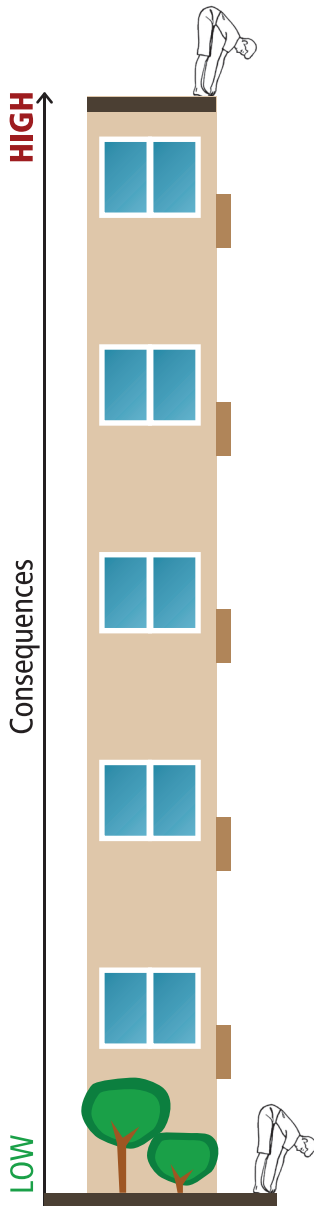


PREPARING FOR THE TRUE IMPACT OF NATURAL DISASTERS



Risk versus Consequences:

Imagine standing in your home and reaching down to touch your toes. The risk of falling over exists, but your chance of injury is quite small. Now think about doing the same thing while standing at the top of a five-story building. The risk of falling over remains the same, but the consequences could produce much greater injury. Understanding the difference between risk and consequence is the first step towards mitigating the effects of disaster on homes and buildings in your community.

When it comes to disaster resistance and preparedness, most mandatory building and construction criteria are based solely on risk; that is, the probability of a severe weather or other destructive event. However, the key to surviving an event is independent of its probability, and instead relies on the community's preparedness for the resulting consequences. The best way to prepare is to build better, more resilient, buildings and infrastructure.

Build it Better

During the last 35 years, building codes have become less stringent. The building code which represents the minimum legally acceptable level of construction has for most buildings become the standard of practice. Perceived benefits of lower first costs have overtaken the understood value of stronger codes for enhanced community resilience. Communities are made stronger when leaders enact codes based on the true local consequences of disaster risk.

Most building code provisions are based on an acceptable level of risk determined by the frequency and magnitude of an event. The regulations are often limited to assuring life safety within an individual structure, with little regard to the potential loss of the entire building. The evaluation of risk that leads to the code requirement is rarely based on anticipated harm to property or the impact this loss will have on the health of the surrounding community.

Although building codes often require a higher level of construction for facilities housing critical functions like fire, police, emergency shelter, and healthcare, or when buildings will be used for larger crowds, for most construction there is very little in the national model building codes and standards that assures that structures can survive and remain viable.

BE STRONG, BUILD WITH CONCRETE

A town or city that features stronger, better built buildings and the roads and services that support them, is resilient. Its leadership recognizes the value of planning for the consequences of disasters and has taken steps to ensure the community has the ability to survive with less loss of housing, employment, and critical services. Concrete structures can play a vital role in strong communities.

HOPE FOR THE BEST, PLAN FOR THE WORST

What are the potential disruptive consequences for your community? Where will the residents receive healthcare, food and other vital services? Where will the people who staff those facilities live? How long will your community survive with the potential loss of revenue from destroyed homes and businesses? Every community needs to be prepared to answer questions like these.

Perceptions about potential disasters contribute to this failing. The risk is perceived to be low. We often consider survivors of major events as “lucky,” with little credit given to any proactive steps they may have taken to better prepare themselves.

The general public can think they are unlikely to be affected directly. They may have the false idea that local rules and regulations mean their building will protect them if a major disaster strikes. Some will argue less disaster resistant construction, with lower first cost, will foster more economic growth. These misconceptions fail to recognize the true impact quality buildings have on future economic viability.

Local leaders should take a more in-depth look not just at risk, but at the potential long-range consequences a major disaster can have on the human and physical assets of their community. The first step is developing a better understanding of risk versus consequences.

Don't Play the Odds

When evaluating building codes, considering risk alone is not enough. In any location, the frequency of disasters is generally very low. However, over the typical life of a structure, multiple events can happen. A disaster classified as a 100-year event has a 1% probability in a given year, but it is possible to have two 100-year events within years or months of each other. Further, if you occupy a building for 25 years there is a 20% chance you'll experience a 100-year event. Community leaders and code officials must give thought to the local consequences of major natural disasters like fire, flooding, high wind events, hail, winter storms, and seismic events.

A city or town with codes based on a thorough understanding of the consequences of natural disaster will be better prepared should a major event occur. Residents in a more resilient community will be safer and their lives following the disaster better supported. With less disruption, local services, businesses, and the overall economy can return to normal more quickly.



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