



# THE OKLAHOMA CITY BOMBING: REPORT AND ANALYSIS

## OKLAHOMA CITY FIRE DEPARTMENT

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# THE OKLAHOMA CITY BOMBING: REPORT AND ANALYSIS

## Oklahoma City Fire Department

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### Executive Summary

A bomb exploded outside the Alfred P. Murrah Federal Office Building Wednesday, April 19, 1995, at 9:02 a.m. in Oklahoma City, Oklahoma. The explosion was caused by an Ammonium Nitrate and Fuel Oil (ANFO) bomb in a 24-foot rental truck parked in the street on the north side of the building. Two-thirds of the north face of the nine-story building and approximately one-third of the floors were destroyed by the force of the explosion.

Sixteen federal agencies were located in the building, as well as a credit union on the third floor, a snack bar on the fourth floor, and a day care center on the second floor of the building. The bombing resulted in 168 fatalities, over 600 injuries and millions of dollars in property damage to over 300 structures. Buildings were damaged over a forty-eight square block area. Major structural damage occurred in not only the federal building, but in a twenty-six story, 400-unit apartment building, a three-story state office building and a two-story building, with a restaurant in the basement, across the street. A large number of vehicles parked near the building were set on fire.

A massive response of public safety agencies, health care providers and the general public occurred immediately following the explosion. They entered the collapsed structure and began to remove victims from the building. They formed human chains, and as victims were located and uncovered, they passed them out of the building and into the street. The closest fire units to the incident were at Oklahoma City Fire Station One, which is approximately five blocks west of the Murrah Building. All responded within seconds of the explosion. A chief's meeting was in progress at this station and these chiefs also responded immediately to provide leadership and direction. Several fire officers entered the building to survey the damage and help the injured. Units from the Fire Stations north, south

and east of downtown also responded within the first minutes.

The first-responding Fire Department units acted in accordance with their training and operating procedures. They identified the need to extinguish the car fires which were close to large, damaged aboveground natural gas meters which threatened the safety of the severely damaged Water Resources Board, Athenian and Journal Record buildings. As organized units, they met and dealt in turn with the need to rescue people from the Water Resources Board, Athenian and YMCA Buildings and to treat the injured. Debris had to be cleared from NW 5th Street so that ladder trucks could be brought to the north face of the Murrah Building once the car fires were extinguished. The ladder trucks were used to rescue victims trapped on ledges and upper floors of the Murrah Building. Firefighters entered the building to take part in the rescue work.

A number of the units began treating victims and quickly realized there were going to be a large number of injuries. The Fire Department and the Emergency Medical Services Authority (EMSA) established two triage locations for evaluation and treatment of the victims. EMSA ambulances, police cars and private vehicles transported over 200 injured people to hospitals. Within the first hours of the incident, rescuers removed a number of victims from the partially collapsed structure.

All of these operations were delayed by the discovery of what was thought to be a secondary explosive device at approximately 10:30 a.m. All rescue workers were removed from the building until it could be safely secured. No explosive devices were found, and personnel were allowed to return to the building and resume search operations.

Within the first four hours of the incident a large number of firefighters from departments around Oklahoma City responded spontaneously to this disaster



to help with the rescue operations. By the end of the incident more than seventy-five fire departments and over one hundred law enforcement agencies provided mutual aid assistance. FEMA deployed an Incident Support Team (IST) on Wednesday, April 19, to assist the Oklahoma City Fire Department. FEMA also dispatched two Urban Search and Rescue (USAR) Task Forces. These were the first of eleven USAR Task Forces used during the operation, which was concluded at 11:30 p.m. on May 4.

An Incident Command System (ICS) structure was used to manage the incoming resources, and all of the operations were under the command of the Oklahoma City Fire Department. Briefings involving all of the various components of the rescue operation were conducted twice a day at shift change (0700 and 1900 hours). The Incident Commanders decided strategies for the rescue operations. Each operational period's objectives were outlined in an Incident Action Plan that was printed and distributed to all of the personnel involved at each briefing.

A forward Command Post was established in a one-story garage at the west end of the Murrah Building. OCFD established its Rescue Command in this garage, sharing the space with the FEMA Incident Support Team. Equipment was brought in to support this forward Command Post and included electricity, telephones, copiers, tables, chairs and office supplies. A room was set aside for briefing and strategy sessions, and wall maps were set up showing the extent of the damage as mapped by the structural engineers on the scene.

A Multi-Agency Coordination Center (MACC) was established in the Myriad Convention Center where representatives from a number of agencies were brought together under the OCFD Incident Commander to coordinate the activities involved in the rescue operations. Resource needs were routed to the MACC where specialists located the items from their inventory or procured the items from vendors. A Fire Logistics Center was established in a parking garage on NW 6th Street.

The response of the community to this disaster was overwhelming. Southwestern Bell Telephone offered its corporate headquarters as an operating center for the incident. The various agencies involved in the incident located their vehicles in the Command Post's parking lot. Telephone lines that normally served offices in the building were disconnected and rerouted into these Command Posts. The first-floor was used as a food service site and the third and fourth-floor offices were used as dormitories for Task Force personnel. Citizens donated clothing, food, equipment and supplies in record numbers to support the rescue operations.

