

ON TO 2050

# Stormwater and Flooding

ON TO 2050 Strategy Paper

Calumet Stormwater Collaborative

December 2, 2016

# Agenda

- Context of ON TO 2050 Development
- Purpose Stormwater and Flooding Strategy Paper
- GO TO 2040 Recommendations
- Scope of Work
  - Regional Analysis
  - Engagement Strategy
- Next Steps



# ON TO 2050 Plan Development

- Per CMAP Board's direction, build upon the strong foundation that GO TO 2040 provides
- Explore limited new policy areas supportive of CMAP's land use and transportation responsibilities
- Strive for greater specificity in the plan's policies:
  - Through refinement of existing policies
  - Through development of a place-based approach that provides more guidance for implementers

# ON TO 2050 Snapshot Reports

## Snapshot Reports

Data-driven existing conditions and trends analysis summarized in a brief (10-20 pp.) graphical report. Planned topics include:

- **Regional Economy and Clusters**
- **Travel Trends**
- Infill and Transit Oriented Development trends
- Demographic trends
- Freight System trends
- Highway Network and trends
- Transit Network and trends
- Local Governance and Tax Policy trends
- Natural Resources trends
- Non-motorized Transportation trends
- Local Foods

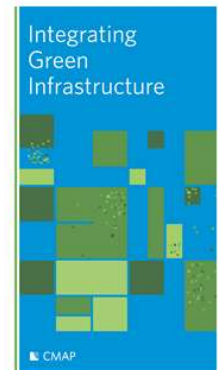


# ON TO 2050 Strategy Papers

## Strategy Papers

Exploration of refinements to GO TO 2040 policies or new policy areas in a medium-length (20-30 pp.) narrative format. Planned topics include:

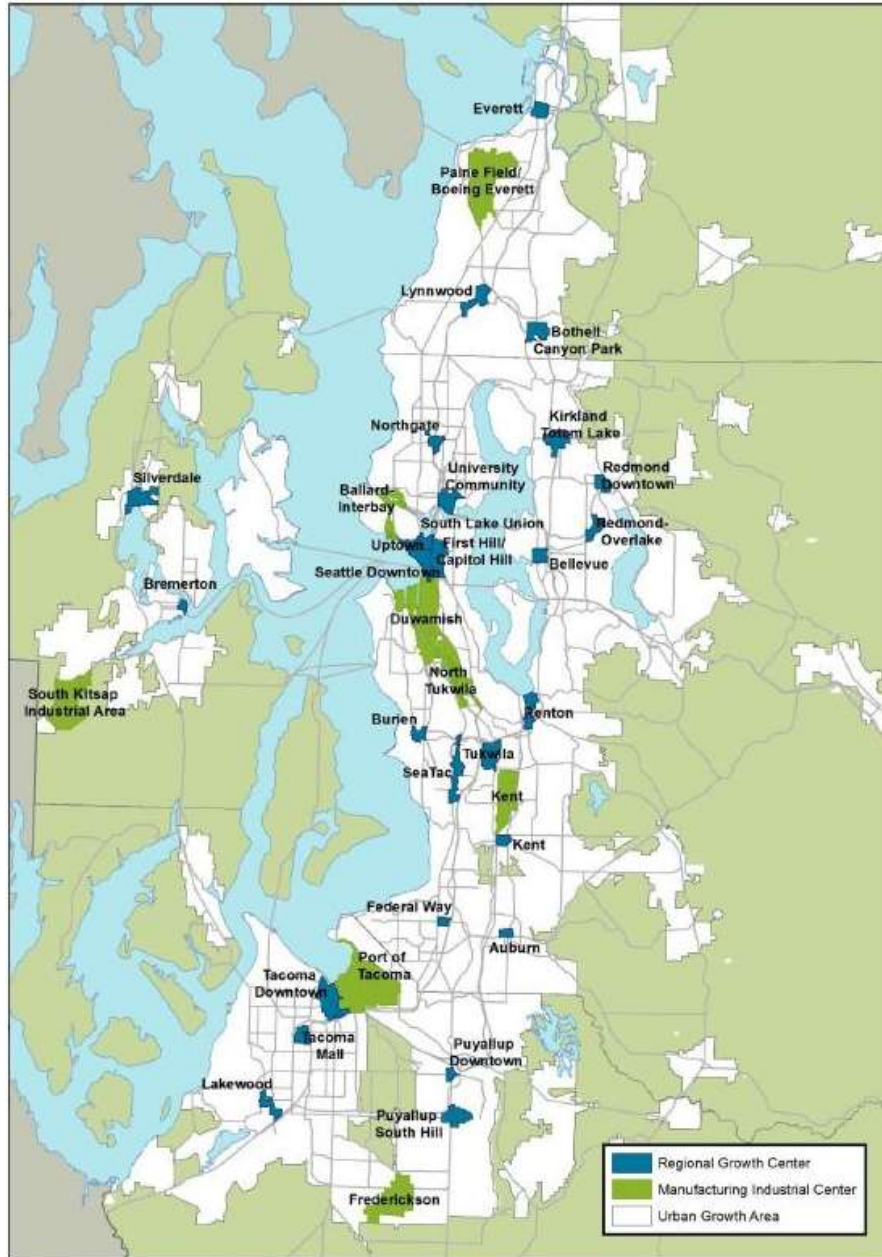
- **Integrating Green Infrastructure**
- **Transportation System Funding Concepts**
- Climate resilience
- Tax policies and land use trends
- Highway operations
- Reinvestment and infill
- Lands in transition
- Transit modernization
- Housing supply and affordability
- Inclusive growth
- Asset management
- Transportation technology
- Community capacity
- Water
- Stormwater and flooding
- Regional economic cluster analysis
- Economic resilience
- Disinvested areas
- Energy
- Public health



