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emergency response to an urban disaster

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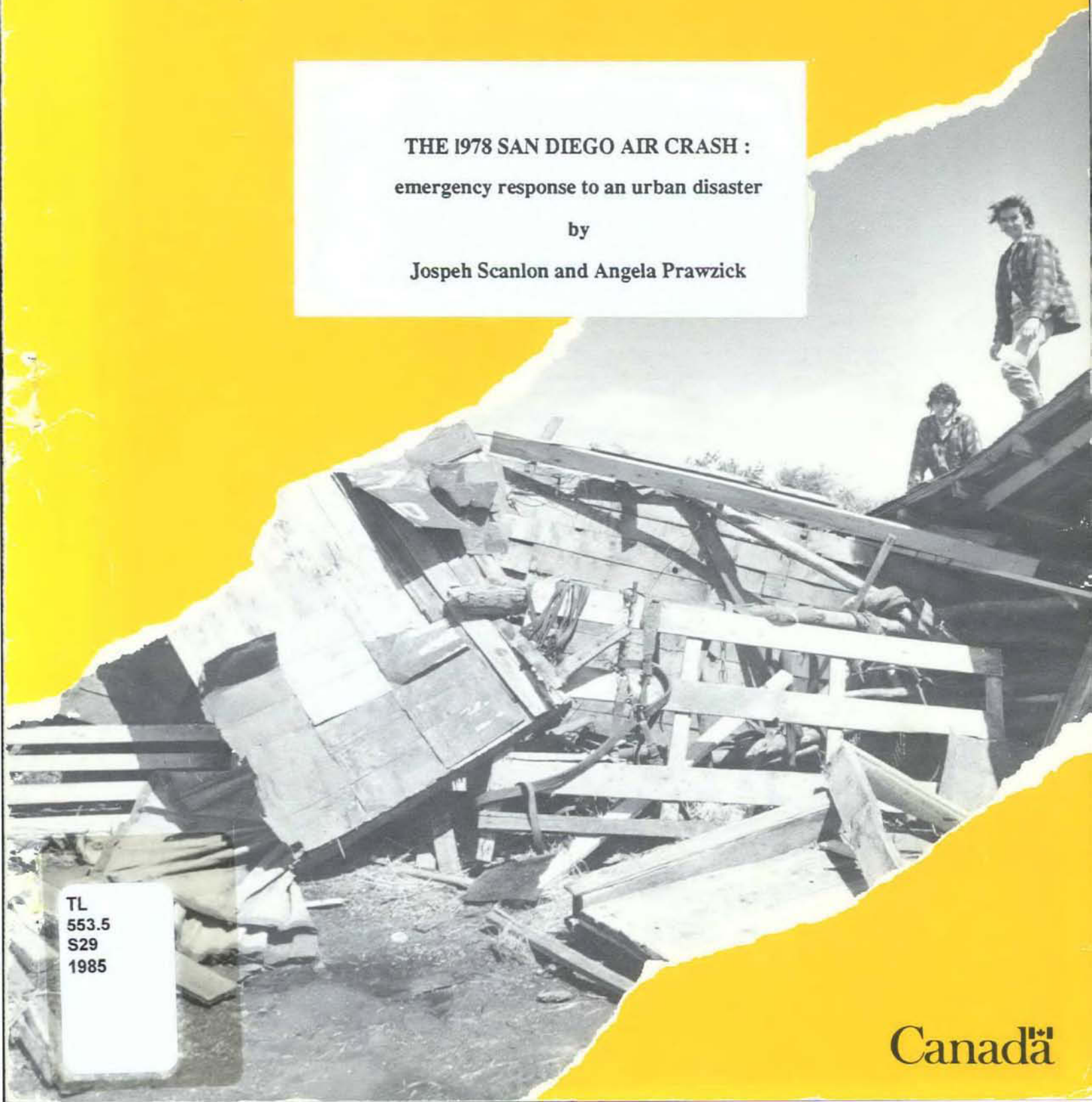

Canada

THE 1978 SAN DIEGO AIR CRASH :

emergency response to an urban disaster

by

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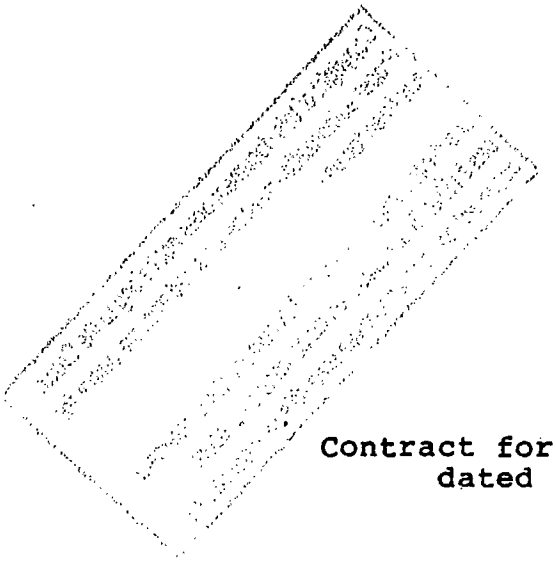

Contract for Personal Services
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The PSA crash occurred seven years before this report was prepared, yet the scars still remain. Many of those we interviewed came close to tears as they recalled the horrors of September 25, 1978. Yet everyone helped us, because they sympathized with our goals -- to develop a training aid to help others. To all who gave us so much time and help, we are most grateful.

1. The Incident

It's 9 a.m. Monday, September 25, 1978, and in San Diego it's already a stifling 30 degrees Celsius.

By early afternoon the temperature will reach a record-breaking 40 degrees, hot enough to send children home early from school.

At the San Diego Police Department, the Acting Chief is holding a meeting, in the Chief's office, with the force's senior officers. They're discussing which sergeants should be promoted to lieutenant. The Chief is on his way to Santa Ana with the Mayor for another meeting.

Most uniformed police units are out on regular patrol. One police ambulance is just leaving a home in North Park, an established residential area built during World War II. They had been called in to help an elderly lady. But there's not much they can do. The lady has died peacefully. As the ambulance leaves, one of the Coroner's deputies arrives.

At the Fire Department, the Chief is in his office, chatting with a few senior officers. Many firemen are taking advantage of the relative quiet to get in their regular exercises. number of them are jogging at Balboa Park, a large recreational area situated in the heart of the city, between the airport and North Park.

At the police training academy, an instructor is watching recruits as they complete their morning exercises. At another training centre, paramedics are winding up the training that will see them take over city ambulance duties from the Police Department.

In North Park, many residents are away at work, others are sleeping in late.

One lady is on the phone with her sister, trying to decide whether to go and visit her to escape the day's heat.

Another woman is waiting from some children to arrive at her home. She takes care of them while their mothers are at work. One of these mothers is just driving up with her young son before going to work at a downtown bank. A block or so away, another mother is approaching the same corner, with her youngster in the front seat of the car, beside her.

