IBC BAC

WHAT WOULD THE "BIG ONE" COST CANADIANS?

ECONOMIC IMPACT OF A MAJOR EARTHQUAKE IN CANADA – STUDY HIGHLIGHTS

WHY A STUDY?

- Canada has two main seismic zones – the coast of British Columbia and the Quebec City-Montreal-Ottawa corridor – that are home to 40% of Canadians.
- Devastating earthquakes in Haiti, Chile, Japan and New Zealand prompted Canada's property and casualty insurers to ask: Is Canada prepared to handle a major earthquake? Are we ready physically? Financially?
- The most recent research on the economic impact of a major earthquake in Canada was 20 years old. And there was no research about a potential earthquake in eastern Canada.

ABOUT THE STUDY

- Insurance Bureau of Canada (IBC) commissioned a peer-reviewed study by AIR Worldwide (global experts in catastrophe modelling) to quantify the overall insurance and economic costs of a 1-in-500-year earthquake and provide a detailed analysis of the aftermath. The study modelled major, realistically possible earthquakes in British Columbia (western scenario) and in the Quebec City-Montreal-Ottawa corridor (eastern scenario).

NOTE: The study results are not predictions. The study shows the impact of two hypothetical and very specific scenarios. Different scenarios (e.g. larger earthquake, different location, etc.) would produce different results.

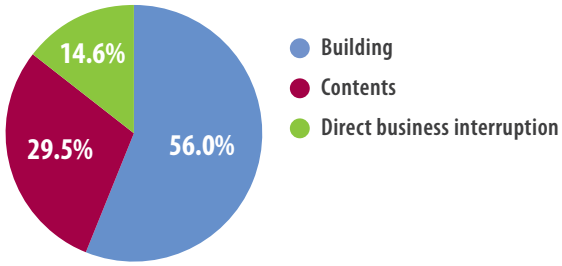
Western Scenario | RESULTS AT A GLANCE

- The event: a **9.0**-magnitude earthquake 75km off the west coast of Vancouver Island (Cascadia Subduction Zone).
- Overall economic losses: almost **$75 billion**
- Insured losses: **$20 billion**

The high population density and economic activity of this area have a large impact on the level of expected losses in this scenario.

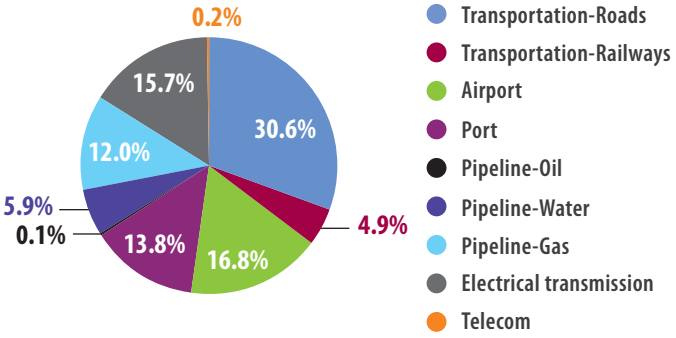
Infrastructure, transportation/supply-chain networks and commercial activity in this region would be severely affected by ground shaking and fire (following the earthquake), and to a lesser extent by tsunami and liquefaction.

TOTAL INSURED PROPERTY LOSSES



Contribution of each coverage to total insured property losses.

INFRASTRUCTURE LOSSES



Contribution of each infrastructure type to total losses.

DIRECT AND INDIRECT LOSS				
Peril	**Property**	**Infrastructure**	**Public Assets**	**Total**
Shake	48,639	1,044	1,333	51,016
Tsunami	4,208	91	65	4,364
Fire Following	519	0	14	534
Liquefaction and Landslide	5,250	753	83	6,086
Total Direct Loss	**58,617**	**1,888**	**1,495**	**62,000**
Indirect Impact				**12,744**
Total Direct and Indirect Loss				**74,744**

INSURED LOSS	
Shake	17,078
Tsunami	1,117
Fire Following	337
Liquefaction and Landslide	1,899
Total Insured Loss	**20,431**

WHY SO LOW?

Insured losses are relatively small because there is a low take-up rate for residential earthquake insurance in BC. Despite living in an at-risk region, more than **55%** of British Columbians have **no** earthquake insurance.

All figures are in millions and include demand surge, or post event inflation.
In some instances, figures may not add up to 100% as a result of rounding.