To secure the safety of the personnel on the scene, and since it was a crime scene, a perimeter was established around the area and staffed with law enforcement and military personnel. The Oklahoma City Police Department and the FBI issued photo identification badges to control access to the site.

The debris removal was a tedious and laborious job. To avoid injuring any trapped victims, the debris was removed by hand. Personnel from OCFD, volunteers from area fire departments, and Task Force personnel worked tirelessly to remove the debris and then extricate the bodies of the victims. All of the debris that was removed was taken by truck to the Oklahoma County Sheriff's Gun Range where investigators sifted it for evidence.

The Oklahoma City Fire Department's Incident Command System was the basis of a command structure which united Oklahoma City and mutual-aid firefighters and USAR Task Forces as a cohesive operating unit. This team performed the difficult rescue and recovery operation without serious injury to any of the workers. The untiring commitment and selfless service of all who participated in the rescue and recovery operation is in the highest traditions of the firefighting services of this nation. The Oklahoma City Fire Department recognizes the heroism of all the persons who entered the Murrah Building to rescue the victims and gratefully acknowledges all those who supported and assisted in the sixteen day rescue and recovery operation.

## ACKNOWLEDGMENTS

Pennwell Publishing Company and Fire Engineering Magazine have graciously allowed the City of Oklahoma City's Document Management Team to reprint portions of their exclusive coverage of this historical event, in its many aspects, as part of this report. In addition, the Document Management Team has provided other information to augment the excellent articles from the October and November 1995, issues of Fire Engineering Magazine.

### Credits:

Report from Fire Chief Gary Marrs, *Gary Marrs*

Rescue Command, *Jackie W. Edmonson, Michael Keeton and Michael Vernon*

Rescue Operations: Doing Battle with the Building, *Mike Shannon*

Structure Area Nicknames, *John P. O'Connell*

Victims by the Hundreds: EMS Response and Command, *Gary Davis*

Dispatch, *Stephen Forshee*

Tool Use, *Mark Mollman*

OCFD Logistics, *Vandon R. Hottle*

Working with the Media, *Jon Hansen*

Treating the Mind: CISD, *Troy Dycus*

Supporting a Fractured Building, *John P. O'Connell*

USAR Task Force Logistics, *Tom Carr*

Centers for Disease Control and Prevention Recommendations, *Jonathan Y. Richmond, Charles S. McCammon, Steven A. Lee and Ronald C. Burger*

USAR Communications, *John Carroll*

Creating a Road Map for Body Recovery, *Charles D. Smith, Jr.*

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## Report from Fire Chief Gary Marrs

I was approximately six blocks from the Alfred P. Murrah Federal Building when the explosion rocked Oklahoma City. My first thoughts were, "What type of chemical or natural gas explosion occurred?"

I arrived on the scene within minutes. The next 17 days were something I never thought — and certainly never wished — our department would experience. Looking back, I could not be prouder of a group of men and women than I am of the Oklahoma City Fire Department (OCFD). Working with our mutual-aid cities, firefighters from all over the state and country, and the FEMA Urban Search and Rescue (USAR) teams, they brought this incident to as successful a conclusion as could be hoped for. To them, I will be eternally grateful.

### OCFD Field Strength

The Oklahoma City Fire Department operates from 33 fire stations and covers approximately 620 square miles. One thousand employees work a three-platoon system on 24-hour shifts. Our apparatus includes 31 engines, 13 aerial trucks, and six rescue squads. Each company is staffed with two firefighters, a driver, and an officer. Our normal first-alarm residential response sends two engines, one truck, one squad, and a dis-

trict chief. A first-alarm response to a commercial or large multiple-dwelling residential occupancy typically is four engines, two trucks, one squad, and a district chief. Additional alarms repeat the residential dispatch, with some individual specialized rigs, depending on the type of incident.

The initial response to the bombing was a commercial response extended to two more alarms within minutes, and shortly thereafter a general alarm was called. This general alarm brought almost 200 OCFD personnel to the scene in rapid order.

### The Murrah Building

The Murrah Building, constructed in 1977, was a nine-story, steel-reinforced-concrete building, 220 feet long by 75 feet wide. At the time of the explosion, the building housed offices for 19 federal agencies and three private businesses, including a day-care center and a credit union. The main building had approximately 150,000 square feet of occupied office space. The total square footage of all areas — including occupied extensions and parking garage areas — was 320,000 square feet. The north face of the building (on the 5th Street side) was an all-glass facade with parking along the curb line. The main entrance is on the south side of the building, which opens onto a plaza. A subterranean multiple-level parking garage for the building was located under this area. Elevator shafts

and the central stairway began in a lobby on the south side. Access to the parking garage could be made from the central stairway.

