

# The Dallas Morning News

Texas' Leading Newspaper

\$1.00

Dallas, Texas, Tuesday, May 28, 2013

dallasnews.com

The Dallas Morning News

dallasnews.com

VIEWPOINTS

## Safety in the storm

Focus on where most deaths occur, says **Kevin Simmons**

When children die, it's tragic regardless of how or why. We will mourn those in Oklahoma and continue to search for ways to prevent such tragedies. Tornadoes like the EF5 in Moore are rare, and yet they account for the vast majority of tornado fatalities that occur.

Over the past 15 years, I have built an unusual research agenda for an economist: I study natural hazards and their societal impacts.

Each time these storms strike, discussion centers on tornado safety and whether we should require safe rooms in public schools or private homes.

Recently my wife and I converted a closet in our home into a safe room. It cost about \$4,000, but we felt it was a worthwhile investment — even though that kind of money is a stretch for two educators.

This is a case in which my academic research puts me at odds with the conventional wisdom that is developing concerning safe rooms. While I may have created one for my own safety, I am reluctant to endorse using public money to mandate safe room installation.

I examine issues like the efficacy of warnings, the effects of false alarms and public policy programs relating to natural hazards. I try to be dispassionate about the topic and draw conclusions based on the available data and inferences from the econometric models I use.

Fatalities from tornadoes stem from situational factors surrounding the event, population density, tornado intensity, time of day and location — but also from the timing and quality of the warnings given to the public. Tornado warnings have increased the average lead time from five minutes in 1990 to over 15 minutes today. This accounts for most of the dramatic decrease we have seen in tornado-related fatalities over the last 60 years. Large and violent tornadoes (EF3 through EF5) account for only 3 percent of tornadoes but are responsible for 80 percent of the fatalities. Tornadoes like the one that struck Moore are less than one-tenth of 1 percent of all tornadoes.

Engineered structures like businesses, schools and churches are some of the safest places to be. Schools and churches account for less than 5 percent of all fatalities. The worst structures to be in are mobile homes, which account for



The Associated Press

A safe room was one of the few things left standing after a deadly tornado in Piedmont, Okla., in 2011.

more than 40 percent of tornado fatalities although they are only 7 percent of U.S. housing stock.

If you begin with the premise that public money is limited, those funds should be directed to where they do the most good. That would be in reducing fatalities in vulnerable structures such as mobile homes.

In 2007, an EF3 tornado struck Lake County, Fla. Twenty-one fatalities occurred, all in mobile homes. A colleague, Dan Sutter, and I traveled to Lake County to collect data for a paper we published on the event. As we drove through the community, we passed a subdivision of small cinder block houses located between two mobile home parks. There were few mobile homes left, but the only damage to the permanent homes was broken windows and some roof damage.

The events of last week were heartbreaking, and it's difficult to get those images out of my mind, as I have many ties to Oklahoma. If local communities wish to issue bonds to provide safe rooms in their schools, the residents of those communities can decide what is best for them.

But generally, public efforts to reduce tornado fatalities should focus first where reductions in casualties can be maximized — and that is not in schools.



Dr. Kevin Simmons is an economics professor at Austin College in Sherman. He may be contacted at [ksimmons@austincollege.edu](mailto:ksimmons@austincollege.edu).

ANOTHER TAKE | KURT HOCHENAUER

### Underground shelters should be a priority

The fact that Oklahoma is in an area nicknamed Tornado Alley underscores how likely it is that violent weather will occur here. So why doesn't every structure regularly used in the state have an underground storm shelter? Underground shelters save lives. Let's build them under or at least near our homes, offices and, of course, our schools. Let's have more public and community shelters, and put up signs so residents know where to find them.

The benefits of shelters are established. Last year, Oklahoma launched a program in conjunction with the Federal Emergency Management Agency to reimburse homeowners a share of the costs of building a shelter on their property. Within three months of SoonerSafe registration opening, about 16,000 people signed up. But only 500 won a lottery to receive federal funds when the program began operating.

Communities in earthquake-prone areas build with the understanding that their structures have to withstand violent acts of nature. Why don't we construct more of our buildings, especially our schools, with stronger materials?

The answer is that we can build differently and fund shelters, but we choose not to. Such ideas have been put forth and dismissed by those in power here for many years. While the costs are too high for many individuals to bear, the expenses are not necessarily that great. FEMA estimates that construction of an 8-foot-by-8-foot safe room ranges from \$6,600 to \$8,700. Is that too high a price to save lives?

National media outlets surveying the damage last week posed a lot of tough questions: Why don't all Oklahoma schools have underground shelters? Would improvements to our warning systems have given people more time to escape the storm? Was the tornado's strength related to climate change? And why have so many homes been rebuilt in an area known for destructive tornadoes? Such questions need to keep coming.

Left alone, we haven't been addressing these issues in ways that will keep Oklahomans safe. Too many here refuse to look seriously at the extreme weather the Plains has experienced in recent years and what role climate change might have played.

Ultimately, this is a question of values: Will our state and local leaders value their constituents' lives enough to allocate funds to build better, stronger buildings and underground shelters?

Kurt Hochenauer is an English professor at the University of Central Oklahoma and may be contacted at [kurt.hochenauer@gmail.com](mailto:kurt.hochenauer@gmail.com).