

23 July 2004

This is Chapter 1, “We Have Some Planes,” of the 9/11 Commission Report, released July 22, 2004.

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THE 9/11
COMMISSION
REPORT

“WE HAVE SOME PLANES”

TUESDAY, SEPTEMBER 11, 2001, dawned temperate and nearly cloudless in the eastern United States. Millions of men and women readied themselves for work. Some made their way to the Twin Towers, the signature structures of the World Trade Center complex in New York City. Others went to Arlington, Virginia, to the Pentagon. Across the Potomac River, the United States Congress was back in session. At the other end of Pennsylvania Avenue, people began to line up for a White House tour. In Sarasota, Florida, President George W. Bush went for an early morning run.

For those heading to an airport, weather conditions could not have been better for a safe and pleasant journey. Among the travelers were Mohamed Atta and Abdul Aziz al Omari, who arrived at the airport in Portland, Maine.

1.1 INSIDE THE FOUR FLIGHTS

Boarding the Flights

Boston: American 11 and United 175. Atta and Omari boarded a 6:00 A.M. flight from Portland to Boston’s Logan International Airport.¹

When he checked in for his flight to Boston, Atta was selected by a computerized prescreening system known as CAPPs (Computer Assisted Passenger Prescreening System), created to identify passengers who should be subject to special security measures. Under security rules in place at the time, the only consequence of Atta’s selection by CAPPs was that his checked bags were held off the plane until it was confirmed that he had boarded the aircraft. This did not hinder Atta’s plans.²

Atta and Omari arrived in Boston at 6:45. Seven minutes later, Atta apparently took a call from Marwan al Shehhi, a longtime colleague who was at another terminal at Logan Airport. They spoke for three minutes.³ It would be their final conversation.

Between 6:45 and 7:40, Atta and Omari, along with Satam al Suqami, Wail al Shehri, and Waleed al Shehri, checked in and boarded American Airlines Flight 11, bound for Los Angeles. The flight was scheduled to depart at 7:45.⁴

In another Logan terminal, Shehhi, joined by Fayez Banihammad, Mohand al Shehri, Ahmed al Ghamdi, and Hamza al Ghamdi, checked in for United Airlines Flight 175, also bound for Los Angeles. A couple of Shehhi's colleagues were obviously unused to travel; according to the United ticket agent, they had trouble understanding the standard security questions, and she had to go over them slowly until they gave the routine, reassuring answers.⁵ Their flight was scheduled to depart at 8:00.

The security checkpoints through which passengers, including Atta and his colleagues, gained access to the American 11 gate were operated by Globe Security under a contract with American Airlines. In a different terminal, the single checkpoint through which passengers for United 175 passed was controlled by United Airlines, which had contracted with Huntleigh USA to perform the screening.⁶

In passing through these checkpoints, each of the hijackers would have been screened by a walk-through metal detector calibrated to detect items with at least the metal content of a .22-caliber handgun. Anyone who might have set off that detector would have been screened with a hand wand—a procedure requiring the screener to identify the metal item or items that caused the alarm. In addition, an X-ray machine would have screened the hijackers' carry-on belongings. The screening was in place to identify and confiscate weapons and other items prohibited from being carried onto a commercial flight.⁷ None of the checkpoint supervisors recalled the hijackers or reported anything suspicious regarding their screening.⁸

While Atta had been selected by CAPPS in Portland, three members of his hijacking team—Suqami, Wail al Shehri, and Waleed al Shehri—were selected in Boston. Their selection affected only the handling of their checked bags, not their screening at the checkpoint. All five men cleared the checkpoint and made their way to the gate for American 11. Atta, Omari, and Suqami took their seats in business class (seats 8D, 8G, and 10B, respectively). The Shehri brothers had adjacent seats in row 2 (Wail in 2A, Waleed in 2B), in the first-class cabin. They boarded American 11 between 7:31 and 7:40. The aircraft pushed back from the gate at 7:40.⁹

Shehhi and his team, none of whom had been selected by CAPPS, boarded United 175 between 7:23 and 7:28 (Banihammad in 2A, Shehri in 2B, Shehhi in 6C, Hamza al Ghamdi in 9C, and Ahmed al Ghamdi in 9D). Their aircraft pushed back from the gate just before 8:00.¹⁰

Washington Dulles: American 77. Hundreds of miles southwest of Boston, at Dulles International Airport in the Virginia suburbs of Washington, D.C., five more men were preparing to take their early morning flight. At 7:15, a pair

of them, Khalid al Mihdhar and Majed Moqed, checked in at the American Airlines ticket counter for Flight 77, bound for Los Angeles. Within the next 20 minutes, they would be followed by Hani Hanjour and two brothers, Nawaf al Hazmi and Salem al Hazmi.¹¹

Hani Hanjour, Khalid al Mihdhar, and Majed Moqed were flagged by CAPPs. The Hazmi brothers were also selected for extra scrutiny by the airline’s customer service representative at the check-in counter. He did so because one of the brothers did not have photo identification nor could he understand English, and because the agent found both of the passengers to be suspicious. The only consequence of their selection was that their checked bags were held off the plane until it was confirmed that they had boarded the aircraft.¹²

All five hijackers passed through the Main Terminal’s west security screening checkpoint; United Airlines, which was the responsible air carrier, had contracted out the work to Argenbright Security.¹³ The checkpoint featured closed-circuit television that recorded all passengers, including the hijackers, as they were screened. At 7:18, Mihdhar and Moqed entered the security checkpoint.

Mihdhar and Moqed placed their carry-on bags on the belt of the X-ray machine and proceeded through the first metal detector. Both set off the alarm, and they were directed to a second metal detector. Mihdhar did not trigger the alarm and was permitted through the checkpoint. After Moqed set it off, a screener wanded him. He passed this inspection.¹⁴

About 20 minutes later, at 7:35, another passenger for Flight 77, Hani Hanjour, placed two carry-on bags on the X-ray belt in the Main Terminal’s west checkpoint, and proceeded, without alarm, through the metal detector. A short time later, Nawaf and Salem al Hazmi entered the same checkpoint. Salem al Hazmi cleared the metal detector and was permitted through; Nawaf al Hazmi set off the alarms for both the first and second metal detectors and was then hand-wanded before being passed. In addition, his over-the-shoulder carry-on bag was swiped by an explosive trace detector and then passed. The video footage indicates that he was carrying an unidentified item in his back pocket, clipped to its rim.¹⁵

When the local civil aviation security office of the Federal Aviation Administration (FAA) later investigated these security screening operations, the screeners recalled nothing out of the ordinary. They could not recall that any of the passengers they screened were CAPPs selectees. We asked a screening expert to review the videotape of the hand-wandering, and he found the quality of the screener’s work to have been “marginal at best.” The screener should have “resolved” what set off the alarm; and in the case of both Moqed and Hazmi, it was clear that he did not.¹⁶

At 7:50, Majed Moqed and Khalid al Mihdhar boarded the flight and were seated in 12A and 12B in coach. Hani Hanjour, assigned to seat 1B (first class),

soon followed. The Hazmi brothers, sitting in 5E and 5F, joined Hanjour in the first-class cabin.¹⁷

Newark: United 93. Between 7:03 and 7:39, Saeed al Ghamdi, Ahmed al Nami, Ahmad al Haznawi, and Ziad Jarrah checked in at the United Airlines ticket counter for Flight 93, going to Los Angeles. Two checked bags; two did not. Haznawi was selected by CAPPS. His checked bag was screened for explosives and then loaded on the plane.¹⁸

The four men passed through the security checkpoint, owned by United Airlines and operated under contract by Argenbright Security. Like the checkpoints in Boston, it lacked closed-circuit television surveillance so there is no documentary evidence to indicate when the hijackers passed through the checkpoint, what alarms may have been triggered, or what security procedures were administered. The FAA interviewed the screeners later; none recalled anything unusual or suspicious.¹⁹

The four men boarded the plane between 7:39 and 7:48. All four had seats in the first-class cabin; their plane had no business-class section. Jarrah was in seat 1B, closest to the cockpit; Nami was in 3C, Ghamdi in 3D, and Haznawi in 6B.²⁰

The 19 men were aboard four transcontinental flights.²¹ They were planning to hijack these planes and turn them into large guided missiles, loaded with up to 11,400 gallons of jet fuel. By 8:00 A.M. on the morning of Tuesday, September 11, 2001, they had defeated all the security layers that America's civil aviation security system then had in place to prevent a hijacking.

The Hijacking of American 11

American Airlines Flight 11 provided nonstop service from Boston to Los Angeles. On September 11, Captain John Ogonowski and First Officer Thomas McGuinness piloted the Boeing 767. It carried its full capacity of nine flight attendants. Eighty-one passengers boarded the flight with them (including the five terrorists).²²

The plane took off at 7:59. Just before 8:14, it had climbed to 26,000 feet, not quite its initial assigned cruising altitude of 29,000 feet. All communications and flight profile data were normal. About this time the "Fasten Seatbelt" sign would usually have been turned off and the flight attendants would have begun preparing for cabin service.²³

At that same time, American 11 had its last routine communication with the ground when it acknowledged navigational instructions from the FAA's air traffic control (ATC) center in Boston. Sixteen seconds after that transmission, ATC instructed the aircraft's pilots to climb to 35,000 feet. That message and all subsequent attempts to contact the flight were not acknowledged. From this and other evidence, we believe the hijacking began at 8:14 or shortly thereafter.²⁴

Reports from two flight attendants in the coach cabin, Betty Ong and Madeline “Amy” Sweeney, tell us most of what we know about how the hijacking happened. As it began, some of the hijackers—most likely Wail al Shehri and Waleed al Shehri, who were seated in row 2 in first class—stabbed the two unarmed flight attendants who would have been preparing for cabin service.²⁵

We do not know exactly how the hijackers gained access to the cockpit; FAA rules required that the doors remain closed and locked during flight. Ong speculated that they had “jammed their way” in. Perhaps the terrorists stabbed the flight attendants to get a cockpit key, to force one of them to open the cockpit door, or to lure the captain or first officer out of the cockpit. Or the flight attendants may just have been in their way.²⁶

At the same time or shortly thereafter, Atta—the only terrorist on board trained to fly a jet—would have moved to the cockpit from his business-class seat, possibly accompanied by Omari. As this was happening, passenger Daniel Lewin, who was seated in the row just behind Atta and Omari, was stabbed by one of the hijackers—probably Satam al Suqami, who was seated directly behind Lewin. Lewin had served four years as an officer in the Israeli military. He may have made an attempt to stop the hijackers in front of him, not realizing that another was sitting behind him.²⁷

The hijackers quickly gained control and sprayed Mace, pepper spray, or some other irritant in the first-class cabin, in order to force the passengers and flight attendants toward the rear of the plane. They claimed they had a bomb.²⁸

About five minutes after the hijacking began, Betty Ong contacted the American Airlines Southeastern Reservations Office in Cary, North Carolina, via an AT&T airphone to report an emergency aboard the flight. This was the first of several occasions on 9/11 when flight attendants took action outside the scope of their training, which emphasized that in a hijacking, they were to communicate with the cockpit crew. The emergency call lasted approximately 25 minutes, as Ong calmly and professionally relayed information about events taking place aboard the airplane to authorities on the ground.²⁹

At 8:19, Ong reported: “The cockpit is not answering, somebody’s stabbed in business class—and I think there’s Mace—that we can’t breathe—I don’t know, I think we’re getting hijacked.” She then told of the stabbings of the two flight attendants.³⁰

At 8:21, one of the American employees receiving Ong’s call in North Carolina, Nydia Gonzalez, alerted the American Airlines operations center in Fort Worth, Texas, reaching Craig Marquis, the manager on duty. Marquis soon realized this was an emergency and instructed the airline’s dispatcher responsible for the flight to contact the cockpit. At 8:23, the dispatcher tried unsuccessfully to contact the aircraft. Six minutes later, the air traffic control specialist in American’s operations center contacted the FAA’s Boston Air Traffic Control Center about the flight. The center was already aware of the problem.³¹

Boston Center knew of a problem on the flight in part because just before 8:25 the hijackers had attempted to communicate with the passengers. The microphone was keyed, and immediately one of the hijackers said, "Nobody move. Everything will be okay. If you try to make any moves, you'll endanger yourself and the airplane. Just stay quiet." Air traffic controllers heard the transmission; Ong did not. The hijackers probably did not know how to operate the cockpit radio communication system correctly, and thus inadvertently broadcast their message over the air traffic control channel instead of the cabin public-address channel. Also at 8:25, and again at 8:29, Amy Sweeney got through to the American Flight Services Office in Boston but was cut off after she reported someone was hurt aboard the flight. Three minutes later, Sweeney was reconnected to the office and began relaying updates to the manager, Michael Woodward.³²

At 8:26, Ong reported that the plane was "flying erratically." A minute later, Flight 11 turned south. American also began getting identifications of the hijackers, as Ong and then Sweeney passed on some of the seat numbers of those who had gained unauthorized access to the cockpit.³³

Sweeney calmly reported on her line that the plane had been hijacked; a man in first class had his throat slashed; two flight attendants had been stabbed—one was seriously hurt and was on oxygen while the other's wounds seemed minor; a doctor had been requested; the flight attendants were unable to contact the cockpit; and there was a bomb in the cockpit. Sweeney told Woodward that she and Ong were trying to relay as much information as they could to people on the ground.³⁴

At 8:38, Ong told Gonzalez that the plane was flying erratically again. Around this time Sweeney told Woodward that the hijackers were Middle Easterners, naming three of their seat numbers. One spoke very little English and one spoke excellent English. The hijackers had gained entry to the cockpit, and she did not know how. The aircraft was in a rapid descent.³⁵

At 8:41, Sweeney told Woodward that passengers in coach were under the impression that there was a routine medical emergency in first class. Other flight attendants were busy at duties such as getting medical supplies while Ong and Sweeney were reporting the events.³⁶

At 8:41, in American's operations center, a colleague told Marquis that the air traffic controllers declared Flight 11 a hijacking and "think he's [American 11] headed toward Kennedy [airport in New York City]. They're moving everybody out of the way. They seem to have him on a primary radar. They seem to think that he is descending."³⁷

At 8:44, Gonzalez reported losing phone contact with Ong. About this same time Sweeney reported to Woodward, "Something is wrong. We are in a rapid descent . . . we are all over the place." Woodward asked Sweeney to look out the window to see if she could determine where they were. Sweeney responded: "We are flying low. We are flying very, very low. We are flying way

too low.” Seconds later she said, “Oh my God we are way too low.” The phone call ended.³⁸

At 8:46:40, American 11 crashed into the North Tower of the World Trade Center in New York City.³⁹ All on board, along with an unknown number of people in the tower, were killed instantly.

The Hijacking of United 175

United Airlines Flight 175 was scheduled to depart for Los Angeles at 8:00. Captain Victor Saracini and First Officer Michael Horrocks piloted the Boeing 767, which had seven flight attendants. Fifty-six passengers boarded the flight.⁴⁰

United 175 pushed back from its gate at 7:58 and departed Logan Airport at 8:14. By 8:33, it had reached its assigned cruising altitude of 31,000 feet. The flight attendants would have begun their cabin service.⁴¹

The flight had taken off just as American 11 was being hijacked, and at 8:42 the United 175 flight crew completed their report on a “suspicious transmission” overheard from another plane (which turned out to have been Flight 11) just after takeoff. This was United 175’s last communication with the ground.⁴²

The hijackers attacked sometime between 8:42 and 8:46. They used knives (as reported by two passengers and a flight attendant), Mace (reported by one passenger), and the threat of a bomb (reported by the same passenger). They stabbed members of the flight crew (reported by a flight attendant and one passenger). Both pilots had been killed (reported by one flight attendant). The eyewitness accounts came from calls made from the rear of the plane, from passengers originally seated further forward in the cabin, a sign that passengers and perhaps crew had been moved to the back of the aircraft. Given similarities to American 11 in hijacker seating and in eyewitness reports of tactics and weapons, as well as the contact between the presumed team leaders, Atta and Shehhi, we believe the tactics were similar on both flights.⁴³

The first operational evidence that something was abnormal on United 175 came at 8:47, when the aircraft changed beacon codes twice within a minute. At 8:51, the flight deviated from its assigned altitude, and a minute later New York air traffic controllers began repeatedly and unsuccessfully trying to contact it.⁴⁴

At 8:52, in Easton, Connecticut, a man named Lee Hanson received a phone call from his son Peter, a passenger on United 175. His son told him: “I think they’ve taken over the cockpit—An attendant has been stabbed—and someone else up front may have been killed. The plane is making strange moves. Call United Airlines—Tell them it’s Flight 175, Boston to LA.” Lee Hanson then called the Easton Police Department and relayed what he had heard.⁴⁵

Also at 8:52, a male flight attendant called a United office in San Francisco, reaching Marc Policastro. The flight attendant reported that the flight had been hijacked, both pilots had been killed, a flight attendant had been stabbed, and

the hijackers were probably flying the plane. The call lasted about two minutes, after which Policastro and a colleague tried unsuccessfully to contact the flight.⁴⁶

At 8:58, the flight took a heading toward New York City.⁴⁷

At 8:59, Flight 175 passenger Brian David Sweeney tried to call his wife, Julie. He left a message on their home answering machine that the plane had been hijacked. He then called his mother, Louise Sweeney, told her the flight had been hijacked, and added that the passengers were thinking about storming the cockpit to take control of the plane away from the hijackers.⁴⁸

At 9:00, Lee Hanson received a second call from his son Peter:

It's getting bad, Dad—A stewardess was stabbed—They seem to have knives and Mace—They said they have a bomb—It's getting very bad on the plane—Passengers are throwing up and getting sick—The plane is making jerky movements—I don't think the pilot is flying the plane—I think we are going down—I think they intend to go to Chicago or someplace and fly into a building—Don't worry, Dad—If it happens, it'll be very fast—My God, my God.⁴⁹

The call ended abruptly. Lee Hanson had heard a woman scream just before it cut off. He turned on a television, and in her home so did Louise Sweeney. Both then saw the second aircraft hit the World Trade Center.⁵⁰

At 9:03:11, United Airlines Flight 175 struck the South Tower of the World Trade Center.⁵¹ All on board, along with an unknown number of people in the tower, were killed instantly.

The Hijacking of American 77

American Airlines Flight 77 was scheduled to depart from Washington Dulles for Los Angeles at 8:10. The aircraft was a Boeing 757 piloted by Captain Charles F. Burlingame and First Officer David Charlebois. There were four flight attendants. On September 11, the flight carried 58 passengers.⁵²

American 77 pushed back from its gate at 8:09 and took off at 8:20. At 8:46, the flight reached its assigned cruising altitude of 35,000 feet. Cabin service would have begun. At 8:51, American 77 transmitted its last routine radio communication. The hijacking began between 8:51 and 8:54. As on American 11 and United 175, the hijackers used knives (reported by one passenger) and moved all the passengers (and possibly crew) to the rear of the aircraft (reported by one flight attendant and one passenger). Unlike the earlier flights, the Flight 77 hijackers were reported by a passenger to have box cutters. Finally, a passenger reported that an announcement had been made by the "pilot" that the plane had been hijacked. Neither of the firsthand accounts mentioned any stabblings or the threat or use of either a bomb or Mace, though both witnesses began the flight in the first-class cabin.⁵³

At 8:54, the aircraft deviated from its assigned course, turning south. Two minutes later the transponder was turned off and even primary radar contact with the aircraft was lost. The Indianapolis Air Traffic Control Center repeatedly tried and failed to contact the aircraft. American Airlines dispatchers also tried, without success.⁵⁴

At 9:00, American Airlines Executive Vice President Gerard Arpey learned that communications had been lost with American 77. This was now the second American aircraft in trouble. He ordered all American Airlines flights in the Northeast that had not taken off to remain on the ground. Shortly before 9:10, suspecting that American 77 had been hijacked, American headquarters concluded that the second aircraft to hit the World Trade Center might have been Flight 77. After learning that United Airlines was missing a plane, American Airlines headquarters extended the ground stop nationwide.⁵⁵

At 9:12, Renee May called her mother, Nancy May, in Las Vegas. She said her flight was being hijacked by six individuals who had moved them to the rear of the plane. She asked her mother to alert American Airlines. Nancy May and her husband promptly did so.⁵⁶

At some point between 9:16 and 9:26, Barbara Olson called her husband, Ted Olson, the solicitor general of the United States. She reported that the flight had been hijacked, and the hijackers had knives and box cutters. She further indicated that the hijackers were not aware of her phone call, and that they had put all the passengers in the back of the plane. About a minute into the conversation, the call was cut off. Solicitor General Olson tried unsuccessfully to reach Attorney General John Ashcroft.⁵⁷

Shortly after the first call, Barbara Olson reached her husband again. She reported that the pilot had announced that the flight had been hijacked, and she asked her husband what she should tell the captain to do. Ted Olson asked for her location and she replied that the aircraft was then flying over houses. Another passenger told her they were traveling northeast. The Solicitor General then informed his wife of the two previous hijackings and crashes. She did not display signs of panic and did not indicate any awareness of an impending crash. At that point, the second call was cut off.⁵⁸

At 9:29, the autopilot on American 77 was disengaged; the aircraft was at 7,000 feet and approximately 38 miles west of the Pentagon.⁵⁹ At 9:32, controllers at the Dulles Terminal Radar Approach Control “observed a primary radar target tracking eastbound at a high rate of speed.” This was later determined to have been Flight 77.

At 9:34, Ronald Reagan Washington National Airport advised the Secret Service of an unknown aircraft heading in the direction of the White House. American 77 was then 5 miles west-southwest of the Pentagon and began a 330-degree turn. At the end of the turn, it was descending through 2,200 feet, pointed toward the Pentagon and downtown Washington. The hijacker pilot then advanced the throttles to maximum power and dove toward the Pentagon.⁶⁰

At 9:37:46, American Airlines Flight 77 crashed into the Pentagon, traveling at approximately 530 miles per hour.⁶¹ All on board, as well as many civilian and military personnel in the building, were killed.

The Battle for United 93

At 8:42, United Airlines Flight 93 took off from Newark (New Jersey) Liberty International Airport bound for San Francisco. The aircraft was piloted by Captain Jason Dahl and First Officer Leroy Homer, and there were five flight attendants. Thirty-seven passengers, including the hijackers, boarded the plane. Scheduled to depart the gate at 8:00, the Boeing 757's takeoff was delayed because of the airport's typically heavy morning traffic.⁶²

The hijackers had planned to take flights scheduled to depart at 7:45 (American 11), 8:00 (United 175 and United 93), and 8:10 (American 77). Three of the flights had actually taken off within 10 to 15 minutes of their planned departure times. United 93 would ordinarily have taken off about 15 minutes after pulling away from the gate. When it left the ground at 8:42, the flight was running more than 25 minutes late.⁶³

As United 93 left Newark, the flight's crew members were unaware of the hijacking of American 11. Around 9:00, the FAA, American, and United were facing the staggering realization of apparent multiple hijackings. At 9:03, they would see another aircraft strike the World Trade Center. Crisis managers at the FAA and the airlines did not yet act to warn other aircraft.⁶⁴ At the same time, Boston Center realized that a message transmitted just before 8:25 by the hijacker pilot of American 11 included the phrase, "We have some planes."⁶⁵

No one at the FAA or the airlines that day had ever dealt with multiple hijackings. Such a plot had not been carried out anywhere in the world in more than 30 years, and never in the United States. As news of the hijackings filtered through the FAA and the airlines, it does not seem to have occurred to their leadership that they needed to alert other aircraft in the air that they too might be at risk.⁶⁶

United 175 was hijacked between 8:42 and 8:46, and awareness of that hijacking began to spread after 8:51. American 77 was hijacked between 8:51 and 8:54. By 9:00, FAA and airline officials began to comprehend that attackers were going after multiple aircraft. American Airlines' nationwide ground stop between 9:05 and 9:10 was followed by a United Airlines ground stop. FAA controllers at Boston Center, which had tracked the first two hijackings, requested at 9:07 that Herndon Command Center "get messages to airborne aircraft to increase security for the cockpit." There is no evidence that Herndon took such action. Boston Center immediately began speculating about other aircraft that might be in danger, leading them to worry about a transcontinental flight—Delta 1989—that in fact was not hijacked. At 9:19, the FAA's New England regional office called Herndon and asked that Cleveland Center advise Delta 1989 to use extra cockpit security.⁶⁷

Several FAA air traffic control officials told us it was the air carriers’ responsibility to notify their planes of security problems. One senior FAA air traffic control manager said that it was simply not the FAA’s place to order the airlines what to tell their pilots.⁶⁸ We believe such statements do not reflect an adequate appreciation of the FAA’s responsibility for the safety and security of civil aviation.