## Response

Numerous fire companies left their stations prior to being dispatched and headed toward the smoke-and-debris cloud. The dispatch center was flooded with automatic dial alarms from businesses all over the downtown area. The blast was felt for miles in every direction. Initial reports indicated the Water Resources Board Building, a three-story structure across the street from the Murrah Building, was the source of the explosion. The explosion — the detonation of a 4,800-pound ammonium nitrate and fuel oil bomb — ignited more than 40 automobiles in the parking lot across the street from the Murrah Building and next to the Water Resources Building. Immediate and surrounding areas were destroyed or seriously damaged. Glass breakage occurred as far away as 1¾ miles. The fires obscured the view of the first-in companies responding from Station 1 (five blocks due west of the Murrah Building).

My response took me to the east side of the building, which gave me a clear sight of the destruction not afforded District Chief Robert McMahon, acting division chief, responding with the companies from Station 1. McMahon quickly implemented the Incident Command System and started assigning companies to the Water Resources and other smaller surrounding buildings. I quickly realized he was not aware of the extent of the damage to the Murrah Building, since it was obscured from his view by smoke from the car fires. The department radio channels were filled with requests from the responding companies, who encountered the walking wounded on the street before they even got to their assigned positions.

When an opportunity to transmit became available, I updated McMahon on the damaged buildings visible to me on the east side and suggested that he treat this as one large incident with one unified command — with each building set up as a division. It was apparent to me that, given the size of this incident, our resources would be used up quickly and we would be better served under one command instead of setting up individual commands for each building or block. Our resources and staging would be handled more efficiently by one commander than by multiple commanders, each trying to handle his own. McMahon agreed. He continued as incident commander, and I continued to func-

tion at this time in an advisory capacity. However, early in the incident I ordered radio silence so I could communicate to all personnel our situation and status.

The general alarm had depleted our resources for responding to calls in the rest of the city. Assistant Chief Howard Adams approached me early in the incident and asked that we initiate a call-back of off-duty personnel to supplement the incident and place in service — in our stations — our reserve fleet of apparatus to cover other responses. Our mutual-aid cities already had sent crews to some of our stations in various parts of the city, as well as to the incident scene itself. With our call-back resources (about 100 personnel) and the mutual-aid companies, we were able to handle all other calls during those first hours until we were able to start putting some of the general alarm companies back in service.

## Initial Rescues

The mutual-aid cities, on their own initiative, also sent some of their personnel to the scene to supplement the rescue efforts. We also had numerous other firefighters from around the state respond during those first few hours. While I know their intent was to help with the massive rescue, their overwhelming response created a large problem of accountability: Hundreds of people not assigned through the command system were in the Murrah Building during the first one-and-a-half hours. This included civilian and medical volunteers. At least one public announcement requested “all available medical personnel” to the Murrah Building, bringing countless additional volunteers from widespread areas; their well-meaning response ensured that we would not lack for medical resources but also added to the scene-control difficulties.

This accountability problem only worsened the difficulties in establishing span of control at this very large incident. During the first stages, numerous priorities had to be addressed: Bloody, injured victims, some just wandering the streets in a daze, had to be treated and transported to local hospitals; nearby damaged buildings, including offices, businesses, and a 22-story residential high-rise, required primary searches; the car fires demanded rapid extinguishment, since smoke was hindering surrounding operations; and the debris pile of the Murrah Building had to be thoroughly searched. I was unaware of any fires inside the Murrah Building; if there were any, they self-extinguished.

Search and rescue operations of the Murrah Building, during the first hour, were not a systematic effort, due simply to the nature of the incident itself. This was the cause of concern, since the building presented a very serious secondary collapse potential. Nevertheless, OCFD firefighters, assisted by all manner of volunteers, treated scores of victims injured in the collapse and extricated numerous people trapped in the tangled mass of concrete, steel rebar, glass, and fragmented office furnishings. In many cases, this effort consisted of hand-digging and raw muscle. Many lives were saved in the first hour-and-a-half of the operation, with only a relatively small number of injuries sustained by the rescuers. In fact, out of approximately 650 people believed to be in the Murrah Building at the time of the explosion, rescue commanders believed, with reasonable confidence, that by 10:30 a.m., most of the live victims had been removed. Fortunately, the building's main stairway, at the south-central side of the building, remained intact during the explosion, and many victims capable of walking exited this way to the plaza, which, by virtue of victim migration, became a triage area. Victim migration also factored into the location of the other two triage areas, one near the northwest corner of the building and the main triage area, which was one block north across the parking lot.

Despite organizational/accountability problems, OCFD commanders and officers worked hard in building a coordinated interagency response. We established contact immediately with key agencies, such as police, public utilities, the FBI, and the phone company. The city's electric power and natural gas companies were working to shut off utilities in the Murrah Building and surrounding areas. All officers/team leaders were issued cellular phones to circumvent the fire department operations frequency, which was extremely busy for the first eight hours of the incident. (Southwestern Bell erected an additional antenna and coded our cell phones so that when we hit "Send," a nonemergency call would be knocked off the system.) We assigned firefighters to serve as liaisons to the coroner's office. An architect and primary contractor brought building plans to the Command Post in the early stages.