## ON TO 2050 Place-based approach

- **Place-based approach:** framework for translating regional plan's policies to recommendations that can be readily taken up by local partners
- **Layers:** a type of place-based approach that uses data layers and mapping, along with relevant recommendations, to provide regional guidance on key topics
- **Target audiences:** may be useful for municipalities, counties, non-profits, civic groups, and transportation agencies

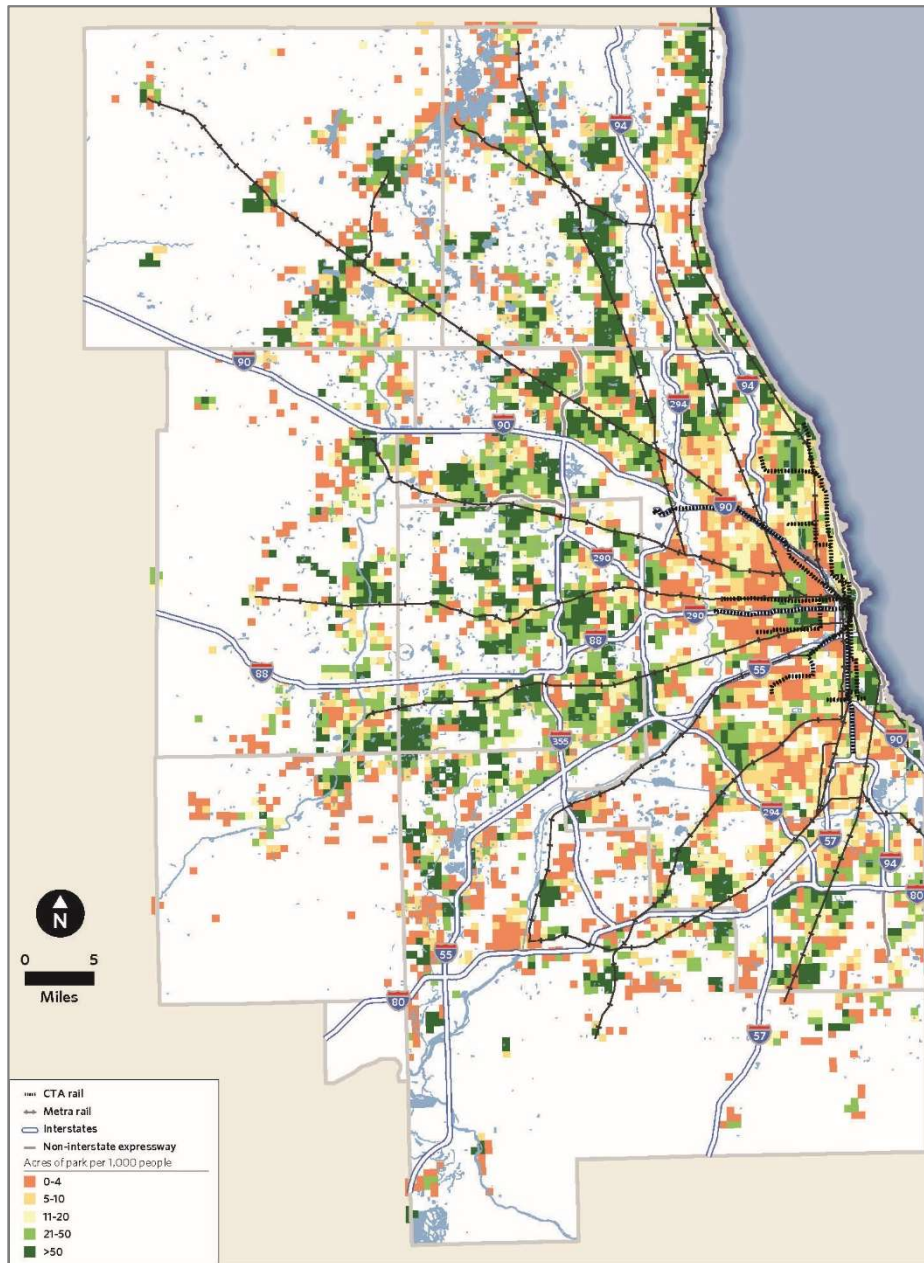
# ON TO 2050 Place-based approach - Examples



