



Understanding Risk

British Columbia

URBCx FALL 2021 | Challenges and Opportunities Associated with Development in Hazardous Areas in BC

PROGRAM: Regional Resilience Roundtable: October 7th, 2021

**Please note all times are approximate and program is subject to change*

9am: Welcome, Reflections, Context

With Carleen Thomas (Tsleil-Waututh Nation), Josie Osbourne (Minister, MUNI), Jessica Shoubridge (URBC Program Lead 2016-present) & Erica Crawford (SHIFT Collaborative)

9:30am: Ignite Talks: Understanding, Analyzing and Communicating Risk

- *Quantifying Vertical Land Movement for Floodplain Planning - the City of Vancouver Floodplain Subsidence Study (Tiffany Kang, City of Vancouver)*
Vertical crustal movement, or land subsidence, threatens to exacerbate existing and future flood risk within Vancouver's floodplains by increasing relative sea level rise. The City of Vancouver is pursuing a study which utilizes innovative ground motion monitoring methods to quantify subsidence and inform planning and policy within its major floodplains.
- *Earthquake Risk and Resilience in Vancouver's West End (Stephanie Chang & Carlos Molina Hutt, UBC)*
Learn about the evolution of understanding seismic risk and resilience opportunities in the West End neighbourhood. Recent advances include modeling basin amplification effects on shaking, analyzing performance of older, tall concrete buildings, and identifying opportunities to address social vulnerability and housing needs.
- *A Story About Kwantlen First Nation's flood Risk (Carla Hanson, Kwantlen First Nation)*
This story is about the journey of understanding and managing flood risk for the Kwantlen First Nation, who primarily reside on McMillan Island in the Fraser River. The mighty Fraser is both a powerful and dangerous friend, providing a sustaining source of life for Kwantlen First Nation and a threat to their very existence. This is a story of a people who work endlessly to keep safe the community, animals, land and culture they have cared for since time Immemorial.
- *Modernizing our Approach to Flood Risk Reduction - the BC Flood Strategy (Andrew Giles, FLNRORD, BC Government)*
The Province is currently working with First Nations, local governments and a wide range of partners to have a close look at how we can better reduce flood risk together. The BC Flood Strategy articulates a vision, principles, and key outcomes for flood management. This session





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provides a quick snapshot of the discussion paper, the engagement currently underway, and how the Strategy could support new approaches to address development in hazardous areas.

- *Improving our Regional Understanding of Seismic Hazard: The Metro Vancouver Seismic Microzonation Mapping Project* (Meredith Fyfe & Sheri Molnar, University of Western Ontario) Hear an update on the Metro Vancouver seismic zonation mapping project and the progress of regional shaking (amplification), liquefaction and landslide hazard maps. Hear also of the challenges and successes of engagement with stakeholders and end users over the past four years.

Q and A

10:30am Fireside Chat: *Evaluating Risk Tolerance, Examples from Practice in BC*

Moderated by **Jessica Shoubridge** (URBC, Thrive Consulting), With **Kris Holm** (BGC), **Fiona Dercole** (RDEK), **Dan Oprescu** and **Franziska Niegemann** (BCFSA)

Be a part of the dialogue regarding how natural hazard risk is analyzed and evaluated in BC. What is the role for community-based risk tolerance? What is the role for regional and senior governments to play? What about financiers?

11:10am Break

11:20am: Ignite Talks: Reducing Risk and Building Resilience

FOCUS ON LAND USE & ACQUISITIONS

- *Regional Growth Strategy Update: Taking Steps Towards Resilience in Metro 2050* (Edward Nichol, Metro Vancouver)
Metro Vancouver is updating Metro Vancouver 2040: Shaping our Future (Metro 2040), the regional growth strategy – a tool to collectively manage regional growth; prevent urban sprawl; protect important lands; support the development of complete and resilient communities; and enable the efficient provision of urban infrastructure such as utilities and transit. This presentation outlines some of the new proposed policy directions related to resilience in the current draft of Metro 2050.





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- *Flood Resilience Through Planning and Development* (Frances Woo, Fraser Basin Council)
The Lower Mainland Flood Management Strategy aims to advance a variety of approaches to reduce flood risks, including through planning and development practices. Some of the relevant challenges and opportunities identified through this initiative will be presented.
- *Incorporating Hazard Risk at Various Scales within the City of Vancouver* (Tamsin Mills, City of Vancouver)
The City of Vancouver is improving hazard resilience at a range of scales and due to a range of drivers from opportunistic to planned. Collaboration with BC Housing, the Health Authorities and others have been integral to the work. Moving forward, how do we better integrate across scales and across hazards?
- *Integrating Risk in Developer Acquisition Strategies* (Jeff Fisher, UDI)
What are the many risk factors that developers consider in buying, selling and developing land? How are they factoring in climate risk and what are their financiers asking of them with regards to risk?

