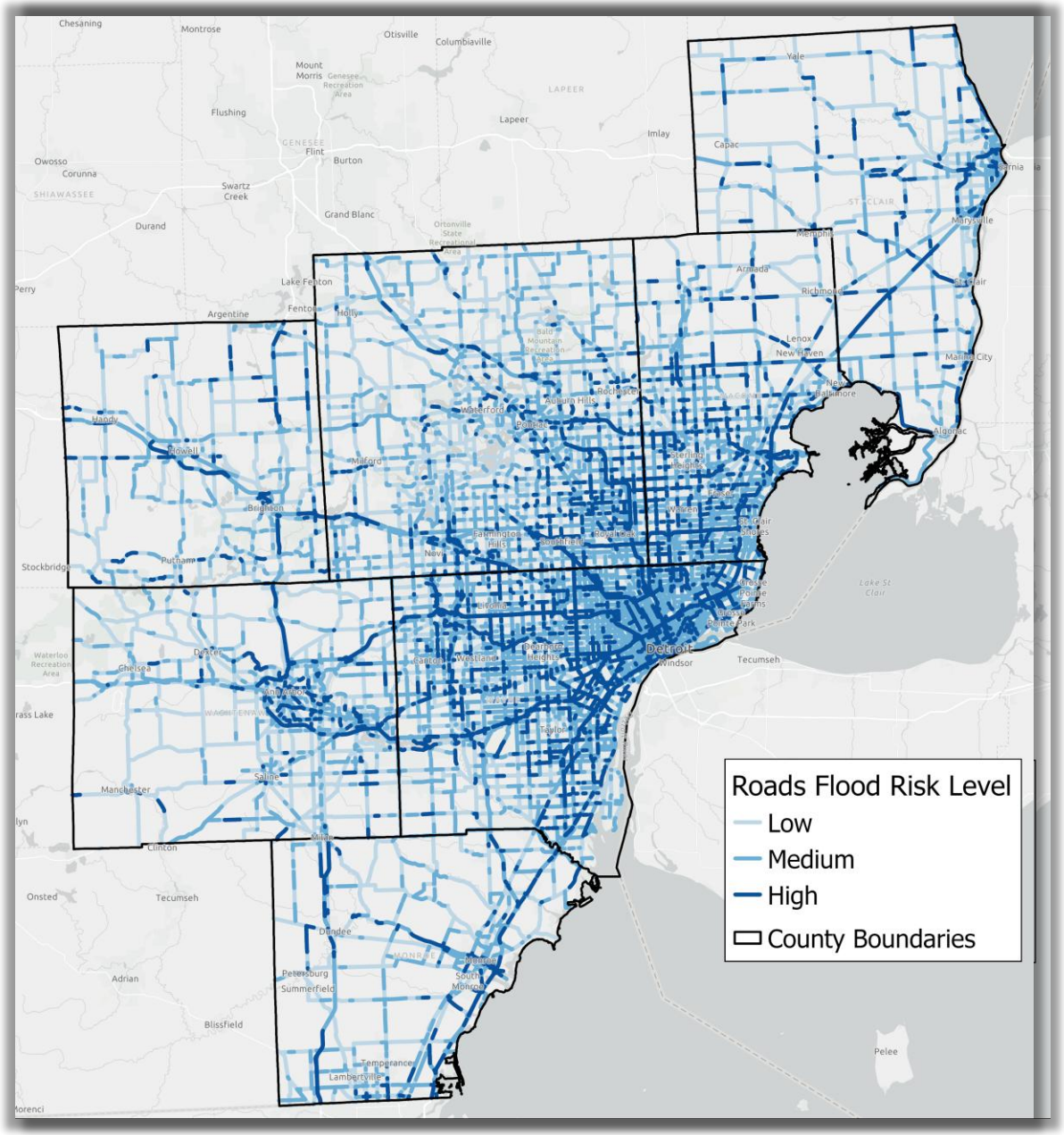
Each INDICATOR and risk COMPONENT is scored individually and then combined as the FINAL RISK SCORE