In another home, around the corner on Nile, a young woman is studying for a college biology exam.

At a nearby service station, a television camera crew and a photographer are working on a story about a new gasoline vapor recovery system.

Across the street, a young man is sleeping in, while just a block away a storekeeper is chatting with some customers. Near them, a city electrical repairman, up high in a bucket, is working on some power lines.

Above him, a Cessna 172 is climbing away from San Diego Lindbergh Field Airport. One pilot, his head in a plastic hood, is practising instrument flight navigation. The other pilot in his more experienced instructor.

A Pacific Southwest Airline 727 Jet has just started its final approach to the same airport. On board are 135 passengers and a crew of seven.

Both pilots are warned of the other aircraft's location. The 727 indicates it has the Cessna sighted. But the computer warning goes off at Mirmar, the regional control center. The two planes are on a collision course. Controllers try to contact the Cessna, to warn it once again of the jet's proximity. But there is no time to reply. The two planes collide.

The 727's starboard wing slices the Cessna in half. The small aircraft begins a slow rolling spin.

The jet's wing catches fire. The pilots regain control for a brief second, but then its electrical system give out and it, too plunges toward the ground. The pilot tells San Diego Airport he's going down. The control tower replies help will be sent to the airstrip. But it's already too late. Someone in the cockpit utters his last words. "I love you, ma".

On the Ground

The accident does not go unnoticed.

Two four-member fire crews, working out at different locations in the park, hear the planes collide. They look up and see it falling like a rock.

A police officer on patrol around Tierrasanta, in northern San Diego, sees the same thing.

One of the police instructors spots it through a window. So does a doctor in one of the hospitals.

The power worker is mesmerized. Taking time out to watch the jet complete a turn, he sees the collision and watches as the 727 cuts the smaller plane in half. The jet straightens out for maybe a second, then falls nose first.

The young woman studying biology hears a sound, looks up, and sees the jet heading straight toward her. It clips a bush off the house two doors away and demolishes the front part of a neighbour's home. Its wings hit surrounding houses, which collapse as the jet follows itself into the ground, like a telescope.

The lady dropping off her child probably hears it too. In a desperate effort to avoid getting hit, she starts to run away -- the wrong way -- she and the child are killed!

The lady on the telephone with her sister hears a bang, asks what it is, then screams. There's a sudden whoosh, then only silence.

The mother in the car doesn't hear it coming, but she, too, knows something has happened. As the plane scatters debris, bodies, and pieces of bodies for blocks, one body hits her car door and another, a stewardess, smashes into her windshield. She and her child, hit by flying glass, are left hysterical. Their car rolls slowly along toward the intersection where the place impacted.

3. **First Reaction**

Reaction on the ground is immediate.

The storekeeper, told by a customer that two planes just collided, runs toward the impact area. She gets there just in time to see the plane's tail roll on the ground.

The young woman studying biology grabs some trousers and runs out the door. Seeing a huge fire just around the corner, she goes to her neighbour's house, hoping to arouse it's elderly occupants. But she can't get close enough. The debris and a huge hedge block her way. In desperation, she runs across the street to get another neighbour's son.

Her father, a few blocks away, also sees what has happened. He throws some things back into his pickup truck and jumps in. He's frightened his daughter may have been hit.

Another woman goes out the back door of her house and runs around to the front, only to discover there no longer is a front. Her husband is inside. She wrenches the door open, and goes in to try and rescue him. Sleeping in the now shattered bedroom, he had gotten up to go to the bathroom just before impact. He's all right.

Another woman, hardly aware of her actions, turns on her garden hose and tries to douse what is now a massive fire engulfing her home.

Two women just one house away crawl out a back window and escape the fire's destruction. Another couple flees as well.

But seven persons die on the ground -- the woman and her child, the babysitter, the woman on the phone with her sister, and three others.

Dead with them are both pilots from the Cessna and all 142 persons on board the PSA jet, bringing the death toll to 151 persons.

The impact leaves 22 hours damaged by fire and debris. Seven are totally destroyed.

Some pieces of the plane have travelled for blocks. A watch, probably belonging to the pilot, has gone through a window two blocks from the crash, leaving a tiny hole, and landing on the living room rug.

A passenger, still strapped to his seat, has flown through the air. Although his shirt and tie remain neatly in place, his head, arms and legs were missing.

The firefighters abruptly end their jogging, jump onto their rigs and head to the scene.

The power worker quickly gets his bucket down and heads to the scene as well. He and his partner speed along a nearby thoroughfare, following two fire trucks and a Fire Chief into the area. A police car follows them. The convoy roars along at 88 kilometers an hour and arrives on site two and one-half minutes after impact. But they're not fast enough to beat the TV crew and photographer, who have already begun to record the horror of the crash.

The two police officers, one a reservist, try to persuade the woman with the hose to move away. The fire, fed

by the spilled jet fuel and leaking natural gas, is getting worse.

Another officer tries to drive in closer to the wreckage. Suddenly, flames burst out. Accelerating, he barely misses becoming engulfed.

Safely away from the flames, he notices the car with a smashed windshield coasting slowly toward him. As it approaches, he can see a woman behind the wheel, and an infant next to her. Both are screaming and hysterical. Getting the woman and child out of the car, the officer radios for an ambulance.

The two attendants who had been called in to help the elderly lady notice a column of smoke, and are just short of the area when the request for an ambulance is made. Arriving on site,they examine the woman and her child. One attendant sees a person still in the car, and asks the woman about another passenger. Unable to get a coherent reply, he rushes over to the car, only to find the barely recognizable remains of the stewardess.

Enroute to a nearby hospital, one of the attendants calls up the county radio dispatcher at station X. He tells the operator there has been a plane crash, gives the location, and notifies the operator and the hospital that he is transporting two of its victims.

4. The Word Spreads

News of the incident travels quickly.

The police officer in Tierraksanta radios in as he sees the two planes collide. His first location estimate is a bit off, but when the jet crashes and smoke begins to rise, he estimates the point of impact to be south of El Cajon Boulevard and West of 40th Street. It's a pretty good estimate.

There's a bit of confusion a minute later when the dispatcher thinks she hears one of the first responding officers say "Falcon" Street instead of "Felton", and starts dispatching to Falcon.

By this time radio airspace is filled with transmissions by responding officers, and the mistake isn't corrected for almost four minutes. But it makes little difference. The huge pall of smoke rising from North Park just beside Interstate 805 marks the site like a beacon.

The Fire Department also has some initial problems. A North Park resident telephones in to report her car on fire.

When the first firefighter radios in from the Park to report the crash, the dispatcher thinks he's reporting the vehicle fire. She doesn't realize its source is jet fuel from the crash. The firefighter has to repeat his message several times before the dispatcher grasps the enormity of the incident.

This confusion also makes little difference. Just as the police use the smoke as a location marker, so do the fire fighters. The initial location estimate of Interstate 805 at University Avenue is very close.