Because this became the largest crime scene in recent times, the Oklahoma City Police Department (OCPD) established perimeters and began to identify the large evidence recovery area that would eventually be searched many times over. The OCPD also quickly

established control of the streets, which became a critical factor when the streets were needed for medical and heavy construction equipment.

### **Bomb Scare**

By 10:30 a.m., the car fires were extinguished, many victims had been removed from the Murrah Building, EMSA and mutual-aid ambulances had transported more than 200 injured to area hospitals, and adjacent buildings were searched. Search and rescue efforts in the Murrah Building were still going on at a frantic pace.

Then a report from a police officer indicated a possible second bomb device was in the parking garage. Naturally, this was taken very seriously, as past terrorist incidents have shown rescuers to be favorite targets of secondary explosions. The decision was made to evacuate all personnel from the building until the object could be identified and disposed of, if required.

This was not an easy decision to make. The evacuation caused a tremendous amount of stress for personnel still working on freeing trapped victims. Yet, given the circumstances — particularly the large number of rescuers (both accounted and unaccounted for) working in what was already a very compromised structure — it had to be done. However, the evacuation produced an important benefit: It allowed us to regroup our forces in a more accountable manner. As the personnel evacuated the building, we moved the Command Post to a location more suitable to this interagency response, and companies were told to bring their apparatus to a staging area north of the Command Post. We laid out a strategic plan for the next few hours. When FBI/OCPD officials 45 minutes later declared the second bomb threat over — the object actually was not a second device — and we resumed operations, we then could assign rescue teams in accountable groups in a more organized search and rescue effort.

I assumed command of the incident at approximately 10:30 a.m. on Day One. For the first 52 hours of the incident, I did not slow down long enough to realize the stress I was under. I stopped home for a change of clothes on Day Two. On Day Three I tried to sleep but found that difficult to do. After the bomb scare evacuation on the first day, we gained control of the incident so that by the third day we achieved a fairly smooth-running operation; for the duration of the incident, I moved around, making sure all the bases were covered. I was in constant communication with our division/sector commanders.

We held numerous briefings with the various agencies. As the OCFD command system was working and we had competent professionals in charge at all levels, I did not feel compelled to review each operational step, but the recorded briefings at every shift change and all other important briefings/steps were available to me at all times. I monitored progress throughout the incident and entered operational decision-making processes as necessary.

On Day 12, I reluctantly announced the strategic shift in our search operation from one of "rescue mode" to "recovery mode" — by no means a "surrender" but surely a psychological and operational change. This decision was based on several factors: the severity of the collapse, time, victim survivability in the remaining collapse environment, progress to that point, and, most important, firefighter safety. Sadly, by this time, what was left to search of this catastrophic pancake collapse indicated that the chances for survival were virtually nonexistent.

### Interagency Response

In July 1994, the City of Oklahoma City attended a course at the Emergency Management Institute (EMI) in Emmitsburg, Maryland, that dealt with handling large-scale disasters. Representatives from all components of the community attended: key personnel of all city departments, volunteer agencies, utility companies, and so on. That proved to be an invaluable experience when this incident occurred. We were able to implement plans quickly and efficiently because of that training and the relationships that were formed before the event. The OCFD did not have to explain the ICS to the other departments during the hectic first hours and days or to these agencies the services they would have to provide.

**Law enforcement.** One of the topics covered at the EMI course was street congestion and the importance of keeping the streets clear, even of police and fire vehicles. The police department learned that lesson well because the streets around the Murrah Building were never congested or blocked during the entire incident.

Since the area was a crime scene, "unusual" relationships had to be formed quickly — and they were. Within the first few hours, Police Chief Sam Gonzales, FBI Agent-in-Charge Bob Ricks, and I met and outlined plans for the next few hours and days for rescue and recovery efforts and crime-scene activities. These plans included building security, evidence collection, and so forth. Many people have asked me how I was able to

"command" the FBI and other law-enforcement agencies. The reality is, I didn't try to command them. They understood my responsibility for rescue and recovery, and I understood their responsibility for crime scene search and evidence recovery. We supported and coordinated with each other throughout the incident. Through constant communications, we quickly resolved any problems that arose before they could become major. I attended the twice-daily briefings at the FBI Command Post, and an FBI representative attended all operational meetings between the OCFD and the FEMA strike teams. Because of this arrangement, I was able to support law-enforcement activities with equipment and manpower, and the agencies were kept up to date on where we were working, the safe zones, and the tactical objectives for the next work period. The system worked very well.

