

Seizing the Seismic Moment

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Leif Jackson went into work Monday with a pretty strong sense of what would be waiting for him.

"It's very predictable," said Jackson, co-owner of Seattle-based [Jackson Remodeling](#) and its [Sound Seismic](#) division. "Earthquakes are absolutely a reminder to people here that they're at risk." On his first full day in the office after Japan's 9.0 (recently [upgraded](#)) earthquake March 11 and the tsunami it released, he found 11 new leads had come in over the weekend. His website for Sound Seismic, meanwhile, got 115 to 120 visits each weekend day, many times the normal average. By 11 a.m. he had three more calls.



For Josh Kardon, principal of [Joshua B. Kardon + Company Structural Engineers](#), in Berkeley, Calif., Monday also produced a predictable uptick in calls. He's been in this business too long, however (since 1978), to expect overnight enlightenment on the part of homeowners -- or contractors -- about the benefits of improving a home's ability to withstand a crippling earthquake.

"One of the hard things for builders and architects and engineers is convincing homeowners that the money they spend with us on seismic retrofits is worthwhile," Kardon told us in a phone call yesterday. "Though it may not result in better countertops and a fancier kitchen, it may result in them not just living through an earthquake, but being able to immediately occupy or easily repair their home after a large earthquake."

Earthquake retrofitting, it seems, is a little like building science: Shear-wall bracing and anchor bolts, like insulation and advanced framing, aren't terribly expensive, but they don't have a lot of sex appeal either. "People want to spend money on their flat-screen TVs and marble countertops -- things they can see," Kardon said. "They can't see seismic retrofits."

On the other hand, catastrophes like the one in Japan -- where Kardon estimates there will have been *thousands* of Richter 6 aftershocks by the time this series of quakes ends -- can serve as an extremely compelling motivation to homeowners who realize they are at risk.

"Hurricane Katrina also got my phone ringing," Jackson said. "I think it's because everyone realized that people were screwed. The devastation was beyond what they could prepare for. When this stuff hits the fan, you can't just depend on FEMA swooping in and rescuing you."

The most recent events have underscored that unease, he added. "People realize Japan isn't Port-au-Prince. This is a modern, first-world nation. If it can happen there, it can happen here."

"Earthquakes in the news are not good, but they are good for the retrofitting business."

False Sense of Security

How prepared should most people be, and how prepared are they?

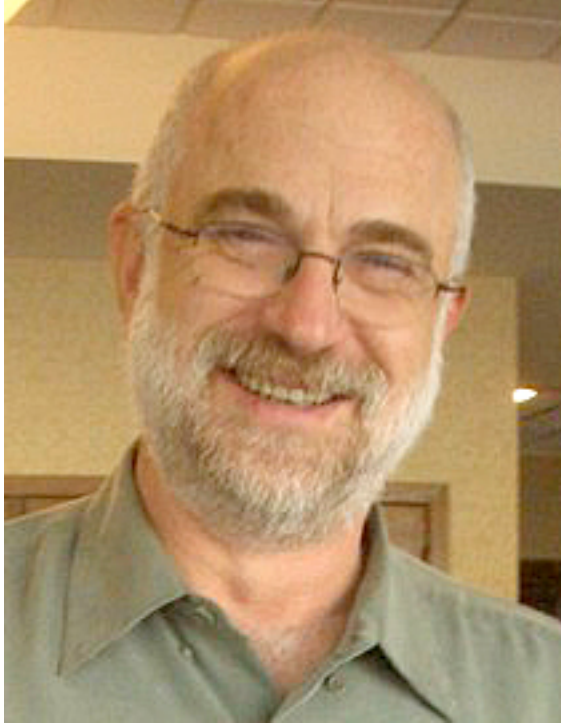
In Seattle, where Jackson and his brother Erik started Sound Seismic in 1999, even before they started their remodeling company, the last major quake was in the Nisqually, a magnitude 6.8 deep slab earthquake, in 2001.

"A local newspaper writer has [written](#) excellent articles that articulate exactly what I want to convey to homeowners: that our Nisqually event is *not* the worst we can expect, but rather both of these other more destructive quakes are a serious risk here," Jackson said, referring to the shallow crustal and subduction zone quakes that have hit Haiti, Chile and New Zealand within the last 15 months.