The two crews which had been working out at the park arrive on site at high speed. Another pumper and ladder truck arrive just behind them. A woman had banged at their station door, alerting them to the incident. A more senior officer, a battalion chief, also arrives.

The first response is well under way before the fire dispatcher finally orders it.

5. **First Activity**

When the first to respond arrive on site, it's immediately obvious that everyone in the downed plane has died, and that there are, at most, a handful of injuries on the ground. There's not much they can do.

The firefighters, however, can do something. Although the first pumper initially has some problems with a dry hydrant, three separate pumpers are soon working to stop the fire from spreading.

Once the hoses are laid, the ladder company makes a quick check of the damaged homes to make sure no one is trapped inside.

The Fire Department escalates its response, calling for a second and third alarm. A fourth alarm is sounded later to bring in relief for those who had arrived earlier.

It takes about two hours to bring the fire under control.

control, not an easy task given the heat of the day and the intense, radiating heat from the jet fuel-based fire.

Although the fire response is relatively controlled--only three engine companies from the immediate area and one off-duty fireman living nearby respond on their own -- the police response is overwhelming. Some of it is controlled, but most is spontaneous.

Many officers park their cars across intersections to block traffic, lock them, then rush out to see if they can help. Once at the point of impact, they stand and watch, sometimes overwhelmed or in shock.

Many fire vehicles can't get by the parked and abandoned police cars. They have no way of reaching the appropriate officers, and are forced to either find a way to move the vehicle, or wait up to half an hour for a tow truck to get through.

Although the incident is entirely within the limits of the City of San Diego, police officers respond from throughout the County.

There are officers from the Sheriff's Department, the highway patrol and the border patrol. Others respond from Fish and Game, Forestry and from neighboring municipalities.

The area is soon flooded with police officers from the City, and from every other jurisdiction within reach.

The difference between fire and police response can perhaps be partly explained by the differences in their work habits. Policemen operate a beat and actively patrol certain areas. They're used to driving around and checking things out.

Firemen, on the other hand, usually don't respond until they're given a location by their dispatcher.

At the crash site, most of the police officers simply stood around, unable to believe the horror and their inability to do something for the victims.

A few began to man a perimeter in an effort to keep the growing crowd back. One lieutenant organized a small group of police, marines and a few others into a search party which combed through surrounding houses. They found one body in an alley, but no survivors or trapped residents. This search was one of several. Firemen did a quick initial search, then completed a more systematic check as soon as the fire was under control.

Neither agency tried to find out what the other had done or found.

Still later, paramedics conducted an independent search of the same area, not knowing fire and police had already done the same.

6. Convergence

The phenomenon of massive response to the scene of an incident is known as convergence,and what happened in San Diego is a prime example.

The fire response, though controlled, was enormous. Several battalion chiefs and the City's Deputy Chief supervised operations on site.

A San Bernadino crew, which happened to be driving through the City after a battle with brush fires, was hastily pressed into service as a backup unit.

A crew from San Clemente also arrived.

The police response was overwhelming. At one point only nine officers were left to police the rest of the City, in vehicles without sirens and emergency lights.

The Acting Chief was constantly on site. The Chief also turned up,. arriving with the Mayor. Neither men tried to assume direction, and spent most of the day dealing with other VIPs and the media. They did, however, walk over and around the area of impact, as did a City Councilman with his eight year old son.

The response wasn't confined to fire and police. Ambulances, both police and private, converged on site. Although the police medical supervisor attempted to establish a staging area just north of where the jet hit, the response was so great the ambulances eventually parked in long lines on both sides of the site. As there were no survivors, their presence became unnecessary except to treat or transport injured or exhausted officials and onlookers.

Local hospitals responded by sending medical teams and triage units. Off-duty doctors and nurses also responded.

The Red Cross arrived. Volunteers set up a rest area and supplied food and drink. Red Cross investigators, who in the United States have a legal mandate to assess damage, began

work to determine the extent of injury, death and damage on the ground.

The Salvation Army arrived, competing with the Red Cross for persons to help.

Crews from the city's gas, power, water and telephone companies also arrived.

National Transportation Safety Board and Pacific Southwest Airline's representatives drove in, as did the Coroner and his staff.

An aide to the Mayor and the Deputy City Manager arrived. The aide started issuing orders from the police command post on his own, not the Mayor's initiative. He was nearly thrown out.

Many North Park residents, at work or elsewhere, rushed to the area as soon as they became aware of the incident. So did their friends and relatives. One resident slipped past police officers by crawling under a hedge.

Although schools kept area children back, they, too, tried to get relatives to pick them up.

Emergency response vehicles and tow trucks found it extremely difficult, and often impossible to get past the enormous crowd. Motorcycle travel was the only way anyone could get through.

Public response wasn't limited to the crash site. Within 30 minutes of impact, 2,000 people descended on the San Diego bloodbank, creating a second crowd control problem.

7. Medical Response

Convergence wasn't the only problem plaguing authorities at the PSA crash site. Equally pressing were problems in getting the overwhelming response to stop once it became clear there was no need for it.

The medical response illustrates this problem.

San Diego County had -- and still has -- a detailed emergency plan which calls for a high-speed emergency response to any incident once the county radio system, station X, is notified.

Triage teams would be sent to the scene and casualty clearing points established. Hospitals would be notified to clear space, cut back on all but emergency surgery and gear up their emergency receiving areas for disaster victims.

The triage teams would see that the walking wounded were sent by bus to casualty clearing points and that those in serious condition were sent by ambulance to hospital.

The system depends on constant communication between those on site and the hospitals. It also depends on effective control of access to and from the site for buses and ambulances. And finally, it depends on initial response personnel to know the plan.

As soon as the crash occurred, station X was notified by a doctor who had heard about the two planes colliding, but who could not estimate an accurate crash location.

The police ambulance radioed a few minutes later, giving the location and notifying the operator and hospital that it was transporting two victims.

Having finally received a location, the operator alerted six hospitals to stand by for casualties. During the next four minutes, he tried to call up someone at the scene for information on the extent of injuries. But county officials, such as the Coroner and Sheriff's Department officers, had not arrived yet and City police officers, including ambulance personnel, had abandoned their vehicles to try and help crash victims.

The first ambulance on site, the one which transported the woman and her child, had not remained at the scene to become the medical command post and communications center as called for in the County's disaster plan.

The operator finally telephoned the City's private ambulance dispatcher, who spoke with his own personnel on site and advised the operator to alert an additional seven hospitals.

After following through with the advice, the operator tried once again to establish contact with medical personnel on site, and again, to no avail. And by this time he couldn't get through to the private ambulance service either as the

telephone line was constantly busy.

On site, seven triage teams and 58 ambulances had arrived, all within half an hour of impact. But they were simply not needed.