Flood Risk Assessment

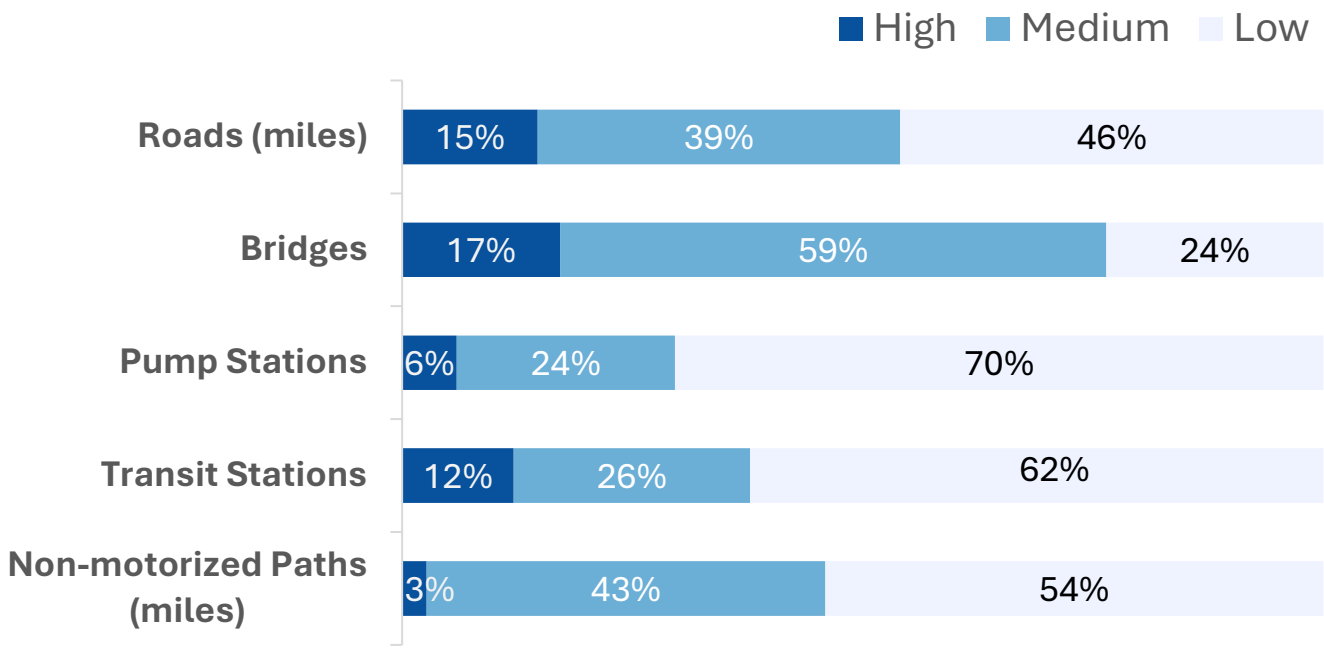
Risk is scored on a scale of 1-4

High: 3-4
Medium: 2-3
Low: <2



Flood Risk Assessment: Results

Scope of region wide flood risk to transportation assets



Flood Risk Assessment: Results

% of Assets that are **High Risk,** by County

County	Roads	Bridges	Pump Stations	Transit Stations	Non-motorized Paths
Livingston	9%	7%	-	-	4%
Macomb	17%	23%	-	4%	2%
Monroe	16%	24%	50%	12%	16%
Oakland	10%	11%	10%	3%	1%
St. Clair	12%	17%	-	9%	8%
Washtenaw	10%	17%	-	7%	5%
Wayne	21%	18%	5%	18%	4%

Flood Risk Assessment: Results

How are **HIGH RISK** assets distributed within the region?