The airlines bore responsibility, too. They were facing an escalating number of conflicting and, for the most part, erroneous reports about other flights, as well as a continuing lack of vital information from the FAA about the hijacked flights. We found no evidence, however, that American Airlines sent any cockpit warnings to its aircraft on 9/11. United’s first decisive action to notify its airborne aircraft to take defensive action did not come until 9:19, when a United flight dispatcher, Ed Ballinger, took the initiative to begin transmitting warnings to his 16 transcontinental flights: “Beware any cockpit intrusion—Two a/c [aircraft] hit World Trade Center.” One of the flights that received the warning was United 93. Because Ballinger was still responsible for his other flights as well as Flight 175, his warning message was not transmitted to Flight 93 until 9:23.⁶⁹

By all accounts, the first 46 minutes of Flight 93’s cross-country trip proceeded routinely. Radio communications from the plane were normal. Heading, speed, and altitude ran according to plan. At 9:24, Ballinger’s warning to United 93 was received in the cockpit. Within two minutes, at 9:26, the pilot, Jason Dahl, responded with a note of puzzlement: “Ed, confirm latest mssg plz—Jason.”⁷⁰

The hijackers attacked at 9:28. While traveling 35,000 feet above eastern Ohio, United 93 suddenly dropped 700 feet. Eleven seconds into the descent, the FAA’s air traffic control center in Cleveland received the first of two radio transmissions from the aircraft. During the first broadcast, the captain or first officer could be heard declaring “Mayday” amid the sounds of a physical struggle in the cockpit. The second radio transmission, 35 seconds later, indicated that the fight was continuing. The captain or first officer could be heard shouting: “Hey get out of here—get out of here—get out of here.”⁷¹

On the morning of 9/11, there were only 37 passengers on United 93—33 in addition to the 4 hijackers. This was below the norm for Tuesday mornings during the summer of 2001. But there is no evidence that the hijackers manipulated passenger levels or purchased additional seats to facilitate their operation.⁷²

The terrorists who hijacked three other commercial flights on 9/11 operated in five-man teams. They initiated their cockpit takeover within 30 minutes of takeoff. On Flight 93, however, the takeover took place 46 minutes after takeoff and there were only four hijackers. The operative likely intended to round out the team for this flight, Mohamed al Kahitani, had been refused entry by a suspicious immigration inspector at Florida’s Orlando International Airport in August.⁷³

Because several passengers on United 93 described three hijackers on the plane, not four, some have wondered whether one of the hijackers had been able to use the cockpit jump seat from the outset of the flight. FAA rules allow use of this seat by documented and approved individuals, usually air carrier or FAA personnel. We have found no evidence indicating that one of the hijackers, or anyone else, sat there on this flight. All the hijackers had assigned seats in first class, and they seem to have used them. We believe it is more likely that Jarrah, the crucial pilot-trained member of their team, remained seated and inconspicuous until after the cockpit was seized; and once inside, he would not have been visible to the passengers.⁷⁴

At 9:32, a hijacker, probably Jarrah, made or attempted to make the following announcement to the passengers of Flight 93: “Ladies and Gentlemen: Here the captain, please sit down keep remaining sitting. We have a bomb on board. So, sit.” The flight data recorder (also recovered) indicates that Jarrah then instructed the plane’s autopilot to turn the aircraft around and head east.⁷⁵

The cockpit voice recorder data indicate that a woman, most likely a flight attendant, was being held captive in the cockpit. She struggled with one of the hijackers who killed or otherwise silenced her.⁷⁶

Shortly thereafter, the passengers and flight crew began a series of calls from GTE airphones and cellular phones. These calls between family, friends, and colleagues took place until the end of the flight and provided those on the ground with firsthand accounts. They enabled the passengers to gain critical information, including the news that two aircraft had slammed into the World Trade Center.⁷⁷

At 9:39, the FAA’s Cleveland Air Route Traffic Control Center overheard a second announcement indicating that there was a bomb on board, that the plane was returning to the airport, and that they should remain seated.⁷⁸ While it apparently was not heard by the passengers, this announcement, like those on Flight 11 and Flight 77, was intended to deceive them. Jarrah, like Atta earlier, may have inadvertently broadcast the message because he did not know how to operate the radio and the intercom. To our knowledge none of them had ever flown an actual airliner before.

At least two callers from the flight reported that the hijackers knew that passengers were making calls but did not seem to care. It is quite possible Jarrah knew of the success of the assault on the World Trade Center. He could have learned of this from messages being sent by United Airlines to the cockpits of its transcontinental flights, including Flight 93, warning of cockpit intrusion and telling of the New York attacks. But even without them, he would certainly have understood that the attacks on the World Trade Center would already have unfolded, given Flight 93’s tardy departure from Newark. If Jarrah did know that the passengers were making calls, it might not have occurred to him that they were certain to learn what had happened in New York, thereby defeating his attempts at deception.⁷⁹

At least ten passengers and two crew members shared vital information with family, friends, colleagues, or others on the ground. All understood the plane had been hijacked. They said the hijackers wielded knives and claimed to have a bomb. The hijackers were wearing red bandanas, and they forced the passengers to the back of the aircraft.⁸⁰

Callers reported that a passenger had been stabbed and that two people were lying on the floor of the cabin, injured or dead—possibly the captain and first officer. One caller reported that a flight attendant had been killed.⁸¹

One of the callers from United 93 also reported that he thought the hijackers might possess a gun. But none of the other callers reported the presence of a firearm. One recipient of a call from the aircraft recounted specifically asking her caller whether the hijackers had guns. The passenger replied that he did not see one. No evidence of firearms or of their identifiable remains was found at the aircraft’s crash site, and the cockpit voice recorder gives no indication of a gun being fired or mentioned at any time. We believe that if the hijackers had possessed a gun, they would have used it in the flight’s last minutes as the passengers fought back.⁸²

Passengers on three flights reported the hijackers’ claim of having a bomb. The FBI told us they found no trace of explosives at the crash sites. One of the passengers who mentioned a bomb expressed his belief that it was not real. Lacking any evidence that the hijackers attempted to smuggle such illegal items past the security screening checkpoints, we believe the bombs were probably fake.⁸³

During at least five of the passengers’ phone calls, information was shared about the attacks that had occurred earlier that morning at the World Trade Center. Five calls described the intent of passengers and surviving crew members to revolt against the hijackers. According to one call, they voted on whether to rush the terrorists in an attempt to retake the plane. They decided, and acted.⁸⁴

At 9:57, the passenger assault began. Several passengers had terminated phone calls with loved ones in order to join the revolt. One of the callers ended her message as follows: “Everyone’s running up to first class. I’ve got to go. Bye.”⁸⁵

The cockpit voice recorder captured the sounds of the passenger assault muffled by the intervening cockpit door. Some family members who listened to the recording report that they can hear the voice of a loved one among the din. We cannot identify whose voices can be heard. But the assault was sustained.⁸⁶

In response, Jarrah immediately began to roll the airplane to the left and right, attempting to knock the passengers off balance. At 9:58:57, Jarrah told another hijacker in the cockpit to block the door. Jarrah continued to roll the airplane sharply left and right, but the assault continued. At 9:59:52, Jarrah changed tactics and pitched the nose of the airplane up and down to disrupt

the assault. The recorder captured the sounds of loud thumps, crashes, shouts, and breaking glasses and plates. At 10:00:03, Jarrah stabilized the airplane.⁸⁷

Five seconds later, Jarrah asked, "Is that it? Shall we finish it off?" A hijacker responded, "No. Not yet. When they all come, we finish it off." The sounds of fighting continued outside the cockpit. Again, Jarrah pitched the nose of the aircraft up and down. At 10:00:26, a passenger in the background said, "In the cockpit. If we don't we'll die!" Sixteen seconds later, a passenger yelled, "Roll it!" Jarrah stopped the violent maneuvers at about 10:01:00 and said, "Allah is the greatest! Allah is the greatest!" He then asked another hijacker in the cockpit, "Is that it? I mean, shall we put it down?" to which the other replied, "Yes, put it in it, and pull it down."⁸⁸

The passengers continued their assault and at 10:02:23, a hijacker said, "Pull it down! Pull it down!" The hijackers remained at the controls but must have judged that the passengers were only seconds from overcoming them. The airplane headed down; the control wheel was turned hard to the right. The airplane rolled onto its back, and one of the hijackers began shouting "Allah is the greatest. Allah is the greatest." With the sounds of the passenger counter-attack continuing, the aircraft plowed into an empty field in Shanksville, Pennsylvania, at 580 miles per hour, about 20 minutes' flying time from Washington, D.C.⁸⁹

Jarrah's objective was to crash his airliner into symbols of the American Republic, the Capitol or the White House. He was defeated by the alerted, unarmed passengers of United 93.

1.2 IMPROVISING A HOMELAND DEFENSE

The FAA and NORAD

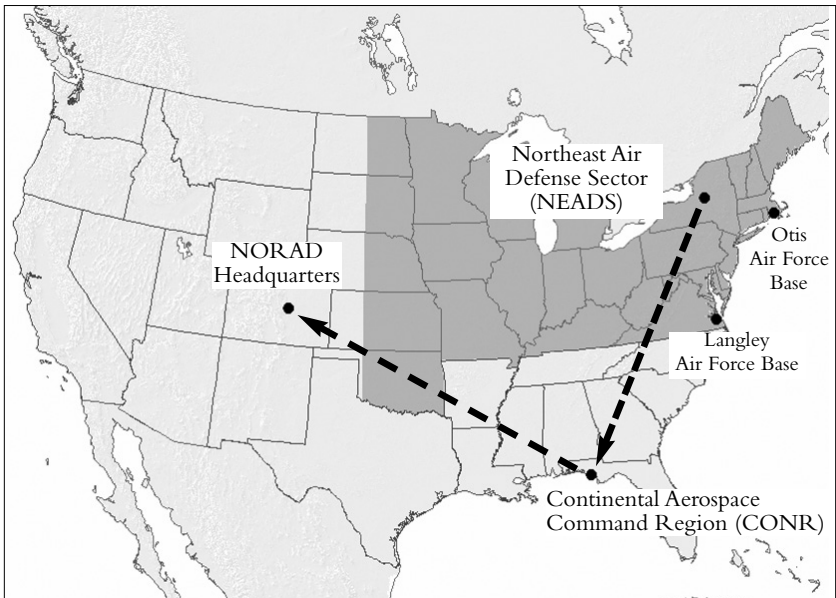
On 9/11, the defense of U.S. airspace depended on close interaction between two federal agencies: the FAA and the North American Aerospace Defense Command (NORAD). The most recent hijacking that involved U.S. air traffic controllers, FAA management, and military coordination had occurred in 1993.⁹⁰ In order to understand how the two agencies interacted eight years later, we will review their missions, command and control structures, and working relationship on the morning of 9/11.

FAA Mission and Structure. As of September 11, 2001, the FAA was mandated by law to regulate the safety and security of civil aviation. From an air traffic controller's perspective, that meant maintaining a safe distance between airborne aircraft.⁹¹

Many controllers work at the FAA's 22 Air Route Traffic *Control Centers*. They are grouped under regional offices and coordinate closely with the national Air Traffic Control System *Command Center*, located in Herndon,



FAA Air Traffic Control Centers



Reporting structure, Northeast Air Defense Sector

Graphics courtesy of ESRI

Virginia, which oversees daily traffic flow within the entire airspace system. FAA headquarters is ultimately responsible for the management of the National Airspace System. The *Operations Center* located at FAA headquarters receives notifications of incidents, including accidents and hijackings.⁹²

FAA Control Centers often receive information and make operational decisions independently of one another. On 9/11, the four hijacked aircraft were monitored mainly by the centers in Boston, New York, Cleveland, and Indianapolis. Each center thus had part of the knowledge of what was going on across the system. What Boston knew was not necessarily known by centers in New York, Cleveland, or Indianapolis, or for that matter by the Command Center in Herndon or by FAA headquarters in Washington.

Controllers track airliners such as the four aircraft hijacked on 9/11 primarily by watching the data from a signal emitted by each aircraft's transponder equipment. Those four planes, like all aircraft traveling above 10,000 feet, were required to emit a unique transponder signal while in flight.⁹³

On 9/11, the terrorists turned off the transponders on three of the four hijacked aircraft. With its transponder off, it is possible, though more difficult, to track an aircraft by its primary radar returns. But unlike transponder data, primary radar returns do not show the aircraft's identity and altitude. Controllers at centers rely so heavily on transponder signals that they usually do not display primary radar returns on their radar scopes. But they can change the configuration of their scopes so they can see primary radar returns. They did this on 9/11 when the transponder signals for three of the aircraft disappeared.⁹⁴

Before 9/11, it was not unheard of for a commercial aircraft to deviate slightly from its course, or for an FAA controller to lose radio contact with a pilot for a short period of time. A controller could also briefly lose a commercial aircraft's transponder signal, although this happened much less frequently. However, the simultaneous loss of radio and transponder signal would be a rare and alarming occurrence, and would normally indicate a catastrophic system failure or an aircraft crash. In all of these instances, the job of the controller was to reach out to the aircraft, the parent company of the aircraft, and other planes in the vicinity in an attempt to reestablish communications and set the aircraft back on course. Alarm bells would not start ringing until these efforts—which could take five minutes or more—were tried and had failed.⁹⁵

NORAD Mission and Structure. NORAD is a binational command established in 1958 between the United States and Canada. Its mission was, and is, to defend the airspace of North America and protect the continent. That mission does not distinguish between internal and external threats; but because NORAD was created to counter the Soviet threat, it came to define its job as defending against external attacks.⁹⁶

The threat of Soviet bombers diminished significantly as the Cold War ended, and the number of NORAD alert sites was reduced from its Cold War high of 26. Some within the Pentagon argued in the 1990s that the alert sites

should be eliminated entirely. In an effort to preserve their mission, members of the air defense community advocated the importance of air sovereignty against emerging “asymmetric threats” to the United States: drug smuggling, “non-state and state-sponsored terrorists,” and the proliferation of weapons of mass destruction and ballistic missile technology.⁹⁷

NORAD perceived the dominant threat to be from cruise missiles. Other threats were identified during the late 1990s, including terrorists’ use of aircraft as weapons. Exercises were conducted to counter this threat, but they were not based on actual intelligence. In most instances, the main concern was the use of such aircraft to deliver weapons of mass destruction.

Prior to 9/11, it was understood that an order to shoot down a commercial aircraft would have to be issued by the National Command Authority (a phrase used to describe the president and secretary of defense). Exercise planners also assumed that the aircraft would originate from outside the United States, allowing time to identify the target and scramble interceptors. The threat of terrorists hijacking commercial airliners within the United States—and using them as guided missiles—was not recognized by NORAD before 9/11.⁹⁸

Notwithstanding the identification of these emerging threats, by 9/11 there were only seven alert sites left in the United States, each with two fighter aircraft on alert. This led some NORAD commanders to worry that NORAD was not postured adequately to protect the United States.⁹⁹

In the United States, NORAD is divided into three sectors. On 9/11, all the hijacked aircraft were in NORAD’s Northeast Air Defense Sector (also known as NEADS), which is based in Rome, New York. That morning NEADS could call on two alert sites, each with one pair of ready fighters: Otis Air National Guard Base in Cape Cod, Massachusetts, and Langley Air Force Base in Hampton, Virginia.¹⁰⁰ Other facilities, not on “alert,” would need time to arm the fighters and organize crews.

NEADS reported to the Continental U.S. NORAD Region (CONR) headquarters, in Panama City, Florida, which in turn reported to NORAD headquarters, in Colorado Springs, Colorado.

Interagency Collaboration. The FAA and NORAD had developed protocols for working together in the event of a hijacking. As they existed on 9/11, the protocols for the FAA to obtain military assistance from NORAD required multiple levels of notification and approval at the highest levels of government.¹⁰¹

FAA guidance to controllers on hijack procedures assumed that the aircraft pilot would notify the controller via radio or by “squawking” a transponder code of “7500”—the universal code for a hijack in progress. Controllers would notify their supervisors, who in turn would inform management all the way up to FAA headquarters in Washington. Headquarters had a hijack coordinator, who was the director of the FAA Office of Civil Aviation Security or his or her designate.¹⁰²

If a hijack was confirmed, procedures called for the hijack coordinator on

duty to contact the Pentagon's National Military Command Center (NMCC) and to ask for a military escort aircraft to follow the flight, report anything unusual, and aid search and rescue in the event of an emergency. The NMCC would then seek approval from the Office of the Secretary of Defense to provide military assistance. If approval was given, the orders would be transmitted down NORAD's chain of command.¹⁰³

The NMCC would keep the FAA hijack coordinator up to date and help the FAA centers coordinate directly with the military. NORAD would receive tracking information for the hijacked aircraft either from joint use radar or from the relevant FAA air traffic control facility. Every attempt would be made to have the hijacked aircraft squawk 7500 to help NORAD track it.¹⁰⁴

The protocols did not contemplate an intercept. They assumed the fighter escort would be discreet, "vectored to a position five miles directly behind the hijacked aircraft," where it could perform its mission to monitor the aircraft's flight path.¹⁰⁵

In sum, the protocols in place on 9/11 for the FAA and NORAD to respond to a hijacking presumed that

- the hijacked aircraft would be readily identifiable and would not attempt to disappear;
- there would be time to address the problem through the appropriate FAA and NORAD chains of command; and
- the hijacking would take the traditional form: that is, it would not be a suicide hijacking designed to convert the aircraft into a guided missile.

On the morning of 9/11, the existing protocol was unsuited in every respect for what was about to happen.

American Airlines Flight 11

FAA Awareness. Although the Boston Center air traffic controller realized at an early stage that there was something wrong with American 11, he did not immediately interpret the plane's failure to respond as a sign that it had been hijacked. At 8:14, when the flight failed to heed his instruction to climb to 35,000 feet, the controller repeatedly tried to raise the flight. He reached out to the pilot on the emergency frequency. Though there was no response, he kept trying to contact the aircraft.¹⁰⁶

At 8:21, American 11 turned off its transponder, immediately degrading the information available about the aircraft. The controller told his supervisor that he thought something was seriously wrong with the plane, although neither suspected a hijacking. The supervisor instructed the controller to follow standard procedures for handling a "no radio" aircraft.¹⁰⁷

The controller checked to see if American Airlines could establish communication with American 11. He became even more concerned as its route changed, moving into another sector's airspace. Controllers immediately began to move aircraft out of its path, and asked other aircraft in the vicinity to look for American 11.¹⁰⁸

At 8:24:38, the following transmission came from American 11:

American 11: We have some planes. Just stay quiet, and you'll be okay.
We are returning to the airport.

The controller only heard something unintelligible; he did not hear the specific words “we have some planes.” The next transmission came seconds later:

American 11: Nobody move. Everything will be okay. If you try to make any moves, you'll endanger yourself and the airplane. Just stay quiet.¹⁰⁹

The controller told us that he then knew it was a hijacking. He alerted his supervisor, who assigned another controller to assist him. He redoubled his efforts to ascertain the flight's altitude. Because the controller didn't understand the initial transmission, the manager of Boston Center instructed his quality assurance specialist to “pull the tape” of the radio transmission, listen to it closely, and report back.¹¹⁰

Between 8:25 and 8:32, in accordance with the FAA protocol, Boston Center managers started notifying their chain of command that American 11 had been hijacked. At 8:28, Boston Center called the Command Center in Herndon to advise that it believed American 11 had been hijacked and was heading toward New York Center's airspace.

By this time, American 11 had taken a dramatic turn to the south. At 8:32, the Command Center passed word of a possible hijacking to the Operations Center at FAA headquarters. The duty officer replied that security personnel at headquarters had just begun discussing the apparent hijack on a conference call with the New England regional office. FAA headquarters began to follow the hijack protocol but did not contact the NMCC to request a fighter escort.¹¹¹

The Herndon Command Center immediately established a teleconference between Boston, New York, and Cleveland Centers so that Boston Center could help the others understand what was happening.¹¹²

At 8:34, the Boston Center controller received a third transmission from American 11:

American 11: Nobody move please. We are going back to the airport.
Don't try to make any stupid moves.¹¹³

In the succeeding minutes, controllers were attempting to ascertain the altitude of the southbound flight.¹¹⁴

Military Notification and Response. Boston Center did not follow the protocol in seeking military assistance through the prescribed chain of command. In addition to notifications within the FAA, Boston Center took the initiative, at 8:34, to contact the military through the FAA's Cape Cod facility. The center also tried to contact a former alert site in Atlantic City, unaware it had been phased out. At 8:37:52, Boston Center reached NEADS. This was the first notification received by the military—at any level—that American 11 had been hijacked.¹¹⁵

FAA: Hi. Boston Center TMU [Traffic Management Unit], we have a problem here. We have a hijacked aircraft headed towards New York, and we need you guys to, we need someone to scramble some F-16s or something up there, help us out.

NEADS: Is this real-world or exercise?

FAA: No, this is not an exercise, not a test.¹¹⁶

NEADS ordered to battle stations the two F-15 alert aircraft at Otis Air Force Base in Falmouth, Massachusetts, 153 miles away from New York City. The air defense of America began with this call.¹¹⁷

At NEADS, the report of the hijacking was relayed immediately to Battle Commander Colonel Robert Marr. After ordering the Otis fighters to battle stations, Colonel Marr phoned Major General Larry Arnold, commanding general of the First Air Force and NORAD's Continental Region. Marr sought authorization to scramble the Otis fighters. General Arnold later recalled instructing Marr to "go ahead and scramble them, and we'll get authorities later." General Arnold then called NORAD headquarters to report.¹¹⁸

F-15 fighters were scrambled at 8:46 from Otis Air Force Base. But NEADS did not know where to send the alert fighter aircraft, and the officer directing the fighters pressed for more information: "I don't know where I'm scrambling these guys to. I need a direction, a destination." Because the hijackers had turned off the plane's transponder, NEADS personnel spent the next minutes searching their radar scopes for the primary radar return. American 11 struck the North Tower at 8:46. Shortly after 8:50, while NEADS personnel were still trying to locate the flight, word reached them that a plane had hit the World Trade Center.¹¹⁹

Radar data show the Otis fighters were airborne at 8:53. Lacking a target, they were vectored toward military-controlled airspace off the Long Island coast. To avoid New York area air traffic and uncertain about what to do, the fighters were brought down to military airspace to "hold as needed." From 9:09 to 9:13, the Otis fighters stayed in this holding pattern.¹²⁰

In summary, NEADS received notice of the hijacking nine minutes before it struck the North Tower. That nine minutes’ notice before impact was the most the military would receive of any of the four hijackings.¹²¹

United Airlines Flight 175

FAA Awareness. One of the last transmissions from United Airlines Flight 175 is, in retrospect, chilling. By 8:40, controllers at the FAA’s New York Center were seeking information on American 11. At approximately 8:42, shortly after entering New York Center’s airspace, the pilot of United 175 broke in with the following transmission:

UAL 175: New York UAL 175 heavy.

