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Disaster Preparedness Study

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Disaster Preparedness study

A Report to the Citizens of Jacksonville • Summer 1982

SCOPE OF THE STUDY

Is Jacksonville prepared for a man-made or natural disaster? With the numerous risks of encountering disaster in Jacksonville due to its geography, weather patterns, transportation routes, and military facilities, how can disaster preparedness here be improved?

The term "disaster" in this study refers to the occurrence or imminent threat of widespread or severe damage, injury, or loss of life and/or property resulting from any natural or manmade cause. This includes but is not limited to, enemy attack, sabotage or other hostile military or paramilitary action, fire, flood, earthquake, wind storm, wave action, epidemic, air contamination, blight, drought, infestation, explosion, or accident involving radiation byproducts. A disaster creates a situation in which the day-to-day patterns of

life are suddenly disrupted and numbers of people are plunged into helplessness and distress.

The scope of the study includes a review and analysis of:

- . Past disasters and the potential for future disasters.
- . Roles of public and private agencies responsible for responding to disasters.
- . Methods for communicating among agencies and with the population before, during, and after disasters.
- . Preparedness programs in similar cities.

HIGHLIGHTS

MAJOR PROBLEMS

Potential for devastating hurricane with insufficient preparation

- . Multiple emergency operating centers which could result in confusion and an ineffective response to a major disaster
- . Limited knowledge about disasters by public and officials
- . Inadequate communication among all disaster professionals
- . Ineffective warning messages
- . Planning emphasizing nuclear attack rather than hurricanes

Jacksonville designated as target area for nuclear attack

Lack of emphasis on an all-hazards approach to disaster planning

RECOMMENDED SOLUTIONS

- . Provide single Emergency Operating Center
- . Increase public knowledge through the Civil Defense Division, Red Cross and National Weather Service working with the media
- . Hold regular meetings of the Civil Defense Planning Council and staff.
- . Develop a warning package
- . Redirect and rename Civil Defense Division
- . Implement an all-hazards approach to Disaster Planning

FINDINGS

Findings represent the data base of the committee. They are derived from the published materials listed in the references, facts reported by resource persons or from a consensus of committee understanding as reported by resource persons.

LIMITED DISASTER EXPERIENCE

THE LIMITED NUMBER OF DISASTERS IN JACKSONVILLE IN RECENT YEARS HAS RESULTED IN AN ILL PREPARED CITIZENRY. Due to favorable circumstances over the last few years in Jacksonville, no major disasters causing great property damage and loss of life have occurred. The population has grown and new people have moved to the city resulting in a substantial number of residents who have never experienced a disaster. As a result of this lack of experience and population changes, many citizens are unprepared.

For example, most people in Florida have never experienced a hurricane. Many who believe they have experienced a full force hurricane were in a relatively weak storm or an indirect hit. People tend to make preparations based on their personal recollection of past storms. People who have experienced a disaster tend to be more prepared.

Jacksonville's only experience is from an indirect hit of hurricane Dora in 1964, a relatively weak storm (Saffir/Simpson category 2). Some professionals fear that this, coupled with the near miss of hurricane David in 1979, will make the people in Jacksonville reluctant to evacuate low ground for the next hurricane. Hurricane David passed about 70 miles offshore and did not affect Jacksonville with any hurricane weather or storm surge.

The public historically exhibited little interest in learning about disasters in order to become better prepared. Courses offered through the City's Civil Defense Division and the National Weather Service usually have limited attendance. Elected officials have received little or no training and have no experience with a major disaster.

Although the city has had some experience with evacuating specific areas threatened by hazardous chemicals and fires, no disaster has had sufficient magnitude to require the implementation of the Jacksonville Disaster Preparedness Ordinance signed February, 1980.

HAZARD ANALYSIS

There are three categories of hazards: natural hazards, man-made nonmilitary hazards and man-

made military hazards. Because of the unique character, man-made military hazards, primarily nuclear war, will be considered separately.

Natural Hazards

THE MOST DEVASTATING NATURAL HAZARD TO WHICH JACKSONVILLE IS EXPOSED IS THE HURRICANE. The most dangerous part of a hurricane in terms of lives lost and damage incurred is the surge, a wall of water formed by wind and pressure during the hurricane. This wall of water, causing 90% of the deaths, is far more dangerous than the wind.

An excellent description of the effects of a hurricane surge is provided by John D. McDonald in his novel Condominium:

The great surge has built up in the Gulf, built by the greatest winds working on the water as the shoreline shallowed. It was like a broad bulge moving toward the shore. It had been enhanced in size by the seiche effect, which can occur when the pressure in any area is so low the the water is actually sucked up to a greater level, as though a gigantic soda straw had been put to use. The surge was not in itself a wave. The hurricane waves remained, moving at the same rate or a little faster than the surge. It was a black blister a few miles in diameter, swollen to fifteen feet above the already high level of the hurricane tides.

A surge like this, though not as large or as high, had drowned almost four hundred people in Louisiana in 1957. Other surges had sent fifteen feet of water over Bimini in 1935 and drowned four hundred in the Florida Keys in that same year. In November of 1932 a hurricane surge drowned twenty-five hundred in Santa Cruz del Sur, Cuba. On September 8, 1900, a hurricane tide and storm surge killed six thousand people in Galveston, Texas.

The surge moved just ahead of the eye and a little south of it.

Within historic record, Jacksonville has never experienced a "great hurricane" (winds of 125+ miles per hour). In fact, written records

dating back to 1886 indicate that only one full hurricane (75 miles per hour) has hit Jacksonville. During that same period six tropical cyclones (40 miles per hour and over), which were usually the results of exiting hurricanes and near misses from hurricanes, have hit the city.

