



Earthquake Resilient Cities

Using the Earthquake Risk Profile to Plan Resilient Communities


Karolina Pol, Policy Advisor, Natural Resources Canada
URBC Symposium
Ignite Talk
November 2, 2020



November 2, 2050...



November 2, 2050...



**8.2 magnitude
earthquake hits
the West Coast of
Canada**



Downtown Vancouver after the 8.2 magnitude earthquake

Robson Square, Vancouver. Photo credit: Karolina Pol.

November 2, 2020...

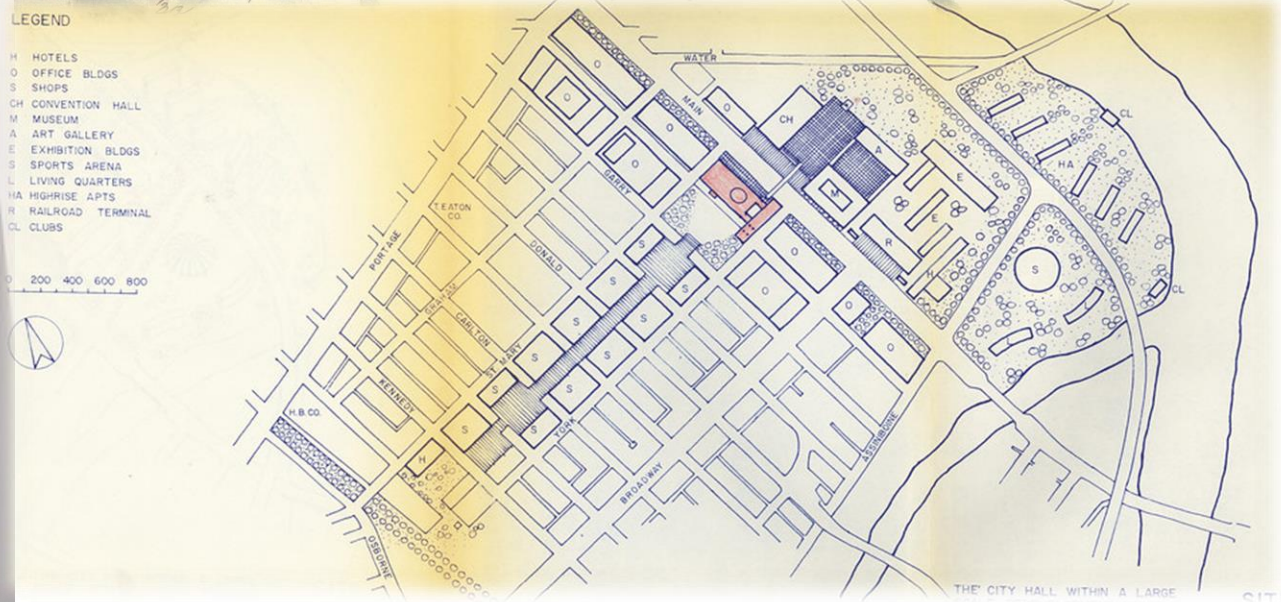
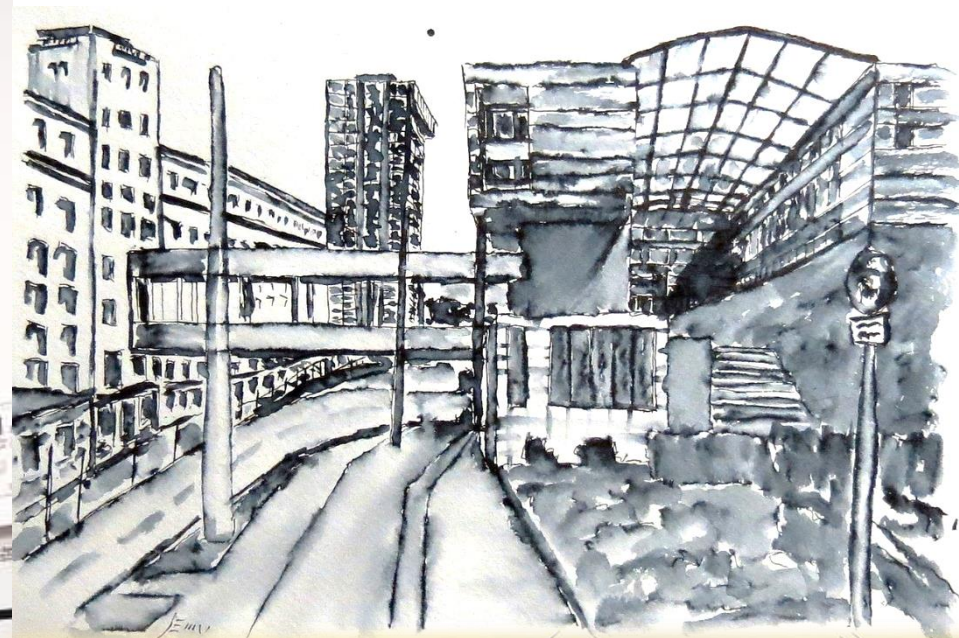


**Back to the
present**

New Perspectives



Emily Carr University, Service Design. Photo credit: Karolina Pol.