Q and A

11:45am Break

FOCUS ON BUILDINGS & INFRASTRUCTURE

- *Hazard and Risk Integration in a Climate Changed World* (Jessica Woolliams, BC Housing)
Jessica will speak to the reality that much of BC became a hazardous area in the summer of 2021. She will address this summer's extreme heat and its impact on BC Housing's buildings and residents, give an overview of the Mobilizing Building Adaptation & Resilience (MBAR) initiative and some past and current pilot projects that are being used to develop industry capacity and knowledge in BC.
- *Is Life Safety Performance for Earthquakes Good Enough? Learning from the Evolution of Building Codes and BC Schools Seismic Mitigation Program (SMP)* (John Sherstobitoff, Ausenco/NBCC Committee Member/SMP Member)
There is a long history of addressing earthquake hazard in national and provincial codes via provisions to reduce risk. After Christchurch, there was a poignant moment of public awareness that these codes for new buildings were only providing life safety performance, not functionality performance, after a 'code level' earthquake. How do we build better performing new buildings, as well as learn from decades of experience in seismic retrofitting and reducing risk in existing buildings in BC? Can we apply these lessons learned to other hazards and climate risks?





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- *Eliminate the Noise: Application of Climate Risk Assessment Tools to Canadian Infrastructure* (Aline Bennett, WSP)
Changes to climate are impacting infrastructure across the country. This presentation will discuss climate risk assessment tools to help understand the infrastructure, understand the impacts and eliminate the noise posed by the overwhelming challenge of climate change.
- *Developing New Tools and Guidance for Coastal Flood Risk Management through Partnership* (Enda Murphy, NRC)
Climate change is creating challenges and opportunities for managing risks associated with coastal flooding and erosion, particularly in areas with entrenched development. Enda will speak about recent and ongoing collaborative research at NRC with partners in government, academia, private/non-profit sectors and communities, which aims to develop knowledge, tools and guidance to help with tackling these challenges and seizing opportunities.

Q and A

12:35pm Fireside Chat: Real Estate and Climate Change – Come Hell or High Water

Moderated by **Matt Strand** (QuadReal Property Group), With: **Tamsin Lyle** (Ebbwater), **Chris Chopik** (Sotheby's), **Anton Tabun**, (Manifest Climate)

This panel will explore the way in which climate change is impacting real estate in Canada and globally. During this discussion we will discuss the importance of climate risk disclosure, the importance of uniform and consistent data, and who ultimately bears the legal responsibility for the financial cost of climate change impacts.

1:15pm Break

1:20pm: Ignite Talks: Finance, Funding & Incentivization

- *Resilience Incentivization: Shared Benefits/Shared Investment* (Evan Reis, USRC)
Investments in building resilience benefit owners, tenants, lenders, insurers, and communities. With engineering tools that can quantify building performance in natural hazard events, we can create a win-win outcome by encouraging shared investment in resilience by all stakeholders who will receive its benefits.





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- *Evolving Methods for Quantifying Financial Impacts of Physical Climate Risks in Infrastructure* (William Philips, Mott MacDonald)
This talk will highlight issues with how climate risk in infrastructure finance is currently addressed. In the not too distant future, infrastructure investors and insurance providers will require disclosure of exposure to physical climate risk. This will change the way BC builds, maintains, repairs and invests in infrastructure. Physical climate risk is dynamic but quantifiable. Our current methods for evaluating risk need to change.
- *Emerging Issues in the Insurance Industry* (Rob DePruis, IBC)
The insurance industry is evolving to find ways to better protect home and business owners. What is the current state of the industry, are there any emerging trends and how could a national flood program assist in this process.
- *Growing a Resilient Green Property Bond Market* (Ujala Qadir, Climate Bonds Initiative)
In just over a decade, the fledgling green bond market has matured into one of the biggest innovations in sustainable finance. Yet only a fraction of the USD 1 trillion cumulative issuance has been used to finance projects that address resilience. With global sustainable investment growing at a double-digit rate, we cannot allow another decade to pass before harnessing the momentum of the green bond market to mobilise trillions of dollars for a more resilient society. The buildings sector represents the second largest sector in the green bond sector, yet the vast majority of these are focused on emissions reductions. How can we ensure that this growing segment of the green bond also addresses resilience?

Q and A

2pm Break

2:10pm Fireside Chat: *Advancing the Incentivization Agenda via Enhanced Collaboration*

Moderated by **Jessica Shoubridge** (URBC, Thrive Consulting), With: **Evan Reis** (USRC), **Kris Holm** (BGC), **Emily Dicken** (NSEM), **Fiona Dercole** (RDEK)

How do we better collaborate across this science-policy-action spectrum over time in BC? From understanding risk and managing data more effectively to reducing risk by applying incentives that will scale up risk reduction and resilience measured to match the rate and scale of risks- what are





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the critical path moves to advance the incentivization agenda and shift patterns of development in hazardous areas?

2:50pm: Closing, Next Steps & Gratitude

Have an idea or suggestion for URBC 2022/23? Please be in touch anytime jessica@thriveconsulting.me

