

COLLABORATING TO REDUCE URBAN FLOOD RISK IN ONTARIO

Webinar meeting, October 17th, 2017

AGENDA

1. Overview of Collective Impact initiative
2. Identifying priority actions to reduce flood risk – stakeholder interviews
3. Commonly identified themes
4. Next steps

POLL

What sector do you represent?

COLLECTIVE IMPACT: REDUCE URBAN FLOOD RISK IN ONTARIO

- August 2017- January 2019 – funding from Ontario Trillium Foundation
- Theory of change – what is the desired outcome, and what are the pathways to getting there?
- Collective action plan – who needs to do what, where are there gaps, where are there opportunities for collaboration, and how will it all be funded?
- Shared measurement framework – how will we measure our progress?

OUR DEFINITION OF URBAN FLOODING

- Sewer backup
- Overland flooding (away from waterbodies)
- Sewer overflows



PRIORITY ACTIONS TO REDUCE FLOOD RISK

STAKEHOLDER INTERVIEWS

- Partners for Action
- Institute for Catastrophic Loss Reduction
- University of Guelph
- Credit Valley Conservation
- Lake Simcoe and Region Conservation Authority
- Cole Engineering
- Jean Francois Sabourin and Associates
- Public Safety Canada
- Sean James Consulting
- AVESI Stormwater
- Your Healthy House
- Venni Gardens
- Homeowners
- Ontario Association of Landscape Architects
- ReWild – Ontario Water Centre
- Ontario Parks Association
- Insurance Bureau of Canada
- Town of Newmarket
- City of London
- City of Markham
- City of Mississauga
- City of Ottawa
- CREW
- Ducks Unlimited
- Rain Grid
- Stantec Consulting Ltd.
- Citizens Environmental Alliance

MISSING PERSPECTIVES

- People who have experienced flooding
- Smaller municipalities
- First Nations
- Public Health
- Province
- Other?

AVENUES TO REDUCE FLOOD RISK



AVENUES TO REDUCE FLOOD RISK



PROPERTY LEVEL

- Reducing the risk of water entering the home/building:
 - Lot grading
 - downspouts away from foundation
 - backwater valves
 - sump pump backup
 - disconnected weeping tiles/downspouts from sanitary sewers
 - maintaining sewer laterals
- Reducing damages
 - Safe storage of basement possessions
 - Insurance coverage
 - Emergency preparedness
 - Safe disposal of damaged goods
 - Rebuilding back better



NEIGHBOURHOOD LEVEL

- Preventing water from entering buildings:
 - Property level actions
 - Understanding influence of neighbouring properties on each other
 - Limiting/reducing impervious surface
 - Maintaining/creating overland flow routes
 - Upgrading stormwater systems
 - Reducing inflow and infiltration
- Reducing damage:
 - Property-level actions
 - Community resilience hubs



WATERSHED LEVEL

- Holding back water upstream – wetlands, ponds, forests
- Increasing overall permeability, reducing runoff volumes
- Neighbourhood-level actions in areas that don't experience flooding but which impact those that do
- Limiting development in flood plains/buying up vulnerable properties



Photo credit: TRCA

KEY THEMES

NEED FOR COLLABORATION: MUNICIPALITIES

- Departments within municipalities:
 - Stormwater
 - Wastewater
 - Parks
 - Roads
 - Public works
 - Emergency management
- Upper and lower tier municipalities (wastewater, stormwater)

NEED FOR COLLABORATION: MUNICIPALITIES AND CONSERVATION AUTHORITIES

- Urban vs riverine flooding
- Municipal infrastructure and watershed impacts
- Different modeling practices
- Who gets the phone calls?



NEED FOR COLLABORATION: INSURANCE, FEDS, MUNICIPALITIES, PUBLIC

- Insurance vs Federal Disaster Assistance - who pays out in an emergency?
- Insurance companies are beginning to offer overland flood insurance, but not affordable for those in high risk areas
- Municipalities encouraged to take action to reduce flood risk (National Disaster Mitigation Fund)
- Public needs to buy in and purchase flood insurance if it is offered

NEED FOR BETTER PUBLIC UNDERSTANDING

- Stormwater and wastewater – how these systems work
- Different types of flooding, who is at risk
- What insurance does and does not cover
- Benefits of reducing impervious surface and managing rain where it falls
- What measures can be taken to reduce flood risk at a property level and how to implement them
- What measures can be taken to reduce flood risk at a broader level and how to implement them

INCORPORATING LOCAL KNOWLEDGE

- How do you engage with people on the ground to find out what they know about how/when flooding occurs
- What do people care about? What level of flood risk is acceptable?



Photo credit: <http://windsorite.ca/2015/05/photos-essex-county-floods/>

GREEN INFRASTRUCTURE AND FLOODING

- What is the connection between reducing runoff volumes and flood control?
- How will intensification impact flooding?
- How to value the contributions of natural infrastructure?

