

**Urban Flooding in the United States  
Workshop  
Kimpton Hotel Allegro  
Chicago, Illinois  
September 19, 2017**

**WORKING GROUP REPORTS**

The themes for each working group were identified by the committee. The bulleted points from participants, which were not edited by the committee and are not in priority order, are presented below.

**Physical Group**

Chronic Flooding: Where, When, and Impacts?

- Overbank flooding is becoming more prevalent because of more frequent extreme events in Chicago. What used to be an extreme event is becoming more of a frequent event
- Not in the floodplain. Very lot-specific: flow from downspouts, grading issues on site, soil conditions
- Combined sewer systems cause backups into basements
- Poor soils: clay soil for most part, sandy near lake

Defining Precipitation and Flooding Events

- Define events using some other system than 100 year return periods. Suggest using categories like hurricanes, which can be framed to have a holistic meaning that includes both intensity and duration, discharge and volume

Blue-Green Infrastructure

- Need a holistic approach involving many types of structures:
  - Tunnels, pipes (grey)
  - Green infrastructure
  - Blue infrastructure (storage cisterns, rain barrels)
- Monitoring flow and water quality at 2 schools and comparing results with completely impervious area nearby
- Transparency is key. Data can bail us out. Most know risks before buying properties. Post maps on the web

**Social Group**

What are the Impacts?

- Economic
- Health: physical, mental

- Life disruption
- Opportunity cost of time lost to recovery
- Unaddressed and unreported impacts
- Loss of identity
- Business inventory and workers
- Trust
- Blame: nature (acute) vs. government and homeowners (chronic)

#### Who is Impacted?

- Income: fixed, low
- Residents of older neighborhoods
- Immigrants and refugees: language, trust, familiarity
- Local homeowners
- Children: health, play spaces
- Gender: roles
- Race: wealth percent in homes, local official priorities, community fragmentation, fewer champions

#### Barriers

- Lack of awareness
  - Public officials
  - Residents
- More focus on response and recovery than prevention
- Insurance premiums increase with claims
- Mapping: lack of storm water mapping, ground truthing existing maps
- Willingness of organizations to share and collaborate
- Need champions: dedicated, long-term, brave

#### Opportunities and Resources

- Incentives to change development patterns
- Connector organizations
- City alert system: how much, where, actions
- Faith based organizations
- Emphasize co-benefits of environmental improvements

#### Information Group

##### Capturing Risk

- Lack of gradation: dichotomous decisions divorced from reality
- Need other indicators that more fully account for risk and impact
- Need a more holistic view that considers other factors (e.g., transportation, 311, soils)

## Using Data

- Need a diversity of data
- Need to go beyond a pure riverine focus to better capture impacts
- Using data to inform action
- Better messaging to individuals across a diversity of sectors
- Better data development and sharing
- How to transform data to be meaningful; not just data dumping

## Integrating Solutions

- Need better tools: early warning systems
- Dynamic solutions, get away from boundaries and dichotomies
- Need to break down silos and think more regionally (across boundaries) and holistically
- Plan and policy integration needed with support of targeted data analysis
- Grey and green infrastructure integration
- Upstream-downstream issues: unintended development consequences. Need multiscale initiatives

## Tracking Social and Health Issues

- Examine historical data and trends
- Consider social vulnerability characteristics (e.g., health insurance, pharmacy sales)
- Indirect impacts and externalities (e.g., educational impacts) over time.

## Action and Decision Making Group

- Incentivize dedicated storm water management revenue streams
- Support for rain-ready plan development
- Broaden awareness of rain-related urban flooding risk, drainage, mitigation (“Smokey Bear”)
- Access to community data on urban flooding risk beyond the 100-year floodplain (e.g., insurance claims information)
- Federal Highway Administration design standards taking into account storm water management