FAA: UAL 175 go ahead.

UAL 175: Yeah. We figured we’d wait to go to your center. Ah, we heard a suspicious transmission on our departure out of Boston, ah, with someone, ah, it sounded like someone keyed the mikes and said ah everyone ah stay in your seats.

FAA: Oh, okay. I’ll pass that along over here.¹²²

Minutes later, United 175 turned southwest without clearance from air traffic control. At 8:47, seconds after the impact of American 11, United 175’s transponder code changed, and then changed again. These changes were not noticed for several minutes, however, because the same New York Center controller was assigned to both American 11 and United 175. The controller knew American 11 was hijacked; he was focused on searching for it after the aircraft disappeared at 8:46.¹²³

At 8:48, while the controller was still trying to locate American 11, a New York Center manager provided the following report on a Command Center teleconference about American 11:

Manager, New York Center: Okay. This is New York Center. We’re watching the airplane. I also had conversation with American Airlines, and they’ve told us that they believe that one of their stewardesses was stabbed and that there are people in the cockpit that have control of the aircraft, and that’s all the information they have right now.¹²⁴

The New York Center controller and manager were unaware that American 11 had already crashed.

At 8:51, the controller noticed the transponder change from United 175 and tried to contact the aircraft. There was no response. Beginning at 8:52, the controller made repeated attempts to reach the crew of United 175. Still no response. The controller checked his radio equipment and contacted another

controller at 8:53, saying that “we may have a hijack” and that he could not find the aircraft.¹²⁵

Another commercial aircraft in the vicinity then radioed in with “reports over the radio of a commuter plane hitting the World Trade Center.” The controller spent the next several minutes handing off the other flights on his scope to other controllers and moving aircraft out of the way of the unidentified aircraft (believed to be United 175) as it moved southwest and then turned northeast toward New York City.¹²⁶

At about 8:55, the controller in charge notified a New York Center manager that she believed United 175 had also been hijacked. The manager tried to notify the regional managers and was told that they were discussing a hijacked aircraft (presumably American 11) and refused to be disturbed. At 8:58, the New York Center controller searching for United 175 told another New York controller “we might have a hijack over here, two of them.”¹²⁷

Between 9:01 and 9:02, a manager from New York Center told the Command Center in Herndon:

Manager, New York Center: We have several situations going on here. It’s escalating big, big time. We need to get the military involved with us. . . . We’re, we’re involved with something else, we have other aircraft that may have a similar situation going on here.¹²⁸

The “other aircraft” referred to by New York Center was United 175. Evidence indicates that this conversation was the only notice received by either FAA headquarters or the Herndon Command Center prior to the second crash that there had been a second hijacking.

While the Command Center was told about this “other aircraft” at 9:01, New York Center contacted New York terminal approach control and asked for help in locating United 175.

Terminal: I got somebody who keeps coasting but it looks like he’s going into one of the small airports down there.

Center: Hold on a second. I’m trying to bring him up here and get you—There he is right there. Hold on.

Terminal: Got him just out of 9,500—9,000 now.

Center: Do you know who he is?

Terminal: We’re just, we just we don’t know who he is. We’re just picking him up now.

Center (at 9:02): Alright. Heads up man, it looks like another one coming in.¹²⁹

The controllers observed the plane in a rapid descent; the radar data terminated over Lower Manhattan. At 9:03, United 175 crashed into the South Tower.¹³⁰

Meanwhile, a manager from Boston Center reported that they had deciphered what they had heard in one of the first hijacker transmissions from American 11:

Boston Center: Hey . . . you still there?

New England Region: Yes, I am.

Boston Center: . . . as far as the tape, Bobby seemed to think the guy said that “we have planes.” Now, I don’t know if it was because it was the accent, or if there’s more than one, but I’m gonna, I’m gonna reconfirm that for you, and I’ll get back to you real quick. Okay?

New England Region: Appreciate it.

Unidentified Female Voice: They have what?

Boston Center: Planes, as in plural.

Boston Center: It sounds like, we’re talking to New York, that there’s another one aimed at the World Trade Center.

New England Region: There’s another aircraft?

Boston Center: A second one just hit the Trade Center.

New England Region: Okay. Yeah, we gotta get—we gotta alert the military real quick on this.¹³¹

Boston Center immediately advised the New England Region that it was going to stop all departures at airports under its control. At 9:05, Boston Center confirmed for both the FAA Command Center and the New England Region that the hijackers aboard American 11 said “we have *planes*.” At the same time, New York Center declared “ATC zero”—meaning that aircraft were not permitted to depart from, arrive at, or travel through New York Center’s airspace until further notice.¹³²

Within minutes of the second impact, Boston Center instructed its controllers to inform all aircraft in its airspace of the events in New York and to advise aircraft to heighten cockpit security. Boston Center asked the Herndon Command Center to issue a similar cockpit security alert nationwide. We have found no evidence to suggest that the Command Center acted on this request or issued any type of cockpit security alert.¹³³

Military Notification and Response. The first indication that the NORAD air defenders had of the second hijacked aircraft, United 175, came in a phone call from New York Center to NEADS at 9:03. The notice came at about the time the plane was hitting the South Tower.¹³⁴

By 9:08, the mission crew commander at NEADS learned of the second explosion at the World Trade Center and decided against holding the fighters in military airspace away from Manhattan:

Mission Crew Commander, NEADS: This is what I foresee that we probably need to do. We need to talk to FAA. We need to tell ’em if

this stuff is gonna keep on going, we need to take those fighters, put 'em over Manhattan. That's best thing, that's the best play right now. So coordinate with the FAA. Tell 'em if there's more out there, which we don't know, let's get 'em over Manhattan. At least we got some kind of play.¹³⁵

The FAA cleared the airspace. Radar data show that at 9:13, when the Otis fighters were about 115 miles away from the city, the fighters exited their holding pattern and set a course direct for Manhattan. They arrived at 9:25 and established a combat air patrol (CAP) over the city.¹³⁶

Because the Otis fighters had expended a great deal of fuel in flying first to military airspace and then to New York, the battle commanders were concerned about refueling. NEADS considered scrambling alert fighters from Langley Air Force Base in Virginia to New York, to provide backup. The Langley fighters were placed on battle stations at 9:09.¹³⁷ NORAD had no indication that any other plane had been hijacked.

American Airlines Flight 77

FAA Awareness. American 77 began deviating from its flight plan at 8:54, with a slight turn toward the south. Two minutes later, it disappeared completely from radar at Indianapolis Center, which was controlling the flight.¹³⁸

The controller tracking American 77 told us he noticed the aircraft turning to the southwest, and then saw the data disappear. The controller looked for primary radar returns. He searched along the plane's projected flight path and the airspace to the southwest where it had started to turn. No primary targets appeared. He tried the radios, first calling the aircraft directly, then the airline. Again there was nothing. At this point, the Indianapolis controller had no knowledge of the situation in New York. He did not know that other aircraft had been hijacked. He believed American 77 had experienced serious electrical or mechanical failure, or both, and was gone.¹³⁹

Shortly after 9:00, Indianapolis Center started notifying other agencies that American 77 was missing and had possibly crashed. At 9:08, Indianapolis Center asked Air Force Search and Rescue at Langley Air Force Base to look for a downed aircraft. The center also contacted the West Virginia State Police and asked whether any reports of a downed aircraft had been received. At 9:09, it reported the loss of contact to the FAA regional center, which passed this information to FAA headquarters at 9:24.¹⁴⁰

By 9:20, Indianapolis Center learned that there were other hijacked aircraft, and began to doubt its initial assumption that American 77 had crashed. A discussion of this concern between the manager at Indianapolis and the Command Center in Herndon prompted it to notify some FAA field facilities that American 77 was lost. By 9:21, the Command Center, some FAA field facilities, and American Airlines had started to search for American 77. They feared

it had been hijacked. At 9:25, the Command Center advised FAA headquarters of the situation.¹⁴¹

The failure to find a primary radar return for American 77 led us to investigate this issue further. Radar reconstructions performed after 9/11 reveal that FAA radar equipment tracked the flight from the moment its transponder was turned off at 8:56. But for 8 minutes and 13 seconds, between 8:56 and 9:05, this primary radar information on American 77 was not displayed to controllers at Indianapolis Center.¹⁴² The reasons are technical, arising from the way the software processed radar information, as well as from poor primary radar coverage where American 77 was flying.

According to the radar reconstruction, American 77 reemerged as a primary target on Indianapolis Center radar scopes at 9:05, east of its last known position. The target remained in Indianapolis Center’s airspace for another six minutes, then crossed into the western portion of Washington Center’s airspace at 9:10. As Indianapolis Center continued searching for the aircraft, two managers and the controller responsible for American 77 looked to the west and southwest along the flight’s projected path, not east—where the aircraft was now heading. Managers did not instruct other controllers at Indianapolis Center to turn on their primary radar coverage to join in the search for American 77.¹⁴³

In sum, Indianapolis Center never saw Flight 77 turn around. By the time it reappeared in primary radar coverage, controllers had either stopped looking for the aircraft because they thought it had crashed or were looking toward the west. Although the Command Center learned Flight 77 was missing, neither it nor FAA headquarters issued an all points bulletin to surrounding centers to search for primary radar targets. American 77 traveled undetected for 36 minutes on a course heading due east for Washington, D.C.¹⁴⁴

By 9:25, FAA’s Herndon Command Center and FAA headquarters knew two aircraft had crashed into the World Trade Center. They knew American 77 was lost. At least some FAA officials in Boston Center and the New England Region knew that a hijacker on board American 11 had said “we have some planes.” Concerns over the safety of other aircraft began to mount. A manager at the Herndon Command Center asked FAA headquarters if they wanted to order a “nationwide ground stop.” While this was being discussed by executives at FAA headquarters, the Command Center ordered one at 9:25.¹⁴⁵

The Command Center kept looking for American 77. At 9:21, it advised the Dulles terminal control facility, and Dulles urged its controllers to look for primary targets. At 9:32, they found one. Several of the Dulles controllers “observed a primary radar target tracking eastbound at a high rate of speed” and notified Reagan National Airport. FAA personnel at both Reagan National and Dulles airports notified the Secret Service. The aircraft’s identity or type was unknown.¹⁴⁶

Reagan National controllers then vectored an unarmed National Guard C-130H cargo aircraft, which had just taken off en route to Minnesota, to iden-

tify and follow the suspicious aircraft. The C-130H pilot spotted it, identified it as a Boeing 757, attempted to follow its path, and at 9:38, seconds after impact, reported to the control tower: “looks like that aircraft crashed into the Pentagon sir.”¹⁴⁷

Military Notification and Response. NORAD heard nothing about the search for American 77. Instead, the NEADS air defenders heard renewed reports about a plane that no longer existed: American 11.

At 9:21, NEADS received a report from the FAA:

FAA: Military, Boston Center. I just had a report that American 11 is still in the air, and it's on its way towards—heading towards Washington.

NEADS: Okay. American 11 is still in the air?

FAA: Yes.

NEADS: On its way towards Washington?

FAA: That was another—it was evidently another aircraft that hit the tower. That's the latest report we have.

NEADS: Okay.

FAA: I'm going to try to confirm an ID for you, but I would assume he's somewhere over, uh, either New Jersey or somewhere further south.

NEADS: Okay. So American 11 isn't the hijack at all then, right?

FAA: No, he is a hijack.

NEADS: He—American 11 is a hijack?

FAA: Yes.

NEADS: And he's heading into Washington?

FAA: Yes. This could be a third aircraft.¹⁴⁸

The mention of a “third aircraft” was not a reference to American 77. There was confusion at that moment in the FAA. Two planes had struck the World Trade Center, and Boston Center had heard from FAA headquarters in Washington that American 11 was still airborne. We have been unable to identify the source of this mistaken FAA information.

The NEADS technician who took this call from the FAA immediately passed the word to the mission crew commander, who reported to the NEADS battle commander:

Mission Crew Commander, NEADS: Okay, uh, American Airlines is still airborne. Eleven, the first guy, he's heading towards Washington. Okay? I think we need to scramble Langley right now. And I'm gonna take the fighters from Otis, try to chase this guy down if I can find him.¹⁴⁹

After consulting with NEADS command, the crew commander issued the order at 9:23: "Okay . . . scramble Langley. Head them towards the Washington area. . . . [I]f they're there then we'll run on them. . . . These guys are smart." That order was processed and transmitted to Langley Air Force Base at 9:24. Radar data show the Langley fighters airborne at 9:30. NEADS decided to keep the Otis fighters over New York. The heading of the Langley fighters was adjusted to send them to the Baltimore area. The mission crew commander explained to us that the purpose was to position the Langley fighters between the reported southbound American 11 and the nation's capital.¹⁵⁰

At the suggestion of the Boston Center's military liaison, NEADS contacted the FAA's Washington Center to ask about American 11. In the course of the conversation, a Washington Center manager informed NEADS: "We're looking—we also lost American 77." The time was 9:34.¹⁵¹ This was the first notice to the military that American 77 was missing, and it had come by chance. If NEADS had not placed that call, the NEADS air defenders would have received no information whatsoever that the flight was even missing, although the FAA had been searching for it. No one at FAA headquarters ever asked for military assistance with American 77.

At 9:36, the FAA's Boston Center called NEADS and relayed the discovery about an unidentified aircraft closing in on Washington: "Latest report. Aircraft VFR [visual flight rules] six miles southeast of the White House. . . . Six, southwest. Six, southwest of the White House, deviating away." This startling news prompted the mission crew commander at NEADS to take immediate control of the airspace to clear a flight path for the Langley fighters: "Okay, we're going to turn it . . . crank it up. . . . Run them to the White House." He then discovered, to his surprise, that the Langley fighters were not headed north toward the Baltimore area as instructed, but east over the ocean. "I don't care how many windows you break," he said. "Damn it. . . . Okay. Push them back."¹⁵²

The Langley fighters were heading east, not north, for three reasons. First, unlike a normal scramble order, this order did not include a distance to the target or the target's location. Second, a "generic" flight plan—prepared to get the aircraft airborne and out of local airspace quickly—incorrectly led the Langley fighters to believe they were ordered to fly due east (090) for 60 miles. Third, the lead pilot and local FAA controller incorrectly assumed the flight plan instruction to go "090 for 60" superseded the original scramble order.¹⁵³

After the 9:36 call to NEADS about the unidentified aircraft a few miles from the White House, the Langley fighters were ordered to Washington, D.C. Controllers at NEADS located an unknown primary radar track, but "it kind of faded" over Washington. The time was 9:38. The Pentagon had been struck by American 77 at 9:37:46. The Langley fighters were about 150 miles away.¹⁵⁴

Right after the Pentagon was hit, NEADS learned of another possible hijacked aircraft. It was an aircraft that in fact had not been hijacked at all. After the second World Trade Center crash, Boston Center managers recognized that

both aircraft were transcontinental 767 jetliners that had departed Logan Airport. Remembering the “we have some planes” remark, Boston Center guessed that Delta 1989 might also be hijacked. Boston Center called NEADS at 9:41 and identified Delta 1989, a 767 jet that had left Logan Airport for Las Vegas, as a possible hijack. NEADS warned the FAA’s Cleveland Center to watch Delta 1989. The Command Center and FAA headquarters watched it too. During the course of the morning, there were multiple erroneous reports of hijacked aircraft. The report of American 11 heading south was the first; Delta 1989 was the second.¹⁵⁵

NEADS never lost track of Delta 1989, and even ordered fighter aircraft from Ohio and Michigan to intercept it. The flight never turned off its transponder. NEADS soon learned that the aircraft was not hijacked, and tracked Delta 1989 as it reversed course over Toledo, headed east, and landed in Cleveland.¹⁵⁶ But another aircraft was heading toward Washington, an aircraft about which NORAD had heard nothing: United 93.

United Airlines Flight 93

FAA Awareness. At 9:27, after having been in the air for 45 minutes, United 93 acknowledged a transmission from the Cleveland Center controller. This was the last normal contact the FAA had with the flight.¹⁵⁷

Less than a minute later, the Cleveland controller and the pilots of aircraft in the vicinity heard “a radio transmission of unintelligible sounds of possible screaming or a struggle from an unknown origin.”¹⁵⁸

The controller responded, seconds later: “Somebody call Cleveland?” This was followed by a second radio transmission, with sounds of screaming. The Cleveland Center controllers began to try to identify the possible source of the transmissions, and noticed that United 93 had descended some 700 feet. The controller attempted again to raise United 93 several times, with no response. At 9:30, the controller began to poll the other flights on his frequency to determine if they had heard the screaming; several said they had.¹⁵⁹

At 9:32, a third radio transmission came over the frequency: “Keep remaining sitting. We have a bomb on board.” The controller understood, but chose to respond: “Calling Cleveland Center, you’re unreadable. Say again, slowly.” He notified his supervisor, who passed the notice up the chain of command. By 9:34, word of the hijacking had reached FAA headquarters.¹⁶⁰

FAA headquarters had by this time established an open line of communication with the Command Center at Herndon and instructed it to poll all its centers about suspect aircraft. The Command Center executed the request and, a minute later, Cleveland Center reported that “United 93 may have a bomb on board.” At 9:34, the Command Center relayed the information concerning United 93 to FAA headquarters. At approximately 9:36, Cleveland advised the Command Center that it was still tracking United 93 and specifically inquired whether someone had requested the military to launch fighter aircraft to intercept the aircraft. Cleveland even told the Command Center it was prepared to

contact a nearby military base to make the request. The Command Center told Cleveland that FAA personnel well above them in the chain of command had to make the decision to seek military assistance and were working on the issue.¹⁶¹

Between 9:34 and 9:38, the Cleveland controller observed United 93 climbing to 40,700 feet and immediately moved several aircraft out its way. The controller continued to try to contact United 93, and asked whether the pilot could confirm that he had been hijacked.¹⁶² There was no response.

Then, at 9:39, a fourth radio transmission was heard from United 93:

Ziad Jarrah: Uh, this is the captain. Would like you all to remain seated.

There is a bomb on board and are going back to the airport, and to have our demands [unintelligible]. Please remain quiet.

The controller responded: “United 93, understand you have a bomb on board. Go ahead.” The flight did not respond.¹⁶³

From 9:34 to 10:08, a Command Center facility manager provided frequent updates to Acting Deputy Administrator Monte Belger and other executives at FAA headquarters as United 93 headed toward Washington, D.C. At 9:41, Cleveland Center lost United 93’s transponder signal. The controller located it on primary radar, matched its position with visual sightings from other aircraft, and tracked the flight as it turned east, then south.¹⁶⁴

At 9:42, the Command Center learned from news reports that a plane had struck the Pentagon. The Command Center’s national operations manager, Ben Sliney, ordered all FAA facilities to instruct all aircraft to land at the nearest airport. This was an unprecedented order. The air traffic control system handled it with great skill, as about 4,500 commercial and general aviation aircraft soon landed without incident.¹⁶⁵

At 9:46 the Command Center updated FAA headquarters that United 93 was now “twenty-nine minutes out of Washington, D.C.”

At 9:49, 13 minutes after Cleveland Center had asked about getting military help, the Command Center suggested that someone at headquarters should decide whether to request military assistance:

FAA Headquarters: They’re pulling Jeff away to go talk about United 93.

Command Center: Uh, do we want to think, uh, about scrambling aircraft?

FAA Headquarters: Oh, God, I don’t know.

Command Center: Uh, that’s a decision somebody’s gonna have to make probably in the next ten minutes.

FAA Headquarters: Uh, ya know everybody just left the room.¹⁶⁶

At 9:53, FAA headquarters informed the Command Center that the deputy director for air traffic services was talking to Monte Belger about scrambling

aircraft. Then the Command Center informed headquarters that controllers had lost track of United 93 over the Pittsburgh area. Within seconds, the Command Center received a visual report from another aircraft, and informed headquarters that the aircraft was 20 miles northwest of Johnstown. United 93 was spotted by another aircraft, and, at 10:01, the Command Center advised FAA headquarters that one of the aircraft had seen United 93 “waving his wings.” The aircraft had witnessed the hijackers’ efforts to defeat the passengers’ counterattack.¹⁶⁷

United 93 crashed in Pennsylvania at 10:03:11, 125 miles from Washington, D.C. The precise crash time has been the subject of some dispute. The 10:03:11 impact time is supported by previous National Transportation Safety Board analysis and by evidence from the Commission staff’s analysis of radar, the flight data recorder, the cockpit voice recorder, infrared satellite data, and air traffic control transmissions.¹⁶⁸

Five minutes later, the Command Center forwarded this update to headquarters:

Command Center: O.K. Uh, there is now on that United 93.

FAA Headquarters: Yes.

Command Center: There is a report of black smoke in the last position I gave you, fifteen miles south of Johnstown.

FAA Headquarters: From the airplane or from the ground?

Command Center: Uh, they’re speculating it’s from the aircraft.

FAA Headquarters: Okay.

Command Center: Uh, who, it hit the ground. That’s what they’re speculating, that’s speculation only.¹⁶⁹

The aircraft that spotted the “black smoke” was the same unarmed Air National Guard cargo plane that had seen American 77 crash into the Pentagon 27 minutes earlier. It had resumed its flight to Minnesota and saw the smoke from the crash of United 93, less than two minutes after the plane went down. At 10:17, the Command Center advised headquarters of its conclusion that United 93 had indeed crashed.¹⁷⁰

Despite the discussions about military assistance, no one from FAA headquarters requested military assistance regarding United 93. Nor did any manager at FAA headquarters pass any of the information it had about United 93 to the military.

Military Notification and Response. NEADS first received a call about United 93 from the military liaison at Cleveland Center at 10:07. Unaware that the aircraft had already crashed, Cleveland passed to NEADS the aircraft’s last known latitude and longitude. NEADS was never able to locate United 93 on radar because it was already in the ground.¹⁷¹

At the same time, the NEADS mission crew commander was dealing with the arrival of the Langley fighters over Washington, D.C., sorting out what their orders were with respect to potential targets. Shortly after 10:10, and having no knowledge either that United 93 had been heading toward Washington or that it had crashed, he explicitly instructed the Langley fighters: “negative—negative clearance to shoot” aircraft over the nation’s capital.¹⁷²

The news of a reported bomb on board United 93 spread quickly at NEADS. The air defenders searched for United 93’s primary radar return and tried to locate other fighters to scramble. NEADS called Washington Center to report:

NEADS: I also want to give you a heads-up, Washington.

FAA (DC): Go ahead.

NEADS: United nine three, have you got information on that yet?

FAA: Yeah, he’s down.

NEADS: He’s down?

FAA: Yes.

NEADS: When did he land? ‘Cause we have got confirmation—

FAA: He did not land.

NEADS: Oh, he’s down? Down?

FAA: Yes. Somewhere up northeast of Camp David.

NEADS: Northeast of Camp David.

FAA: That’s the last report. They don’t know exactly where.¹⁷³

The time of notification of the crash of United 93 was 10:15.¹⁷⁴ The NEADS air defenders never located the flight or followed it on their radar scopes. The flight had already crashed by the time they learned it was hijacked.

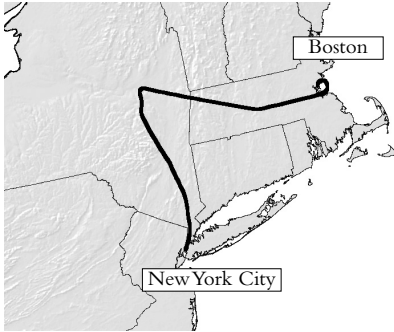
Clarifying the Record

The defense of U.S. airspace on 9/11 was not conducted in accord with pre-existing training and protocols. It was improvised by civilians who had never handled a hijacked aircraft that attempted to disappear, and by a military unprepared for the transformation of commercial aircraft into weapons of mass destruction. As it turned out, the NEADS air defenders had nine minutes’ notice on the first hijacked plane, no advance notice on the second, no advance notice on the third, and no advance notice on the fourth.