**Other agencies.** Other agencies were handled in much the same way.

- The State Medical Examiner's Office handled the duties of tracking the missing persons, identifying recovered victims, notifying families, and so on.
- EMSA, the private citywide ambulance/paramedic transport service, moved hundreds of victims to area hospitals within the first two hours of the operation. Its efforts were coordinated with the fire department's EMS Command.
- The FEMA task forces brought in to assist in our efforts were coordinated through the FEMA office and integrated in our Incident Command System.
- State and federal military personnel were coordinated through the OCPD and their own operation centers for perimeter and crowd control.
- The Red Cross was responsible for taking care of the families of recovered victims and those unaccounted for. Very early on the first day, a church was designated as the meeting place for people trying to find out about their loved ones. All information from the medical examiner's office and the fire department was disseminated to the families at that one location. The media were kept away from the area, food and sleeping arrangements were on-site, and volunteers and counselors were on duty 24 hours a day. All the families have indicated how important that facility became to them.

- Public Works immediately started to implement essential logistics such as fencing for the perimeter, sanitary facilities for rescuers, lighting for nighttime activities, trash containers and trash pickup schedules, and so on.
- Street cleanup crews were operating the first day to clear the streets of glass and debris outside the perimeter so they could be opened as quickly as possible.
- Public events personnel quickly set up facilities for housing and feeding rescue workers and facilities for press briefings. Shortly after the bomb scare, I directed OCFD Assistant Chief Jon Hansen to work with the media.
- The city finance officer immediately declared an emergency and started the legal process for purchasing supplies and equipment that were needed immediately.

I could go on and on about the city departments, local utilities, volunteer agencies, and so on, and their efficient operations from the first few minutes to the conclusion of the incident many days later. I will simply say this: The efforts of all the people — not just the public safety agencies — made this incident successful. Fire departments must have a good working relationship with all these people in the community. The time to meet these people and establish a plan for working together is before an incident occurs — not at the response scene after it has occurred. The fire department must find out who these people are and what they do and then let them do their jobs at the time an incident occurs.

### Personnel ID System

One of the issues that seemed to keep coming up was entrance into the area for rescue workers. Early on, the FBI had established a photo ID system for people wanting access to the work area. People wanting or needing passes were referred to a location where they would fill out a form indicating their need for an ID badge. I discussed with the FBI that this system would be time-consuming for all of my rescue workers (the OCFD, mutual-aid, FEMA teams, and so on) and asked if we could use our own photo IDs instead. The FBI agreed.

In the first few days, it seemed that with each change in personnel on the perimeter gates, different instructions were issued on who to let into the work area and what badge was acceptable. The matter fi-

nally worked itself out — after enough discussions with supervisors of the perimeter law-enforcement personnel.

Looking back, I believe I should have required (and will in the future) all personnel to obtain an FBI badge so that the order “only persons with FBI badges allowed past the gate” could be issued. This would have made it simpler for perimeter control and would have eliminated the problem of rescue personnel with department IDs taking in with them people who had no business in the building to begin with. If all personnel had to justify the need for a badge to the FBI, the number of unnecessary people in the building would have been further reduced.

