

# HOW MY COMMUNITY IS PREPARING FOR EARTHQUAKES



## WHAT ARE THEY?

Earthquakes are sudden slips of faults and the resulting ground shaking and radiated seismic energy caused by those slips, by volcanic or magmatic activity, or by other sudden stress changes in the Earth.

## WHEN DO THEY OCCUR?

Earthquakes can occur at any time.

## WHERE DO THEY OCCUR?

The Kansas City area is not at high risk for earthquakes. There are two earthquake source zones that cross Missouri: the New Madrid Fault and the Commerce Fault in southeastern Missouri.

## CORRESPONDING HAZARDS








It is common for earthquakes to have smaller earthquakes that follow the first event, or aftershocks. Earthquakes can also induce landslides. Physical damage to office and production facilities, the transportation system and other infrastructure can hinder the local economy.

## DAMAGE TYPE & SEVERITY

Hazards associated with earthquakes include ground shaking, loss of soil strength, and increased magnitude of an earthquake's seismic waves due to geologic conditions. The severity of these hazards depends on several factors, such as soil and slope conditions, an affected area's proximity to the fault and earthquake magnitude.

## VULNERABLE AREAS

- Buildings and houses, particularly those that are poorly constructed, built of unreinforced masonry or stone
- Water, sewer and wastewater systems and plants
- Dams
- Bridges, overpasses, railroad trestles, highways and roads and rail lines
- Telecommunications and electrical distribution systems
- Critical facilities, such as police stations, fire stations and hospitals

COMMUNITIES	ACTION
	1. Purchase HAZUS software from FEMA, possibly in conjunction with other local or regional stakeholders.
	2. Coordinate the collection of demographic, economic, geologic and other data required by the HAZUS software program.
	3. Conduct an in-depth earthquake risk analysis and create detailed maps to identify areas at risk of seismic activity. Assist in prioritizing mitigation activities and assessing the adequacy of current land-use policies, building codes and other measures.
	4. Determine the levels of seismic forces that structures must be designed to withstand.
	5. Require the use of tempered or shatter-resistant glass in new public and private facilities where large numbers of people gather. Retrofit existing facilities with similar materials.
	6. Adopt the most current edition of a model building code to address structural and architectural issues related to seismic events.
	7. Work with trade organizations to inform builders and developers of construction techniques and materials that may minimize earthquake damage to residential and commercial structures.

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	8. Explore options for including seismic retrofitting in existing programs, such as low-income housing, insurance reimbursements and pre- and post-disaster repairs.
In Ja	9. Provide information to property owners, small businesses and organizations on funding sources for seismic retrofit projects.
OG In Ja	10. Provide earthquake insurance information to residents.
	11. Work with insurance companies and organizations to produce and distribute earthquake insurance information.
LS	12. Develop an inventory of critical public facilities that do not meet current seismic standards.
OG LS	13. Encourage water providers to replace old cast-iron pipes with more flexible iron, and identify partnership opportunities with other agencies for pipe replacement.
Ja LS	14. Encourage owners of high-hazard dams to ensure that those structures meet current seismic standards.
OG In Ja	15. Provide information to government and school facility managers and teachers on securing bookcases, filing cabinets, lighting fixtures, heavy furniture and other objects.
OG In Ja	16. Encourage facility managers, business owners and teachers to review FEMA's earthquake mitigation guidebook.
In Ja	17. Encourage homeowners and renters to use Institute for Business and Home Safety publications for practical and economic earthquake protection measures.
	18. Partner with stakeholders to provide earthquake retrofitting classes for homeowners, renters, building professionals and contractors.
	19. Target education and retrofitting resources to development located on unstable soil or sloping terrain.
OG LS In Ja	20. Partner with stakeholders to inventory public, private and nonprofit facilities that can be used as shelters.
OG LS In Ja	21. Retrofit existing facilities with generators for emergency power.
OG LS	22. Consider adopting policies requiring generators or other emergency power systems in new construction.