To those who first responded, it was immediately evident there were no survivors. within five minutes of his arrival on site, one of the first responding police officers told police dispatch that everyone had been killed, and that the ambulances were not necessary. But by this time the air traffic was so thick with calls from responding police officers that he had a difficult time getting on the air, and never received acknowledgment of his information.

The County Emergency Medical Officer, by this time also on site, tried to get policemen to radio in the same message, but they said they had other matters to deal with.

A police lieutenant decided he should pass the word that ambulances weren't needed, but he couldn't get on the air at all.

Although various hospitals called repeatedly all morning, asking what was happening, station X could only advise them to stand by. It was not possible to make any contact with an incident commander on site and it was not possible to tell whether any sort of medical support was required because ambulance personnel could not be contacted.

The reason for this complete breakdown can be explained in part by the peculiar structure of the San Diego ambulance system at that time, a system which no longer exists.

San Diego City ambulances, the ones which triggered the first response, were driven by police officers who at the time had all been trained as emergency medical technicians.

Officers were assigned to ambulances at their daily roll call. When not on medical runs, they were dispatched to regular police calls, such as civilian complaints and traffic accidents. These officers also carried out regular police duties, such as issuing tickets and patrolling a beat.

Some of the police ambulance drivers were very proud of their arrest record. Drivers would assume it was safe to drive carelessly in front of an ambulance. When stopped, they would protest, saying ambulance drivers could not issue tickets or make arrests.

The system seemed to work well, but when it came to emergency communications it had one major flaw.

The police ambulances were equipped with two radios, one for police traffic and one designed to facilitate communication with hospitals via station X.

The station X radio was used only when an ambulance was enroute with victims. The operator would patch the ambulance through to the requested hospital, or as in the case of the PSA crash, would alert any number of hospitals for a disaster response.

Since station X had no control over the ambulances -- they were police vehicles -- the police ambulance drivers would turn their station X receivers down once their transmission was over, and turn their entire attention to police radio traffic.

There was another problem. Although the police had a medical supervisor, he was a police sergeant who patrolled his area in a police cruiser. This meant he had no radio to link him with station X as only ambulances carried this system. He could hear neither station X nor his own ambulance when they were talking to station X or to a hospital.

And because he was responsible for the overall ambulance service rather than any particular areas, he had no real command of the ambulance system. Individual ambulance drivers were under the direct supervision of their own police sergeants, officers who also had no access to station X radio.

What happened the day of the crash could have been predicted. The police ambulances radioed station X to alert it of the disaster. Station X alerted the hospitals. The police then went back about their business, and turned their station X radios down. They never called station X again to tell them there were no further casualties.

This resulted in the entire medical emergency system staying on full alert until 11:55 that morning, nearly three hours after impact and more than two and a half hours after it became evident a medical response was not necessary.

The station X operator was finally briefed of the situation by the on site police commander through the City's private ambulance service.

Only 16 people had needed medical help, most for shock or heat exhaustion. They included two policemen, two

firefighters, one civil defence employee, one FAA official, and 10 civilians.

There was one further problem. The police officers who responded to the scene were not familiar with the county emergency medical plan. They had not been briefed about the location of designated casualty clearing stations -- schools stocked with medical supplies.

Police set up the casualty clearing point at the high school, because they were familiar with it. The Department's contingency plan designed for the Republican convention had pinpointed it as an emergency centre.

They didn't know the County plan, so ignored the two schools in the area which did have medical supplies on hand.

8. Command and Control

Although there was reasonable cooperation among the various agencies at the PSA crash site, no integrated command structure ever developed, and no overall command post was ever created.

Both police and fire officers involved in the response were astonished at later meetings when each announced his agency had been in charge.

In retrospect, it seems clear that no shared command was created because leadership flowed fairly smoothly from one agency to another, with other agencies providing support.

In the early stages, while the fire was still burning fiercely, the Fire Department directed operations at the site and police backed them up by keeping people back.

Once the fire was under control, firemen conducted a final search of the affected homes, then moved aside and began picking up equipment. Relief fire crews moved in to stand by in case of further fire outbreaks, and to assist the Coroner and transport inspectors by digging through the rubble.

At this point, operations shifted naturally from the Fire Department to the Coroner, who with the help of police and fire personnel, began the process of identification, tagging, and bagging.

By about 6 p.m., most of the human remains had been removed and the two federal aviation agencies, the Federal

Aviation Agency and the National Transportation Safety Board, assumed direction of operations on site. They continued to collect and assemble parts of the wrecked plane in an effort to deter ine the cause of the crash.

Throughout the day, the Police Department assumed two roles. First, it acted as a support group for other agencies.

Policemen assisted the Fire Department by acting as a liaison between it and other agencies, such as power, water and gas.

They tried to keep people back so fire operations could be carried out.

Later, police assisted the Coroner by locating additional body bags. They also helped by tagging and transporting body parts to the temporary morgue. Some officers, however, simply picked up body pieces and other evidence, such as watches and jewellery, without first consulting the Coroner and without noting the location. This later hampered attempts to identify the passenger.

The Police Department's second role was one which involved actions and overall command decisions made independent of other agencies.

It set up two command posts, one on site which assumed overall police command, and one off site at downtown headquarters to provide support and resources for the on site police commander. However, it did not establish communications with the other on site command posts, such as those set up by the Fire Department, the Coroner's office, and the aviation investigation agencies.

It attempted to get up a perimeter, but did not consult with other agencies. As a result, it did not take into account the necessity of, and best location for, fire and medical access and egress routes.

It requested the Coast Guard and later the Sheriff's Department put up a helicopter to survey the site and keep other helicopters, particularly those operated by the media, at a reasonable distance. They were worried that a convergence of aircraft above the scene might lead to another collision.

It arranged for Lindbergh Field to issue a NOTAM (Notice to Airmen) to restrict air traffic above the collision site.

It brought in public relations personnel to deal with the large number of media on site.

And it dealt with local politicans, who wanted to know what was happening.

Other agencies also arrived on site. However, cooperation between them and others was less forthcoming.

Because there were no casualties, the medical command structure could be and was ignored. And because there were so few ground survivors -- just a handful of homeless residents -- the Red Cross could be and was similarly ignored.

Although no conflict arose among the various responding agencies cooperation was limited, and consultation was almost non-existent.

9. The Command Posts

San Diego did not establish n overall off-site command post or Emergency Operations Center (EOC). Although the City has EOC facilities, ready for instant use at the City's Administration Building, the Mayor decided such a move was unnecessary. The incident, horrible as it was, involved only a small section of the City and did not pose any further threat to the community.

The only off-site command post was operated by San Diego's Police Department. Located at the Department's Headquarters in the heart of the City, it too was ready and available for instant use.

Equipped with the Police Department's radio frequencies, telephones and intercom system tied to the City's fire dispatch room, the Emergency Communications Center (ECC) acted as a resource base for the on site police mobile command post, functioning as a liaison between it, the Department, and other agencies.

The ECC arranged for the Coast Guard and Sheriff's Department helicopters to secure airspace above the impact area.