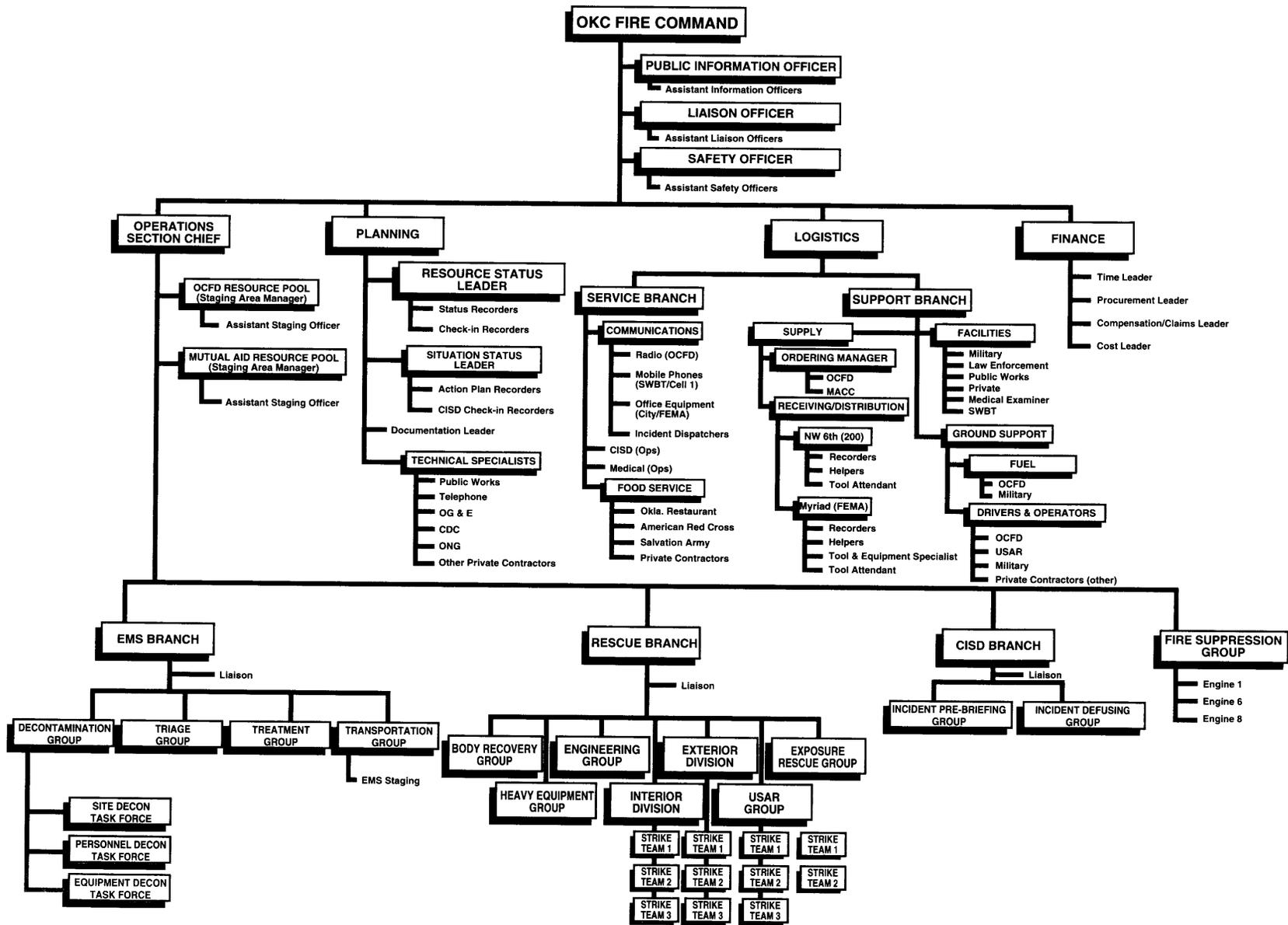
### FEMA

Working with FEMA was an interesting situation. There were two distinct areas of response — the Urban Search and Rescue Task Forces and the disaster response people for the state and local emergency management aspect of a declared disaster. The disaster response efforts were coordinated through the state Office of Emergency Services. The director of the state office, Tom Fuerborn, had his people on-site very early that morning and was in constant contact with the command area to see if anything was needed. This office handled FEMA disaster response activities during the rescue and recovery efforts and also during the recovery efforts after operations were concluded.

The 11 56-member USAR Task Forces responding to the incident were directed out of our command area. All USAR Task Forces were led by their Incident Support Team (IST). That team was located in our Rescue Command area and directed by the OCFD rescue operations commander. I cannot say enough about the USAR Task Forces and what they bring to a disaster like this. They bring a level of experience and training and a supply of equipment very few fire departments have in-house. They arrive in your city with one directive: support the local rescue efforts in any way they can. They constantly reassured me they were not there to “take over” or “run the incident.”

If there was a lesson I learned in relation to the USAR Task Forces, it was that I did not ask two simple questions early enough: What can you do for me? and What do you expect to hear from me? I went through a tremendous learning curve those first 48 hours after the USAR teams arrived. In their after-action meetings and reports, I mentioned many times that I felt they needed a person on the IST team whose responsibility

Figure One: Incident Command System Organizational Chart



was to work with the local incident commander to quickly answer those two questions. Most fire chiefs would start out one of two ways: "Take over my incident because we're not prepared" or "You're not running this incident in my jurisdiction." The USAR teams' intent is neither. Early contact with the local incident commander would eliminate all of the guesswork and quickly establish a good working relationship. Such relationships were developed during the first few days of this incident, and the USAR and local rescuers worked very closely from that point on. It is a system that works and can work well if the right relationships are established early. I don't believe I will ever be able to express the depth of my appreciation to Mark Ghilarducci and his IST personnel and the strike team leaders and their crews. They are all professionals, and this IC will be forever in their debt.

At one point in the operation, dealing with a difficult collapse element — a huge suspended piece of reinforced concrete known as the "Mother Slab" — became the subject of differing opinions from both engineers and rescuers. This disagreement slowed search and rescue efforts. The strike team engineers rotated along with each USAR strike team, and there were no established procedures for getting engineers to confer or agree. I called a meeting at midnight on Day Five of all OCFD rescue officers, USAR commanders, and FEMA engineers to rectify the situation. I instructed the engineers to put their heads together and deliver a unified plan for dealing with "Mother" by 7 a.m. that morning, or they would no longer participate in the rescue effort. We had a plan by 7 a.m., and operations proceeded unimpeded by such disagreements from that point on. We designated one engineer to coordinate the efforts of all others.

Speaking of relationships, Police Chief Sam Gonzales and I very much appreciate that our mayor, the city council, and the city manager did not try to run this incident for us. They were there every day to support us and constantly asked if we needed anything, but they never tried to micromanage the incident and never questioned our operations or decisions. They concentrated their efforts on running the city and the overall disaster relief efforts and let us run the emergency operations around the building. In my opinion, that was one of the keys that made the incident run as efficiently as it did; it is an example others should follow.