According to that article, as many as 1,000 buildings in Seattle could fall down in a strong earthquake. Current Seattle building codes are strong, prompted in part by the Nisqually quake, but many buildings and homes long predate earthquake-resistant codes.

"That relatively moderate earthquake 10 years ago, I'm afraid, gave Seattle residents a false sense of security," Jackson added. "They think 'my house made it through the last one just fine, so I have nothing to worry about.' Serious and tragic events like the four big quakes in the news this last year provide a sobering reality check for homeowners."

Down the coast in California's Bay Area, Kardon (next page) practices in what he calls "earthquake country." While some experts say building codes are better in San Francisco and Los Angeles than in Seattle and Portland, "there's nothing that requires a building or home to be brought up to the current code," he said. "The code just says we can't weaken a building when we remodel."



Not that meeting code is anything to brag about, he noted. "One thing I tell my clients is that design and construction in strict conformance with the building code is like your kid coming home from school with a D minus. Well, you might want you kid to do better than a D minus. You might want your house to do better, too."

Unfortunately, merely installing a beam to replace the load-bearing wall that was removed to open up a space won't provide the lateral resistance a home needs to withstand an earthquake. (Click [here](#) for the Wikipedia explanation of seismic retrofitting, and [here](#) for the Sound Seismic overview.)

Are most homeowners aware of these benefits?

"They're aware if an engineer tells them," Kardon said. "But most of them don't want to hear it. They say they'll find another engineer."

As for remodelers and general contractors, "I think there's awareness that this is earthquake country and that earthquakes are a legitimate area of concern, but I don't know many of them look at it the way I do."

Worse, "many contractors who *are* in earthquake country [elsewhere] aren't even aware that they're in earthquake country." He is licensed in seven states that are at risk of earthquakes: California, Washington, Oregon, Nevada, Arizona, Nebraska and Hawaii, and only recently let his Colorado license lapse. "I'm thinking of adding Tennessee and Missouri," he said.

No Cookie-Cutter Solutions

The Sound Seismic division represents about half of Jackson Remodeling's business, and the company takes seismic retrofitting seriously.

Seattle offers a six-hour seismic-retrofit [training program](#) for licensed contractors, "and every person who works for us has gotten the training, regardless of whether they specialize in retrofitting," Jackson said. "Training is part of our pitch; our USP" (unique selling proposition), he added.

He estimates that there are about 300 companies on the city's list of trained contractors, but only about

five companies specialize in seismic retrofits specifically. Strong branding for Sound Seismic is one reason for the company's city-wide visibility and high search ratings. The bright-yellow logo and the Army-stencil lettering -- designed, he noted incidentally, in a barter for a retrofit 12 years ago -- connote toughness and durability.

"We've got that logo on our four bright yellow trucks and job signs and advertisements and websites," Jackson said. "There's a presence. When something like this happens, people remember us."

Not surprisingly, there are times when Sound Seismic jobs lead to remodeling projects for Jackson Remodeling. For that matter, other general contractors that are in direct competition with Jackson Remodeling subcontract work to Sound Seismic. "We are colleagues who respect one another and yes, compete with one another," Jackson said.

"Knowledge is a powerful thing," he added. To market his company's very serious benefits without seeming alarmist, he posts articles and notices from third-party authorities (including the media and FEMA) on his website and [Facebook page](#).

However, neither Jackson nor Kardon recommend seismic retrofitting as a fast road to big revenues. Most of Sound Seismic's jobs range from \$5,000 to \$9,000, depending on the scope of the project and the ease of accessing the crawlspace, foundation and other areas affected.

"An architect friend recently forwarded a note from a builder who wants to start selling seismic



retrofit construction services," Kardon said. "He saw it as a goldmine. It's not. There are a number of problems with the market," beginning with homeowners' reluctance to spend. "People will always be measuring it against their budget and what they perceive as a benefit. The challenge is convincing them to see this really direct outcome" -- a calamitous building failure -- "as something to avoid."

Kardon also cautions that there are no "cookie-cutter" solutions to seismic retrofitting, a problem that he feels undermines the value of some companies in the seismic-retrofit business. "The best thing a competent contractor can do is get a competent structural engineer."

At Sound Seismic, every retrofit requires a building permit and either conforms to a standard prescriptive plan or a plan engineered to the specific building. "We end up having a structural engineer design about two-thirds of the retrofits we do," Jackson said.

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