**High Priority Reinvestment Areas**  
PSRC Vision 2040

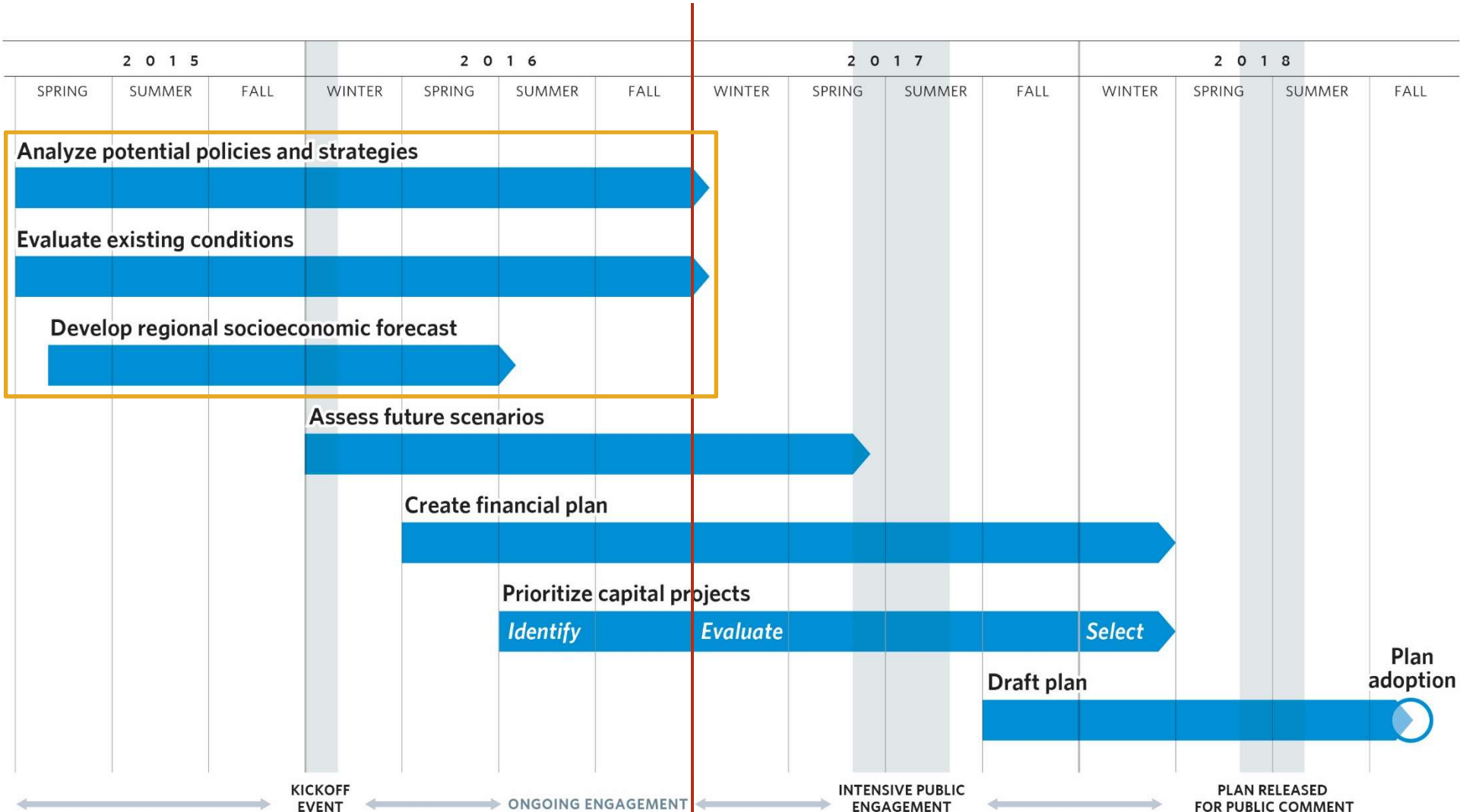
# ON TO 2050 Place-based approach - Examples

**Access to Parks**  
GO TO 2040





# ON TO 2050 Plan Development Timeline



We are here

# Stormwater and Flooding strategy paper

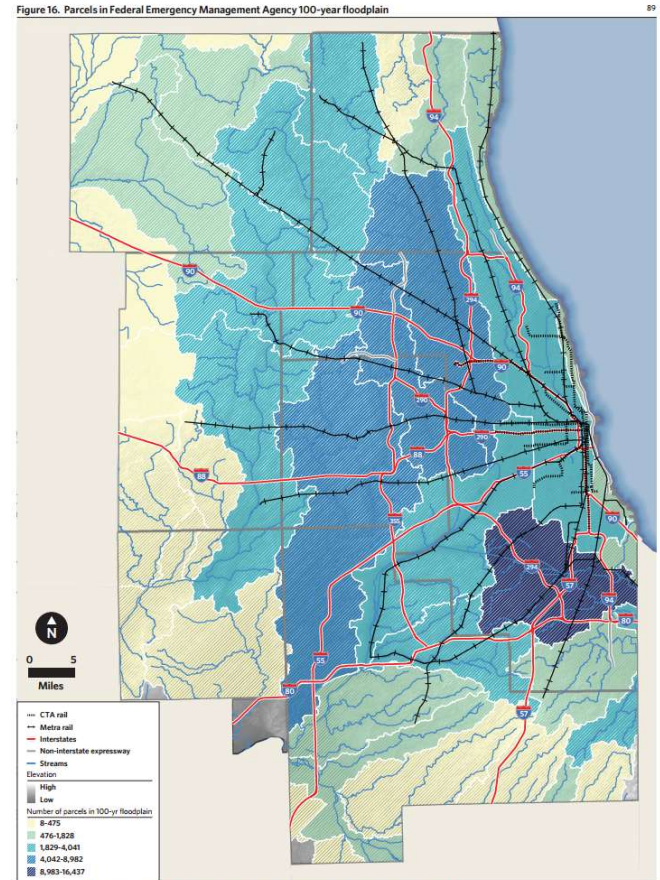
- Integrate a better understanding of the extent and costs of both urban and riverine flooding, as well as how those could grow due to climate change, into ON TO 2050.
- Identify the barriers to effective stormwater management and develop policy approaches to reduce flooding impacts.
- Focus efforts in areas of greatest need in the region.
- Build connections with other policy work being developed for the next plan.



