



WHY DO WE HAVE RATINGS FOR TOASTERS AND NOT BUILDINGS?

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BUILDINGS?

October, 2017

Vol. 2.5

Resilience and Real Estate Investing



The Roseville City Hall Annex was the first building to receive the USRC's highest Platinum Earthquake Rating. The 4-story office building houses critical operations for the city and in the case of an earthquake city officials need the reassurance that these services would be housed in a safe, resilient structure.

- Safety – Expected performance results in conditions unlikely to cause injuries or to keep people from exiting the building
- Repair Cost – Repair Cost likely less than 5% of building replacement cost
- Time to Regain Basic Function – The expected performance will likely result in people being able to quickly re-enter and resume use of the building

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Does luxury last?

I've traveled around the country speaking about resilience, making the case that building stakeholders need to better understand how the buildings they live, work and invest in are likely to perform in the long run. When I mention that I am a structural engineer in the San Francisco Bay Area, people invariably ask me about the Millennium Tower. The Millennium Tower, located on prime real estate in downtown San Francisco, is a 58-story steel and concrete structure that rose 645 feet upon completion in 2009. It is the tallest residential building in San Francisco. Unfortunately for the tenants, some of whom paid a hefty \$2 million+ for a condo in the tony skyscraper, that record height has dropped by about sixteen inches and counting, due to a problem with the foundation system that has caused the structure to both sink and tilt. The future marketability of these properties may be in question, even though several engineering studies have concluded that the building remains safe.



I expect that few, if any, of the condo owners in the Millennium Tower thought to ask about the expected performance of the building when they made their multimillion dollar investments. Did they simply assume that any new building that could make it through the building department would never have such problems?

We often take it for granted that the designers of new buildings, whether a house, office building, or skyscraper, would have made sure the building performs flawlessly for decades. Of course, we know better based on the many smaller purchases we make: computers, TVs, car or appliances. We know there is a tradeoff between cost and performance, and we consciously or unconsciously factor that into our purchasing decision. Manufacturers sometimes eliminate features or long term reliability, in order to meet a target price point. Sure, a TV costs a fraction of a home or office building, but the same principle applies. Perfection is impossible and unaffordable. **But, do we always get what we pay for?** The condo owners in the Millennium Towers may not have had a right to expect perfection, even at \$2 million a unit, but they probably did have a right to assume the dining room chairs wouldn't have a tendency to slide from one end of their home to the other.

Ratings for toasters, but not buildings?

Those of us that live on the West Coast know that earthquakes are an unavoidable risk, just as those along the Gulf Coast know that every year between June and November they risk the potential of a hurricane slamming onto the shore. And yet, we seem to have precious little information on how buildings will perform under these hazards. We have rating systems for everything, from the risk of stocks and bonds, to the quality of colleges and universities, to the crash safety of cars, to the cleanliness of restaurants. We can get online ratings for a toaster oven for Pete's sake. But the buildings on which our lives or our livelihoods depend?

The U.S. Resiliency Council® (a 501(c)3 nonprofit organization) has established a rating system for the performance of buildings in earthquakes. The vision of the USRC is to make the public more aware of their potential risks in natural disasters, and provide them with information to make better-informed decisions on owning, renting, leasing and insuring properties. The USRC issues ratings, certifies practitioners and best practices, and technically reviews ratings shared with the public so they are both credible and consistent. All stakeholders benefit from understanding the performance of buildings in earthquakes and other natural disasters, and USRC Ratings communicate the expected performance of buildings so that they can make better informed decisions about the buildings in which they live, work and invest.

More information = better decisions

While the seismic performance of the Millennium Tower was not significantly impacted by the settlement issue, dozens of other skyscrapers are shooting up in cities like San Francisco, Los Angeles and Seattle to meet rising demand for luxury housing and downtown office space. These new buildings are fitted with the latest amenities, technologies and green features, many boasting LEED® Platinum certifications...and \$1,000+ per square foot price tags. And it's not just iconic towers. Office campuses in Silicon Valley, including for famous names like Google, Facebook and Apple, but also hundreds of developments for thousands of other tech and manufacturing employers, are racing to outdo each other in advertising how sustainable, how "livable" their new environments will be. Leases and purchases of these properties will run into the tens and even hundreds of millions of dollars for many tenants and buyers, and will be typically their second largest expense after salaries and benefits.

Buildings with US Resiliency Council Earthquake Ratings give these stakeholders critical information that they can use in making their leasing or purchasing decisions. **If you are a potential tenant or buyer you should be asking the owners of properties to get a USRC Rating for their building.** You should also be working with your real estate broker to search for properties that not only have the features and amenities that are important to you, but the earthquake resilient design that could be critical to protecting your investment. You can learn more about the USRC Rating System at www.usrc.org.

The U.S. Resiliency Council® (USRC) was formed as a 501(c)3 nonprofit organization and launched in November 2015 to establish and implement a rating system for the performance of buildings in earthquakes and other natural hazards. The system is currently applicable to earthquake performance but the vision is for it address other hazards including wind, flood and blast. The USRC issues ratings, certifies practitioners and best practices, and technically reviews ratings shared with the public so its ratings are both credible and consistent.

Improving local community and regional resilience in natural and manmade disasters is a national imperative. Key to the success of this challenge is the need to understand the performance of the nation's building stock in terms of safety, repair cost and recovery. The vision of the USRC is to make the public more aware of their potential risks in natural disasters, and provide them with information to make better-informed decisions on owning, renting, leasing and insuring properties, so that market forces will drive the building design, and procurement process toward more resilient building design.



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