We do not believe that the true picture of that morning reflects discredit on the operational personnel at NEADS or FAA facilities. NEADS commanders and officers actively sought out information, and made the best judgments they could on the basis of what they knew. Individual FAA controllers, facility managers, and Command Center managers thought outside the box in recommending a nationwide alert, in ground-stopping local traffic, and, ultimately, in deciding to land all aircraft and executing that unprecedented order flawlessly.

American Airlines Flight 11 (AA 11)

Boston to Los Angeles



7:59	Takeoff
8:14	Last routine radio communication; likely takeover
8:19	Flight attendant notifies AA of hijacking
8:21	Transponder is turned off
8:23	AA attempts to contact the cockpit
8:25	Boston Center aware of hijacking
8:38	Boston Center notifies NEADS of hijacking
8:46	NEADS scrambles Otis fighter jets in search of AA 11
8:46:40	AA 11 crashes into 1 WTC (North Tower)
8:53	Otis fighter jets airborne
9:16	AA headquarters aware that Flight 11 has crashed into WTC
9:21	Boston Center advises NEADS that AA 11 is airborne heading for Washington
9:24	NEADS scrambles Langley fighter jets in search of AA 11

United Airlines Flight 175 (UA 175)

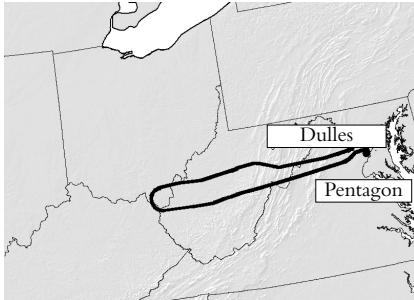
Boston to Los Angeles



8:14	Takeoff
8:42	Last radio communication
8:42-8:46	Likely takeover
8:47	Transponder code changes
8:52	Flight attendant notifies UA of hijacking
8:54	UA attempts to contact the cockpit
8:55	New York Center suspects hijacking
9:03:11	Flight 175 crashes into 2 WTC (South Tower)
9:15	New York Center advises NEADS that UA 175 was the second aircraft crashed into WTC
9:20	UA headquarters aware that Flight 175 had crashed into WTC

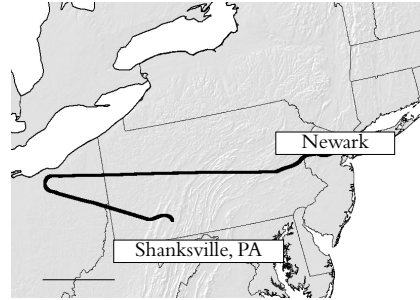
**American Airlines Flight 77
(AA 77)**

Washington, D.C., to Los Angeles



**United Airlines Flight 93
(UA 93)**

Newark to San Francisco



8:20	Takeoff
8:51	Last routine radio communication
8:51-8:54	Likely takeover
8:54	Flight 77 makes unauthorized turn to south
8:56	Transponder is turned off
9:05	AA headquarters aware that Flight 77 is hijacked
9:25	Herndon Command Center orders nationwide ground stop
9:32	Dulles tower observes radar of fast-moving aircraft (later identified as AA 77)
9:34	FAA advises NEADS that AA 77 is missing
9:37:46	AA 77 crashes into the Pentagon
10:30	AA headquarters confirms Flight 77 crash into Pentagon

8:42	Takeoff
9:24	Flight 93 receives warning from UA about possible cockpit intrusion
9:27	Last routine radio communication
9:28	Likely takeover
9:34	Herndon Command Center advises FAA headquarters that UA 93 is hijacked
9:36	Flight attendant notifies UA of hijacking; UA attempts to contact the cockpit
9:41	Transponder is turned off
9:57	Passenger revolt begins
10:03:11	Flight 93 crashes in field in Shanksville, PA
10:07	Cleveland Center advises NEADS of UA 93 hijacking
10:15	UA headquarters aware that Flight 93 has crashed in PA; Washington Center advises NEADS that Flight 93 has crashed in PA

More than the actual events, inaccurate government accounts of those events made it appear that the military was notified in time to respond to two of the hijackings, raising questions about the adequacy of the response. Those accounts had the effect of deflecting questions about the military's capacity to obtain timely and accurate information from its own sources. In addition, they overstated the FAA's ability to provide the military with timely and useful information that morning.

In public testimony before this Commission in May 2003, NORAD officials stated that at 9:16, NEADS received hijack notification of United 93 from the FAA.¹⁷⁵ This statement was incorrect. There was no hijack to report at 9:16. United 93 was proceeding normally at that time.

In this same public testimony, NORAD officials stated that at 9:24, NEADS received notification of the hijacking of American 77.¹⁷⁶ This statement was also incorrect. The notice NEADS received at 9:24 was that American 11 had not hit the World Trade Center and was heading for Washington, D.C.¹⁷⁷

In their testimony and in other public accounts, NORAD officials also stated that the Langley fighters were scrambled to respond to the notifications about American 77,¹⁷⁸ United 93, or both. These statements were incorrect as well. The fighters were scrambled because of the report that American 11 was heading south, as is clear not just from taped conversations at NEADS but also from taped conversations at FAA centers; contemporaneous logs compiled at NEADS, Continental Region headquarters, and NORAD; and other records. Yet this response to a phantom aircraft was not recounted in a single public timeline or statement issued by the FAA or Department of Defense. The inaccurate accounts created the impression that the Langley scramble was a logical response to an actual hijacked aircraft.

In fact, not only was the scramble prompted by the mistaken information about American 11, but NEADS never received notice that American 77 was hijacked. It was notified at 9:34 that American 77 was lost. Then, minutes later, NEADS was told that an unknown plane was 6 miles southwest of the White House. Only then did the already scrambled airplanes start moving directly toward Washington, D.C.

Thus the military did not have 14 minutes to respond to American 77, as testimony to the Commission in May 2003 suggested. It had at most one or two minutes to react to the unidentified plane approaching Washington, and the fighters were in the wrong place to be able to help. They had been responding to a report about an aircraft that did not exist.

Nor did the military have 47 minutes to respond to United 93, as would be implied by the account that it received notice of the flight's hijacking at 9:16. By the time the military learned about the flight, it had crashed.

We now turn to the role of national leadership in the events that morning.

1.3 NATIONAL CRISIS MANAGEMENT

When American 11 struck the World Trade Center at 8:46, no one in the White House or traveling with the President knew that it had been hijacked. While that information circulated within the FAA, we found no evidence that the hijacking was reported to any other agency in Washington before 8:46.¹⁷⁹

Most federal agencies learned about the crash in New York from CNN.¹⁸⁰ Within the FAA, the administrator, Jane Garvey, and her acting deputy, Monte Belger, had not been told of a confirmed hijacking before they learned from television that a plane had crashed.¹⁸¹ Others in the agency were aware of it, as we explained earlier in this chapter.

Inside the National Military Command Center, the deputy director of operations and his assistant began notifying senior Pentagon officials of the incident. At about 9:00, the senior NMCC operations officer reached out to the FAA operations center for information. Although the NMCC was advised of the hijacking of American 11, the scrambling of jets was not discussed.¹⁸²

In Sarasota, Florida, the presidential motorcade was arriving at the Emma E. Booker Elementary School, where President Bush was to read to a class and talk about education. White House Chief of Staff Andrew Card told us he was standing with the President outside the classroom when Senior Advisor to the President Karl Rove first informed them that a small, twin-engine plane had crashed into the World Trade Center. The President's reaction was that the incident must have been caused by pilot error.¹⁸³

At 8:55, before entering the classroom, the President spoke to National Security Advisor Condoleezza Rice, who was at the White House. She recalled first telling the President it was a twin-engine aircraft—and then a commercial aircraft—that had struck the World Trade Center, adding “that’s all we know right now, Mr. President.”¹⁸⁴

At the White House, Vice President Dick Cheney had just sat down for a meeting when his assistant told him to turn on his television because a plane had struck the North Tower of the World Trade Center. The Vice President was wondering “how the hell could a plane hit the World Trade Center” when he saw the second aircraft strike the South Tower.¹⁸⁵

Elsewhere in the White House, a series of 9:00 meetings was about to begin. In the absence of information that the crash was anything other than an accident, the White House staff monitored the news as they went ahead with their regular schedules.¹⁸⁶

The Agencies Confer

When they learned a second plane had struck the World Trade Center, nearly everyone in the White House told us, they immediately knew it was not an accident. The Secret Service initiated a number of security enhancements

around the White House complex. The officials who issued these orders did not know that there were additional hijacked aircraft, or that one such aircraft was en route to Washington. These measures were precautionary steps taken because of the strikes in New York.¹⁸⁷

The FAA and White House Teleconferences. The FAA, the White House, and the Defense Department each initiated a multiagency teleconference before 9:30. Because none of these teleconferences—at least before 10:00—included the right officials from both the FAA and Defense Department, none succeeded in meaningfully coordinating the military and FAA response to the hijackings.

At about 9:20, security personnel at FAA headquarters set up a hijacking teleconference with several agencies, including the Defense Department. The NMCC officer who participated told us that the call was monitored only periodically because the information was sporadic, it was of little value, and there were other important tasks. The FAA manager of the teleconference also remembered that the military participated only briefly before the Pentagon was hit. Both individuals agreed that the teleconference played no role in coordinating a response to the attacks of 9/11. Acting Deputy Administrator Belger was frustrated to learn later in the morning that the military had not been on the call.¹⁸⁸

At the White House, the video teleconference was conducted from the Situation Room by Richard Clarke, a special assistant to the president long involved in counterterrorism. Logs indicate that it began at 9:25 and included the CIA; the FBI; the departments of State, Justice, and Defense; the FAA; and the White House shelter. The FAA and CIA joined at 9:40. The first topic addressed in the White House video teleconference—at about 9:40—was the physical security of the President, the White House, and federal agencies. Immediately thereafter it was reported that a plane had hit the Pentagon. We found no evidence that video teleconference participants had any prior information that American 77 had been hijacked and was heading directly toward Washington. Indeed, it is not clear to us that the video teleconference was fully under way before 9:37, when the Pentagon was struck.¹⁸⁹

Garvey, Belger, and other senior officials from FAA headquarters participated in this video teleconference at various times. We do not know who from Defense participated, but we know that in the first hour none of the personnel involved in managing the crisis did. And none of the information conveyed in the White House video teleconference, at least in the first hour, was being passed to the NMCC. As one witness recalled, “[It] was almost like there were parallel decisionmaking processes going on; one was a voice conference orchestrated by the NMCC . . . and then there was the [White House video teleconference]. . . . [I]n my mind they were competing venues for command and control and decisionmaking.”¹⁹⁰

At 10:03, the conference received reports of more missing aircraft, “2 pos-

sibly 3 aloft,” and learned of a combat air patrol over Washington. There was discussion of the need for rules of engagement. Clarke reported that they were asking the President for authority to shoot down aircraft. Confirmation of that authority came at 10:25, but the commands were already being conveyed in more direct contacts with the Pentagon.¹⁹¹

The Pentagon Teleconferences. Inside the National Military Command Center, the deputy director for operations immediately thought the second strike was a terrorist attack. The job of the NMCC in such an emergency is to gather the relevant parties and establish the chain of command between the National Command Authority—the president and the secretary of defense—and those who need to carry out their orders.¹⁹²

On the morning of September 11, Secretary Rumsfeld was having breakfast at the Pentagon with a group of members of Congress. He then returned to his office for his daily intelligence briefing. The Secretary was informed of the second strike in New York during the briefing; he resumed the briefing while awaiting more information. After the Pentagon was struck, Secretary Rumsfeld went to the parking lot to assist with rescue efforts.¹⁹³

Inside the NMCC, the deputy director for operations called for an all-purpose “significant event” conference. It began at 9:29, with a brief recap: two aircraft had struck the World Trade Center, there was a confirmed hijacking of American 11, and Otis fighters had been scrambled. The FAA was asked to provide an update, but the line was silent because the FAA had not been added to the call. A minute later, the deputy director stated that it had just been confirmed that American 11 was still airborne and heading toward D.C. He directed the transition to an air threat conference call. NORAD confirmed that American 11 was airborne and heading toward Washington, relaying the erroneous FAA information already mentioned. The call then ended, at about 9:34.¹⁹⁴

It resumed at 9:37 as an air threat conference call,* which lasted more than eight hours. The President, Vice President, Secretary of Defense, Vice Chairman of the Joint Chiefs of Staff, and Deputy National Security Advisor Stephen Hadley all participated in this teleconference at various times, as did military personnel from the White House underground shelter and the President’s military aide on Air Force One.¹⁹⁵

Operators worked feverishly to include the FAA, but they had equipment problems and difficulty finding secure phone numbers. NORAD asked three times before 10:03 to confirm the presence of the FAA in the teleconference. The FAA representative who finally joined the call at 10:17 had no familiarity with or responsibility for hijackings, no access to decisionmakers, and none of the information available to senior FAA officials.¹⁹⁶

* All times given for this conference call are estimates, which we and the Department of Defense believe to be accurate within a ± 3 minute margin of error.

We found no evidence that, at this critical time, NORAD's top commanders, in Florida or Cheyenne Mountain, coordinated with their counterparts at FAA headquarters to improve awareness and organize a common response. Lower-level officials improvised—for example, the FAA's Boston Center bypassed the chain of command and directly contacted NEADS after the first hijacking. But the highest-level Defense Department officials relied on the NMCC's air threat conference, in which the FAA did not participate for the first 48 minutes.¹⁹⁷

At 9:39, the NMCC's deputy director for operations, a military officer, opened the call from the Pentagon, which had just been hit. He began: "An air attack against North America may be in progress. NORAD, what's the situation?" NORAD said it had conflicting reports. Its latest information was "of a possible hijacked aircraft taking off out of JFK en route to Washington D.C." The NMCC reported a crash into the mall side of the Pentagon and requested that the Secretary of Defense be added to the conference.¹⁹⁸

At 9:44, NORAD briefed the conference on the possible hijacking of Delta 1989. Two minutes later, staff reported that they were still trying to locate Secretary Rumsfeld and Vice Chairman Myers. The Vice Chairman joined the conference shortly before 10:00; the Secretary, shortly before 10:30. The Chairman was out of the country.¹⁹⁹

At 9:48, a representative from the White House shelter asked if there were any indications of another hijacked aircraft. The deputy director for operations mentioned the Delta flight and concluded that "that would be the fourth possible hijack." At 9:49, the commander of NORAD directed all air sovereignty aircraft to battle stations, fully armed.²⁰⁰

At 9:59, an Air Force lieutenant colonel working in the White House Military Office joined the conference and stated he had just talked to Deputy National Security Advisor Stephen Hadley. The White House requested (1) the implementation of continuity of government measures, (2) fighter escorts for Air Force One, and (3) a fighter combat air patrol over Washington, D.C.²⁰¹

By 10:03, when United 93 crashed in Pennsylvania, there had been no mention of its hijacking and the FAA had not yet been added to the teleconference.²⁰²

The President and the Vice President

The President was seated in a classroom when, at 9:05, Andrew Card whispered to him: "A second plane hit the second tower. America is under attack." The President told us his instinct was to project calm, not to have the country see an excited reaction at a moment of crisis. The press was standing behind the children; he saw their phones and pagers start to ring. The President felt he should project strength and calm until he could better understand what was happening.²⁰³

The President remained in the classroom for another five to seven minutes,

while the children continued reading. He then returned to a holding room shortly before 9:15, where he was briefed by staff and saw television coverage. He next spoke to Vice President Cheney, Dr. Rice, New York Governor George Pataki, and FBI Director Robert Mueller. He decided to make a brief statement from the school before leaving for the airport. The Secret Service told us they were anxious to move the President to a safer location, but did not think it imperative for him to run out the door.²⁰⁴

Between 9:15 and 9:30, the staff was busy arranging a return to Washington, while the President consulted his senior advisers about his remarks. No one in the traveling party had any information during this time that other aircraft were hijacked or missing. Staff was in contact with the White House Situation Room, but as far as we could determine, no one with the President was in contact with the Pentagon. The focus was on the President's statement to the nation. The only decision made during this time was to return to Washington.²⁰⁵

The President's motorcade departed at 9:35, and arrived at the airport between 9:42 and 9:45. During the ride the President learned about the attack on the Pentagon. He boarded the aircraft, asked the Secret Service about the safety of his family, and called the Vice President. According to notes of the call, at about 9:45 the President told the Vice President: “Sounds like we have a minor war going on here, I heard about the Pentagon. We're at war . . . somebody's going to pay.”²⁰⁶

About this time, Card, the lead Secret Service agent, the President's military aide, and the pilot were conferring on a possible destination for Air Force One. The Secret Service agent felt strongly that the situation in Washington was too unstable for the President to return there, and Card agreed. The President strongly wanted to return to Washington and only grudgingly agreed to go elsewhere. The issue was still undecided when the President conferred with the Vice President at about the time Air Force One was taking off. The Vice President recalled urging the President not to return to Washington. Air Force One departed at about 9:54 without any fixed destination. The objective was to get up in the air—as fast and as high as possible—and then decide where to go.²⁰⁷

At 9:33, the tower supervisor at Reagan National Airport picked up a hotline to the Secret Service and told the Service's operations center that “an aircraft [is] coming at you and not talking with us.” This was the first specific report to the Secret Service of a direct threat to the White House. No move was made to evacuate the Vice President at this time. As the officer who took the call explained, “[I was] about to push the alert button when the tower advised that the aircraft was turning south and approaching Reagan National Airport.”²⁰⁸

American 77 began turning south, away from the White House, at 9:34. It continued heading south for roughly a minute, before turning west and beginning to circle back. This news prompted the Secret Service to order the immediate evacuation of the Vice President just before 9:36. Agents propelled him

out of his chair and told him he had to get to the bunker. The Vice President entered the underground tunnel leading to the shelter at 9:37.²⁰⁹

Once inside, Vice President Cheney and the agents paused in an area of the tunnel that had a secure phone, a bench, and television. The Vice President asked to speak to the President, but it took time for the call to be connected. He learned in the tunnel that the Pentagon had been hit, and he saw television coverage of smoke coming from the building.²¹⁰

The Secret Service logged Mrs. Cheney's arrival at the White House at 9:52, and she joined her husband in the tunnel. According to contemporaneous notes, at 9:55 the Vice President was still on the phone with the President advising that three planes were missing and one had hit the Pentagon. We believe this is the same call in which the Vice President urged the President not to return to Washington. After the call ended, Mrs. Cheney and the Vice President moved from the tunnel to the shelter conference room.²¹¹

United 93 and the Shootdown Order

On the morning of 9/11, the President and Vice President stayed in contact not by an open line of communication but through a series of calls. The President told us he was frustrated with the poor communications that morning. He could not reach key officials, including Secretary Rumsfeld, for a period of time. The line to the White House shelter conference room—and the Vice President—kept cutting off.²¹²

The Vice President remembered placing a call to the President just after entering the shelter conference room. There is conflicting evidence about when the Vice President arrived in the shelter conference room. We have concluded, from the available evidence, that the Vice President arrived in the room shortly before 10:00, perhaps at 9:58. The Vice President recalled being told, just after his arrival, that the Air Force was trying to establish a combat air patrol over Washington.²¹³

The Vice President stated that he called the President to discuss the rules of engagement for the CAP. He recalled feeling that it did no good to establish the CAP unless the pilots had instructions on whether they were authorized to shoot if the plane would not divert. He said the President signed off on that concept. The President said he remembered such a conversation, and that it reminded him of when he had been an interceptor pilot. The President emphasized to us that he had authorized the shootdown of hijacked aircraft.²¹⁴

The Vice President's military aide told us he believed the Vice President spoke to the President just after entering the conference room, but he did not hear what they said. Rice, who entered the room shortly after the Vice President and sat next to him, remembered hearing him inform the President, "Sir, the CAPs are up. Sir, they're going to want to know what to do." Then she recalled hearing him say, "Yes sir." She believed this conversation occurred a few minutes, perhaps five, after they entered the conference room.²¹⁵

We believe this call would have taken place sometime before 10:10 to 10:15.

Among the sources that reflect other important events of that morning, there is no documentary evidence for this call, but the relevant sources are incomplete. Others nearby who were taking notes, such as the Vice President's chief of staff, Scooter Libby, who sat next to him, and Mrs. Cheney, did not note a call between the President and Vice President immediately after the Vice President entered the conference room.²¹⁶

At 10:02, the communicators in the shelter began receiving reports from the Secret Service of an inbound aircraft—presumably hijacked—heading toward Washington. That aircraft was United 93. The Secret Service was getting this information directly from the FAA. The FAA may have been tracking the progress of United 93 on a display that showed its projected path to Washington, not its actual radar return. Thus, the Secret Service was relying on projections and was not aware the plane was already down in Pennsylvania.²¹⁷

At some time between 10:10 and 10:15, a military aide told the Vice President and others that the aircraft was 80 miles out. Vice President Cheney was asked for authority to engage the aircraft.²¹⁸ His reaction was described by Scooter Libby as quick and decisive, “in about the time it takes a batter to decide to swing.” The Vice President authorized fighter aircraft to engage the inbound plane. He told us he based this authorization on his earlier conversation with the President. The military aide returned a few minutes later, probably between 10:12 and 10:18, and said the aircraft was 60 miles out. He again asked for authorization to engage. The Vice President again said yes.²¹⁹

At the conference room table was White House Deputy Chief of Staff Joshua Bolten. Bolten watched the exchanges and, after what he called “a quiet moment,” suggested that the Vice President get in touch with the President and confirm the engage order. Bolten told us he wanted to make sure the President was told that the Vice President had executed the order. He said he had not heard any prior discussion on the subject with the President.²²⁰

The Vice President was logged calling the President at 10:18 for a two-minute conversation that obtained the confirmation. On Air Force One, the President's press secretary was taking notes; Ari Fleischer recorded that at 10:20, the President told him that he had authorized a shootdown of aircraft if necessary.²²¹

Minutes went by and word arrived of an aircraft down in Pennsylvania. Those in the shelter wondered if the aircraft had been shot down pursuant to this authorization.²²²

At approximately 10:30, the shelter started receiving reports of another hijacked plane, this time only 5 to 10 miles out. Believing they had only a minute or two, the Vice President again communicated the authorization to “engage or “take out” the aircraft. At 10:33, Hadley told the air threat conference call: “I need to get word to Dick Myers that our reports are there's an inbound aircraft flying low 5 miles out. The Vice President's guidance was we need to take them out.”²²³

Once again, there was no immediate information about the fate of the

inbound aircraft. In the apt description of one witness, “It drops below the radar screen and it’s just continually hovering in your imagination; you don’t know where it is or what happens to it.” Eventually, the shelter received word that the alleged hijacker 5 miles away had been a medevac helicopter.²²⁴

Transmission of the Authorization from the White House to the Pilots

The NMCC learned of United 93’s hijacking at about 10:03. At this time the FAA had no contact with the military at the level of national command. The NMCC learned about United 93 from the White House. It, in turn, was informed by the Secret Service’s contacts with the FAA.²²⁵

NORAD had no information either. At 10:07, its representative on the air threat conference call stated that NORAD had “no indication of a hijack heading to DC at this time.”²²⁶

Repeatedly between 10:14 and 10:19, a lieutenant colonel at the White House relayed to the NMCC that the Vice President had confirmed fighters were cleared to engage inbound aircraft if they could verify that the aircraft was hijacked.²²⁷

The commander of NORAD, General Ralph Eberhart, was en route to the NORAD operations center in Cheyenne Mountain, Colorado, when the shootdown order was communicated on the air threat conference call. He told us that by the time he arrived, the order had already been passed down NORAD’s chain of command.²²⁸

It is not clear how the shootdown order was communicated within NORAD. But we know that at 10:31, General Larry Arnold instructed his staff to broadcast the following over a NORAD instant messaging system: “10:31 Vice president has cleared to us to intercept tracks of interest and shoot them down if they do not respond per [General Arnold].”²²⁹

In upstate New York, NEADS personnel first learned of the shootdown order from this message:

Floor Leadership: You need to read this. . . . The Region Commander has declared that we can shoot down aircraft that do not respond to our direction. Copy that?