The response to the Murrah Building explosion required the coordinated effort of thousands of people

from emergency service organizations; local, state, and federal public agencies; volunteer organizations; private enterprise; and general citizenry, all working under difficult conditions during a stressful time. Numerous trapped victims were extricated from the collapse. Doctors, firefighters, and medical personnel worked together to successfully amputate the leg of a victim who could be extricated no other way; it saved her life. Untold numbers were assisted out of the rubble pile and from severely damaged surrounding buildings and given prompt treatment/transport. EMSA, at the height of the rescue response, provided 63 ambulances to the staging area within minutes. Area hospitals treated 426 injured, and 175 others were treated by private physicians — the Oklahoma City medical community was up to the task.

OCFD firefighters, too, rose to the challenge, physically and mentally, throughout the incident — from the flurry of saves on Day One to the last body recoveries on Day 16. Throughout the grueling and gruesome task of removing crushed citizens from the wreckage, as well as the other tasks required to support and assist that effort, they always were professional.

Forty-nine rescuers received nonfatal injuries during this incident. These consisted primarily of cuts, sprains, bruises, and some impact injuries. One volunteer rescuer, a nurse, died from falling debris while treating a victim. More than 600 people were injured from the effects of the terrorist bomb. Tragically, 168 died in the explosion. Nineteen of these fatalities were children. Four fatalities occurred outside the Murrah Building — two in Water Resources Board Building, one in the Athenian Building, and one outside.

OCFD officially concluded its operations at the Murrah Building at 11:45 a.m. on May 4, 1995, 351 hours after they began. At the time, we believed there were still two victims in the structure (much later it would be found there were three). Leaving the victims was another tough decision that had to be made: We determined we had reached a point at which further search would weaken the collapsed structure and cause a secondary collapse — a potential we had avoided throughout the operation and would continue to avoid. The remaining unsearched debris pile was spray-painted and covered so that the area could be identified after implosion. The final victims were recovered by the medical examiner's office after the rest of the building was brought down.