	Water balance	Water quality	Flood Control
Low Impact Development	✓	✓	?
Grey infrastructure	✗	?	✓

IDENTIFYING AREAS AT RISK

- Updating flood plain maps – incorporating urban flood risk as well as riverine, standardized approach
- Flood plain maps as more than just a planning tool
- How to prioritize focus areas fairly and accurately according to risk level?
- Stigma around identifying high risk areas – property values, insurance

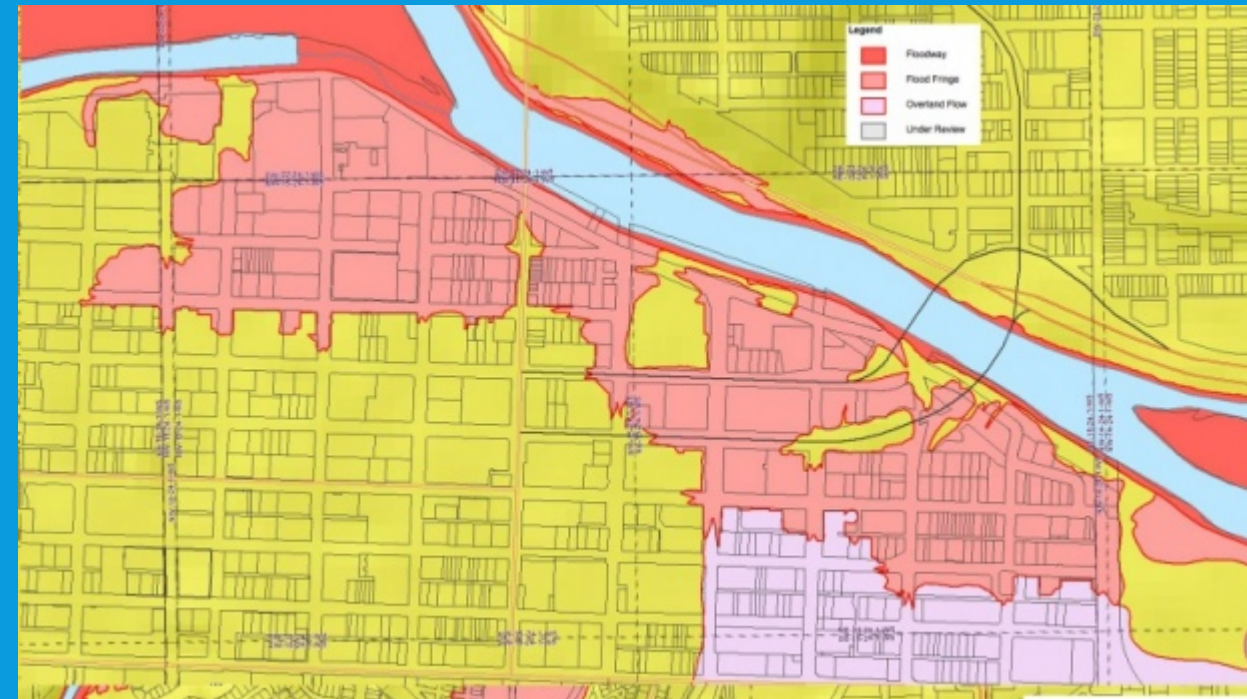


Image source:
<http://www.cbc.ca/news/canada/calgary/no-flood-insurance-without-new-maps-say-ceos-1.1855255>

TAKING ACTION ON PRIVATE PROPERTY

- Current incentives are not working – basement flood subsidies, weeping tile disconnection, green infrastructure
- How to ensure uptake in the areas of greatest need, and that practices are installed correctly and maintained?
- Utility model for stormwater



Photo credit: Windfall Ecology Centre

OTHER

- Current systems encourage standard approaches and limit innovation
 - Municipal procurement policies
 - Re-building the same way after floods
- Inlet control devices - not installed by some municipalities because maintenance workers don't know how to manage them
- Backflow prevention failures due to lack of maintenance, oil and grease
- Green infrastructure – who will conduct maintenance?
- Funding – implementation of stormwater user fees
- Climate change – impacts currently being felt. What will the future bring?

DISCUSSION

- Flood risk reduction actions that were missed?
- Other stakeholders to bring in?
- Other important challenges/gaps?



Photo credit: City of Cuyahoga Falls
<http://nrcsolutions.org/cuyahoga-falls-ohio/>

TOWARDS A THEORY OF CHANGE

ADDITIONAL OUTREACH

- Facebook group to engage the public on flood prevention, experiences of flooding
- Online survey, additional interviews
- Engage with others not yet included in the conversation

OPPORTUNITIES FOR PARTICIPATION

- Read and comment on circulated discussion document (early Nov 2017)
- In person session to draft Theory of Change – Late Nov 2017 (15-20 key stakeholders)
- Early 2018 – larger in person session to share current, planned activities, form working groups, identify gaps, opportunities for collaboration
- Leadership committee – guide the process, help with agenda-setting, feedback on documents before circulation

THANK YOU!

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Thanks to



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