Controllers: Copy that, sir.

Floor Leadership: So if you’re trying to divert somebody and he won’t divert—

Controllers: DO [Director of Operations] is saying no.

Floor Leadership: No? It came over the chat. . . . You got a conflict on that direction?

Controllers: Right now no, but—

Floor Leadership: Okay? Okay, you read that from the Vice President, right? Vice President has cleared. Vice President has cleared us to

intercept traffic and shoot them down if they do not respond per [General Arnold].²³⁰

In interviews with us, NEADS personnel expressed considerable confusion over the nature and effect of the order.

The NEADS commander told us he did not pass along the order because he was unaware of its ramifications. Both the mission commander and the senior weapons director indicated they did not pass the order to the fighters circling Washington and New York because they were unsure how the pilots would, or should, proceed with this guidance. In short, while leaders in Washington believed that the fighters above them had been instructed to “take out” hostile aircraft, the only orders actually conveyed to the pilots were to “ID type and tail.”²³¹

In most cases, the chain of command authorizing the use of force runs from the president to the secretary of defense and from the secretary to the combatant commander. The President apparently spoke to Secretary Rumsfeld for the first time that morning shortly after 10:00. No one can recall the content of this conversation, but it was a brief call in which the subject of shootdown authority was not discussed.²³²

At 10:39, the Vice President updated the Secretary on the air threat conference:

Vice President: There’s been at least three instances here where we’ve had reports of aircraft approaching Washington—a couple were confirmed hijack. And, pursuant to the President’s instructions I gave authorization for them to be taken out. Hello?

SecDef: Yes, I understand. Who did you give that direction to?

Vice President: It was passed from here through the [operations] center at the White House, from the [shelter].

SecDef: OK, let me ask the question here. Has that directive been transmitted to the aircraft?

Vice President: Yes, it has.

SecDef: So we’ve got a couple of aircraft up there that have those instructions at this present time?

Vice President: That is correct. And it’s my understanding they’ve already taken a couple of aircraft out.

SecDef: We can’t confirm that. We’re told that one aircraft is down but we do not have a pilot report that did it.²³³

As this exchange shows, Secretary Rumsfeld was not in the NMCC when the shootdown order was first conveyed. He went from the parking lot to his office (where he spoke to the President), then to the Executive Support Center, where he participated in the White House video teleconference. He moved

to the NMCC shortly before 10:30, in order to join Vice Chairman Myers. Secretary Rumsfeld told us he was just gaining situational awareness when he spoke with the Vice President at 10:39. His primary concern was ensuring that the pilots had a clear understanding of their rules of engagement.²³⁴

The Vice President was mistaken in his belief that shootdown authorization had been passed to the pilots flying at NORAD's direction. By 10:45 there was, however, another set of fighters circling Washington that had entirely different rules of engagement. These fighters, part of the 113th Wing of the District of Columbia Air National Guard, launched out of Andrews Air Force Base in Maryland in response to information passed to them by the Secret Service. The first of the Andrews fighters was airborne at 10:38.²³⁵

General David Wherley—the commander of the 113th Wing—reached out to the Secret Service after hearing secondhand reports that it wanted fighters airborne. A Secret Service agent had a phone in each ear, one connected to Wherley and the other to a fellow agent at the White House, relaying instructions that the White House agent said he was getting from the Vice President. The guidance for Wherley was to send up the aircraft, with orders to protect the White House and take out any aircraft that threatened the Capitol. General Wherley translated this in military terms to flying “weapons free”—that is, the decision to shoot rests in the cockpit, or in this case in the cockpit of the lead pilot. He passed these instructions to the pilots that launched at 10:42 and afterward.²³⁶

Thus, while the fighter pilots under NORAD direction who had scrambled out of Langley never received any type of engagement order, the Andrews pilots were operating weapons free—a permissive rule of engagement. The President and the Vice President indicated to us they had not been aware that fighters had been scrambled out of Andrews, at the request of the Secret Service and outside the military chain of command.²³⁷ There is no evidence that NORAD headquarters or military officials in the NMCC knew—during the morning of September 11—that the Andrews planes were airborne and operating under different rules of engagement.

What If?

NORAD officials have maintained consistently that had the passengers not caused United 93 to crash, the military would have prevented it from reaching Washington, D.C. That conclusion is based on a version of events that we now know is incorrect. The Langley fighters were not scrambled in response to United 93; NORAD did not have 47 minutes to intercept the flight; NORAD did not even know the plane was hijacked until after it had crashed. It is appropriate, therefore, to reconsider whether United 93 would have been intercepted.

Had it not crashed in Pennsylvania at 10:03, we estimate that United 93

could not have reached Washington any earlier than 10:13, and probably would have arrived before 10:23. There was only one set of fighters circling Washington during that time frame—the Langley F-16s. They were armed and under NORAD’s control. After NEADS learned of the hijacking at 10:07, NORAD would have had from 6 to 16 minutes to locate the flight, receive authorization to shoot it down, and communicate the order to the pilots, who (in the same span) would have had to authenticate the order, intercept the flight, and execute the order.²³⁸

At that point in time, the Langley pilots did not know the threat they were facing, did not know where United 93 was located, and did not have shoot-down authorization.

First, the Langley pilots were never briefed about the reason they were scrambled. As the lead pilot explained, “I reverted to the Russian threat. . . . I’m thinking cruise missile threat from the sea. You know you look down and see the Pentagon burning and I thought the bastards snuck one by us. . . . [Y]ou couldn’t see any airplanes, and no one told us anything.” The pilots knew their mission was to divert aircraft, but did not know that the threat came from hijacked airliners.²³⁹

Second, NEADS did not have accurate information on the location of United 93. Presumably FAA would have provided such information, but we do not know how long that would have taken, nor how long it would have taken NEADS to locate the target.

Third, NEADS needed orders to pass to the pilots. At 10:10, the pilots over Washington were emphatically told, “negative clearance to shoot.” Shootdown authority was first communicated to NEADS at 10:31. It is possible that NORAD commanders would have ordered a shootdown in the absence of the authorization communicated by the Vice President, but given the gravity of the decision to shoot down a commercial airliner, and NORAD’s caution that a mistake not be made, we view this possibility as unlikely.²⁴⁰

NORAD officials have maintained that they would have intercepted and shot down United 93. We are not so sure. We are sure that the nation owes a debt to the passengers of United 93. Their actions saved the lives of countless others, and may have saved either the Capitol or the White House from destruction.

The details of what happened on the morning of September 11 are complex, but they play out a simple theme. NORAD and the FAA were unprepared for the type of attacks launched against the United States on September 11, 2001. They struggled, under difficult circumstances, to improvise a homeland defense against an unprecedented challenge they had never before encountered and had never trained to meet.

At 10:02 that morning, an assistant to the mission crew commander at NORAD’s Northeast Air Defense Sector in Rome, New York, was working

with his colleagues on the floor of the command center. In a brief moment of reflection, he was recorded remarking that “This is a new type of war.”²⁴¹

He was, and is, right. But the conflict did not begin on 9/11. It had been publicly declared years earlier, most notably in a declaration faxed early in 1998 to an Arabic-language newspaper in London. Few Americans had noticed it. The fax had been sent from thousands of miles away by the followers of a Saudi exile gathered in one of the most remote and impoverished countries on earth.

1 “We Have Some Planes”

1. No physical, documentary, or analytical evidence provides a convincing explanation of why Atta and Omari drove to Portland, Maine, from Boston on the morning of September 10, only to return to Logan on Flight 5930 on the morning of September 11. However, Atta reacted negatively when informed in Portland that he would have to check in again in Boston. Michael Touhey interview (May 27, 2004). Whatever their reason, the Portland Jetport was the nearest airport to Boston with a 9/11 flight that would have arrived at Logan in time for the passengers to transfer to American Airlines Flight 11, which had a scheduled departure time of 7:45 A.M. See Tom Kinton interview (Nov. 6, 2003); Portland International Jetport site visit (Aug. 18, 2003).

Like the other two airports used by the 9/11 hijackers (Newark Liberty International Airport and Washington Dulles International Airport), Boston's Logan International Airport was a “Category X” airport: i.e., among the largest facilities liable to highest threat, and generally subject to greater security requirements. See FAA report, “Civil Aviation Security Reference Handbook,” May 1999, pp. 117–118. Though Logan was selected for two of the hijackings (as were both American and United Airlines), we found no evidence that the terrorists targeted particular airports or airlines. Nothing stands out about any of them with respect to the only security layer that was relevant to the actual hijackings: checkpoint screening. See FAA briefing materials, “Assessment and Testing Data for BOS, EWR, and IAD,” Oct. 24, 2001. Despite security problems at Logan (see, e.g., two local Fox 25 television investigative reports in February and April 2001, and an email in August 2001 from a former FAA special agent to the agency's leadership regarding his concerns about lax security at the airport), no evidence suggests that such issues entered into the terrorists' targeting: they simply booked heavily fueled east-to-west transcontinental flights of the large Boeing aircraft they trained to fly that were scheduled to take off at nearly the same time. See Matt Carroll, “Fighting Terror Sense of Alarm; Airlines Foiled Police Logan Probe,” *Boston Globe*, Oct. 17, 2001, p. B1.

2. CAPPS was an FAA-approved automated system run by the airlines that scored each passenger's profile to identify those who might pose a threat to civil aviation. The system also chose passengers at random to receive additional security scrutiny. Ten out of the 19 hijackers (including 9 out of 10 on the two American Airlines flights) were identified via the CAPPS system. According to the procedures in place on 9/11, in addition to those flagged by the CAPPS algorithm, American's ticket agents were to mark as “selectees” those passengers who did not provide correct responses to the required security questions, failed to show proper identification, or met other criteria. See FAA report, “Air Carrier Standard Security Program,” May 2001, pp. 75–76; FAA record of interview, Donna Thompson, Sept. 23, 2001; Chuck Severance interview (Apr. 15, 2004); Jim Dillon interview (Apr. 15, 2004); Diane Graney interview (Apr. 16, 2004). It appears that Atta was selected at random. See Al Hickson briefing (June 8, 2004).

3. The call was placed from a pay phone in Terminal C (between the screening checkpoint and United 175's boarding gate). We presume Shehhi made the call, but we cannot be sure. Logan International Airport site visit (Aug. 15, 2003); see also FBI response to Commission briefing request no. 6, undated (topic 11).

4. Flight 11 pushed back from Gate 32 in Terminal B at 7:40. See AAL response to the Commission's February 3, 2004, requests, Mar. 15, 2004.

5. See UAL letter, “Flight 175—11Sep01 Passenger ACI Check-in History,” July 11, 2002. Customer service representative Gail Jawahir recalled that her encounter with the Ghamdis occurred at “shortly before 7 A.M.,” and when shown photos of the hijackers, she indicated that Mohand al Shehri resembled one of the two she checked in (suggesting they were Banihammad and Shehri). However, she also recalled that the men had the same last name and had assigned seats on row 9 (i.e., the Ghamdis), and that account has been adopted here. In either case, she almost certainly was dealing with one set of the Flight 175 hijackers. See FBI reports of investigation, interviews of Gail Jawahir, Sept. 21, 2001; Sept. 28, 2001. Even had the hijackers been unable to understand and answer the two standard security questions, the only consequence would have been the screening of their carry-on and checked bags for explosives. See FAA report, “Air Carrier Standard Security Program,” May 2001, p. 76.

6. For Flight 11, two checkpoints provided access to the gate. The second was opened at 7:15 A.M. The FAA conducted many screener evaluations between September 11, 1999, and September 11, 2001. At the primary checkpoints, in aggregate, screeners met or exceeded the average for overall, physical search, and X-ray detection, while falling below the norm for metal detection. No FAA Special Assessments (by “red teams”) were done at Logan security checkpoints during the two years prior to September 11, 2001. See FAA briefing materials, “Assessment and Testing Data for BOS, EWR, and IAD,” Oct. 24, 2001.

7. See Air Transport Association/Regional Airlines Association (ATA/RAA) report, “Air Carriers Checkpoint Operations Guide,” Aug. 1999; FAA report, “Air Carrier Standard Security Program,” May 2001, appendix VI.

8. Mary Carol Turano interview (Mar. 11, 2004); FBI reports of investigation, interview of Nilda Cora, Oct. 4, 2001; interview of William Thomas, Sept. 14, 2001; interview of Jennifer Gore, Sept. 12, 2001; interview of Claudia Richey, Sept. 15, 2001; interview of Rosarito Rivera, Sept. 25, 2001.

9. See TSA report, “Selectee Status of September 11th Hijackers,” undated. For boarding and seating information, see AAL record, SABRE information on Flight 11, Sept. 11, 2001. These boarding times from the American system are approximate only; for Flight 11, they indicated that some passengers “boarded” after the aircraft had pushed back from the gate. See AAL response to the Commission's February 3, 2004, requests, Mar. 15, 2004.

10. See TSA report, "Selectee Status of September 11th Hijackers," undated; see also UAL letter, "Flight 175—11 Sep01 Passenger ACI Check-in History," July 11, 2002.

11. The Haznis checked in at 7:29; the airline has not yet been able to confirm the time of Hanjour's check-in. However, it had to have taken place by 7:35, when he appears on the checkpoint videotape. See AAL record, SABRE information for Flight 77, Sept. 11, 2001; AAL response to the Commission's February 3, 2004, requests, Mar. 15, 2004; Metropolitan Washington Airports Authority videotape, Dulles main terminal checkpoints, Sept. 11, 2001.

12. See TSA report, "Selectee Status of September 11th Hijackers," undated; see also FAA report, "Selectee List AALA #77," undated; FBI report of investigation, interview of Vaughn Alex, Sept. 12, 2001; Vaughn Alex interview (July 13, 2004).

13. The FAA conducted many screener evaluations at Dulles between September 11, 1999, and September 11, 2001. While the test results for physical search exceeded the national average, both the metal detector and X-ray results were below average. See FAA briefing materials, "Assessment and Testing Data for BOS, EWR, and IAD," Oct. 24, 2001.

14. Metropolitan Washington Airports Authority videotape, Dulles main terminal checkpoints, Sept. 11, 2001; see also Tim Jackson interview (Apr. 12, 2004).

15. Metropolitan Washington Airports Authority videotape, Dulles main terminal checkpoints, Sept. 11, 2001; see also Tim Jackson interview (Apr. 12, 2004).

16. For investigation findings, see FAA report, "American Airlines Flight #77: Hijacking and Crash into the Pentagon, Sept. 11, 2001," undated. For screener evaluations, see Tim Jackson interview (Apr. 12, 2004).

17. See AAL record, SABRE information for Flight 77, Sept. 11, 2001; AAL response to the Commission's February 3, 2004, requests, Mar. 15, 2004.

18. UAL record, Flight 93 EWR bag loading status, Sept. 11, 2001; UAL record, Flight 93 EWR ACI passenger history, Sept. 11, 2001; UAL record, Flight 93 EWR full bag history, Sept. 11, 2001; TSA report, "Selectee Status of September 11th Hijackers," undated; FBI report, "The Final 24 Hours," Dec. 8, 2003.

19. The FAA conducted many screener evaluations at Newark between September 11, 1999, and September 11, 2001. Detection rates for metal detection, physical searches, and X-rays all met or exceeded the national averages. See FAA briefing materials, "Assessment and Testing Data for BOS, EWR, and IAD," Oct. 24, 2001; see also FAA report, "United Airlines Flight 93, September 11, 2001, Executive Report," Jan. 30, 2002.

20. UAL record, Flight 93 EWR ACI passenger history, Sept. 11, 2001; see also FBI report, "The Final 24 Hours," Dec. 8, 2003.

21. While Flights 11 and 77 were at or slightly above the average number of passengers for the respective flights that summer, Flights 175 and 93 were well below their averages. We found no evidence to indicate that the hijackers manipulated the passenger loads on the aircraft they hijacked. Financial records did not reveal the purchase of any tickets beyond those the hijackers used for themselves. See FBI response to Commission briefing request no. 6, undated (topic 8); AAL report, "Average Load Factor by Day-of-Week," undated (for Flights 11 and 77 from June 11, 2001, to Sept. 9, 2001); AAL response to the Commission's supplemental document requests, Jan. 20, 2004; UAL report, Flight 175 BOS-LAX Load Factors, undated (from June 1, 2001, to Sept. 11, 2001); UAL report, "Explanation of Load Factors," undated.

22. See AAL response to the Commission's February 3, 2004, requests, Mar. 15, 2004; AAL record, Dispatch Environmental Control/Weekly Flight Summary for Flight 11, Sept. 11, 2001; AAL report, "Flight Attendant Jump Seat Locations During Takeoff And Flight Attendant Typical Cabin Positions During Start of Cabin Service," undated; AAL report, "Passenger Name List, Flight 11/September 11," undated.

23. Commission analysis of NTSB and FAA air traffic control and radar data. See AAL record, Dispatch Environmental Control/Weekly Flight Summary for Flight 11, Sept. 11, 2001; NTSB report, "Flight Path Study—American Airlines Flight 11," Feb. 19, 2002; Bill Halleck and Peggy Houck interview (Jan. 8, 2004). The initial service assignments for flight attendants on American 11 would have placed Karen Martin and Bobbi Arestegui in first class; Sara Low and Jean Roger in business class; Dianne Snyder in the midcabin galley; Betty Ong and Amy Sweeney in coach; and Karen Nicosia in the aft galley. Jeffrey Collman would have been assigned to work in coach, but to assist in first class if needed. See AAL report, "Flight Attendant Jump Seat Locations During Takeoff And Flight Attendant Typical Cabin Positions During Start of Cabin Service," undated; Bob Jordan briefing (Nov. 20, 2003).

24. NTSB report, Air Traffic Control Recording—American Airlines Flight 11, Dec. 21, 2001; NTSB report, Air Traffic Control Recording—United Airlines Flight 175, Dec. 21, 2001. Given that the cockpit crew of American 11 had been acknowledging all previous instructions from air traffic control that morning within a matter of seconds, and that when the first reporting of the hijacking was received a short time later (the 8:19 call from Betty Ong) a number of actions had already been taken by the hijackers, it is most likely that the hijacking occurred at 8:14 A.M.

25. An early draft of an executive summary prepared by FAA security staff for the agency's leadership referred to an alleged report of a shooting aboard Flight 11. We believe this report was erroneous for a number of reasons—there is no evidence that the hijackers purchased firearms, use of a gun would be inconsistent with the otherwise

common tactics employed by the hijackers, the alleged shooting victim was seated where witness accounts place the stabbing victim (9B), and, most important, neither Betty Ong nor Amy Sweeney, the only two people who communicated to the ground from aboard the aircraft, reported the presence of a gun or a shooting. Both reported knives and stabbings. AAL transcript, telephone call from Betty Ong to Nydia Gonzalez, Sept. 11, 2001; AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; AAL transcript, telephone call from Nancy Wyatt to Ray Howland, Sept. 11, 2001; Michael Woodward interview (Jan. 25, 2004). The General Accounting Office looked into the gun story and was unable to corroborate it. GAO report, summary of briefing re investigation, Aug. 30, 2002.

26. Craig Marquis interview (Nov. 19, 2003); Michael Woodward interview (Jan. 25, 2004); Jim Dillon interview (Apr. 15, 2004). See also AAL transcript, telephone call from Betty Ong to Nydia Gonzalez, Sept. 11, 2001. At the time of the hijacking, American Airlines flight attendants all carried cockpit keys on their person. See Craig Marquis, Craig Parfitt, Joe Bertapelle, and Mike Mulcahy interview (Nov. 19, 2003).

27. AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; Obituary, "Daniel Lewin," *Washington Post*, Sept. 22, 2001, p. B7.

28. AAL transcript, telephone call from Betty Ong to Nydia Gonzalez, Sept. 11, 2001; AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001. Regarding the claim of a bomb, see Michael Woodward interview (Jan. 25, 2004).

29. Calls to American's reservations office are routed to the first open line at one of several facilities, among them the center in Cary, N.C. See Nydia Gonzalez interview (Nov. 19, 2003). On standard emergency training, see FAA report, "Air Carrier Standard Security Program," May 2001, pp. 139j–139o; Don Dillman briefing (Nov. 18, 2003); Bob Jordan briefing (Nov. 20, 2003). The call from Ong was received initially by Vanessa Minter and then taken over by Winston Sadler; realizing the urgency of the situation, he pushed an emergency button that simultaneously initiated a tape recording of the call and sent an alarm notifying Nydia Gonzalez, a supervisor, to pick up on the line. Gonzalez was paged to respond to the alarm and joined the call a short time later. Only the first four minutes of the phone call between Ong and the reservations center (Minter, Sadler, and Gonzalez) was recorded because of the time limit on the recently installed system. See Nydia Gonzalez interview (Nov. 19, 2003); Nydia Gonzalez testimony, Jan. 27, 2004.

30. AAL transcript, telephone call from Betty Ong to Nydia Gonzalez, Sept. 11, 2001.

31. See Nydia Gonzalez interview (Nov. 19, 2003); Craig Marquis interviews (Nov. 19, 2003; Apr. 26, 2004); AAL record, Dispatch Environmental Control/Weekly Flight Summary for Flight 11, Sept. 11, 2001; AAL transcript, telephone call from Bill Halleck to BOS ATC, Sept. 11, 2001. The Air Carrier Standard Security Program required airlines to immediately notify the FAA and FBI upon receiving information that an act or suspected act of airplane piracy was being committed.

32. See FAA recording, Boston Air Route Traffic Control Center, position 46R, at 8:25 A.M.; Air Traffic Control Recording—American Airlines Flight 11, Dec. 21, 2001. Starting at 8:22, Amy Sweeney attempted by airphone to contact the American Airlines flight services office at Logan, which managed the scheduling and operation of flight attendants. Sweeney's first attempt failed, as did a second at 8:24. When she got through to Nunez, the latter thought she had reported her flight number as 12. Michael Woodward, supervisor at the Boston office, hearing that a problem had been reported aboard an American airplane, went to American's gate area at Logan with his colleague Beth Williams. Woodward noted that the morning bank of flights had all departed Boston and the gate area was quiet. He further realized that Flight 12 had not even departed yet, so he and Williams returned to the office to try to clarify the situation. See FBI report, "American Airlines Airphone Usage," Sept. 20, 2001; Michael Woodward interview (Jan. 25, 2004). The phone call between Sweeney and Woodward lasted about 12 minutes (8:32–8:44) and was not taped. See AAL email, Woodward to Schmidt, "Flight 11 Account of events," Sept. 19, 2001; AAL notes, Michael Woodward handwritten notes, Sept. 11, 2001; FBI report of investigation, interview of Michael Woodward, Sept. 13, 2001; AAL report, interview of Michael Woodward, Sept. 11, 2001; AAL transcript, telephone call from Nancy Wyatt to Ray Howland, Sept. 11, 2001.

33. See AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; NTSB report, "Flight Path Study—American Airlines Flight 11," Feb. 19, 2002. AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; AAL transcript, telephone call from Nancy Wyatt to Ray Howland, Sept. 11, 2001.