	Roads	Bridges	Pump Stations	Transit Stations	Non-motorized Paths
Livingston	Total: 7% High Risk: 4%	Total: 5% High Risk: 2%	Total: 1 High: 0	Total: 0% High Risk: 0%	Total: 4% High Risk: 2%
Macomb	Total: 12% High Risk: 14%	Total: 13% High Risk: 18%	Total: 8 High: 0	Total: 13% High Risk: 4%	Total: 6% High Risk: 2%
Monroe	Total: 7% High Risk: 8%	Total: 9% High Risk: 12%	Total: 2 High: 1	Total: 0% High Risk: 0%	Total: 1% High Risk: 3%
Oakland	Total: 24% High Risk: 16%	Total: 18% High Risk: 12%	Total: 10 High: 1	Total: 17% High Risk: 4%	**Total: 49%** **High Risk: 31%**
St. Clair	Total: 8% High Risk: 7%	Total: 7% High Risk: 7%	Total: 0 High: 0	Total: 3% High Risk: 2%	Total: 6% High Risk: 5%
Washtenaw	Total: 11% High Risk: 7%	Total: 8% High Risk: 8%	Total: 2 High: 0	Total: 10% High Risk: 6%	Total: 15% High Risk: 28%
Wayne	**Total: 31%** **High Risk: 44%**	**Total: 39%** **High Risk: 40%**	**Total: 112** **High: 6**	**Total: 57%** **High Risk: 84%**	Total: 18% High Risk: 29%

2026 Update

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- Extreme Heat

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- Culverts*
- Transit Stations
- Bike Routes

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- Flooding-induced disruption in access to core services

FLOOD & HEAT RISK TOOL

Flood Risk and Equitable Access to Core Services: Approach

Goal

Understand how flooding impacts access to core services, especially for socially vulnerable populations.

5 Core Service Types

- Fire stations
- Libraries
- Healthcare facilities
- Schools
- Grocery stores

Flood Access Risk (*Road segment network* analysis): Negative impact to accessibility to core services due to flooding.

Community Vulnerability (*Census Tract*): Socioeconomic factors that increase impact of loss of access to core services.

Flood-Impacted Accessibility *Score* (*Census* Tract). Level of impact to accessibility to each core service type due to flooding.

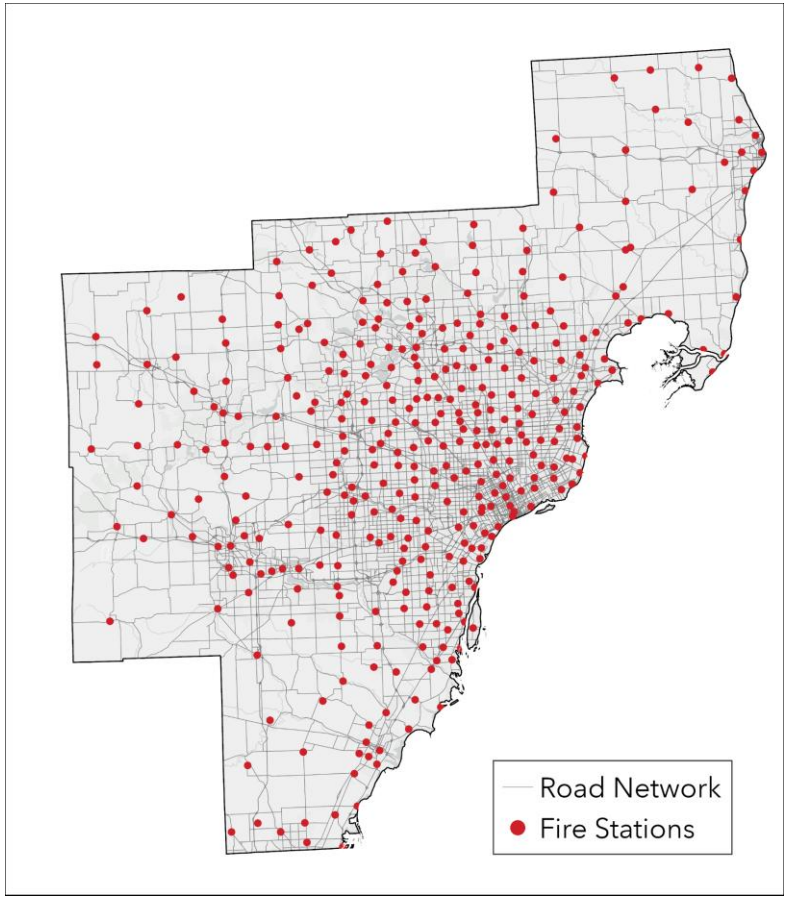
Flood Risk and Equitable Access to Core Services: Approach

What this analysis shows for each core service type:

- Where in the road network access to services is most disrupted by flooding
- Which communities are most impacted

Example: Fire Stations

- The lack of a more robust road network, as well as fewer core service locations, contributes to increased flood-impacted accessibility in rural areas.



