

ON TO 2050

Stormwater and Flooding

ON TO 2050 Strategy Paper

CMAP Land Use Working Committee

February 15, 2017

Agenda

- GO TO 2040 Recommendations
- Purpose
- Scope of Work and Initial Findings
- Next Steps

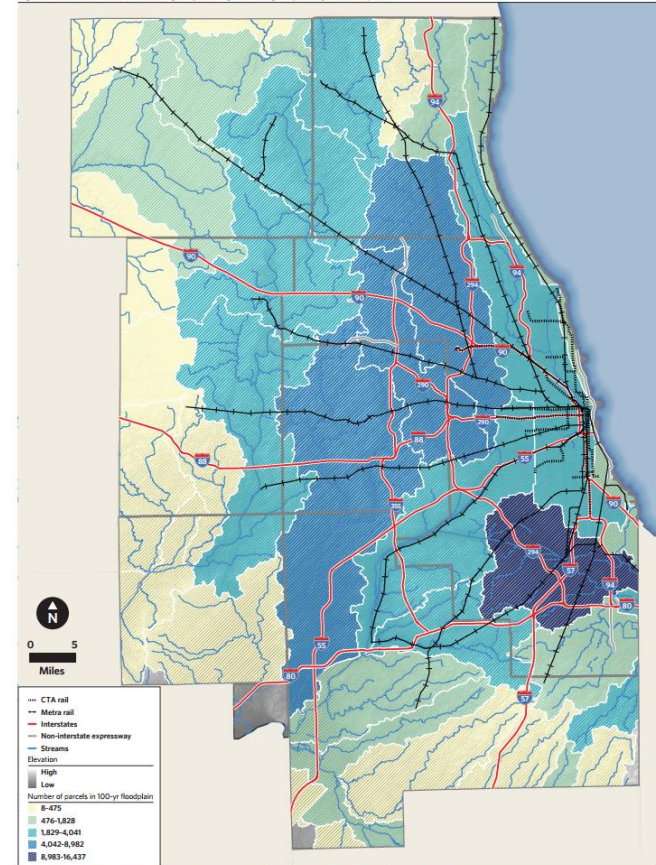


GO TO 2040 Recommendations

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.

Figure 16. Parcels in Federal Emergency Management Agency 100-year floodplain



Purpose

- 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.



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

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



Step 1: Causes and drivers of flooding

Purpose: 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.



Causes of flooding

Causes organized into five main categories:

- Environmental conditions
- Climate change
- Regulatory structure
- Development extent and location
- Stormwater system design and maintenance



Causes of flooding

Environmental conditions

- Flat topography
- Saturated or poorly drained soils and high groundwater table

Climate change

- Increased frequency and intensity of storm events
- Reduced soil capacity from increases in temperatures and drought
- Increases in winter rain and denser, heavier snow

Regulatory structure

- Favors standardized approach
- Outdated floodplain boundaries
- Static precipitation design standards



Causes of flooding

Development extent and location

- Increased impervious cover
- Lack of coordination and expertise in development process
- Development in the floodplain
- Development in saturated or poorly drained soils and areas with high groundwater table

Stormwater system design and maintenance

- Legacy of conveyance designs
- Reduced vegetated groundcover and compacted soils
- Inadequate design capacity and maintenance



Drivers that perpetuate flooding

Drivers that perpetuate flooding

- Implementation depends on redevelopment
- Lack of adequate information
- Subsidized flood insurance



Step 2: Existing flooding impacts and extent

Purpose: Summarize documented damages of flooding and explore where flooding impacts are less widely known:

- Findings of the Urban Flooding Awareness Act
- Buildings, Neighborhoods, and Vulnerable Populations
- Water Resources
- Parks and Open Space

Follow-up Memo:

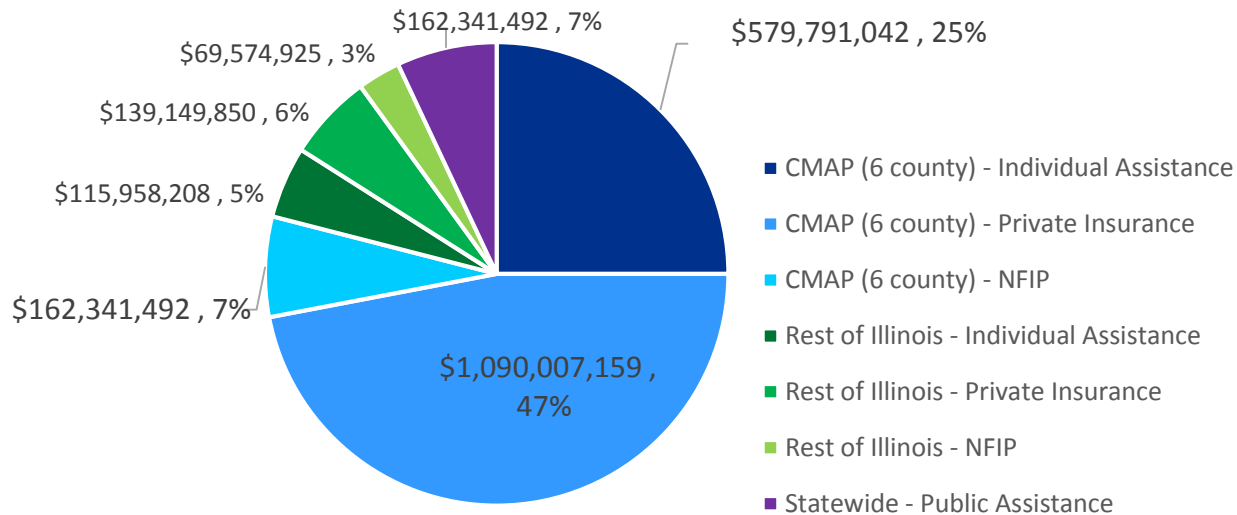
- Transportation Impacts
- Analyze NFIP, FEMA, and SBA data within Chicago Region
- Explore geography of damages in relation to socioeconomic and demographic factors



Step 2: Existing flooding impacts and extent

- Findings of the Urban Flooding Awareness Act
 - Statewide: \$2.319 billion in damages between 2007-2014.
 - 6-county region: 85%, or 1.975 billion
 - Majority of payments connected to 5 specific storm events
 - 90% of claims were outside of the mapped floodplain.

Total insurance and disaster relief payouts by claim type and region for the State of Illinois, 2007-2014.



Step 2: Existing flooding impacts and extent

- Buildings, Neighborhoods, and Vulnerable Populations
 - Decreased property values
 - Increased maintenance and repair costs
 - Increased foreclosures, vacancies, and disinvestment
 - Decline in health and quality of life
- Water Resources
 - Delivers pollutants
 - Alters hydrology and reduces infiltration
 - Overwhelms capacity of storm and wastewater infrastructure
 - Counts against Lake Michigan allocation



Step 2: Existing flooding impacts and extent

- Parks and Open Space
 - Exacerbate invasive species and increase restoration demands
 - Increase erosion and sedimentation
 - Reduce recreation opportunities
 - Stormwater issues on adjacent properties



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



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



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.



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

- **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**



Comments or Questions

Nora June Beck

nbeck@cmap.illinois.gov

312-386-8677