

### A vulnerable spot

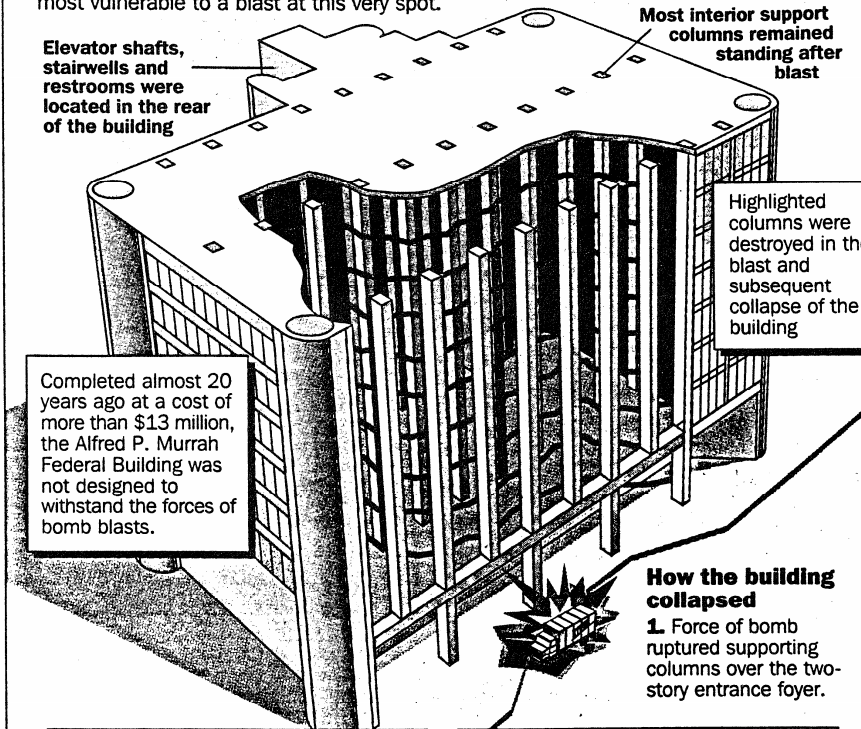
The truck carrying a bomb made from fertilizer and fuel oil parked at the center of the building's north side; a pull-in allowed vehicles to approach to within 15 feet of the building front. Structural experts say the building's design coincidentally rendered it most vulnerable to a blast at this very spot.

Elevator shafts, stairwells and restrooms were located in the rear of the building

Most interior support columns remained standing after blast

Highlighted columns were destroyed in the blast and subsequent collapse of the building

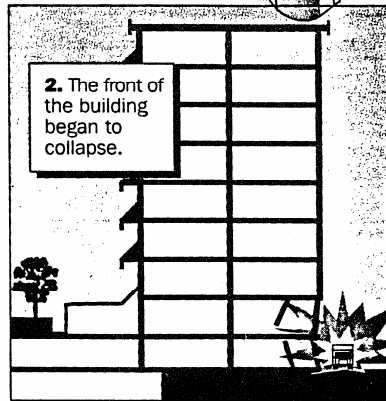
Completed almost 20 years ago at a cost of more than \$13 million, the Alfred P. Murrah Federal Building was not designed to withstand the forces of bomb blasts.



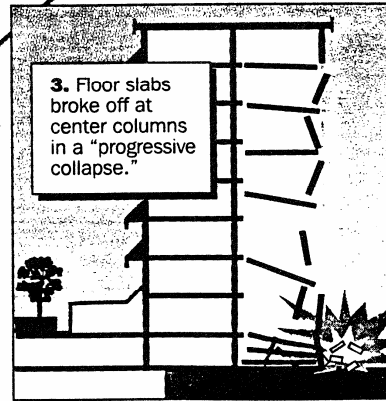
### How the building collapsed

**1.** Force of bomb ruptured supporting columns over the two-story entrance foyer.

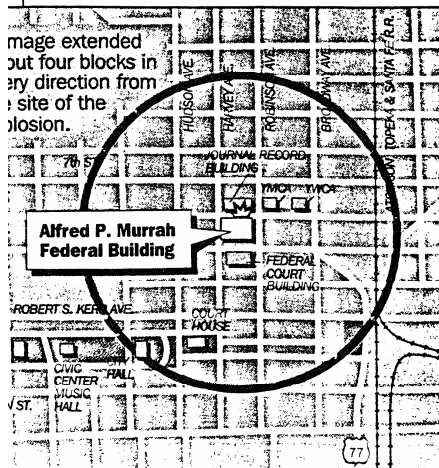
**2.** The front of the building began to collapse.



**3.** Floor slabs broke off at center columns in a "progressive collapse."



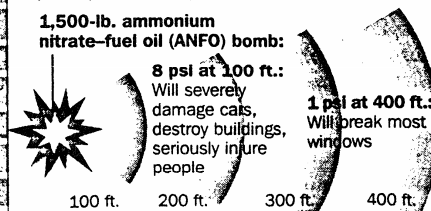
Damage extended out four blocks in every direction from the site of the explosion.



### Blast force

The damage done by an explosion in open air is largely due to the pressure of the shock wave set off by the blast, measured in pounds per square inch (psi).

**1,500-lb. ammonium nitrate-fuel oil (ANFO) bomb:**



USN&WR—Basic data: Bob Wright.  
Locke Wright Associates; Gordon Bjorkman, EQE International;  
Van Romero, New Mexico Institute of Mining and Technology;  
McGraw-Hill Encyclopedia of Science & Technology

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