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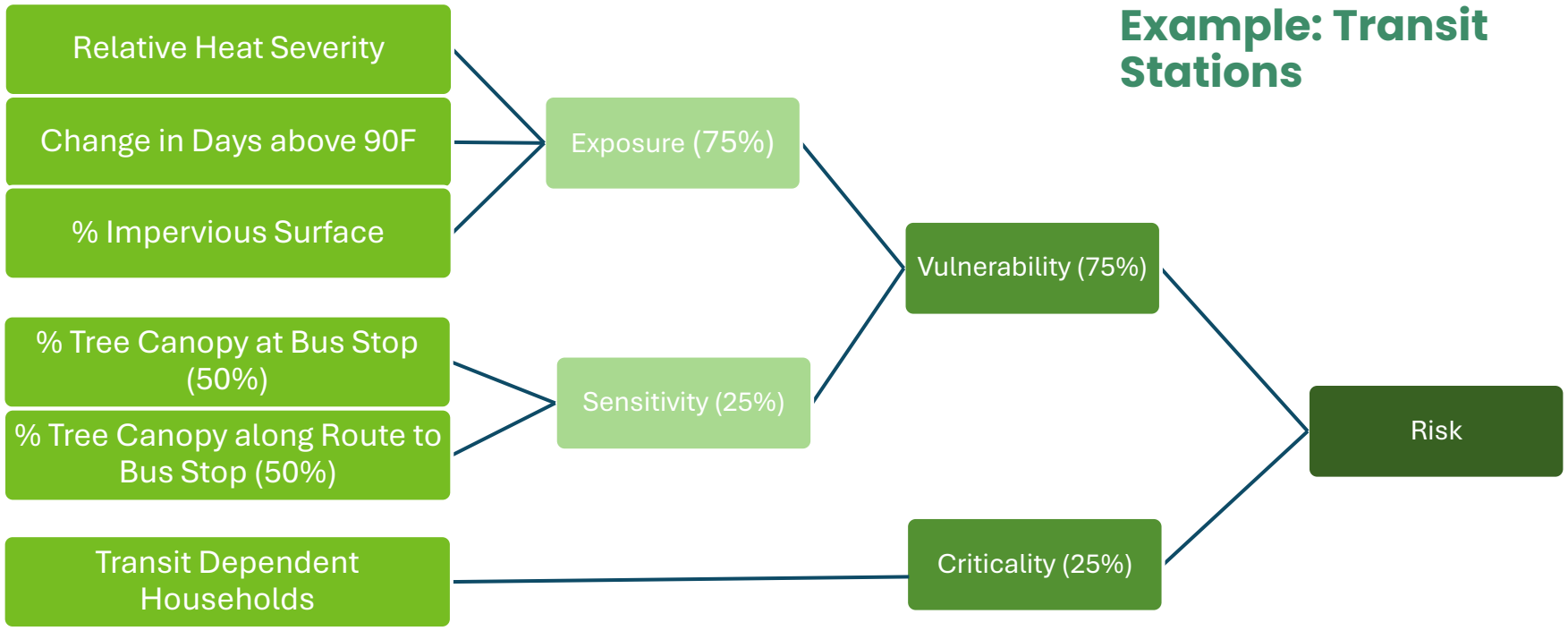
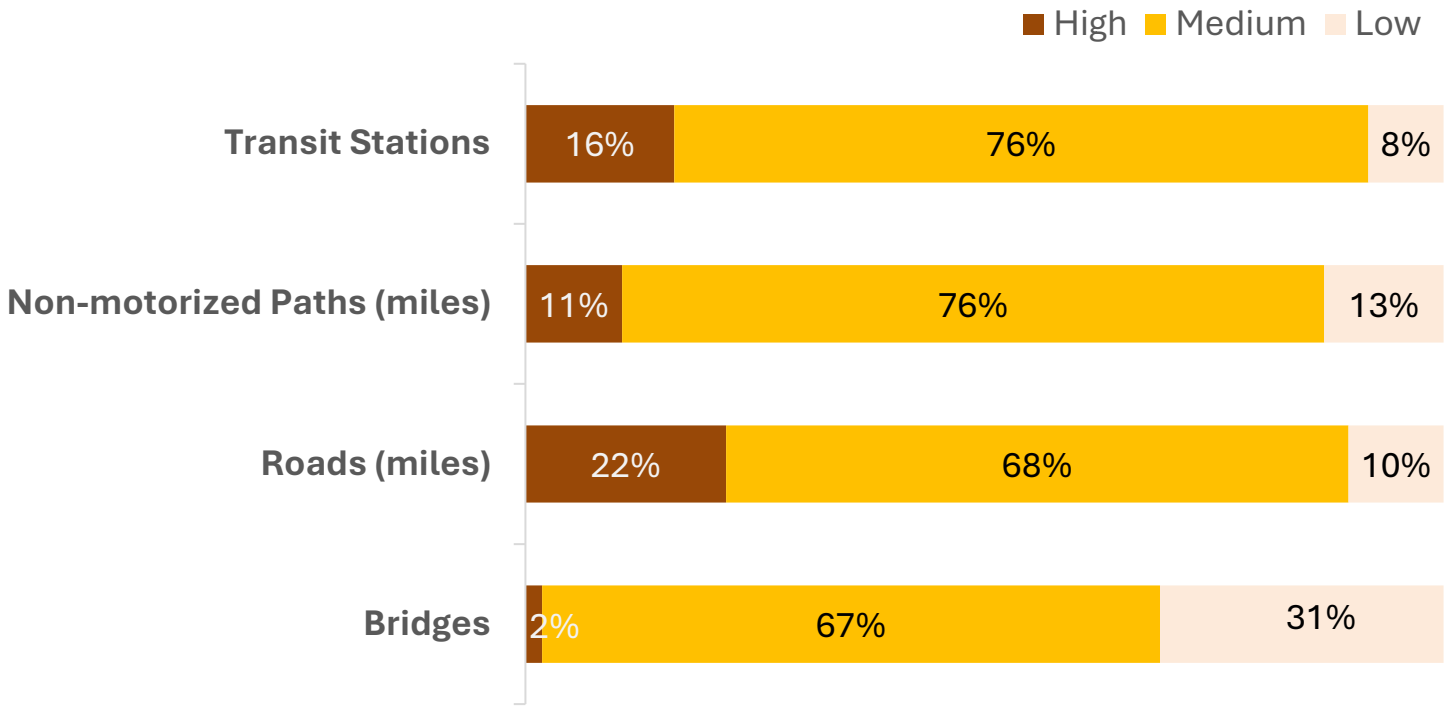


