

were fractured by the impact. Photographic evidence suggests that from 27 to 32 columns along the south building face were destroyed over a five-story range. Partial collapse of floors in this zone appears to have occurred over a horizontal length of approximately 70 feet, while floors in other portions of the building appeared to remain intact. It is probable that the columns in the southeast corner of the core also experienced some damage because they would have been in the direct travel path of the fuselage and port engine (Figure 2-25).

It is known that debris from the aircraft traveled completely through the structure. For example, a landing gear from the aircraft that impacted WTC 2 was found to have crashed through the roof of a building located six blocks to the north, and one of the jet engines was found at the corner of Murray and Church Streets. The extent to which debris scattered throughout the impact floors is also evidenced by photographs of the fireballs that occurred as the aircraft struck the building (Figure 2-28). Figure 2-29 shows a portion of the fuselage of the aircraft, lying on the roof of WTC 5.

As described for WTC 1, this debris doubtless caused some level of damage to the structure across the floor plates, including interior framing; core columns at the southeast corner of the core; framing at the north, east, and west walls; and the floor plates themselves. Figure 2-30, showing the eastern side of the north face of the WTC 2 partially hidden behind WTC 1, suggests that damage to the exterior walls was not severe except at the zone of impact. The exact extent of this damage will likely never be known with certainty. It is evident that the structure retained sufficient integrity and strength to remain globally stable for a period of approximately 56 minutes.

There are some important differences between the impact of the aircraft into WTC 2 and the impact into WTC 1. First, United Airlines Flight 175 was flying much faster, with an estimated speed of 590 mph, while American Airlines Flight 11 was flying at approximately 470 mph. The additional speed would have



Figure 2-28 Conflagration and debris exiting the north wall of WTC 2, behind WTC 1.