It contacted Lindbergh Field to issue a NOTAM (a Notice to Airmen which restricts airspace above a site).

It made contact with the County Emergency Preparedness office, which in turn contacted a local produce company to

supply the six refrigerated trucks needed to store the victims' remains.

It secured additional body bags for the Coroner.

It handled arrangements with outside food companies to provide ice, iced drinks and food for staff on site.

It sent officers to local sporting goods shops and paint stores to find hats for on site policemen. At the time, officers were not required to wear uniform hats, so soon found the unrelenting sun unbearable.

Finally, it set up a rumor board and monitored the media to track down, check and correct any rumors.

Almost every agency which responded to the P A crash set up its own on site command post.

The Police Department set up its mobile command at the high school.

The Fire Department set up its mobile command in a drugstore parking lot.

Other command areas were set up closer to the area of impact by the Red Cross, the FAA, the NTSB, medical personnel and PSA.

The only interaction between these numerous command posts occurred about an hour after impact when fire and police exchanged liaison officers carrying portable radios.

10. Communications

Communications is almost always a problem in disaster and the San Diego air crash was no exception.

Within minutes of the planes goingdown, the emergency radio channels were filled with traffic, much of it from vehicles responding to the scene.

The police radio was so overloaded that the on site e commander could not find out who was on site or where they wer located. He eventually turned his radio off, finding it impossible to get information and impossible to concentrate.

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Telephone communications suffered from the same proble- Many of the key agencies -- police, the airline, the Coroner -

found their telephones so jammed they couldn't reach their own offices. Staff found it impossible to call out as all the outside lines were tied up.

The police had problems calling in extra personnel.

The airlines phones were completely jammed. The head of its security department finally borrowed San Diego police radios so he could keep in touch with developments on site.

Even though both fire and police rolled their communications command vehicles to the scene within minutes of the incident, the two could not communicate with each other. The fire command vehicle had only a fire radio while the police vehicle had only its own police radio, an outside phone line which was kept opened as a direct link to Headquarters, and a radio-telephone which did not work properly.

The radio telephone did carry some sporadic calls into the van. Unfortunately there came from agencies other than the police, mainly the media, and became a problem rather than an asset.

About an hour into the incident, fire and police exchanged liaison officers carrying portable radios, primarily because of problems caused by the abandoned police vehicles.

At the crash site itself communication was made difficult by the noise from helicopters overhead. These flew low enough to make hearing difficult.

One fire captain found it so noisy he had to send a runner to his engineer manning water pressure controls at the pumper.

When the police decided the helicopter could provide useful information about the scene from its overhead vantage point, they discovered it was impossible to make contact. The Sheriff's Department radio frequencies were different from those used by the City police force.

In the police mobile command vehicle, communications were constantly disrupted by staff walking in and out, making it impossible for the police commander to hold discussions or meetings.

Communications overload on the police radio also made it difficult to monitor who was doing what. The police were never quite sure what personnel they had on site and where they were.

Problems also arose when a tactical radio frequency was used. They soon discovered the hilly terrain made it difficult to get messages through. Portable radio battery problems made the situation still worse. One police officer would often have to repeat what another had said.

The biggest problems, however, related to the ambulances. Although police ambulances and private ambulances both carried the station X frequency, it was not normally used except to communicate with hospitals when transporting patients. Because there were no victims, the ambulances were not in touch with each other or with the hospitals.

When the directors of emergency medical and the Red Cross arrived on site, they went to the police command post and didn't realize for some time that a separate fire command post had been set up. Similarly, when the medical director wanted to communicate with the County dispatcher, he discovered this wasn't possible from the police command vehicle and that the ambulances with radio contact were some blocks away.

There were also problem with outside agencies.

Fire vehicles could not talk to personnel from other departments without going to the shared fire channel. But if they did this, they couldn't talk to their own dispatcher or monitor their own department's activities.

There were other problems.

Firemen often could not recognize off-duty or plainclothes policemen. They had to keep asking these officers to identify themselves.

And a lack of communication between police, fire and paramedics resulted in the duplication of searches.

11. Perimeter Control

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Initial problems with perimeter control stemmed from t inability of many police officers, all of whom were trained o medical technicians, to believe there was nothing they could d to help the victims.

Even though it was mere minutes before those on site began to comprehend there were no survivors, convergence had already become a problem.

and

Those officers who then did begin to man a perimeter, is those sergeants and later lieutenants who tried to organize th

control, did go in a haphazard, unorganized manner. It was not until noon, when police observed the area by helicopter, that they realized cars were being rerouted in circles, and that the area of impact involved only two blocks. They were able to pull the perimeter in, making control more manageable.

The command post, however, did not at any time designate grid assignments to facilitate a more organized and effective control.

As a result, control of the area proved to be difficult.

Each individual officer was left to decide who should pass and who should not. There was no overall perimeter control and no designated entry or exit routes.

The problem was especially difficult because without adequate radio communication, police officers could not consult anyone of higher authority for information about who should and should not enter.

It was easier to simply allow any person who carried official identification into the area. Since no one initially knew what kind of response was necessary, it was difficult for these officers to turn anyone linked with emergency response away.

Navy personnel got through easily.

So did anyone who could identify himself as a peace officer.

So did the Salvation Army, the Red Cross and anyone who could prove he was a physician or nurse.

So did ambulance personnel, paramedics and other medically trained persons.

So did anyone who could produce something which seemed to indicate they had official status. One couple got through in a car bearing a hastily home-made red cross on a white background.

Others got through when they copied the yellow armbands PSA officials used. Once the danger from fire was over, it also became difficult to decide who else should or should not be allowed in. Many residents living within the perimeter and their friends and relatives wanted to find out if their homes or their loved ones were alright.

One police officer refused to let a man go down the street to see if his elderly parents were all right. They lived just two houses from the crash site.

Some of these problems were solved when the perimeter was called in at noon. Police eventually overcame the problem of distinguishing genuine relatives and friends from sightseers by having a runner bring a member of the family living in the area to the perimeter to verify requests for entrance.

Before the incident was over, however, police made 48 arrests: 41 for refusing to leave the area, four for drunkeness on site, and three for conflict with police on site.

12. **Relief**

For police, the problem of perimeter control was tied to the problem of relief.

Because so many police officers had responded to the scene on their own -- often without checking in, either over the air or with anyone on site -- the police incident commander had no idea who was on site and who was not.

This problem was exacerbated by the more than one hundred police officers who had also responded from other agencies.

As a result, relief was handled in a haphazard manner

One lieutenant, who had arranged to relieve some of the first officers to respond, discovered someone else had sent them back to work without a break. When he arrived at the police staging area adjacent to the on site command post, he discovered other men he had relieved were standing in line behind new arrivals, trying to get a cool drink. becoming angry, he ordered the new arrivals to move out of the way.