Example: Transit Stations

Heat Risk Assessment: Results

Scope of heat risk to the transportation assets and users in the region



Heat Risk Assessment: Some Takeaways

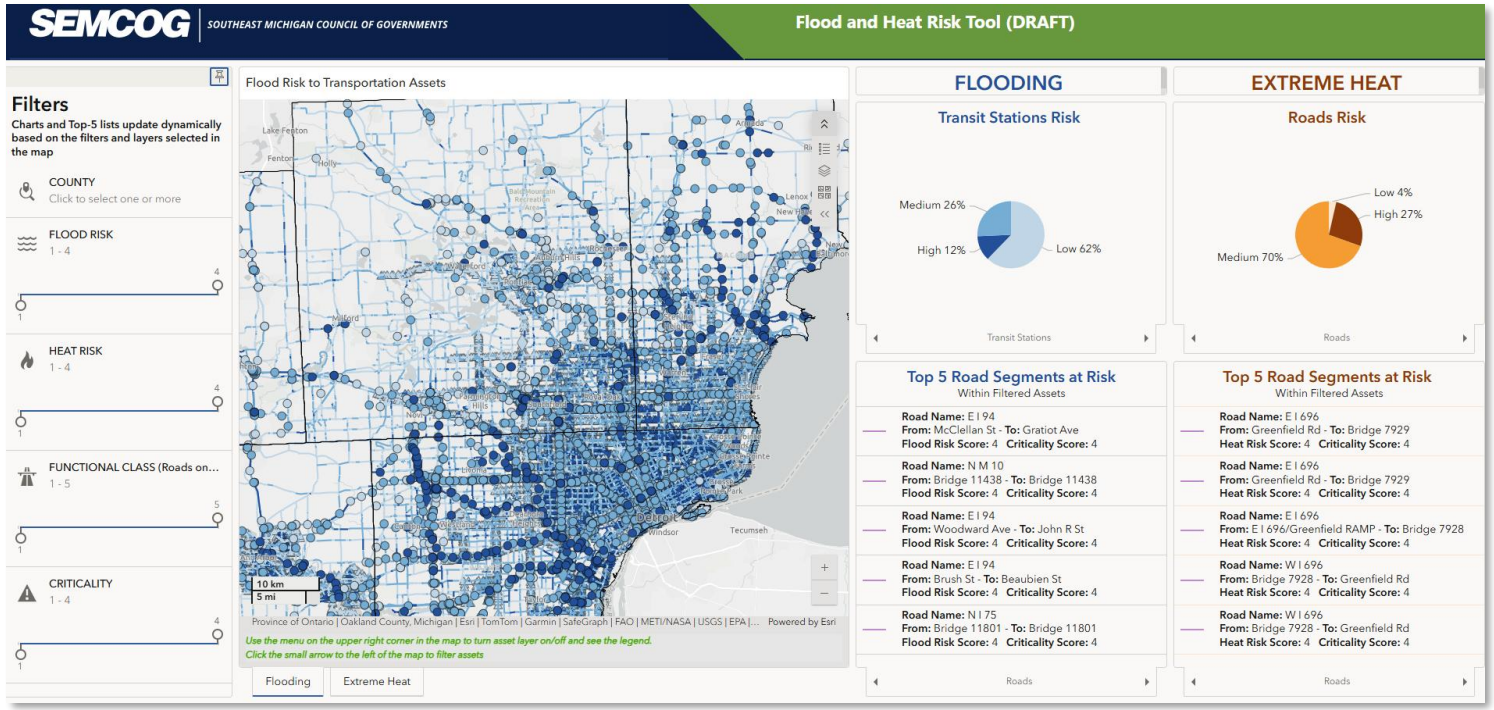
- 139 transit stations serving areas with most transit dependent households have minimal tree canopy and are prone to severe urban heat island effect. Half of these *very* high risk transit stations are in Wayne County
- Nearly 80% of non-motorized paths with high risk are in Washtenaw County

Tool Demo

SEMCOG Flood and Heat Risk Tool

KEY FUNCTIONALITIES

- Separate Flooding and Heat Risk Maps
- Pop-ups with detailed asset-level information
- Summary of risk (H, M, L) for each asset type
- Filters for maps and charts



Flood and Heat Risk Tool: Potential Applications

Informational and decision-support tool

- All stages: project identification, development, evaluation, and selection
- Multiple agencies: SEMCOG, local road agencies, MDOT, local governments and other organizations (e.g. RTA)
- *Example:* For Freight Planning, SEMCOG uses flood risk data alongside commodity data to estimate economic impacts of flooding

Transportation Planning Activities

- ✓ Long-Range Planning and Project Development: Regional Transportation Plan (RTP) and Transportation Improvement Program (TIP)
- ✓ Transit Planning
- ✓ Bike and Pedestrian Planning
- ✓ Freight Planning
- ✓ Equity Analysis

Questions?

First Street Flood Model Dataset

- Includes **pluvial and riverine** modes of flooding
  - Surge in Great Lakes region is not *yet* modeled
- **Mid-century** time horizon (2055)
- Three recurrence intervals considered; more frequent = higher exposure score
  - 20-year or 5% annual-chance
  - 100-year or 1% annual-chance
  - 500-year or 0.2% annual-chance

Discussion

DISCUSSION

- How are you currently using the tool OR where do you see the opportunity to use the assessment data?
- For these use cases, does the tool currently have the functionality you need?
- Is there any support that SEMCOG can provide that would enable effective use of the Tool or the assessment data in another form?

Report Out

Tim Woolley

Mayor of Taylor, Task Force Co-Chair

Resilience Project Solicitation

Upcoming: Resilience Project Solicitation

June 1 – August 28

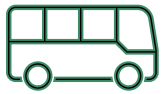
- Objective: Solicit projects for inclusion in the **Flooding & Resilience Plan**, with focus on projects eligible for multiple federal funding source, including PROTECT funding.

