

# Planning Resilient Communities

**MasonryWorx**  
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# Planning Resilient Communities

The start of a new year is a good time for reflection and to establish resolutions for the year ahead. As citizens of 2018, we are more connected than ever and acutely aware of the issues which we face in our communities. While we continue to see the effects of climate change impacting our built environment, as professionals in the construction industry we have a responsibility to address the increasing threat of more extreme climatic events.

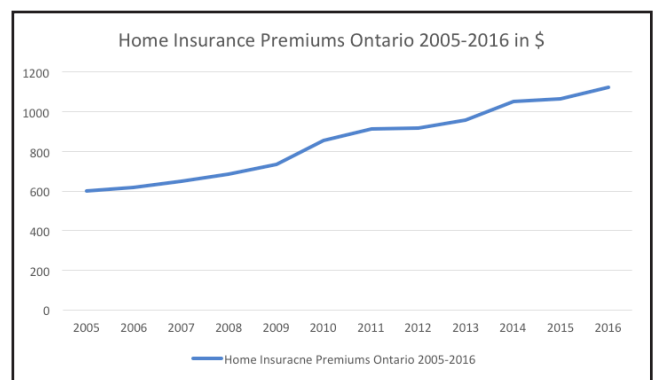
Cities suffered significantly in 2017. In fact, a new record was set for insured losses globally, wherein US \$135-Billion was claimed due to natural disasters. The total damage worldwide is estimated by Munich Reinsurance Company at around US \$330-billion, making 2017 the second most costly year on record for losses due to natural disasters.

While the occurrence of individual events cannot be directly linked to climate change, the increased frequency and severity of these events can. In fact, three cities in

Ontario have published documents which predicts a significant increase in extreme climate events over the next fifty years. Toronto, Kitchener and Windsor have acknowledged that the trends we are seeing both here in Ontario and around the world present an increased danger to the built environment, municipal assets and human life.

The increased frequency of more extreme climate events have caused more than damage to communities, consumers are feeling it in their pocketbooks as well. The Intact Centre on Climate Adaptation reports that home insurance premiums have nearly doubled in Ontario between 2005 and 2016.

It is not uncommon for insurers to deny coverage to built environments which are at high risk of damage from climatic events. Therefore, good planning principals in our communities are more important now than ever.



Source: Intact Centre on Climate Change <http://www.intactcentreclimateadaptation.ca/>



# Planning Deficiencies Magnified in 2017

The weather events of 2017 were a reminder of the destruction that can be caused by natural catastrophes. We humbly watched as modern cities like Ottawa, Miami and Houston got overwhelmed by storms which set records for their severity. When it comes to the ways in which we plan cities, many are not prepared for what is referred to as the 100-year storm (severe storms which occur one every 100 years). Past practice indicated that these planning principles were adequate enough to ensure that cities were able to withstand most weather events. Unfortunately, this is no longer true. The proverbial 100-year storm is now occurring with more frequency and our cities are yet to catch up.

When Hurricane Harvey settled over the City of Houston in August 2017, the amount of rain that fell was measured in feet. No city could have withstood a storm of such epic proportions and the first responders in Houston should be recognized for the 17,000 rescues they had to perform.

In the days and months after the storm, the economic impact began to set in. Hurricane Harvey was the costliest in the history of the United States. Harvey caused an estimated US \$125-billion in damage to South Texas and Louisiana, Houston was underwater. Most of this cost will be shouldered by the tax payer as insurance companies are no longer underwriting flood damages. Could some of these damages been mitigated?

Immediately following the storm Bloomberg published a report titled "Harvey Wasn't Just Bad Weather, It Was Bad City Planning". The report pointed out that the city had a limited growth strategy, no zoning by-laws and inadequate building codes. Unfortunately for Houston, growth came before good planning; building practices and the cheapest quickest built environment was established. The cost of Harvey may have been significantly less if planning measures were taken to mitigate storm damage.



Photo: Masonry home left structurally intact after devastating Hurricane Harvey  
Photo Credit: cetusnews.com

## What can we learn from this in Ontario?

Although the threat of a category four hurricane dumping five feet of rain in Ontario is highly unlikely, we are not immuned to intensifying weather patterns. The floods in Eastern Ontario and Quebec in Spring 2017 are a sobering reminder that we also must be prepared for more catastrophic climate events. This means paying attention to planning practices in terms of land use, zoning and building codes by advocating for better materiality in the building stock of our cities. Ensuring that high quality, durable materials are used to protect building owners as well as protecting the tax payer while insurance policies continues to reduce coverage.

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Photo: Aftermath of Hurricane Harvey 2017

# Grenfell Tower;

## A Tragic Lesson on Attention to Materials

On June 14th 2017, the world was shocked by a massive fire in London which killed 71 residents of the Grenfell Tower. The pictures and videos of the tower burning were surreal. It didn't take authorities long to identify a major contributing factor which caused the fire to spread quickly. Aluminum cladding installed in a recent retrofit of the building made the fire spread along the outside of the building at a rapid rate. Since Grenfell Tower was a public housing operation the contract for renovations went to the lowest bidder, which, in the procurement process opted for a cheaper cladding material. This decision turned out to be fatal. Government officials are still dealing with the aftermath of this tragedy as Grenfell Tower was not the only building in London clad with this material. In fact, following the fire, buildings in London were subjected to a combustibility test wherein 228 failed. Much like Houston this is an example of the grim consequences associated with building cheaper and faster. The material of the cities we live in matters.



Photo: Charred remains after Grenfell Tower fire 2017

## Building to Last in 2018 and Beyond

As we begin to see and accept the challenges climate change will present to our built environment, building to a higher standard must be at the top of the agenda. Using higher quality building materials will ensure that the cities we live in today will continue to be vibrant places for communities to grow and prosper. In order to achieve this, the buildings we use and live in must be durable as well as architecturally pleasing and embody the virtues of providing strength over time.