The problem was typical. One of the first responding officers found himself on perimeter duty for 12 hours. No one had ever debriefed him to find out what he knew, checked with him to find out how long he had been there.

As the day wore on, the Police Department started to call in off-duty officers to fill in for those who had already put in an exhausting day.

They discovered that many of these officers were already on site. They were among those who had responded without checking.

in, making it difficult for police commanders to find sufficient personnel for adequate relief.

Policemen often respond to incidents on their own initiative. Firemen usually go only when they are dispatched. For this reason, the Fire Department found it much easier to control its men.

The first fire crews were relieved when they had finished dealing with the fire. Physically exhausted, they were sent back to their stations after conducting a final search of the area.

Other firemen were then brought in to perform standby duties and to assist the Coroner's staff.

13. Utilities

In addition to causing damage to homes within the area of impact, the PSA jet also caused at least some problems for all four utilities -- water, telephone, gas and power.

When the plane hit, demolishing part of a house and bouncing off a curb, it punched a hole in a water-main. This water leaking to the surface, and several hydrants dry just south of the point of impact.

The first responding fire crews had headed for one of these hydrants but were forced to make an adjustment in their plans when they found it dry. Damage to the water system did not severely affect the way firemen handled the fire. There were no problems with water pressure as the city's grid system guaranteed the immediate isolation of the break.

In addition to damaging a water-main, the plane also knocked down telephone and power lines, and cut off a number of gas meters and risers -- gas pipes above the ground. These breaks caused natural gas leaks which fed the fire until workers could shut the supply off.

Crews were on site within minutes as the power company worker who was in the area at the time of impact immediately notified his dispatcher, who operates in the same room as the gas company dispatcher.

Damage to the telephone system was minimal. Most of the phones affected were within a block of the crash.

This did cause some problems, however, when families in the area could not call out, and friends and relatives could not contact them to find out if they were safe. The Red Cross handled

more than 800 queries from persons unable to reach friends and relatives.

Although actual damage to the telephone system was limited, the system did run into other problems. There were so many calls to key agencies that they found it impossible to operate. Even station X could not get information, partly because the private ambulance company's lines were jammed.

Despite these problems, the telephone company did not institute line load control, a system which gives priority service to pre-designated agencies.

The power problems were more widespread. Impact knocked out power in a wide area, leaving about 10,000 homes without electricity. Firemen didn't know this -- they had to assume downed power lines throughout the site might be live, and carefully avoided them while fighting the fire.

Lines to the area were quickly separated from the main system by the first responding power worker. Power was then restored to all but the handful of homes surrounding the area of impact.

The power worker then notified his dispatcher that downed lines in the area were not dangerous.

This information, however, was not reported to anyone at the scene. Since the power worker could not discern who was in overall command of the incident, he didn't know where to report in. Shortly thereafter he did relay the information, along with what he felt was the responsibility to pass it on where needed, to his supervisor who by this time had also arrived on site.

Nearly two hours passed before the fire dispatcher, on request from the fire crews on site, could get in touch with the power company dispatcher and notify those on site that the downed power lines were safe to handle.

14. The Cessna

Several persons who either saw the two planes collide or heard the impact -- the bang was big enough to be recorded on seismometers -- saw the jet hit the ground first. The Cessna came down much more slowly.

But even those who knew two objects had hit the ground responded almost exclusively to the jet crash site.

Many police and firemen at the scene, including some of those in charge, either didn't know about the Cessna or forgot about it as events developed at the PSA crash site.

Half an hour after the incident, the Cessna lay in the middle of a street, nine blocks from what remained of the PSA jet. Just one police officer and a small group of about 50 to 70 spectators responded.

There are a number of reasons why the Cessna attracted so little attention. Compared with the carnage brought about by the PSA crash, the loss of life caused by the Cessna was limited to two bodies, one of which remained trapped in the wreckage, while the other was thrown clear to a nearby roof.

The smoke rising from the PSA site was visible for miles, attracting the attention of all those responding to the incident. The Cessna crash did not cause any damage, start a fire, or disrupt telephone, power, gas or water services, thereby leaving few signs to indicate its existence.

Those signs which were visible, such as the debris found in the middle of the street, could not be seen from a distance further than a block or two, and were completely overshadowed by the highly visible smoke, and later convergence, at the PSA site. The jetliner crash was simply more dramatic than the Cessna crash.

That drama was heightened when news about what happened, conveyed by the media and by word of mouth, focused on the jet crash and not on the collision between the two planes.

Lindbergh tower did not report for some time that there had been a collision. Controllers knew the jet was down - the pilot had made this clear before impact. They knew the planes had been on a collision course, and they knew the Cessna had not acknowledged its last radio message.

But they did not know for certain whether a collision had occurred or whether both planes had gone down.

Persons going to the scene - whether for official reasons or just because they had heard of the crash - went to the jet crash site. The Cessna crash site was largely ignored.

15. The Media

Members of the media, as with all other organizations, converged quickly at the crash site, some in advance of most officials and onlookers.

Reporters and camera crews attending the gas vapour recovery system demonstration at a nearby service station simply ran or hopped into their vehicles and were among the first to arrive on site.

Within minutes media relations personnel from the police and Sheriff's departments also began arriving on site.

As the day progressed they experienced many problems, largely as a result of police problems with overall perimeter control.

Reporters continually walked in and out of the police command area, hampering operations.. On site, they walked all over the impact area, disrupting evidence, getting in the way of firemen, and upsetting residents with their questions and often aggressive attitude. Television crews persisted in shooting video tape of the carnage, asserting what they called a right to do so.

Some media personnel were eventually arrested and charged with refusing to leave the scene of an incident. The Police Department later followed through on these charges, and they stuck.

By noon the police media relations personnel did manage to rope off an area near the main impact site and opened it to the media. It was at this location that they began releasing information when it became available.

But it was impossible to manage the media in this way for two reasons. Because of the problems with perimeter control, media personnel were relatively free to wander throughout the site, talking to officials and witnesses along the way. They weren't forced to rely on the media relations officers for information.

Second, the roped-off press area was simply too small for the vast influx of media personnel. The officers eventually responded by setting up a second briefing site by the police command post at the high school. However, this site was too far away from the area of impact for most reporters and camera crews.

The outside media caused special problems. Unlike their local counterparts, they tended to arrive after the initial confusion had abated somewhat, and after overall organization had begun to fall into place.

They arrived after efforts to set up a perimeter had been initiated, and as such had more difficulty accessing the impact area. Television crews in particular wanted the same footage their local competitors had already been able to secure.

A Sheriff's Department media officer responded to the problem by organizing a media bus trip through the impact area to give all those who wanted it a clear view of what had happened.

A tour through the temporary morgue was also organized. One card giving access to the high school gym was issued to the press corps, who took turns using it to get the material they needed.

Rumours were also a problem. The media reported the Governor had been on the jet, and later stated it had been his son instead. Both stories proved to be untrue.