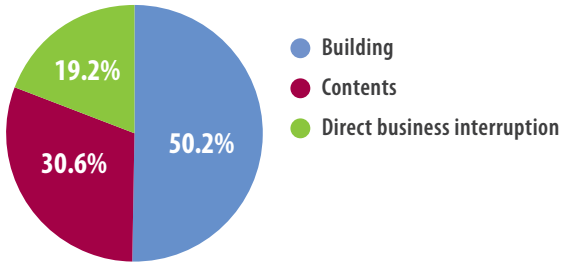
Eastern Scenario | RESULTS AT A GLANCE

- The event: A **7.1**-magnitude earthquake near Quebec City (Charlevoix Seismic Zone).
- Overall economic losses: almost **$61 billion**
- Insured losses: **$12 billion**

In this scenario, the earthquake is a much smaller magnitude but the epicentre is closer to the surface and to a major metropolitan area. While the affected population is lower, more property is at risk because of older infrastructure, older buildings, masonry construction and the fact that few consumers in this region have earthquake insurance.

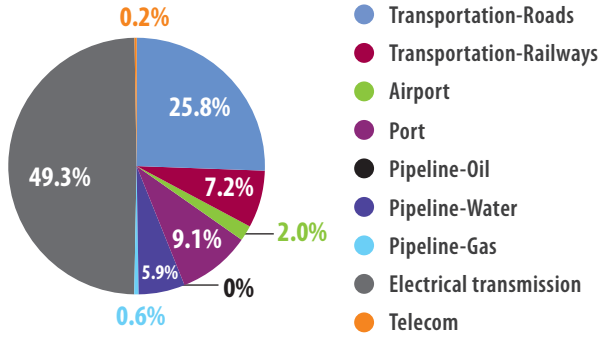
As a result, the overall economic impact is similar to that experienced in the western scenario, but insured losses are much less.

TOTAL INSURED PROPERTY LOSSES



Contribution of each coverage to total insured property losses.

INFRASTRUCTURE LOSSES



Contribution of each infrastructure type to total losses.

DIRECT AND INDIRECT LOSS				
Peril	**Property**	**Infrastructure**	**Public Assets**	**Total**
Shake	44,915	1,891	1,354	48,159
Fire Following	706	0	19	726
Liquefaction and Landslide	302	67	5	374
Total Direct Loss	**45,922**	**1,958**	**1,378**	**49,259**
Indirect Impact				**11,336**
Total Direct and Indirect Loss				**60,595**

INSURED LOSS	
Shake	11,543
Fire Following	628
Liquefaction and Landslide	56
Total Insured Loss	**12,228**

All figures are in millions and include demand surge, or post event inflation.
In some instances, figures may not add up to 100% as a result of rounding.

WHY SO LOW?

Insured losses are relatively small because there is a low take-up rate for residential earthquake insurance in QC. Despite living in an at-risk region, up to **96%** of Quebecois have **no** earthquake coverage.

THE REALITY

- The risk of a major earthquake to Canadians and our economy is real. According to Natural Resources Canada, within the next 50 years there is a 30% chance of a significant quake in British Columbia and a 5-15% chance of one in the Quebec City-Montreal-Ottawa region. And because of the report's calculated costs to our country, inaction is not an option.
- Canada's property and casualty insurers are ready to serve their customers following a 1-in-500-year event. But larger earthquakes can strike: the 2011 earthquake in Japan was a 1-in-600 year event.
- A major earthquake would affect all Canadians and have a domino effect on the national economy triggered by property damage, supply chain interruption, loss of services, infrastructure failure and business interruption.

WORKING TOWARDS A PLAN

- Consumers, insurers and governments should all have a part to play in developing a national strategy, a pre-planned, disciplined and integrated approach to the management of earthquake risk.
- Leaders in Canada's federal and provincial governments have indicated that they want to work towards a shared solution. IBC is committed to working closely with governments, the financial services industry, non-government organizations and the insurance industry to ensure that a national response framework is in place before the "big one" hits.

ADDITIONAL INFORMATION

An executive summary and the full version of the final report can be found at www.ibc.ca

Questions? Email us at earthquake@ibc.ca

ABOUT AIR WORLDWIDE

AIR Worldwide (AIR) is the scientific leader and most respected provider of catastrophe modelling software and consulting services. AIR founded the catastrophe modelling industry in 1987 and today models the risk from natural catastrophes and terrorism in more than 90 countries and serves more than 400 corporate and government clients.

ABOUT INSURANCE BUREAU OF CANADA

Insurance Bureau of Canada is the national industry association representing Canada's private home, car and business insurers. Its member companies represent 90% of the property and casualty (P&C) insurance market in Canada. The P&C insurance industry employs over 118,600 Canadians, pays more than $7 billion in taxes to the federal, provincial and municipal governments, and has a total premium base of $46 billion.