Example Project Types

(Slide 1 of 2)

Resilience planning & data-driven decision making

EX: Resilience-focused asset management plans



Transit system resilience

EX: Storm-resistant transit facilities (e.g., bus depots)

Highway & roadway resilience

EX: Pavement materials for extreme weather resistance or cooling

Bridge & tunnel resilience

EX: Scour protection and erosion control

Port, freight, & intermodal resilience

EX: Hardening intermodal facilities (e.g., rail yards)

Example Project Types

(Slide 2 of 2)

Stormwater management (*physical*)

EX: Gray (e.g., pipes) or green (e.g., bioswales)

Stormwater management (*non-physical*)

EX: Stormwater system optimization

Natural infrastructure solutions

EX: Living shorelines and natural flood barriers

ITS* & tech-driven resilience

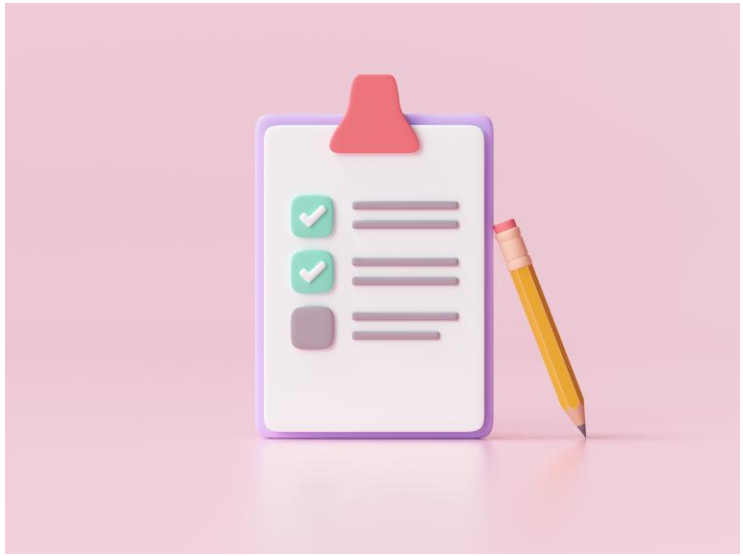
EX: Weather-responsive traffic management

Emergency response & disaster recovery

EX: Backup power and microgrid systems

**Intelligent Transportation Systems*

Resilience Project Solicitation



Project information requested will include:

- Project name and location
- Lead implementing agency and type of agency
- Asset owner (*if different from lead implementing agency*)
- Project type (e.g., highway system, bridge, study or plan)
- Project description
- Hazard(s) addressed
- Extent to which the hazards addressed (*fully or partially*)
- Estimated timeline
- Estimated cost
- Current funding commitments (if any)
- Whether the project is in an existing plan
- Whether the project has been included in a PROTECT application (*and if not, if there is interest to submit*)
- Any additional relevant information

Task Force Next Steps

Send us your Flooding Photos and Videos!

This will help us as we developed education and outreach materials over the next year!

Send photos to:

Jon Clark

SEMCOG Multimedia Specialist II

clark@semcog.org

CENTER FOR SOCIAL SOLUTIONS
UNIVERSITY OF MICHIGAN

SCHOOL FOR ENVIRONMENT AND SUSTAINABILITY
UNIVERSITY OF MICHIGAN

GREEN INFRASTRUCTURE & NATURE-BASED SOLUTIONS

PRACTITIONER INTERVIEWS

We are recruiting infrastructure practitioners (public, private, non-profit, academic) and community leaders in Southeast Michigan for:

- **1.5-hr conversational interviews**; May-September 2026
  - Zoom and in-person available - *we can host or come to you*
- **Focus:** Goals, projects, policies, engagement, impacts, and recommendations for GI/NBS in SE MI
- **$55 honorarium**
- **Scan here** to be contacted for scheduling
- **Contact Julie Arbit** for more info - jlarbit@umich.edu

https://tinyurl.com/4k29ane9

Next Task Force Meeting

- Review the Resilience Project Solicitation Request & brainstorm project ideas
- More in depth discussion on the resilience strategies and how they will feed into the Flooding & Resilience plan

Join us for the Next Meeting!

June 9, 2026
Lunch: 12:30 PM
Meeting: 1 – 3 PM
Location: SEMCOG Offices