A police ambulance driver became distraught when informed by a reporter the infant he had transported to the hospital had died. It wasn't until he checked the hospital that he found out the story wasn't true.

The media published and broadcast reports of looting at the scene, describing how people were stealing watches, jewellery and other valuables belonging to the victims.

The rumour was actually verified by one of the police PR men whose confusion originated with another officer who had logged seven arrests under police code 459. That number should have been 409 -- failure to disperse. Code number 459 indicates looting.

Some first responding plainclothes and off-duty officers decided to pick up valuables scattered around the site, feeling this would help the Coroner and prevent possible looting.

Without uniforms to identify them, the unsuspecting media thought the officers were citizens stealing the valuables, a conclusion easily reached as the appearance of several men suggested they might be hoodlums, not officers working undercover for the Drug Squad.

Personnel at the on site police command post heard the looting rumour. It prompted them to issue an order requesting all such information be immediately reported to the command post.

The ECC at Headquarters set up a rumour control board, and actively monitored the media to correct any false reports.

Although some persons had been seen taking paper, debris and plane parts from the site as souvenirs of the incident, no one was ever seen taking personal possessions belonging to the victims.

The looting reports, however, received international attention. San Diego is still trying to live down its image of a city inhabited by unfeeling residents.

Media relations during the incident raised another problem.

At the time of the crash, San Diego's Fire Department did not have media relations personnel, but the Police Department did.

The media, therefore, received most of their information from the two on site police media spokespersons -- a police officer and a former newsman in full-time police employ.

As a result, the media depicted the incident and its ensuing response from a police perspective, making it sound as if the police ran the entire incident.

Even now, nearly seven years later, some police officers still don't know firemen also picked up body parts. The media's image of the incident has coloured memories of what happened, and has become a public account of the truth for most people.

Firemen, however, are a notable exception. They remember feelings of frustration upon learning no one talked about their hard work in containing the fire to prevent further damage and injury, and their cleanup efforts which further exposed them and others to the grisly horror of the crash.

San Diego's Fire Department has since discovered the value of public relations, both for its own public image and for the morale of its members, and now has a full-time media relations section.

16. **Relatives**

Although the media supplied constant bits of information on the crash, their accounts could not settle the demand for information from the relatives of victims in the planes and on the ground.

The information was also not detailed enough to allow many relatives to exclude as victims family members flying on other PSA flights, or living, visiting or travelling within the surrounding yet unaffected area on the ground.

PSA flew about 60,000 persons that day. Relatives of these passengers often knew they were flying PSA, but did not know the flight number or even whether they made their flight, and as uch, whether or not they were safe.

The airline could not immediately determine who was on the jet. As is normal with most flights, some passengers arrived too late, others not at all, and still others disembarked at Los Angeles, deciding at the last moment not to go on to San Diego.

This movement rendered the computerized passenger list unreliable. PSA officials had to go through ticket stubs by hand before being able to accurately determine who had been on the final and fatal leg of the jet's flight that morning.

The volume of calls into the airline's San Diego office, for information, jammed its telephone system. The company's security officer, a former San Diego policeman, was forced to call upon friends in the police departments to bring in radio telephones and vehicles equipped with radios to establish communications with the outside world.

Similarly, relatives of those living within the area of impact began calling the police, who referred them to the Red Cross which had set up an enquiry service to deal with just such calls.

One man, fearing his wife and young son had been hit, described them as having been enroute to a day care center at Dwight and Nile when the jet impacted.

A woman telephoned about her sister who lived in the area, and with whom she had been speaking when the phone suddenly went dead at the time of impact.

The Red Cross, through its investigators on site, soon established the mother and son, and the sister, were among the victims on the ground.

It normally informs people if they are sure persons are all right, but asks the Coroner to verify whether a family member has actually died.

17. Sccial Services

The Red Cross was also active in providing shelter, comfort, support and sustenance to residents who lost their houses, relatives of the deceased and officials having to cope with the emotional impact of the crash.

It set up an evacuation centre at a local rollerskating rink, a counselling service at the high school, and an on site rest area.

Only a handful of families lost their homes, leaving the evacuation centre unused.

Red Cross counsellors at the high school, however, were busy. They made use of classrooms to provide comfort and privacy

for the many grief-stricken relatives who turned up at the temporary morgue in search of family members.

The counsellors provided support and guidance to those residents who lost their homes, and arranged for them to receive money, clothes, shelter and other necessities such as medication to help them through their ordeal.

One couple arrived at the high school wearing only robes and slippers. All their other possessions had burned in the fire.

Another woman arrived wearing a kerchief. Undergoing chemotherapy treatment for cancer, she had lost her wig in the fire. Red Cross workers, noting the emotional significance of such an item, quickly provided her with a replacement.

The on site rest area became a haven for many exhausted officials and volunteers. It was well stocked with food and drinks. Red Cross workers administered first aid to those who suffered from minor injuries. And counsellors became a sounding board for those who found it difficult to cope with the grisly horror of the crash.

The Red Cross was not alone in providing support services.

The Salvation Army provided assistance on site.

A psychologist phoned the ECC, offering his help, although the department did not realize the necessity of his services until several days after the incident.

PSA arranged for a local hotel to stand by as an evacuation centre.

18. The Coroner

Once the fire was out and it became clear problems at the PSA crash site were with the dead and not with survivors, control of the area fell to the Coroner.

He began accessing personnel and resources from other agencies throughout the County of San Diego.

The planes collided and crashed over the City of San Diego, which maintains a number of its own agencies such at the police and fire departments.

Surrounding the City are other municipalities, some of which also maintain agencies exclusive to them. Others are serviced by agencies, such as the Sheriff's Department, which have jurisdiction in those areas of the county where there is no parallel local organization.

The Coroner's Office, however, has county-wide jurisdiction.

There are some peculiarities in this structure. Although Station X serves mainly those agencies lying outside the municipalities, it provides the medical radio link between both municipal and county hospitals, and between ambulances and hospitals throughout the county.

The only disaster plan available at the time of the crash was an overall county plan. The crash involved only one small section of the City of San Diego, which itself is only a portion of the county.

At the crash site most of the police and firemen, who often deal with sudden death, were well acquainted with the Coroner and his staff, and were well aware of his responsibilities.

One of the Coroner's deputies had been attending the death on Nile when the crash occurred, and was one of the first to reach the site.

The Coroner also became quickly involved. As a county official with an office radio link to Station X, he found out as soon as the hospitals were alerted.

The Coroner's office, however, like other agencies, soon ran into communications problems. The office's six telephone lines, with sequenced numbers, became completely tied up as soon as persons started calling. The Coroner and his staff were unable to call out for more information.

Neither the Coroner nor his staff carry radios, so once at the scene of impact they could not communicate with the office. Once mobilized on site, however, they quickly took control.

Realizing the casualty clearing station in the high school's gym would not be needed, they converted it to a temporary morgue.