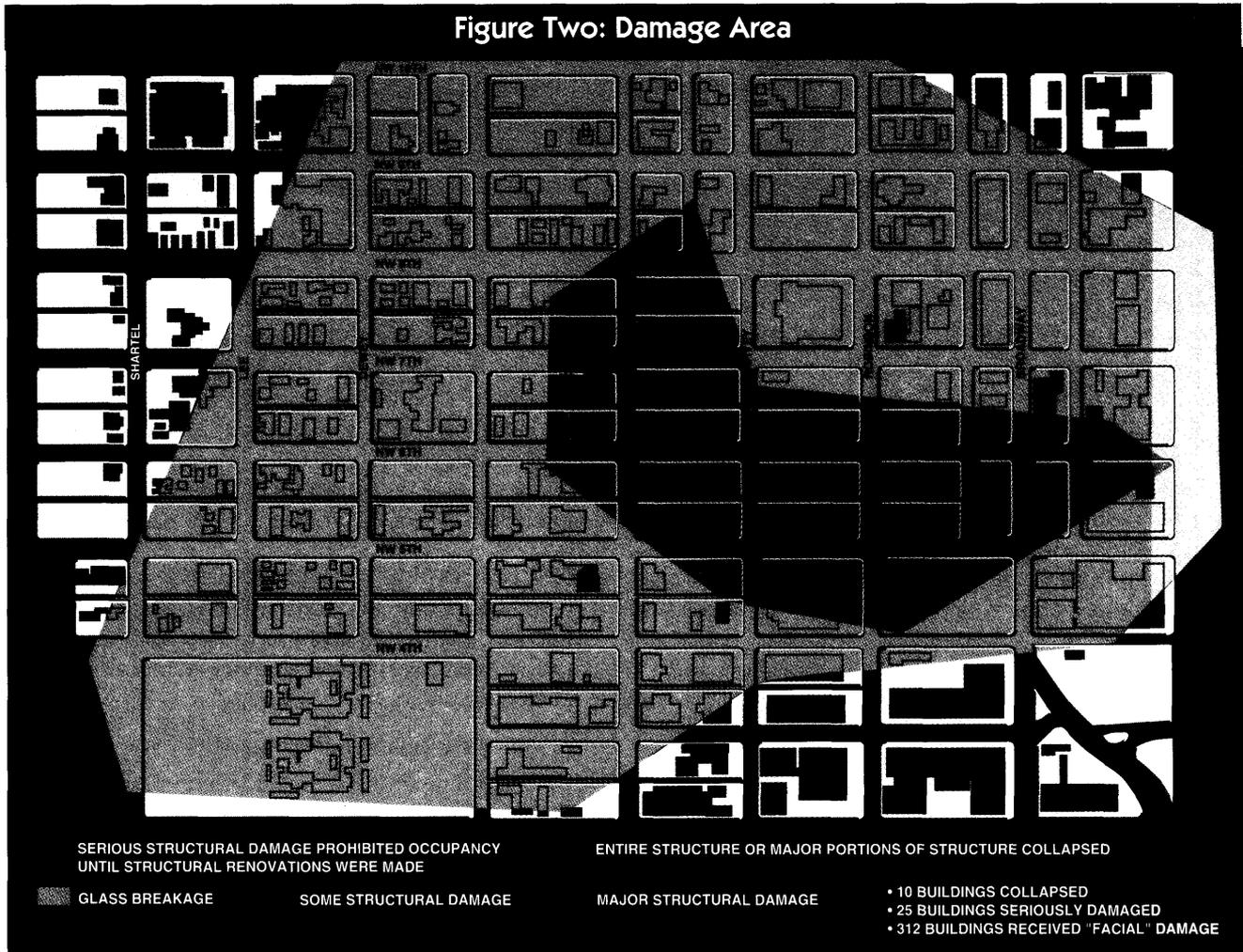


On May 5 we held a memorial service for our dead at the Murrah Building. Eighteen days later, May 23, the building was demolished.

### Key Lessons Learned and Reinforced

- Large-scale disasters require an integrated interagency response. Effective interagency response cannot occur without preestablished working relationships with the various participating agencies. Utilize the expertise of other agencies. Establish a relationship with your police chief, other department heads and local FBI official before the disaster.
  - Work immediately to establish a tight span of control from the outset of a large incident. Establish procedures ahead of time that will help eliminate well-meaning free-lancers from becoming a big safety problem. Control and organization mean greater effectiveness and safety.
  - Terrorists can strike virtually anywhere, anytime. Terrorist actions are not exclusive to high-profile targets. Work with local officials, engineers, architects, etc., in developing more bomb-resistant structures, in addition to bomb response strategies. Fire chiefs must get more involved in urban terrorism training — we need to be “in the loop.” Maintain well-trained firefighters and emphasize the collapse search and rescue function in addition to other department duties. OCFD currently is upgrading its USAR capabilities, including additional heavy rescue equipment and training.
  - Difficult incidents require tough decisions. It was not easy to leave known live victims in the Murrah Building and evacuate personnel for the possible second bomb device. Remember: Rescuer safety is of primary importance. Rescuers cannot assist if they themselves become the victims. Always weigh risk vs. gain — throughout the incident.
  - Commanders must see the big picture. Allow your personnel room to operate within a flexible command structure. Utilize the expertise of available personnel as the basis for command decisions. Incident commanders should be aware of all major actions but intervene only when it becomes necessary to do so. Do not micromanage the incident.
  - An incident of this size demands outside help. No fire department or city alone could have brought this incident to a conclusion in 16 days.
  - Request a FEMA liaison at the Command Post to facilitate communications between fire department and task forces from the start.
  - Establish one primary logistics area if possible. At this incident, we had too many logistics centers, which made it difficult to track equipment.
  - Bring the FBI and FEMA together in briefings from the outset of the incident in a response such as this one.
  - Use the ICS to its fullest advantage by dividing a large-scale incident into divisions/sectors.
  - Mandate continual briefings and debriefings over the course of an extended operation.
  - Establish adequate shift rotations to limit burn-out and overexposure.
  - Fire department officers should work closely with medical safety officers to ensure worker safety when handling and after handling bodily fluids.
  - Require rescue safety officers to monitor all aspects of operations in dangerous areas. Ensure that personnel are properly protected.
  - Continually monitor structural stability during collapse rescue operations.
  - Have strategic and tactical collapse plans/goals and update them regularly.
  - Be persistent and steadfast but not irrational. Be a realist. At this incident, I had to face the reality of the necessary strategy shift on Day 12 and the reality on Day 16 that the last two victims could not be recovered without great risk to our firefighters. For commanders at large-scale incidents, an intimate understanding of the response, response mechanisms, response hazards, and personnel capabilities (and human limitations) will point the way when such choices have to be made.
- The following — perhaps not well-known — factors also contributed to the operation’s outcome:
- The significant community support constantly amazed and uplifted rescuers during the depressing hours and days of the operation. The

Figure Two: Damage Area



outpouring began immediately the morning of the bombing and continues to this day. The citizens and the business community opened their arms and their hearts, and this kept the rescue workers going and has touched them in ways that some still cannot express. Within minutes heavy construction equipment started showing up and continued coming for days. Cranes, trackhoes, trucks, heavy-construction workers, riggers, operators, shoring and bracing supplies — all were there before being requested. The operators worked 24 hours a day alongside the rescue workers and never questioned a request or turned down an assignment. There was never a question from any of them about payment or reimbursement; in fact, I had to make them sit down late in the incident to explain how the monetary aspect would be handled.

- The volunteers from the community had an everlasting effect on the workers. There was never a thing a worker wanted that was not provided as soon as possible. Free long-distance calls out of the housing area; clean linens on their beds every day; laundry done to keep them in clean clothes; hot food 24 hours a day; free shipping service for things they wanted to send home; and volunteers walking the incident scene with water, coffee, and snacks 24 hours a day are just a few of the thousands of personal touches added to this incident by this community. There has been a lot of talk about the "Oklahoma Standard" of dealing with disasters, and this community is responsible for setting that standard. We knew all along what kind of people we served and have always