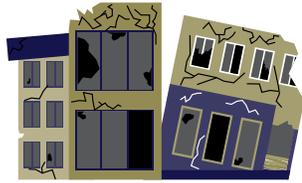




# Buildings, Building Codes, and Earthquake Safety in Southern California

## EXISTING BUILDINGS

Many existing buildings, due to their age and type of construction, are vulnerable to collapse during even moderate levels of earthquake shaking.



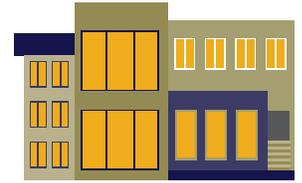
**COLLAPSE PREVENTION**



**LIFE SAFETY  
(CODE MINIMUM)**



**FUNCTIONAL RECOVERY**



**OPERATIONAL**

## Why are some existing buildings vulnerable, and what can be done about them?

Building codes are not retroactive. Your building is only as strong as the building code in place when it was built. After every damaging seismic event, code professionals and engineers observe how buildings behaved during the earthquake shaking to improve design practices in future building codes. Buildings built to older code standards, such as unreinforced masonry buildings, tuck-under or open front wood buildings (pre-1980), concrete buildings (pre-1976) and steel moment frame buildings (pre-1997) are vulnerable to collapse even from moderate levels of shaking.

If not retrofitted, vulnerable buildings face substantial risk of collapse during an earthquake, or they may sustain such significant damage that the buildings may need to be demolished. This results in loss of function of the buildings for owners and tenants, and creates a direct, adverse impact on neighbors, and loss of economic activity for the community. If buildings are retrofitted to better performance levels, they can likely be occupied and returned to their pre-earthquake functions with less time and expense.

Cities and Counties need to understand their building types and ages and consider their uses in order to prioritize which buildings should be retrofitted first. This approach should inform the best retrofit ordinance for that community to mitigate impacts.

## How to understand your building's vulnerability of collapse or substantial damage during a moderate or severe earthquake shaking.