Using county staff, they brought in vehicles and body bags, and with help from the Police Department and county

disaster office, they procured six refrigerated vans from a local grocery outlet to store the bodies both at the site and later at the County Morgue by the Coroner's Office.

Given the magnitude of the Coroner's task, policemen were recruited to help his small staff in recording any information at the site about various body parts. Firemen also helped by moving debris to find and expose any buried pieces.

Once these parts were tagged and transported to the gym in body bags, one of the Coroner's staff prepared a detailed description of each bag's contents. It was a huge task -- 350 bags were used for the 151 victims.

The Coroner also worked closely with the airline to gather information about passengers on the ill-fated flight. It was particularly helpful in providing information about the crew and dead-heading employees (PSA employees flying as passengers).

A pilot and stewardess, well acquainted with many of the victims, worked with the teams and the Coroner's Office, and provided such details as whether any of the passengers had worn jewellery, if they had any birthmarks or scars, their blood type,and whether any of the women wore IUDs. One stewardess was identified by the way she tied her scarf.

The Coroner and his staff also worked closely with the Federal Bureau of Investigation and with several dentists who matched fingerprints and dental records with the bodies.

Eventually, the seven persons killed on the ground, the Cessna's two pilots and all but three of the jet's passengers and its pilot were identified.

Although the teams found evidence that these four persons were on the aircraft, they could not identify their remains, a problem caused in part by over-enthusiastic policemen who picked up wallets and jewellery to avoid looting, but did not record where these items were found.

Despite this success in identifying most of the victims, the Coroner's staff were not able to determine the identity of many body parts. Four coffins were eventually filled with most of these pieces and with what was believed to be the remains of the four unidentified victims. These were buried in a common grave in San Diego. The remaining parts were cremated.

It's quite clear that search and rescue must take precedence over any other activity at a crash site. Such activity must be carried out even if evidence is destroyed.

But the experience at San Diego suggests that once it is determined there are no further survivors or injuries, failure to take immediate care that nothing is disturbed can hamper the later identification and investigation process.

19. Psychological Impact

The Coroner's staff was far too small to take care of the immense job of picking up body parts.

Police officers, mainly detectives, were therefore assigned to the job of picking up and bagging body parts. Firemen were also involved and helped by moving debris to expose hidden body pieces. Most of their work was concentrated in a small area where a heap of debris contained 51 bodies.

Many of them did this hour after hour. Some had reactions to the task that still give them nightmares.

Most retain vivid image of the scene. For once it was two hands clasped together, one with a wedding band, one without.

For another it was the image of a priest saying the last rites over a remnant of a body.

For another it was the endless bugs hovering over pieces of human flesh, and crawling up his arms.

For another, the smell of burning flesh lingers on.

One man can still not eat meat.

While a few policemen and firemen suffered emotional stress problems at the scene, most carried on. But after the incident, nine policemen resigned as a result of stress related to the incident.

The Fire Department did not run into similar problems. This appears to be related to relief and to the nature of what happened.

Firemen arrived on site with something to do. They were immediately busy, and had little time to think. Once the fire was out, they left.

More important, they left not to go home but to go back to their stations where they could sit and talk about their distress with co-workers, people with whom they live 24 hours a

day while on duty, and with whom they feel comfortable -- people who saw and worked within the same horror they had faced themselves.

It is perhaps significant that one fireman who still remembers the incident with some horror was assigned to clear the hoses of human remains that night, while most others were allowed to rest at their home stations.

The police, however, had a completely different experience. While firemen fought the fire, they stood by helplessly, watching and unable to help.

When their duties at the scene ended, they either went back to their one-man patrol cars or to a home where they found it difficult to relate their feelings to spouses and families. They didn't know how to even begin talking about the fingers and eyes and piles of human flesh they saw, and later helped collect for the coroner.

In 1978, most policemen felt they had to maintain a macho image, and were reluctant to admit they had problems. They tended to bottle their feelings up inside.

Shortly after the crash, the San Diego Police Department set up special counselling arrangements to help police and their families recognize and cope with the stress of dealing with such events.

The program proved particularly helpful when San Diego police dealt with the 1984 MacDonald's Restaurant massacre in San Ysidro.

Although this incident was in some ways more horrible than the PSA crash, and although many policemen did suffer emotional strain after seeing parents and children lying in pools of blood, no one was lost to the Department.

Counselling was immediately available for the policemen who were no longer as reluctant to admit their need for help.

20. In Retrospect

There were many problems at the 1978 PSA crash site.

Perimeter control was ineffective. As long as some sort -- any sort of identification was shown, persons were let through police lines. Control points where access could be monitored were not established.

The situation inside the perimeter was therefore chaotic. Hundreds of persons not necessary to the response moved freely about within the perimeter.

Outside, the situation was, if anything, worse. Vehicles were routed in circles. Streets and highways were blocked. There were no clear entrance and exit routes to and from the site.

Communications, within and among agencies, were inadequate. Though the police initiated the emergency medical response, they did not maintain communication with that system. Hospitals were not briefed about the incident.

The original medical centre -- destined to be a casualty clearing station -- was not established at one of the pre-designated schools. Instead, it was located at a school where supplied were not stockpiled.

Communications with other key agencies, such as those responsible for social services, were either inadequate or non-existant. No central, multi-agency Emergency Operations Centre (EOC) was ever established. And no one assumed overall command.

In some ways, little of this mattered. All the persons in both planes had died on or before impact. And except for two persons, those on the ground were either dead or safe.

Excepting the fire, the incident was over by the time those first responding arrived.

Although the problems with response had no effect on the handling of victims, they did create unnecessary strains on institutions such as hospitals, which had disrupted surgical and other procedures to stand by for a medical emergency which those on site knew would not happen.

They also left emotional scars on many of those who responded to the scene, but who stood by, helpless. These people never should have come.

The one question which comes to mind is what would have happened had there been mass casualties? Suppose many of the passengers on the PSA jet had survived and that many persons on the ground had been injured.

Under these conditions, the response would not have been acceptable.

Fighting the fire and treating the injured would necessarily have been simultaneous operations, involving consultation between the agencies responsible for the operations.

The decision to access a high school as a casualty clearing station, without medical supplies, would have been a serious error. The failure to establish entrance and exit duties would have been equally serious.

And the failure to establish a communications link with the emergency medical system would have been unacceptable

Given a situation involving victims, cooperation and coordination among various agencies -- police, fire, medical, social service -- would have been essential. Without this type of inter-agency integration, such a situation could not have been properly managed.

Experience indicates this type of integration, imperative to a successful response, occurs immediately only when an emergency plan has been drawn up and has become second nature to all agencies and personnel involved.

Initial response to any disaster will always be chaotic until the plan falls into place. At this point operations will become systematic and organized. Without a plan, however, the response remains chaotic and unorganized for some time.

Given no survivors, the handling of the PSA crash is understandable. But given survivors, it should have been -- and we believe would have been -- dramatically different.