

HISTORICAL NOTE**● What Causes Such Destruction?**

At 5:04 P.M. on October 14, 1989, life in California's San Francisco Bay Area seemed as normal as ever. The third game of the World Series was underway in Candlestick Park, now called 3Com Park. While 62,000 fans filled the park, other people were rushing home from a day's work. By 5:05 P.M., however, things had changed drastically. The fact sheet of destruction looks like this:

Injuries:	3,757
Deaths:	68
Damaged homes:	23,408
Destroyed homes:	1,018
Damaged businesses:	3,530
Destroyed businesses:	366
Financial loss:	over \$6 billion

The Culprit

The cause of such destruction was a 7.1 magnitude earthquake that lasted for 20 seconds. Its epicenter was 97 km south of San Francisco in an area called Loma Prieta. The earthquake was so strong that people in San Diego and western Nevada (740 km away) felt it too. Considering the earthquake's high magnitude and the fact that it occurred during rush hour, it is amazing that more people did not die. However, the damage to buildings was widespread—it covered an area of 7,770 km². And by October 1, 1990, there had been more than 7,000 aftershocks of this quake.

Take Heed

Engineers and seismologists had expected a major earthquake, so the amount of damage they saw from this earthquake was no surprise. But experts agree that if the earthquake had been of a higher magnitude or centered closer to Oakland, San Jose, or San Francisco, the damage would have been much worse. They are concerned that people who live in these areas aren't paying attention to the warning this earthquake represents.

Many people have a false sense of security because their buildings withstood the quake with little or no damage. But engineers and seismologists agree that the only reason the buildings survived was because the ground motion in those areas was fairly low.

HISTORICAL NOTE

● What Causes Such Destruction? *continued*

Tomorrow May Be Too Late

Many buildings that withstood this earthquake were poorly constructed and would not withstand another earthquake. Experts say there is a 50 percent chance that one or more 7.0 magnitude earthquakes will occur in the San Francisco Bay Area in the next 30 years. And the results of the next quake could be much more devastating if people don't reinforce their buildings before it's too late.

On Your Own

Research the engineering innovations for constructing bridges and buildings in areas with seismic activity. Share your information with the class.