# GO TO 2040 Recommendations

## Integrating land use policies and site planning with water resources.

- Recommends compact development, redevelopment, water conservation, and green infrastructure.
- Sees watershed plans as a mechanism for identifying where retrofits should be located.
- Recommends county stormwater ordinances also reduce runoff volume and promote green infrastructure.
- Develop sources of financing for stormwater retrofits.
- Indicator – acres of impervious surface.
  - 2012: 556,000 acres
  - 2040: No more than 640,000 acres.



# Scope of work

Step 1: Causes and drivers of flooding

Step 2: Existing flooding impacts and extent

Step 3: Existing responses and approaches to stormwater and flood mitigation and prevention

Step 4: Identify barriers to effective stormwater management

Step 5: Building an effective regional response



# Scope of work

## **Step 1: Causes and drivers of flooding**

Qualitative review to establish a core understanding for future recommendations.

- Historical, current, and projected precipitation patterns.
- How the location, design, and extent of development.
- Underlying environmental conditions.

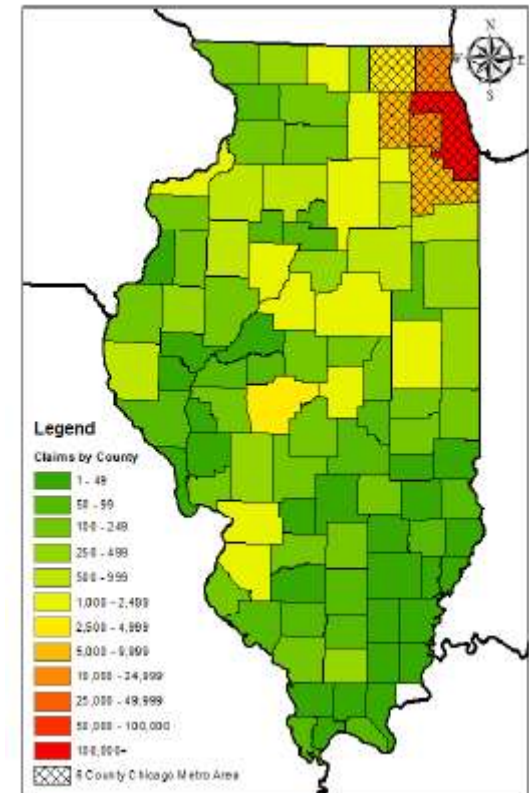


# Scope of work

## Step 2: Existing flooding impacts and extent

Summarize documented damages of flooding.  
Explore impacts where flooding impacts are less well known:

- Transportation
- Open Space
- Vulnerable Populations
- Development
- Water Quality and Supply



# Scope of work

## **Step 3: Existing responses and approaches to stormwater management and flood mitigation and prevention.**

Summarize our current strategies, likely organizing into different categories of response:

- Programmatic and capital
- Regulatory and design
- CMAP and partner policy recommendations



# Scope of work

## **Step 4: Identify barriers to effective stormwater management**

Identify a couple of priority barriers to explore further using literature and peer State and MPO review. *Could* include items like:

- Changing precipitation and static design standards
- Real/perceived barriers to redevelopment
- Community capacity constraints
- Water quality and supply regulations





# Scope of work

## **Step 5: Building an effective regional response**

- Develop a framework to address stormwater management in the next plan.
- Develop a regional analysis that identifies priority areas across the region for flooding mitigation activities.