34. Michael Woodward interview (Jan. 25, 2004).

35. AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; Michael Woodward interview (Jan. 25, 2004); AAL, Michael Woodward notes, Sept. 11, 2001. Also at this time American Airlines completed its "lockout" procedure for Flight 11, which restricted access to information about a hijacked flight in accordance with the Air Carrier Standard Security program. See FAA report, "Air Carrier Standard Security Program," May 2001, p. 110.

36. AAL transcript, telephone call from Nancy Wyatt to Ray Howland, Sept. 11, 2001; Michael Woodward interview (Jan. 25, 2004).

37. AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001.

38. *Ibid.*; Michael Woodward interview (Jan. 25, 2004).

39. NTSB report, "Flight Path Study—American Airlines Flight 11," Feb. 19, 2002.

40. The 56 passengers represented a load factor of 33.33 percent of the airplane's seating capacity of 168, below the 49.22 percent for Flight 175 on Tuesdays in the three-month period prior to September 11, 2001. See UAL report, Flight 175 BOS-LAX Load Factors, undated (from June 1, 2001, to Sept. 11, 2001). Nine passengers holding reservations for Flight 175 did not show for the flight. They were interviewed and cleared by the FBI. FAA report, "Executive Summary," Sept. 12, 2001; FAA report, "Executive Summary, Chronology of a Multiple Hijacking Crisis, September 11, 2001," Sept. 17, 2001; UAL record, Flight 175 ACARS report, Sept. 11, 2001; UAL record, Flight 175 Flight Data Recap, Sept. 11, 2001.

41. FAA report, "Executive Summary," Sept. 12, 2001; FAA report, "Executive Summary, Chronology of a Multiple Hijacking Crisis, September 11, 2001," Sept. 17, 2001; NTSB report, "Flight Path Study—United Airlines 175," Feb. 19, 2002; NTSB report, Air Traffic Control Recording—United Airlines Flight 175, Dec. 21, 2001. At or around this time, flight attendants Kathryn Laborie and Alfred Marchand would have begun cabin service in first class; with Amy King and Robert Fangman in business class; and with Michael Tarrou, Amy Jarret, and Alicia Titus in economy class. See UAL report, "Flight 175 Flight Attendant Positions/Jumpseats," undated. United flight attendants, unlike those at American, did not carry cockpit keys. Instead, such keys were stowed in the cabin—on Flight 175, in the overhead bin above seats 1A and 1B in first class. See Don Dillman briefing (Nov. 18, 2003); Bob Jordan briefing (Nov. 20, 2003).

42. Asked by air traffic controllers at 8:37 to look for an American Airlines 767 (Flight 11), United 175 reported spotting the aircraft at 8:38. At 8:41, the flight crew reported having "heard a suspicious transmission" from another aircraft shortly after takeoff, "like someone keyed the mike and said everyone stay in your seats." See NTSB report, Air Traffic Control Recording—United Airlines Flight 175, Dec. 21, 2001.

43. See Marc Policastro interview (Nov. 21, 2003); FBI reports of investigation, interview of Lee Hanson, Sept. 11, 2001; interview of Marc Policastro, Sept. 11, 2001; interview of Louise Sweeney, Sept. 28, 2001; interview of Ronald May, Sept. 11, 2001. On both American 11 and United 175, Boeing 767 double-aisled aircraft, the hijackers arrayed themselves similarly: two seated in first class close to the cockpit door, the pilot hijacker seated close behind them, and at least one other hijacker seated close behind the pilot hijacker. Hijackers were seated next to both the left and right aisles. On American 77 and United 93, Boeing 757 single-aisle aircraft, the pilot hijacker sat in the first row, closest to the cockpit door. See FBI report, "Summary of Penttomb Investigation," Feb. 29, 2004, pp. 67–69; AAL schematics for Flight 11 and Flight 77; UAL schematics for Flight 175 and Flight 93.

44. NTSB report, "Flight Path Study—United Airlines 175," Feb. 19, 2002; NTSB report, Air Traffic Control Recording—United Airlines Flight 175, Dec. 21, 2001.

45. See FBI report of investigation, interview of Lee Hanson, Sept. 11, 2001.

46. Flight crew on board UAL aircraft could contact the United office in San Francisco (SAMC) simply by dialing *349 on an airplane. See FBI report of investigation, interview of David Price, Jan. 24, 2002. At some point before 9:00, SAMC notified United's headquarters of the emergency call from the flight attendant. See Marc Policastro interview (Nov. 21, 2003); FBI report of investigation, interview of Marc Policastro, Sept. 11, 2001; Rich Miles interview (Nov. 21, 2003).

47. NTSB report, "Flight Path Study—United Airlines 175," Feb. 19, 2002.

48. See FBI reports of investigation, interview of Julie Sweeney, Oct. 2, 2001; interview of Louise Sweeney, Sept. 28, 2001.

49. See FBI report of investigation, interview of Lee Hanson, Sept. 11, 2001.

50. See *ibid.*; interview of Louise Sweeney, Sept. 28, 2001.

51. NTSB report, "Flight Path Study—United Airlines 175," Feb. 19, 2002.

52. AAL report, "Flight Attendant Jump Seat Locations During Takeoff And Flight Attendant Typical Cabin Positions During Start of Cabin Service," undated; AAL email, Young to Clark, "Flight Crews," Sept. 12, 2001; AAL record, Dispatch Environmental Control/Weekly Flight Summary for Flight 11, Sept. 11, 2001.

53. AAL record, System Operations Command Center (SOCC) log, Sept. 11, 2001, p. 2; NTSB report, "Flight Path Study—American Airlines Flight 77," Feb. 19, 2002. Flight attendant Renee May would likely have started working in the first-class galley; Michele Heidenberger would have been in the aft galley; Jennifer Lewis would have been in first class; and Kenneth Lewis would have been in the main cabin. On cabin service, see AAL report, "Flight Attendant Jump Seat Locations During Takeoff And Flight Attendant Typical Cabin Positions During Start of Cabin Service," undated. For cruising altitude, see NTSB report, "Flight Path Study—American Airlines Flight 77," Feb. 19, 2002. On events in the cabin, see FAA recording, Indianapolis Air Traffic Control Center, position HNN R, Sept. 11, 2001; FBI report of investigation, interview of Theodore Olson, Sept. 11, 2001; FBI report of investigation, interview of Ronald and Nancy May, Sept. 12, 2001; AAL record, Dispatch Environmental Control/Weekly Flight Summary for Flight 11, Sept. 11, 2001.

54. Air traffic control notified American's headquarters of the problem, and the airline began attempts to contact the flight by 8:59 via ACARS. See NTSB report, "Flight Path Study—American Airlines Flight 77," Feb. 19, 2002. On American 11, the transponder signal was turned off at 8:21; on United 175, the code was changed at 8:47; on American 77, the signal was turned off at 8:56; and on United 93, the signal was turned off at 9:41. See FAA report, "Summary of Air Traffic Hijack Events: September 11, 2001," Sept. 17, 2001; Richard Byard interview (Sept.

24, 2003); Linda Povinelli interview (Sept. 24, 2003); see also NTSB report, *Air Traffic Control Recording—American Airlines Flight 77*, Dec. 21, 2001; AAL record, *Dispatch Environmental Control/Weekly Flight Summary for Flight 11*, Sept. 11, 2001.

55. Gerard Arpey interview (Jan. 8, 2004); Larry Wansley interview (Jan. 8, 2004); AAL record, *System Operations Command Center (SOCC) log*, Sept. 11, 2001.

56. FBI report, “American Airlines Airphone Usage,” Sept. 20, 2001; FBI report of investigation, interview of Ronald and Nancy May, Sept. 12, 2001.

57. The records available for the phone calls from American 77 do not allow for a determination of which of four “connected calls to unknown numbers” represent the two between Barbara and Ted Olson, although the FBI and DOJ believe that all four represent communications between Barbara Olson and her husband’s office (all family members of the Flight 77 passengers and crew were canvassed to see if they had received any phone calls from the hijacked flight, and only Renee May’s parents and Ted Olson indicated that they had received such calls). The four calls were at 9:15:34 for 1 minute, 42 seconds; 9:20:15 for 4 minutes, 34 seconds; 9:25:48 for 2 minutes, 34 seconds; and 9:30:56 for 4 minutes, 20 seconds. FBI report, “American Airlines Airphone Usage,” Sept. 20, 2001; FBI report of investigation, interview of Theodore Olson, Sept. 11, 2001; FBI report of investigation, interview of Helen Voss, Sept. 14, 2001; AAL response to the Commission’s supplemental document request, Jan. 20, 2004.

58. FBI report, “American Airlines Airphone Usage,” Sept. 20, 2001; FBI report of investigation, interview of Theodore Olson, Sept. 11, 2001.

59. See FAA report, “Report of Aircraft Accident,” Nov. 13, 2001; John Hendershot interview (Dec. 22, 2003); FAA report, “Summary of Air Traffic Hijack Events: September 11, 2001,” Sept. 17, 2001; NTSB report, “Flight Path Study—American Airlines Flight 77,” Feb. 19, 2002; Commission analysis of radar data.

60. See FAA report, “Summary of Air Traffic Hijack Events: September 11, 2001,” Sept. 17, 2001; NTSB report, “Flight Path Study—American Airlines Flight 77,” Feb. 19, 2002; FAA report, “Report of Aircraft Accident,” Nov. 13, 2001.

61. See NTSB report, “Flight Path Study—American Airlines Flight 77,” Feb. 19, 2002; TSA report, “Criminal Acts Against Civil Aviation for 2001,” Aug. 20, 2002, p. 41.

62. The flight attendant assignments and seating included Chief Flight Attendant Deborah Welsh (first class, seat J1 at takeoff); Sandra Bradshaw (coach, seat J5); Wanda Green (first class, seat J4); Lorraine Bay (coach, seat J3); and CeeCee Lyles (coach, seat J6). See UAL response to Commission questions for the record, Apr. 5, 2004; FAA report, “Chronology of the September 11 Attacks and Subsequent Events Through October 24, 2001,” undated; UAL records, copies of electronic boarding passes for Flight 93, Sept. 11, 2001; Bob Varcadipane interview (May 4, 2004); Newark Tower briefing (May 4, 2004).

63. Although the flight schedule indicates an 8:00 A.M. “departure,” this was the time the plane left the gate area. Taxiing from the gate to the runway normally took about 15 minutes. Bob Varcadipane interview (May 4, 2004); Newark Tower briefing (May 4, 2004).

64. Commission analysis of FAA air traffic control data. On the FAA’s awareness of multiple hijackings, see AAL transcript, telephone call from Nydia Gonzalez to Craig Marquis, Sept. 11, 2001; Craig Marquis interview (Nov. 19, 2003); AAL record, *System Operations Command Center (SOCC) log*, Sept. 11, 2001; UAL *System Operations Control briefing* (Nov. 20, 2003); Rich Miles interview (Nov. 21, 2003); UAL report, “Timeline: Dispatch/SMFDO Activities—Terrorist Crisis,” undated.

65. FAA audio file, Boston Center, position 46R, 8:24:38 and 8:24:56; Peter Zalewski interview (Sept. 23, 2003).

66. On September 6, 1970, members of the Popular Front for the Liberation of Palestine hijacked a Pan American Boeing 747, a TWA Boeing 707, and a Swissair DC-8. On September 9, a British airliner was hijacked as well. An attempt to hijack an Israeli airliner was thwarted. The Pan American plane landed in Cairo and was blown up after its passengers were released. The other three aircraft were flown to Dawson Field, near Amman, Jordan; the passengers were held captive, and the planes were destroyed. The international hijacking crisis turned into a civil war, as the Jordanian government used force to restore its control of the country. See FAA report, *Civil Aviation Reference Handbook*, May 1999, appendix D.

The FAA knew or strongly suspected that Flight 11 was a hijacking 11 minutes after it was taken over; Flight 175, 9 minutes after it was taken over. There is no evidence to indicate that the FAA recognized Flight 77 as a hijacking until it crashed into the Pentagon.

67. FAA audio file, Herndon Command Center, line 5114, 9:07:13; FAA audio file, Herndon Command Center, position 15, 9:19. At 9:07, Boston Air Traffic Control Center recommended to the FAA Command Center that a cockpit warning be sent to the pilots of all commercial aircraft to secure their cockpits. While Boston Center sent out such warnings to the commercial flights in its sector, we could find no evidence that a nationwide warning was issued by the ATC system.

68. Ellen King interview (Apr. 5, 2004). FAA air traffic control tapes indicate that at 9:19 the FAA Air Traffic Control System Command Center in Herndon ordered controllers to send a cockpit warning to Delta 1989 because, like American 11 and United 175, it was a transcontinental flight departing Boston’s Logan Airport.

69. For American Airlines’ response, see AAL briefing (Apr. 26, 2004). For Ballinger’s warnings, see Ed Ballinger interview (Apr. 14, 2004). A companywide order for dispatchers to warn cockpits was not issued until 9:21. See UAL report, “Timeline: Dispatch/SMFDO Activities—Terrorist Crisis,” undated. While one of Ballinger’s col-

leagues assisted him, Ballinger remained responsible for multiple flights. See Ed Ballinger interview (Apr. 14, 2004). American Airlines' policy called for the flight dispatcher to manage only the hijacked flight, relieving him of responsibilities for all other flights. On American Airlines' policy, see Craig Marquis, Craig Parfitt, Joe Bertapelle, and Mike Mulcahy interview (Nov. 19, 2003). United Airlines had no such "isolation" policy. UAL System Operations Control briefing (Nov. 20, 2003).

70. On FDR, see NTSB report, "Specialist's Factual Report of Investigation—Digital Flight Data Recorder" for United Airlines Flight 93, Feb. 15, 2002; on CVR, see FBI report, "CVR from UA Flight #93," Dec. 4, 2003; Commission review of Aircraft Communication and Reporting System (ACARS) messages sent to and from Flight 93 (which indicate time of message transmission and receipt); see UAL record, Ed Ballinger ACARS log, Sept. 11, 2001. At 9:22, after learning of the events at the World Trade Center, Melody Homer, the wife of co-pilot Leroy Homer, had an ACARS message sent to her husband in the cockpit asking if he was okay. See UAL record, ACARS message, Sept. 11, 2001.

71. On FDR, see NTSB report, "Specialist's Factual Report of Investigation—Digital Flight Data Recorder" for United Airlines Flight 93, Feb. 15, 2002; on CVR, see FBI report, "CVR from UA Flight #93," Dec. 4, 2003; FAA report, "Summary of Air Traffic Hijack Events: September 11, 2001," Sept. 17, 2001; NTSB report, Air Traffic Control Recording—United Airlines Flight 93, Dec. 21, 2001.

72. The 37 passengers represented a load factor of 20.33 percent of the plane's seating capacity of 182, considerably below the 52.09 percent for Flight 93 on Tuesdays in the three-month period prior to September 11 (June 11–September 4, 2001). See UAL report, Flight 93 EWR–SFO load factors, undated. Five passengers holding reservations for Flight 93 did not show for the flight. All five were interviewed and cleared by the FBI. FBI report, "Flight #93 'No Show' Passengers from 9/11/01," Sept. 18, 2001.

73. INS record, Withdrawal of Application for Admission for Mohamed al Kahtani, Aug. 4, 2001.

74. See FAA regulations, Admission to flight deck, 14 C.F.R. § 121.547 (2001); UAL records, copies of boarding passes for United 93, Sept. 11, 2001. One passenger reported that ten first-class passengers were aboard the flight. If that number is accurate, it would include the four hijackers. FBI report of investigation, interview of Lisa Jefferson, Sept. 11, 2001; UAL record, Flight 93 passenger manifest, Sept. 11, 2001. All but one of the six passengers seated in the first-class cabin communicated with the ground during the flight, and none mentioned anyone from their cabin having gone into the cockpit before the hijacking. Moreover, it is unlikely that the highly regarded and experienced pilot and co-pilot of Flight 93 would have allowed an observer into the cockpit before or after takeoff who had not obtained the proper permission. See UAL records, personnel files of Flight 93 pilots. For jumpseat information, see UAL record, Weight and Balance Information for Flight 93 and Flight 175, Sept. 11, 2001; AAL records, Dispatch Environmental Control/Weekly Flight Summary for Flight 11 and Flight 77, Sept. 11, 2001.

75. Like Atta on Flight 11, Jarrah apparently did not know how to operate the communication radios; thus his attempts to communicate with the passengers were broadcast on the ATC channel. See FBI report, "CVR from UA Flight #93," Dec. 4, 2003. Also, by 9:32 FAA notified United's headquarters that the flight was not responding to radio calls. According to United, the flight's nonresponse and its turn to the east led the airline to believe by 9:36 that the plane was hijacked. See Rich Miles interview (Nov. 21, 2003); UAL report, "United dispatch SMFDO activities—terrorist crisis," Sept. 11, 2001.

76. In accordance with FAA regulations, United 93's cockpit voice recorder recorded the last 31 minutes of sounds from the cockpit via microphones in the pilots' headsets, as well as in the overhead panel of the flight deck. This is the only recorder from the four hijacked airplanes to survive the impact and ensuing fire. The CVRs and FDRs from American 11 and United 175 were not found, and the CVR from American Flight 77 was badly burned and not recoverable. See FBI report, "CVR from UA Flight #93," Dec. 4, 2003; see also FAA regulations, 14 C.F.R. §§ 25.1457, 91.609, 91.1045, 121.359; Flight 93 CVR data. A transcript of the CVR recording was prepared by the NTSB and the FBI.

77. All calls placed on airphones were from the rear of the aircraft. There was one airphone installed in each row of seats on both sides of the aisle. The airphone system was capable of transmitting only eight calls at any one time. See FBI report of investigation, airphone records for flights UAL 93 and UAL 175 on Sept. 11, 2001, Sept. 18, 2001.

78. FAA audio file, Cleveland Center, position Lorain Radar; Flight 93 CVR data; FBI report, "CVR from UA Flight #93," Dec. 4, 2003.

79. FBI reports of investigation, interviews of recipients of calls from Todd Beamer, Sept. 11, 2001, through June 11, 2002; FBI reports of investigation, interviews of recipients of calls from Sandy Bradshaw, Sept. 11, 2001, through Oct. 4, 2001. Text messages warning the cockpit of Flight 93 were sent to the aircraft by Ed Ballinger at 9:24. See UAL record, Ed Ballinger's ACARS log, Sept. 11, 2001.

80. We have relied mainly on the record of FBI interviews with the people who received calls. The FBI interviews were conducted while memories were still fresh and were less likely to have been affected by reading the accounts of others or hearing stories in the media. In some cases we have conducted our own interviews to supplement or verify the record. See FBI reports of investigation, interviews of recipients of calls from Todd Beamer, Mark Bingham, Sandy Bradshaw, Marion Britton, Thomas Burnett, Joseph DeLuca, Edward Felt, Jeremy Glick, Lauren Grandcolas, Linda Gronlund, CeeCee Lyles, Honor Wainio.

81. FBI reports of investigation, interviews of recipients of calls from Thomas Burnett, Sept. 11, 2001; FBI reports of investigation, interviews of recipients of calls from Marion Britton, Sept. 14, 2001, through Nov. 8, 2001; Lisa Jefferson interview (May 11, 2004); FBI report of investigation, interview of Lisa Jefferson, Sept. 11, 2001; Richard Belme interview (Nov. 21, 2003).

82. See Jere Longman, *Among the Heroes—United Flight 93 and the Passengers and Crew Who Fought Back* (Harper-Collins, 2002), p. 107; Deena Burnett interview (Apr. 26, 2004); FBI reports of investigation, interviews of recipients of calls from Jeremy Glick, Sept. 11, 2001, through Sept. 12, 2001; Lyzbeth Glick interview (Apr. 22, 2004). Experts told us that a gunshot would definitely be audible on the CVR. The FBI found no evidence of a firearm at the crash site of Flight 93. See FBI response to Commission briefing request no. 6, undated (topic 11). The FBI collected 14 knives or portions of knives at the Flight 93 crash site. FBI report, “Knives Found at the UA Flight 93 Crash Site,” undated.

83. FBI response to Commission briefing request no. 6, undated (topic 11); FBI reports of investigation, interviews of recipients of calls from Jeremy Glick, Sept. 11, 2001, through Sept. 12, 2001.

84. See FBI reports of investigation, interviews of recipients of calls from United 93.

85. FBI reports of investigation, interviews of recipients of calls from United 93. For quote, see FBI report of investigation, interview of Philip Bradshaw, Sept. 11, 2001; Philip Bradshaw interview (June 15, 2004); Flight 93 FDR and CVR data. At 9:55:11 Jarrah dialed in the VHF Omni-directional Range (VOR) frequency for the VOR navigational aid at Washington Reagan National Airport, further indicating that the attack was planned for the nation’s capital.

86. Flight 93 FDR and CVR data.

87. *Ibid.*

88. *Ibid.*

89. *Ibid.* The CVR clearly captured the words of the hijackers, including words in Arabic from the microphone in the pilot headset up to the end of the flight. The hijackers’ statements, the clarity of the recording, the position of the microphone in the pilot headset, and the corresponding manipulations of flight controls provide the evidence. The quotes are taken from our listening to the CVR, aided by an Arabic speaker.

90. In 1993, a Lufthansa aircraft was hijacked from its Frankfurt to Cairo route and diverted to JFK Airport in New York. The event lasted for 11 hours and was resolved without incident. Tamara Jones and John J. Goldman, “11-Hour Hijack Ends Without Injury in N.Y.,” *Los Angeles Times*, Feb. 12, 1993, p. A1.

91. The second half of the twentieth century witnessed a tremendous growth of the air transport industry, and the FAA’s corresponding responsibilities grew enormously from the 1960s through 2001. Throughout that time, the FAA focused on setting and maintaining safety and efficiency standards. Since no plane had been hijacked inside the United States since 1991, sabotage was perceived as the most significant threat to civil aviation. For a broader discussion of the perception of the threat, see section 3.3.

92. FAA report, “Administrator’s Fact Book,” July 2001; Benedict Sliney interview (May 21, 2004); John McCartney interview (Dec. 17, 2003).

93. FAA regulations, Air Traffic Control transponder and altitude reporting equipment and use, 14 CFR § 91.215 (2001).

94. DOD radar files, 84th Radar Evaluation Squadron, “9/11 Autoplay,” undated; Charles Thomas interview (May 4, 2004); John Thomas interview (May 4, 2004); Joseph Cooper interview (Sept. 22, 2003); Tim Spence interview (Sept. 30, 2003). For general information on approaching terminals, see FAA report, “Aeronautical Information Manual,” Feb. 19, 2004. Times assigned to audio transmissions were derived by the Commission from files provided by the FAA and the Northeast Air Defense Sector (NEADS) based on audio time stamps contained within the files provided by the sender. FAA tapes are certified accurate to Universal Coordinated Time by quality assurance specialists at FAA air traffic facilities. NEADS files are time-stamped as accurate to the Naval Observatory clock. We also compared audio times to certified transcripts when available.

95. FAA Boston Center site visit (Sept. 22–24, 2003).

96. NORAD’s mission is set forth in a series of renewable agreements between the United States and Canada. According to the agreement in effect on 9/11, the “primary missions” of NORAD were “aerospace warning” and “aerospace control” for North America. *Aerospace warning* was defined as “the monitoring of man-made objects in space and the detection, validation, and warning of attack against North America whether by aircraft, missiles, or space vehicles.” *Aerospace control* was defined as “providing surveillance and control of the airspace of Canada and the United States.” See DOS memo, Exchange of Notes Between Canada and the United States Regarding Extension of the NORAD Agreement, Mar. 28, 1996; see also DOS press release, “Extension of NORAD Agreement,” June 16, 2000 (regarding the extension of the 1996 Agreement unchanged). For NORAD’s defining its job as defending against external attacks, see Ralph Eberhart interview (Mar. 1, 2004).