City of Winnipeg Land Use Plan. Photo credit: Winnipeg Archives.

Why community planning?

**Mitigation Ideas:
A Resource for Reducing Risk to
Hazards**
(FEMA, 2013)

Half of mitigation ideas for earthquakes involve:

- Building code adoption
- Land use and development decisions
- Addressing community vulnerability



Making Cities Resilient 2030, UN Office for Disaster and Risk Reduction



Making Cities Resilient 2030, UN Office for Disaster and Risk Reduction

4,360 cities
are getting ready, what about yours?

Making Cities Resilient 2030, UN Office for Disaster and Risk Reduction

Integrating Seismic Risk Information into Community Plans

NATIONAL EARTHQUAKE RISK PROFILE



National Earthquake Risk Profile. Geological Survey of Canada.

PLANNING LIFECYCLE





Land Use

Q: What land uses are exposed to high levels of seismic risk?

Opportunities to mitigate seismic risk:

- Official community plans
- Policy plans
- Zoning bylaws
- Rezoning



Neighbourhoods

Q: How is social vulnerability distributed across neighbourhoods?

Opportunities to mitigate seismic risk:

- Policy plans
- Social programs
- Community amenity contributions



Buildings

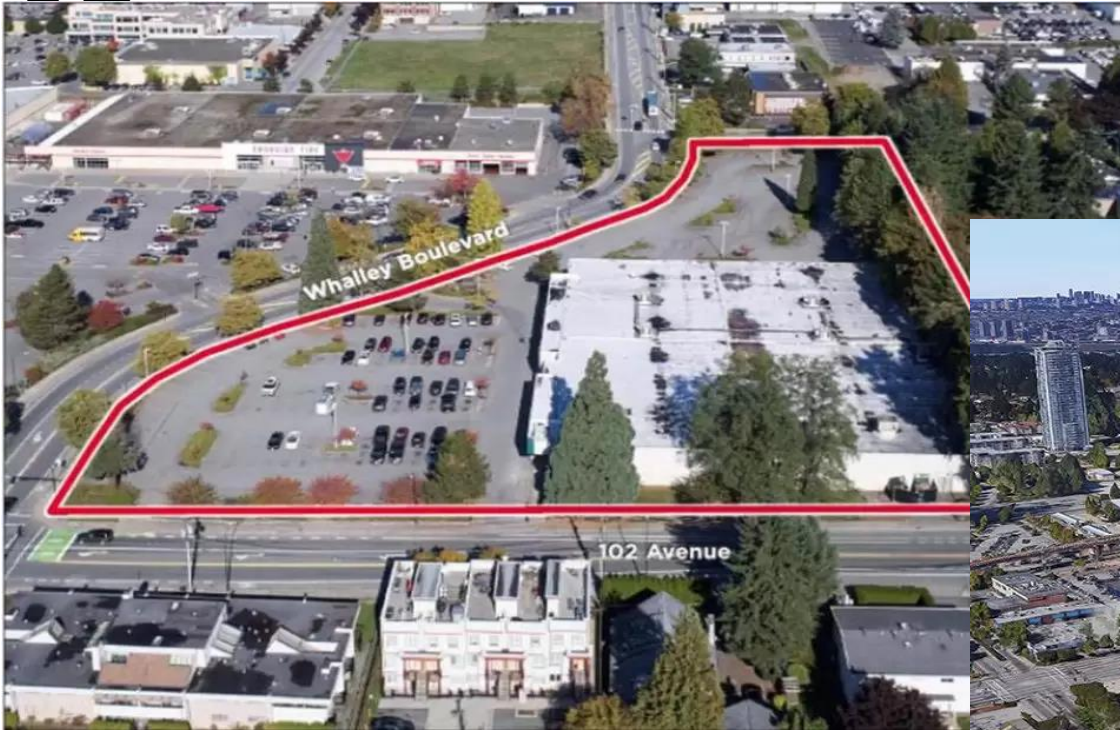
Q: Are there concentrations of high-risk buildings in a specific location that are of particular significant to a community?

Opportunities to mitigate seismic risk:

- Neighbourhood plans
- Development Permit Areas
- Municipal asset plans

Leveraging the rate of change in communities

Whalley, Surrey,



Aerial view of Georgetown development. Retrieved from Google Maps.



Concept for Georgetown development. Credit: Anthem Properties.

Leveraging the rate of change in communities

LeBreton Flats, Ottawa, ON



Aerial view of LeBreton Flats in Ottawa. Photo credit: National Capital Commission (NCC).



Concept for the Parks District in LeBreton Flats, Ottawa. Credit: NCC.

What we are not saying...



What we are saying...

Imagine how much risk could be mitigated in 30, 50, 100 years if we work collaboratively to integrate seismic risk information into the community planning process?



Come join us!

Creating Earthquake Resilient Cities: Using the National Earthquake Risk Profile to Plan Resilient Communities

November 17 @ 1pm – 3 pm PST. [Register online.](#)

- **Test out the National Earthquake Risk Profile** and provide important feedback to ensure that it is relevant and useful to practitioners
- **Collaborate with colleagues** working in diverse fields across the country to design an earthquake-resilient city
- **Inform the development of national guidelines** to mitigate seismic risk in Canadian communities