# Goal of the regional analysis

**Identify priority clusters across the region with the greatest flooding mitigation needs.**

- Connection to the ON TO 2050 place-based approach.
- Identify urban and riverine flooding separately.
- Identify priority clusters across the region.
- Consider future risk from increasing urbanization and changing precipitation.

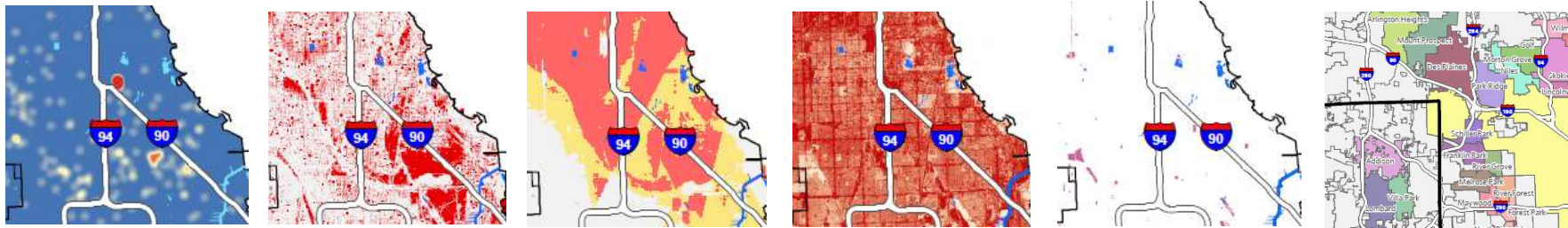
# Potential applications

- Prioritize and inform CMAP local planning work.
- Potential connections to watershed planning efforts.
- ON TO 2050 layers: flood risk, climate vulnerability.
- Could inform open space preservation and/or restoration priorities.
- Potential criteria for partner programs or funding efforts.

# Planning-level stormwater analysis

- Developing with assistance from Conservation Design Forum and Geosyntec.
- Informed by our community level approach with assistance from Hey Associates.
- Using data from Cook, DuPage, and Will Counties so far.
- Scoring unit are ½ mile by ½ mile sections, or subzones
  - +16,000 subzones in the region
  - Connection to CMAP's Socioeconomic Forecast

# Planning-level stormwater analysis



## Variables

1. Reported problem areas via FEMA NFIP claims
2. Non-open space areas intersecting with the Topographic Wetness Index
3. Non-open space properties served by a combined sewer
4. Properties with a mean elevation that is within 6' of the nearest FEMA Base Flood Elevation
5. Impervious Cover
6. Potential Wetland Soils
7. Age of Development
8. *Future: Precipitation changes*
9. *Future: Urbanization increases*

# Engagement strategy

- Utilize the expertise of CMAP's Environment and Natural Resources Working Committee to review deliverables and provide guidance on potential policy recommendations.
- Stakeholder interviews with County Stormwater Agencies, Departments of Transportation, and Forest Preserve Districts, and State Agencies – IDNR, ISWS, and IDOT.
- Stakeholder interviews with the Calumet Stormwater Collaborative, Watershed Groups, and non-profits like the Center for Neighborhood Technology, Illinois Environmental Council, and Delta Institute.
- Part of the overall ON TO 2050 Engagement process.



# Next steps

- **February – Memo 1:** Causes and existing flooding impacts
- **March – Memo 2:** Current responses and priority barriers
- **May – Memo 3:** Approaches to priority barriers and a draft framework
- **June – Draft Strategy Paper**
- **July – Final Strategy Paper**



ON TO 2050

## Comments or Questions

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