97. DOD report, “NORAD Strategy Review: Final Report,” July 1992, p. 55.

98. For assumptions of exercise planners, see Paul Goddard and Ken Merchant interview (Mar. 4, 2004). For the authority to shoot down a commercial aircraft prior to 9/11, granted to NORAD but not used against Payne Stewart’s plane in 1999 after the pilot and passengers lost consciousness, see Richard Myers interview (Feb. 17, 2004). A 1998 White House tabletop exercise chaired by Richard Clarke included a scenario in which a terrorist

group loaded a Learjet with explosives and took off for a suicide mission to Washington. Military officials said they could scramble fighter jets from Langley Air Force Base to chase the aircraft, but they would need “executive” orders to shoot it down. Chuck Green interview (Apr. 21, 2004). For no recognition of this threat, see Ralph Eberhart interview (Mar. 1, 2004).

99. Richard Myers interview (Feb. 17, 2004).

100. Donald Quenneville interview (Jan. 7, 2004); Langley Air Force Base 119th Fighter Wing briefing (Oct. 6–7, 2003).

101. Collin Scoggins interviews (Sept. 22, 2003; Jan. 8, 2004); FAA report, “Crisis Management Handbook for Significant Events,” Feb. 15, 2000; DOD memo, CJCS instruction, “Aircraft Piracy (Hijacking) and Destruction of Derelict Airborne Objects,” June 1, 2001.

102. See FAA regulations, Hijacked Aircraft, Order 7110.65M, para. 10–2–6 (2001); David Bottiglia interview (Oct. 1, 2003); FAA report, “Crisis Management Handbook for Significant Events,” Feb. 15, 2000. From interviews of controllers at various FAA centers, we learned that an air traffic controller’s first response to an aircraft incident is to notify a supervisor, who then notifies the traffic management unit and the operations manager in charge. The FAA center next notifies the appropriate regional operations center (ROC), which in turn contacts FAA headquarters. Biggio stated that for American 11, the combination of three factors—loss of radio contact, loss of transponder signal, and course deviation—was serious enough for him to contact the ROC in Burlington, Mass. However, without hearing the threatening communication from the cockpit, he doubts Boston Center would have recognized or labeled American 11 “a hijack.” Terry Biggio interview (Sept. 22, 2003); see also Shirley Miller interview (Mar. 30, 2004); Monte Belger interview (Apr. 20, 2004).

103. FAA regulations, Special Military Operations, Requests for Service, Order 7610.4J, paras. 7–1–1, 7–1–2 (2001); DOD memo, CJCS instruction, “Aircraft Piracy (Hijacking) and Destruction of Derelict Airborne Objects,” June 1, 2001.

104. Ralph Eberhart interview (Mar. 1, 2004); Alan Scott interview (Feb. 4, 2004); Robert Marr interview (Jan. 23, 2004); FAA regulations, Position Reports within NORAD Radar Coverage, Order 7610.4J, para. 7–4–2 (2001); DOD memo, CJCS instruction, “Aircraft Piracy (Hijacking) and Destruction of Derelict Airborne Objects,” June 1, 2001.

105. FAA regulations, Air/Ground Communications Security, Order 7610.4J, para. 7–1–6 (2001); FAA regulations, Vectors, Order 7610.4J, para. 7–2–3 (2001).

106. Peter Zalewski interview (Sept. 22, 2003); Terry Biggio interviews (Sept. 22, 2003; Jan. 8, 2004); Collin Scoggins interview (Sept. 22, 2003); Daniel Bueno interview (Sept. 22, 2003). For evidence of the numerous attempts by air traffic control to raise American 11, see FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Feb. 15, 2002, p. 7.

107. DOD radar files, 84th Radar Evaluation Squadron, “9/11 Autoplay,” undated; Peter Zalewski interview (Sept. 22, 2003); John Schippani interview (Sept. 22, 2003).

108. Peter Zalewski interview (Sept. 22, 2003); John Schippani interview (Sept. 22, 2003).

109. FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Feb. 15, 2002, p. 11; Peter Zalewski interview (Sept. 23, 2003).

110. Peter Zalewski interview (Sept. 23, 2003); John Schippani interview (Sept. 22, 2003); Terry Biggio interviews (Sept. 22, 2003; Jan. 8, 2004); Robert Jones interview (Sept. 22, 2003).

111. FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Apr. 19, 2002, p. 2; FAA record, Boston Center daily record of facility operation, Sept. 11, 2001; Terry Biggio interviews (Sept. 22, 2003; Jan. 8, 2004); Daniel Bueno interview (Sept. 22, 2004). See also FAA memo, “Transcription of 9/11 Tapes,” Oct. 2, 2003, p. 2; FAA audio file, Herndon Command Center, line 4525, 8:32–8:33.

112. See FAA memo, “Transcription of 9/11 Tapes,” Oct. 2, 2003, pp. 2–3; FAA record, New England Region Daily Log, Sept. 11, 2001; Daniel Bueno interview (Sept. 22, 2003); Terry Biggio interviews (Sept. 22, 2003; Jan. 8, 2004).

113. FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Feb. 15, 2002, p. 12.

114. FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Jan. 28, 2002, p. 5.

115. FAA memo, “Full Transcript; Aircraft Accident; AAL11; New York, NY; September 11, 2001,” Apr. 19, 2002, p. 5; Terry Biggio interview (Sept. 22, 2003); Collin Scoggins interviews (Sept. 22, 2003; Jan. 8, 2004); Daniel Bueno interview (Sept. 22, 2003).

116. On 9/11, NORAD was scheduled to conduct a military exercise, Vigilant Guardian, which postulated a bomber attack from the former Soviet Union. We investigated whether military preparations for the large-scale exercise compromised the military’s response to the real-world terrorist attack on 9/11. According to General Eberhart, “it took about 30 seconds” to make the adjustment to the real-world situation. Ralph Eberhart testimony, June 17, 2004. We found that the response was, if anything, expedited by the increased number of staff at the sectors and at NORAD because of the scheduled exercise. See Robert Marr interview (Jan. 23, 2004).

117. For the distance between Otis Air Force Base and New York City, see William Scott testimony, May 23, 2003. For the order from NEADS to Otis to place F-15s at battle stations, see NEADS audio file, Weapons Director Technician position, channel 14, 8:37:15. See also interviews with Otis and NEADS personnel: Jeremy Powell interview (Oct. 27, 2003); Michael Kelly interview (Oct. 14, 2003); Donald Quenneville interview (Jan. 7, 2004), and interviews with Otis fighter pilots: Daniel Nash interview (Oct. 14, 2003); Timothy Duffy interview (Jan. 7, 2004). According to Joseph Cooper from Boston Center, "I coordinated with Huntress ["Huntress" is the call sign for NEADS]. I advised Huntress we had a hijacked aircraft. I requested some assistance. Huntress requested and I supplied pertinent information. I was advised aircraft might be sent from Otis." FAA record, Personnel Statement of Joseph Cooper, Oct. 30, 2001.

118. Robert Marr interview (Jan. 23, 2004); Leslie Filson, *Air War Over America* (First Air Force, 2003), p. 56; Larry Arnold interview (Feb. 3, 2004).

119. NEADS audio file, Weapons Director Technician position, channel 14; 8:45:54; Daniel Nash interview (Oct. 14, 2003); Michael Kelly interview (Oct. 14, 2003); Donald Quenneville interview (Jan. 7, 2004); Timothy Duffy interview (Jan. 7, 2004); NEADS audio file, Mission Crew Commander position, channel 2, 8:44:58; NEADS audio file, Identification Technician position, channel 5, 8:51:13.

120. FAA audio file, Boston Center, position 31R; NEADS audio file, Mission Crew Commander position, channel 2, 8:58:00; NEADS audio file, Mission Crew Commander position, channel 2, 8:54:55. Because of a technical issue, there are no NEADS recordings available of the NEADS senior weapons director and weapons director technician position responsible for controlling the Otis scramble. We found a single communication from the weapons director or his technician on the Guard frequency at approximately 9:11, cautioning the Otis fighters: "remain at current position [holding pattern] until FAA requests assistance." See NEADS audio file, channel 24. That corresponds to the time after the Otis fighters entered the holding pattern and before they headed for New York. NEADS controllers were simultaneously working with a tanker to relocate close to the Otis fighters. At 9:10, the senior director on the NEADS floor told the weapons director, "I want those fighters closer in." NEADS audio file, Identification Technician position, channel 5. At 9:10:22, the Otis fighters were told by Boston Center that the second tower had been struck. At 9:12:54, the Otis fighters told their Boston Center controller that they needed to establish a combat air patrol over New York, and they immediately headed for New York City. See FAA audio files, Boston Center, position 31R. This series of communications explains why the Otis fighters briefly entered and then soon departed the holding pattern, as the radar reconstruction of their flight shows. DOD radar files, 84th Radar Evaluation Squadron, "9/11 Autoplay," undated.

121. In response to allegations that NORAD responded more quickly to the October 25, 1999, plane crash that killed Payne Stewart than it did to the hijacking of American 11, we compared NORAD's response time for each incident. The last normal transmission from the Stewart flight was at 9:27:10 A.M. Eastern Daylight Time. The Southeast Air Defense Sector was notified of the event at 9:55, 28 minutes later. In the case of American 11, the last normal communication from the plane was at 8:13 A.M. EDT. NEADS was notified at 8:38, 25 minutes later. We have concluded there is no significant difference in NORAD's reaction to the two incidents. See NTSB memo, Aircraft Accident Brief for Payne Stewart incident, Oct. 25, 1999; FAA email, Gahris to Myers, "ZJX Timeline for N47BA accident," Feb. 17, 2004.

122. FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002, pp. 5-6.

123. FAA audio file, New York Center, position R42, 8:42-8:45; FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002, pp. 6-8; DOD radar files, 84th Radar Evaluation Squadron, "9/11 Autoplay," undated. The FAA-produced timeline notes, "Based on coordination received from [Boston Center] indicating a possible hijack, most of the controller's attention is focused on AAL 11." See FAA report, "Summary of Air Traffic Hijack Events September 11, 2001," Sept. 17, 2001; see also David Bottiglia interview (Oct. 1, 2003); FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002, p. 9.

124. FAA audio file, Herndon Command Center, New York Center position, line 5114, 8:48.

125. FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002, pp. 12, 14.

126. *Ibid.*, p. 15. At 8:57, the following exchange between controllers occurred: "I got some handoffs for you. We got some incidents going over here. Is Delta 2433 going to be okay at thirty-three? I had to climb him for traffic. I let you United 175 just took off out of think we might have a hijack over here. Two of them." See FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002.

127. See FAA report, "Summary of Air Traffic Hijack Events September 11, 2001," Sept. 17, 2001; Evanna Dowis interview (Sept. 30, 2004); Michael McCormick interview (Dec. 15, 2003); FAA record, Personnel Statement of Michael McCormick, Oct. 17, 2001. See also FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," May 8, 2002, p. 17.

128. FAA memo, "Full Transcript; Command Center; NOM Operational Position; September 11, 2001," Oct. 14, 2003, pp. 15-17.

129. FAA memo, "Full Transcript; Aircraft Accident; UAL175; New York, NY; September 11, 2001," Jan. 17, 2002, p. 3.

130. "N90 [New York Terminal Radar Approach] controller stated 'at approximately 9:00 a.m., I observed an unknown aircraft south of the Newark, New Jersey Airport, northeast bound and descending out of twelve thousand nine hundred feet in a rapid rate of descent, the radar target terminated at the World Trade Center.'" FAA report, "Summary of Air Traffic Hijack Events September 11, 2001," Sept. 17, 2001. Former NORAD official Alan Scott testified that the time of impact of United 175 was 9:02. William Scott testimony, May 23, 2003. We have determined that the impact time was 9:03:11 based on our analysis of FAA radar data and air traffic control software logic.

131. FAA audio file, Herndon Command Center, New York Center position, line 5114, 9:02:34.

132. Ibid., 9:03; FAA audio file, Herndon Command Center, Cleveland/Boston position, line 5115, 9:05; Michael McCormick interview (Oct. 1, 2003); David LaCates interview (Oct. 2, 2003).

133. FAA Audio File, Herndon Command Center, Boston Center position, line 5115, 9:05–9:07.

134. Joseph McCain interview (Oct. 28, 2003); Robert Marr (Jan. 23, 2004); James Fox interview (Oct. 29, 2003); Dawne Deskins interview (Oct. 30, 2003).

135. NEADS audio file, Mission Crew Commander position, channel 2, 9:07:32.

136. Daniel Nash interview (Oct. 14, 2003); Timothy Duffy interview (Jan. 7, 2004).

137. Because the Otis fighters had expended a great deal of fuel in flying first to military airspace and then to New York, the battle commanders were concerned about refueling. As NEADS personnel looked for refueling tankers in the vicinity of New York, the mission crew commander considered scrambling the Langley fighters to New York to provide backup for the Otis fighters until the NEADS Battle Cab (the command area that overlooks the operations floor) ordered "battle stations only at Langley." The alert fighters at Langley Air Force Base were ordered to battle stations at 9:09. Colonel Marr, the battle commander at NEADS, and General Arnold, the CONR commander, both recall that the planes were held on battle stations, as opposed to scrambling, because they might be called on to relieve the Otis fighters over New York City if a refueling tanker was not located, and also because of the general uncertainty of the situation in the sky. According to William Scott at the Commission's May 23, 2003, hearing, "At 9:09, Langley F-16s are directed to battle stations, just based on the general situation and the breaking news, and the general developing feeling about what's going on." See NEADS audio file, Mission Crew Commander, channel 2, 9:08:36; Robert Marr interview (Oct. 27, 2003); Larry Arnold interview (Feb. 3, 2004). See also Colonel Marr's statement that "[t]he plan was to protect New York City." Filson, *Air War Over America*, p. 60.

138. Commission analysis of FAA radar data and air traffic control transmissions.

139. The Indianapolis Center controller advised other Indianapolis Center personnel of the developing situation. They agreed to "sterilize" the airspace along the flight's westerly route so the safety of other planes would not be affected. John Thomas interview (May 4, 2004).

140. John Thomas interview (Sept. 24, 2003). According to the FAA-produced timeline, at 9:09 Indianapolis Center "notified Great Lakes Regional Operations Center a possible aircraft accident of AMERICAN 77 due to the simultaneous loss of radio communications and radar identification." FAA report, "Summary of Air Traffic Hijack Events September 11, 2001," Sept. 17, 2001.

141. FAA audio file, Herndon Command Center, National Operations Manager position, line 4525; FAA audio file, Herndon Command Center, National Traffic Management Officer east position, line 4530; FAA memo, "Full Transcript; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001," Oct. 21, 2003, p. 13.

142. Primary radar contact for Flight 77 was lost because the "preferred" radar in this geographic area had no primary radar system, the "supplemental" radar had poor primary coverage, and the FAA ATC software did not allow the display of primary radar data from the "tertiary" and "quadrant" radars.

143. David Boone interview (May 4, 2004); Charles Thomas interview (May 4, 2004); John Thomas interview (May 4, 2004); Commission analysis of FAA radar data and air traffic control software logic.

144. John Thomas interview (May 4, 2004); Charles Thomas interview (May 4, 2004). We have reviewed all FAA documents, transcripts, and tape recordings related to American 77 and have found no evidence that FAA headquarters issued a directive to surrounding centers to search for primary radar targets. Review of the same materials also indicates that no one within FAA located American 77 until the aircraft was identified by Dulles controllers at 9:32. For much of that time, American 77 was traveling through Washington Center's airspace. The Washington Center's controllers were looking for the flight, but they were not told to look for primary radar returns.

145. John White interview (May 7, 2004); Ellen King interview (Apr. 5, 2004); Linda Schuessler interview (Apr. 6, 2004); Benedict Sliney interview (May 21, 2004); FAA memo, "Full Transcript; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001," Oct. 21, 2003, pp. 14, 27.

146. John Hendershot interview (Dec. 22, 2003).

147. FAA memo, "Partial Transcript; Aircraft Accident; AAL77; Washington, DC; September 11, 2001," Sept. 20, 2001, p. 7.

148. NEADS audio file, Identification Technician position, channel 7, 9:21:10.

149. NEADS audio file, Mission Crew Commander, channel 2, 9:21:50; Kevin Nasypany interview (Jan. 22–23, 2004).

150. NEADS audio file, Mission Crew Commander, Channel 2, 9:22:34. The mission commander thought to put the Langley scramble over Baltimore and place a “barrier cap” between the hijack and Washington, D.C. Kevin Nasypany interview (Jan. 22–23, 2004).

151. NEADS audio file, Identification Technician position, channel 5, 9:32:10; *ibid.*, 9:33:58.

152. For first quote, see NEADS audio file, Identification Technician position, channel 5, 9:35:50. For second quote, see NEADS audio file, Identification Technician position, channel 7, 9:36:34; Kevin Nasypany interview (Jan. 22–23, 2004). For the third quote, see NEADS audio file, Mission Crew Commander, channel 2, 9:39; 9:39:37; Kevin Nasypany interview (Jan. 22–23, 2004).

153. Dean Eckmann interview (Dec. 1, 2003); FAA memo, “Partial Transcript; Scramble Aircraft; QUIT25; September 11, 2001,” Sept. 4, 2003, pp. 2–4 (Peninsular Radar position); FAA memo, “Partial Transcript; Scramble Aircraft; QUIT25; September 11, 2001,” Sept. 4, 2003, pp. 2–5 (East Feeder Radar position).

154. NEADS audio file, Mission Crew Commander, channel 2, 9:38:02; Dawne Deskins interview (Oct. 30, 2003). The estimated time of impact of Flight 77 into the Pentagon is based on Commission analysis of FDR, air traffic control, radar, and Pentagon elevation and impact site data.

155. Joseph Cooper interview (Sept. 22, 2003); NEADS audio file, Identification Technician position, recorder 1, channel 7, 9:41.

156. NEADS audio file, Mission Crew Commander position, channel 2, 9:42:08.

157. FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 10.

158. The United 93 timeline in FAA report, “Summary of Air Traffic Hijack Events September 11, 2001,” Sept. 17, 2001, states that at 9:28:17 “a radio transmission of unintelligible sounds of possible screaming or a struggle from an unknown origin was heard over the ZOB [Cleveland Center] radio.” See FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 11.

159. The United 93 timeline in FAA report, “Summary of Air Traffic Hijack Events September 11, 2001,” Sept. 17, 2001, states that at 9:28:54 a “second radio transmission, mostly unintelligible, again with sounds of possible screaming or a struggle and a statement, ‘get out of here, get out of here’ from an unknown origin was heard over the ZOB [Cleveland Center] radio.” FAA audio file, Cleveland Center, Lorain Radar position; FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 11. At 9:31:48, ExecJet 56 also called in, reporting that “we’re just answering your call. We did hear that, uh, yelling too.” The FAA responded at 9:31:51, “Okay, thanks. We’re just trying to figure out what’s going on.” FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 15.

160. FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 15.

161. FAA memo, “Full Transcription; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001,” Oct. 21, 2003, pp. 10, 13; FAA audio file, Herndon Command Center, New York Center position, line 5154.

162. FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, p. 19.

163. *Ibid.*, p. 23.

164. FAA memo, “Full Transcription; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001,” Oct. 21, 2003, pp. 16–17; FAA audio file, Cleveland Center, Lorain Radar position; FAA memo, “Full Transcript; Aircraft Accident; N591UA (UAL93); Somerset, PA; September 11, 2001,” May 10, 2002, pp. 26–32.

165. FAA memo, “Full Transcription; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001,” Oct. 21, 2003, pp. 17–19.

166. For 9:46 quotation, see *ibid.*, pp. 19–20. For 9:49 discussion about military assistance, see *ibid.*, p. 21.

167. For 9:53 discussion about scrambling aircraft, see *ibid.*, p. 23. Neither Monte Belger nor the deputy director for air traffic services could recall this discussion in their interviews with us. Monte Belger interview (Apr. 20, 2004); Peter Challan interview (Mar. 26, 2004). Subsequently Belger told us he does not believe the conversation occurred. Monte Belger, email to the Commission, July 12, 2004. However, tapes from the morning reveal that at 9:53 a staff person from headquarters told the Command Center “Peter’s talking to Monte now about scrambling.” FAA memo, “Full Transcription; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001,” Oct. 21, 2003, p. 23. For discussions about the status of United 93, see *ibid.*, pp. 24–27.

168. *Ibid.*, pp. 23–27. We also reviewed a report regarding seismic observations on September 11, 2001, whose authors conclude that the impact time of United 93 was “10:06:05±5 (EDT).” Won-Young Kim and G. R. Baum, “Seismic Observations during September 11, 2001, Terrorist Attack,” spring 2002 (report to the Maryland Depart-

ment of Natural Resources). But the seismic data on which they based this estimate are far too weak in signal-to-noise ratio and far too speculative in terms of signal source to be used as a means of contradicting the impact time established by the very accurate combination of FDR, CVR, ATC, radar, and impact site data sets. These data sets constrain United 93's impact time to within 1 second, are airplane- and crash-site specific, and are based on time codes automatically recorded in the ATC audiotapes for the FAA centers and correlated with each data set in a process internationally accepted within the aviation accident investigation community. Furthermore, one of the study's principal authors now concedes that "seismic data is not definitive for the impact of UA 93." Email from Won-Young Kim to the Commission, "Re: UA Flight 93," July 7, 2004; see also Won-Young Kim, "Seismic Observations for UA Flight 93 Crash near Shanksville, Pennsylvania during September 11, 2001," July 5, 2004.

169. FAA memo, "Full Transcription; Air Traffic Control System Command Center, National Traffic Management Officer, East Position; September 11, 2001," Oct. 21, 2003, p. 31.

170. For 10:17 discussion, see *ibid.*, p. 34. For communication regarding "black smoke," see FAA memo, "Full Transcript; Aircraft Accident; N591UA (UAL93) Somerset, PA; September 11, 2001," May 10, 2002, pp. 16–18 (Cleveland Center, Imperial Radar position). This report from the C-130H was recorded on ATC audio about 1 minute and 37 seconds after the impact time of United 93 as established by NTSB and Commission analysis of FDR, CVR, radar, and impact data sets—more than a minute before the earliest impact time originally posited by the authors of the seismic data report.

171. NEADS audio file, Identification Technician, channel 5, 10:07.

172. NEADS audio file, Mission Crew Commander, channel 2, 10:10.

173. NEADS audio file, Identification Technician, channel 4, 10:14.

174. DOD record, NEADS MCC/T Log Book, Sept. 11, 2001.

175. William Scott testimony, May 23, 2003.

176. Larry Arnold testimony, May 23, 2003.

177. See DOD record, NEADS MCC/T Log Book, Sept. 11, 2001. The entry in this NEADS log records the tail number not of American 77 but of American 11: "American Airlines #N334AA hijacked." See also DOD record, Surveillance Log Book, Sept. 11, 2001.

178. William Scott testimony, May 23, 2003; DOD briefing materials, "Noble Eagle; 9–11 Timeline," undated.

179. For lack of knowledge about the hijacking, see, e.g., White House transcript, Card interview with Ron Fournier of the Associated Press, Aug. 7, 2002. For information on the hijacking within the FAA, see the discussion of American 11 in section 1.2.

180. See White House record, Situation Room Log, Sept. 11, 2001; White House record, Presidential Emergency Operations Center (PEOC) Watch Log, Sept. 11, 2001; DOD record, Senior Operations Officer log, Sept. 11, 2001.

181. Jane Garvey interview (Jun. 30, 2004); Monte Belger interview (Apr. 20, 2004).

182. For notifications, see DOD record, Assistant Deputy Director Operations Passdown Log, Sept. 11, 2001. For the call to the FAA, see DOD record, Senior Operations Officer log, Sept. 11, 2001 ("9:00 NMCC called FAA, briefed of explosion at WTC possibly from aircraft crash. Also, hijacking of American Flight 11 from Boston to LA, now enroute to Kennedy"). For the scrambling of jets not being discussed, see Ryan Gonsalves interview (May 14, 2004).

183. Secret Service records show the motorcade arriving between 8:50 and 8:55. USSS record, shift log, Sept. 11, 2001 (8:55); USSS record, Command Post Protectee Log, Sept. 11, 2001 (8:50). For Andrew Card's recollection, see Andrew Card meeting (Mar. 31, 2004). For the President's reaction, see Andrew Card meeting (Mar. 31, 2004); White House transcript, President Bush interview with Bob Schieffer of CBS News, Apr. 17, 2002.

184. White House transcript, Rice interview with Evan Thomas of *Newsweek*, Nov. 1, 2001, p. 2; see also White House record, President's Daily Diary, Sept. 11, 2001.

185. White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 1.

186. For Rice's meeting, see White House transcript, Rice interview with Bob Woodward of the *Washington Post*, Oct. 24, 2001, pp. 360–361. For White House staff monitoring the news, see, e.g., White House transcript, Rice interview with Evan Thomas, Nov. 11, 2001, p. 388.

187. On White House staff reaction, see White House transcript, Rice interview with Bob Woodward, Oct. 24, 2001, p. 361; Andrew Card meeting (Mar. 31, 2004). On security enhancements, see USSS memo, interview with Carl Truscott, Oct. 1, 2001, p. 1. On security measures being precautionary, see Carl Truscott interview (Apr. 15, 2004).

188. For the time of the teleconference, see FAA record, Chronology ADA-30, Sept. 11, 2001. For recollections of the NMCC officer, see Charles Chambers interview (Apr. 23, 2004). For recollections of the FAA manager, see Michael Weikert interview (May 7, 2004). For Belger's reaction, see Monte Belger testimony, June 17, 2004.

189. For the times of the video teleconference, see White House record, Situation Room Communications Log, Sept. 11, 2001 (9:25 start); CIA notes, Cofer Black timeline, Sept. 11, 2001 (CIA representatives joining at 9:40); FAA record, Chronology ADA-30, Sept. 11, 2001 (FAA representatives joining at 9:40).

190. Patrick Gardner interview (May 12, 2004). For participants, see Jane Garvey interview (Oct. 21, 2003); Monte Belger interview (Apr. 20, 2004); Jeff Griffith interview (Mar. 31, 2004). On the absence of Defense officials, see John Brunderman interview (May 17, 2004). The White House video teleconference was not connected into the area of the NMCC where the crisis was being managed. Thus the director of the operations team—who was on the phone with NORAD—did not have the benefit of information being shared on the video teleconference. See, e.g., Charles Leidig interview (Apr. 29, 2004); Montague Winfield interview (Apr. 26, 2004); Patrick Gardner interview (May 12, 2004). Moreover, when the Secretary and Vice Chairman later participated in the White House video teleconference, they were necessarily absent from the NMCC and unable to provide guidance to the operations team. See DOD report, OT-2 Analysis of NMCC Response to Terrorist Attack on 11 SEP 01, Oct. 4, 2001; John Brunderman interview (May 17, 2004).

191. NSC notes, Paul Kurtz notes, Sept. 11, 2001; Paul Kurtz meeting (Dec. 22, 2003). For shootdown authority having already been conveyed, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

192. Charles Leidig interview (Apr. 29, 2004). For the job of the NMCC in an emergency, see NMCC briefing (July 21, 2003).

193. For the Secretary's activities, see DOD memo, interview of Donald Rumsfeld, Dec. 23, 2002; Stephen Cambone interview (July 8, 2004).

194. Charles Leidig interview (Apr. 29, 2004). Secure teleconferences are the NMCC's primary means of coordinating emergencies, and they fall into two categories: "event" and "threat." Event conferences seek to gather information. If the situation escalates, a threat conference may be convened. On 9/11, there was no preset teleconference for a domestic terrorist attack. NMCC and National Military Joint Intelligence Center (NMJIC) briefing (July 21, 2003). For the content of the conferences on 9/11, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

195. See DOD transcript, Air Threat Conference Call, Sept. 11, 2001; see also White House notes, Thomas Gould notes, Sept. 11, 2001.

196. On difficulties in including the FAA, see NMCC and NMJIC briefing (July 21, 2003); John Brunderman interview (May 17, 2004). On NORAD and the time of the FAA's joining, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001. For the FAA representative, see Rayford Brooks interview (Apr. 15, 2004).

197. Richard Myers interview (Feb. 17, 2004); Charles Leidig interview (Apr. 29, 2004).

198. DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

199. On the briefing, see *ibid.* The Vice Chairman was on Capitol Hill when the Pentagon was struck, and he saw smoke as his car made its way back to the building. Richard Myers interview (Feb. 17, 2004). For the Chairman being out of the country, see DOD record, Deputy Director for Operations Passdown Log, Sept. 11, 2001.

200. DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

201. *Ibid.*

202. *Ibid.*

203. For the President being informed at 9:05, see White House record, President's Daily Diary, Sept. 11, 2001. For Card's statement, see White House transcript, Card interview with Ron Fournier, Aug. 7, 2002. For the President's reaction, see President Bush and Vice President Cheney meeting (Apr. 29, 2004).

204. For the President's activities, see Education Channel videotape, "Raw Footage of President Bush at Emma E. Booker Elementary School," Sept. 11, 2001 (remaining in classroom); Deborah Loewer meeting (Feb. 6, 2004) (in the holding room). For his calls, see White House record, President's Daily Diary, Sept. 11, 2001 (9:15 call to Vice President); Deborah Loewer meeting (Feb. 6, 2004) (call to Rice); President Bush and Vice President Cheney meeting (Apr. 29, 2004) (call to Pataki); White House record, Secure Switchboard Log, Sept. 11, 2001 (call to Mueller). For the decision to make a statement, see Ari Fleischer interview (Apr. 22, 2004). For the Secret Service's perspective, see Edward Marintel interview (Apr. 21, 2004).

205. On the return to Washington, see Deborah Loewer meeting (Feb. 6, 2004); Andrew Card meeting (Mar. 31, 2004). On consulting with senior advisers, see Ari Fleischer interview (Apr. 22, 2004). On information about additional aircraft, see, e.g., Andrew Card meeting (Mar. 31, 2004). On decisions and the focus on the President's speech, see President Bush and Vice President Cheney meeting (Apr. 29, 2004); Ari Fleischer interview (Apr. 22, 2004); Andrew Card meeting (Mar. 31, 2004).

206. On the motorcade, see USSS record, shift log, Sept. 11, 2001 (departing 9:35, arriving 9:45); USSS record, Command Post Protectee Log, Sept. 11, 2001 (departing 9:36, arriving 9:42). Fleischer deduced from his notes that the President learned about the Pentagon while in the motorcade. Ari Fleischer interview (Apr. 22, 2004). For the President's actions and statements to the Vice President, see Ari Fleischer interview (Apr. 22, 2004); White House notes, Ari Fleischer notes, Sept. 11, 2001.

207. On not returning to Washington, see Edward Marintel interview (Apr. 21, 2004); USSS memo, interview of Edward Marintel, Oct. 3, 2001; Andrew Card meeting (Mar. 31, 2004). For additional sources on the President's desire to return, see White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 5. For the Vice President's recollection, see President Bush and Vice President Cheney meeting (Apr. 29, 2004). For time of departure, see USSS record, Command Post Protectee Log, Sept. 11, 2001. On Air Force One's objectives on takeoff, see Edward Marintel interview (Apr. 21, 2004).

208. USSS memo, interview of Gregory LaDow, Oct. 1, 2001, p. 1. Shortly after the second attack in New York, a senior Secret Service agent charged with coordinating the President's movements established an open line with his counterpart at the FAA, who soon told him that there were more planes unaccounted for—possibly hijacked—in addition to the two that had already crashed. Though the senior agent told someone to convey this information to the Secret Service's operations center, it either was not passed on or was passed on but not disseminated; it failed to reach agents assigned to the Vice President, and the Vice President was not evacuated at that time. See Nelson Garabito interview (Mar. 11, 2004); USSS memo, interview of Nelson Garabito, Oct. 1, 2001; see also Terry Van Steenberg interview (Mar. 30, 2004).

209. American 77's route has been determined through Commission analysis of FAA and military radar data. For the evacuation of the Vice President, see White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 2; USSS memo, interview of Rocco Delmonico, Oct. 1, 2001 (evacuation of the White House); see also White House notes, Mary Matalin notes, Sept. 11, 2001. On the time of entering the tunnel, see USSS report, "Executive Summary: U.S. Secret Service Timeline of Events, September 11–October 3, 2001," Oct. 3, 2001, p. 2. Secret Service personnel told us that the 9:37 entry time in their timeline was based on alarm data, which is no longer retrievable. USSS briefing (Jan. 29, 2004).

210. White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 4; President Bush and Vice President Cheney meeting (Apr. 29, 2004).

211. On Mrs. Cheney, see USSS report, "Executive Summary: U.S. Secret Service Timeline of Events, September 11–October 3, 2001," Oct. 3, 2001, p. 2 (time of arrival); White House transcript, Lynne Cheney interview with *Newsweek*, Nov. 9, 2001, p. 2 (joining the Vice President). For the contemporaneous notes, see White House notes, Lynne Cheney notes, Sept. 11, 2001. On the content of the Vice President's call, see White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 5. According to the Vice President, there was "one phone call from the tunnel. And basically I called to let him know that we were a target and I strongly urged him not to return to Washington right away, that he delay his return until we could find out what the hell was going on." For their subsequent movements, see White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 5; White House transcript, Lynne Cheney interview with *Newsweek*, Nov. 9, 2001, p. 2.

212. On communications problems, see, e.g., President Bush and Vice President Cheney meeting (Apr. 29, 2004). On lack of an open line, see, e.g., Deborah Loewer meeting (Feb. 6, 2004).

213. On the Vice President's call, see President Bush and Vice President Cheney meeting (Apr. 29, 2004). For the Vice President's time of arrival in the shelter conference room, see White House record, PEOC Shelter Log, Sept. 11, 2001 (9:58); USSS memo, OVP 9/11 Timeline, Nov. 17, 2001 (9:52; Mrs. Cheney arrived White House and joined him in tunnel); White House notes, Lynne Cheney notes (9:55; he is on phone with President); White House transcript, Lynne Cheney interview with *Newsweek*, Nov. 9, 2001, p. 2 ("And when I got there, he was on the phone with the President . . . But from that first place where I ran into him, I moved with him into what they call the PEOC"); White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, p. 4 (9:35 or 9:36 arrival; he estimated a 15-minute stay); Carl Truscott interview (Apr. 15, 2004) (arrived with Rice and the Vice President in conference room; called headquarters immediately; call logged at 10:00); President Bush and Vice President Cheney meeting, Apr. 29, 2004 (Vice President viewed television footage of Pentagon ablaze in tunnel); White House transcript, Rice interview with Evan Thomas, Nov. 1, 2001, p. 388 (Rice viewed television footage of Pentagon ablaze in Situation Room). For the Vice President's recollection about the combat air patrol, see President Bush and Vice President Cheney meeting (Apr. 29, 2004); White House transcript, President Bush interview with Bob Woodward and Dan Balz, Dec. 17, 2001, p. 16.

214. President Bush and Vice President Cheney meeting (Apr. 29, 2004); see also White House transcript, Vice President Cheney interview with *Newsweek*, Nov. 19, 2001, pp. 7–8.

215. Douglas Cochrane meeting (Apr. 16, 2004); Condeleeza Rice meeting (Feb. 7, 2004). For Rice entering after the Vice President, see USSS report, "Executive Summary: U.S. Secret Service Timeline of Events, September 11–October 3, 2001," Oct. 3, 2001, p. 2; Carl Truscott interview (Apr. 15, 2004).

216. In reconstructing events that occurred in the PEOC on the morning of 9/11, we relied on (1) phone logs of the White House switchboard; (2) notes of Lewis Libby, Mrs. Cheney, and Ari Fleischer; (3) the tape (and then transcript) of the air threat conference call; and (4) Secret Service and White House Situation Room logs, as well as four separate White House Military Office logs (the PEOC Watch Log, the PEOC Shelter Log, the Communications Log, and the 9/11 Log).

217. DOD transcript, Air Threat Conference Call, Sept. 11, 2001. For one open line between the Secret Service and the FAA, see note 208. At Secret Service headquarters, personnel from the intelligence division were also on a phone conference with FAA headquarters. Chuck Green interview (Mar. 10, 2004). For notification of an inbound aircraft at 10:02, see USSS record, Intelligence Division timeline, Sept. 11, 2001; USSS record, Crisis Center Incident Monitor, Sept. 11, 2001. For the FAA's projection, see Tim Grovack interview (Apr. 8, 2004). For Secret Service updates, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

218. White House notes, Lynne Cheney notes, Sept. 11, 2001; White House notes, Lewis Libby notes, Sept. 11, 2001.

219. For Libby's characterization, see White House transcript, Scooter Libby interview with *Newsweek*, Nov. 2001. For the Vice President's statement, see President Bush and Vice President Cheney meeting (Apr. 29, 2004). For the second authorization, see White House notes, Lynne Cheney notes, Sept. 11, 2001; White House notes, Lewis Libby notes, Sept. 11, 2001.

220. Joshua Bolten meeting (Mar. 18, 2004); see also White House notes, Lewis Libby notes, Sept. 11, 2001 ("10:15–18: Aircraft 60 miles out, confirmed as hijack—engage? VP: Yes. JB [Joshua Bolten]: Get President and confirm engage order").

221. For the Vice President's call, see White House record, Secure Switchboard Log, Sept. 11, 2001; White House record, President's Daily Diary, Sept. 11, 2001; White House notes, Lewis Libby notes, Sept. 11, 2001. Fleischer's 10:20 note is the first mention of shootdown authority. See White House notes, Ari Fleischer notes, Sept. 11, 2001; see also Ari Fleischer interview (Apr. 22, 2004).

222. DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

223. On reports of another plane, see White House notes, Lynne Cheney notes, Sept. 11, 2001; White House notes, Lewis Libby notes, Sept. 11, 2001. On the Vice President's authorization, see *ibid.*; DOD transcript, Air Threat Conference Call, Sept. 11, 2001. For Hadley's statement, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

224. For the quotation, see White House transcript, Libby interview with *Newsweek*, Nov. 2001. On the aircraft's identity, see White House record, White House Military Office Log, Sept. 11, 2001.

225. On the NMCC, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001. On the Secret Service's contacts with the FAA, see notes 208, 217. On the Secret Service conveying information to the White House, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001; Nelson Garabito interview (Mar. 11, 2004).

226. DOD transcript, Air Threat Conference Call, Sept. 11, 2001.

227. *Ibid.*

228. Ralph Eberhart interview (Mar. 1, 2004). On the morning of 9/11, General Eberhart was in his office at headquarters—roughly 30 minutes away from Cheyenne Mountain, where the operations center is located.

229. DOD record, Continental Region chat log, Sept. 11, 2001.

230. NEADS audio file, Mission Crew Commander position, channel 2, 10:32:12. For the text of the chat log message, see DOD record, Continental Region chat log, Sept. 11, 2001.

231. For the statements of NEADS personnel, see Robert Marr interview (Jan. 23, 2004) (NEADS commander); Kevin Nasypany interview (Jan. 22, 2004) (mission commander); James Fox interview (Oct. 29, 2004) (senior weapons director). On the understanding of leaders in Washington, see DOD transcript, Air Threat Conference Call, Sept. 11, 2001. For the orders to Langley pilots, see NEADS audio file, Weapons Director position, recorder 1, channel 2, 10:10–11.

232. For evidence of the President speaking to Rumsfeld, see White House notes, Ari Fleischer notes, Sept. 11, 2001. On inability to recall this conversation, see Donald Rumsfeld interview (Jan. 30, 2004).

233. DOD note, transcript of Air Threat Conference Call, Sept. 11, 2001.

234. Donald Rumsfeld interview (Jan. 30, 2004). At 11:15, Secretary Rumsfeld spoke to the President and told him DOD was working on refining the rules of engagement so pilots would have a better understanding of the circumstances under which an aircraft could be shot down. See, e.g., DOD notes, Stephen Cambone notes, Sept. 11, 2001. DOD did not circulate written rules of engagement until sometime after 1:00 P.M. See DOD memo, rules of engagement, Sept. 11, 2001 (faxed to Andrews Air Force Base at 1:45 P.M.).

235. David Wherley interview (Feb. 27, 2004).

236. The 113th Wing first learned from the FAA tower at Andrews that the Secret Service wanted fighters airborne. The FAA tower had been contacted by personnel at FAA headquarters, who were on an open line with senior agents from the President's detail. See Nelson Garabito interview (Mar. 11, 2004); Terry Van Steenberg interview (Mar. 30, 2004). On the Secret Service agent relaying instructions, see USSS memo, Beauchamp to AD-Inspection, September 11 experience, Feb. 23, 2004. On the order to fly weapons free, see David Wherley interview (Feb. 27, 2004); DOD memo, interview of David Wherley, Oct. 3, 2001, p. 12.

237. President Bush and Vice President Cheney meeting (Apr. 29, 2004).

238. These estimates are based on analysis of Boeing 757 maximum operating speed data, FAA and military radar data, and assumptions regarding how the airplane would be operated en route to the Washington, D.C., area. The shortest time frame assumes maximum speed without regard to overspeed warnings, a straight-line path, and no time allowed for maneuvering or slowing to aim and crash the airplane into its target. The probable time frame allows for speeds consistent with the observed operation of the airplane prior to its final maneuvers and crash, as well as for maneuvers and slowing in the D.C. area to take aim. According to radar data, the fighters from Langley Air Force Base arrived over Washington at about 10:00 A.M. Two of the three Langley fighters were fully armed (i.e., with missiles and guns); the third fighter carried only guns. Craig Borgstrom interview (Dec. 1, 2003).

239. For the pilots' awareness, see Dean Eckmann interview (Dec. 1, 2003); Bradley Derrig interview (Dec. 1, 2003); Craig Borgstrom interview (Dec. 1, 2003). For the quotation, see Dean Eckmann interview (Dec. 1, 2003).

240. For no authority at 10:10, see NEADS audio file, Mission Crew Commander, channel 2. For shootdown

authority at 10:31, see DOD record, Continental Region chat log, Sept. 11, 2001. For possibility of ordering a shoot-down, see Larry Arnold interview (Feb. 2, 2004).

241. NEADS audio file, Identification Technician position, recorder 1, channel 4, 10:02:22.

2 The Foundation of the New Terrorism

1. "Text of World Islamic Front's Statement Urging Jihad Against Jews and Crusaders," *Al Quds al Arabi*, Feb. 23, 1998 (trans. Foreign Broadcast Information Service), which was published for a large Arab world audience and signed by Usama Bin Ladin, Ayman al Zawahiri (emir of the Egyptian Islamic Jihad), Abu Yasin Rifa'i Ahmad Taha (leader of the Egyptian Islamic Group), Mir Hamzah (secretary of the Jamiat ul Ulama e Pakistan), and Fazlul Rahman (head of the Jihad Movement in Bangladesh).

2. "Hunting Bin Ladin," PBS *Frontline* broadcast, May 1998 (online at www.pbs.org/wgbh/pages/frontline/shows/binladen/who/interview.html).

3. Usama Bin Ladin, "Declaration of War Against the Americans Occupying the Land of the Two Holy Places," Aug. 23, 1996 (trans., online at www.terrorismfiles.org/individuals/declaration_of_jihad1.html).

4. "Hunting Bin Ladin," PBS *Frontline* broadcast, May 1998.

5. Ibid.

6. For a classic passage conveying the nostalgic view of Islam's spread, see Henri Pirenne, *A History of Europe*, trans. Bernard Miall (University Books, 1956), pp. 25–26.

7. See Martin Marty and R. Scott Appleby, eds., *Fundamentalism Observed*, vol. 1 (Univ. of Chicago Press, 1994).

8. See Emmanuel Sivan, *Radical Islam: Medieval Theology and Modern Politics*, enlarged ed. (Yale Univ. Press, 1990).

9. From the perspective of Islamic, not Arab, history, the Baghdad Caliphate's destruction by the Mongols in 1292 marks the end not of Islamic greatness but of Arab dominance of the Muslim world. Moghul India, Safavid Persia, and, above all, the Ottoman Empire were great Islamic powers that arose long after the Baghdad Caliphate fell.

10. Bin Ladin, "Declaration of War," Aug. 23, 1996.

11. The Muslim Brotherhood, which arose in Egypt in 1928 as a Sunni religious/nationalist opposition to the British-backed Egyptian monarchy, spread throughout the Arab world in the mid-twentieth century. In some countries, its oppositional role is nonviolent; in others, especially Egypt, it has alternated between violent and nonviolent struggle with the regime.

12. Sayyid Qutb, *Milestones* (American Trust Publications, 1990). Qutb found sin everywhere, even in rural mid-western churches. Qutb's views were best set out in Sayyid Qutb, "The America I Have Seen" (1949), reprinted in Kamal Abdel-Malek, ed., *America in an Arab Mirror: Images of America in Arabic Travel Literature: An Anthology* (Palgrave, 2000).

13. For a good introduction to Qutb, see National Public Radio broadcast, "Sayyid Qutb's America," May 6, 2003 (online at www.npr.org/display_pages/features/feature_1253796.html).

14. "Bin Laden's 'Letter to America,'" *Observer Worldview*, Nov. 24, 2002 (trans., online at <http://observer.guardian.co.uk/worldview/story/0,11581,845725,00.html>). The al Qaeda letter was released in conjunction with the release of an audio message from Bin Ladin himself.

15. Ibid.

16. See *Arab Human Development Report 2003* (United Nations, 2003), a report prepared by Arabs that examines not only standard statistical data but also more sensitive social indicators recently identified by the Nobel Prize-winning economist Amartya Sen. It says little, however, about the political dimensions of economic and social trends. See Mark LeVine, "The UN Arab Human Development Report: A Critique," *Middle East Report*, July 26, 2002 (online at www.merip.org/mero/mer0072602.html).

17. President Bush, remarks at roundtable with Arab- and Muslim-American leaders, Sept. 10, 2002 (online at www.whitehouse.gov/news/releases/2002/09/20020910-7.html).

18. See, e.g., Intelligence report, interrogation of Zubaydah, Oct. 29, 2002; CIA analytic report, "Bin Ladin's Terrorist Operations: Meticulous and Adaptable," CTC 00-40017CSH, Nov. 2, 2000.

19. "Open resistance flared so quickly that only two months after the invasion . . . almost the entire population of Kabul climbed on their rooftops and chanted with one voice, 'God is great.' This open defiance of the Russian generals who could physically destroy their city was matched throughout the countryside." General (Ret.) Mohammed Yahya Nawwroz and Lester W. Grau, "The Soviet War in Afghanistan: History and Harbinger of Future War?" *Military Review* (Fort Leavenworth Foreign Military Studies Office), Sept./Oct. 1995, p. 2.

20. Rohan Gunaratna, *Inside Al Qaeda: Global Network of Terror* (Columbia Univ. Press, 2002), pp. 16–23. Regarding UBL's access to his family's fortune, see Rick Newcomb interview (Feb. 4, 2004); William Wechsler interview (Jan. 7, 2004).

21. Government's Evidentiary Proffer Supporting the Admissibility of Co-Conspirator Statements, *United States v. Enaam Arnaout*, No. 02-CR-892 (N.D. Ill. filed Jan. 6, 2003).

22. Intelligence report, Terrorism: Usama Bin Ladin's Historical Links to 'Abdallah Azzam, Apr. 18, 1997. By