Based on these long term trends the probability of a hurricane occurring in Jacksonville is about 1% a year (one hurricane every hundred years). The theoretical storm surge height during this one hundred year storm has been estimated by the National Oceanic and Atmospheric Administration, to be about 10 feet. Forecasts of storm surge heights from a storm are more accurate and relevant than forecasts of the wind.

During a larger storm such as Camille in 1969 or the Florida Keys hurricane of 1935 (both considered to be the most severe hurricanes recorded for the U.S.), a wall of water of 16-20 feet can be expected at the beaches. This would mean water to the ceiling of the second floor of beach hotels. A storm of this magnitude (Force 5 Saffir/Simpson Scale) can be expected once every 500 years. The Saffir/Simpson Hurricane Scale below describes the characteristics associated with various intensities of hurricanes.

Saffir-Simpson Hurricane Intensity Scale

SCALE NUMBER (CATEGORY)	WINDS MPH	SURGE FT.	DAMAGE
1	74-95	4-5	Minimal
2	96-110	6-8	Moderate
3	111-130	9-12	Extensive
4	131-155	13-18	Extreme
5	155	18	Catastrophic

The National Weather Service gives a maximum of twelve hours warning before a storm strikes. During most of this time the sky may be clear and blue with no hint of the approaching storm. Some people may be reluctant to evacuate in these conditions. The time of day is also a factor in a successful evacuation. A storm striking at night, such as Camille did on the Gulf Coast, allows the people plenty of daylight hours for evacuation. However, the evacuation would have to occur during the night if the storm were expected to strike early in the day.

In some areas of Florida disaster professionals fear that the beaches could not be evacuated before a hurricane strikes because of long causeways and high population density. The people living on the barrier islands of Duval County have several coastal evacuation routes.

North of the St. Johns River the beach population must evacuate north on A1A or west on Heckscher Drive. South of the river the westward evacuation must occur on Atlantic Boulevard with four lanes; Beach Boulevard, with four lanes; and J. Turner Butler Boulevard, with a two lane bridge. Feeder roads to these routes have a minimum of six feet above mean sea level, while the approaches to the bridges offer minimums of seven feet above mean sea level.

Once the storm begins, people who have ignored the evacuation warnings will be cut off from outside help. Travel through the storm area will be impossible due to downed power lines and trees as well as high water. Even after the storm, transportation problems can make rescue efforts and delivery of service impossible.

Other hazards from hurricanes include flying debris and building damage from the high winds, tornadoes (which are often formed on the advance edge of the hurricane) and flooding from heavy rainfall (even after the storm moves ashore and loses its hurricane status).

Other Natural Threats

THE REMAINING NATURAL HAZARDS THAT THREATEN JACKSONVILLE HAVE LESS POTENTIAL FOR CAUSING A MAJOR DISASTER. These hazards can cause limited death and destruction but will seldom cause the type of disaster that involves the disruption of society for a great number of people.

Tornadoes, often occurring in conjunction with the hurricane, can cause severe damage and death. The Jacksonville area has an average of two tornadoes per year with January, February and March being the most likely months. Over the last 25 years there have been no deaths directly related to tornadoes in Jacksonville. However, tornadoes cause a great deal of damage with winds of up to 300 miles per hour. These winds can destroy substantial structures and a great potential for loss of life exists.

Flood potential in Jacksonville does not pose a substantial threat to life or widespread property damage in Jacksonville except for the flooding accompanying a major hurricane. During the last 25 years there has been no loss of life due to inland flooding or flash flooding in Jacksonville.

During a hurricane, depending on the tides, wind direction, and rainfall, the low-lying areas along the rivers in Duval County could be subject to extensive flooding. In addition, many of the low-lying areas are subject to a type of flooding known as "ponding" which occurs when low lying terrain with relatively impervious soil becomes super-saturated and drainage systems can not carry off the excess water.

Additional natural threats to Jacksonville include lightning (often accompanying thunderstorms), earthquakes and freezes. None of these natural hazards has the potential in Jacksonville for causing any widespread property damage or loss of life. However, lightning kills approximately one person a year in the Jacksonville area.

Man-made Hazards

JACKSONVILLE, LIKE ANY LARGE METROPOLITAN AREA, HAS A VARIETY OF ACTIVITIES AND FEATURES WHICH HAVE THE POTENTIAL FOR CAUSING A DISASTER. Some examples of these include the use, storage and transportation of hazardous and toxic materials; the movement of trains, aircraft or other vehicles that could wreck; and the possibility of a variety of fires.

Hazardous materials are transported through and used daily in Jacksonville. There are over 1,700 items classified as hazardous materials and regulated by agencies such as the Department of Transportation and the Environmental Protection Agency. However, the amount and type of hazardous material being transported through Jacksonville on a given day are not known. Vehicles are required to be marked only if they carry over a certain amount of hazardous material leaving the remainder to travel without visible identification.

Approximately 15% of all trucks passing through Jacksonville are carrying some type of hazardous materials. There are no controls on the routes taken by vehicles transporting hazardous materials through Jacksonville, so dangerous materials can be transported directly through town rather than taking routes through less urbanized areas. Many of the trains passing through the city also carry these cargos. The port handles two hazardous materials in large amounts: phosphoric or super phosphoric acid, and refined bulk liquid petroleum products.

Most industries located in Jacksonville, as in other cities, use some type of hazardous material (some type of flammable material is most common). A fire or transportation accident involving hazardous materials has potential for causing widespread death and destruction.

The most common hazardous material accidents are oil spills. The professionals charged with responding to hazardous materials accidents primarily staff from the Coast Guard, Fire Department, Office of the Sheriff and Bio-Environmental Services Division, are well prepared for oil spills. However, accidents involving some other materials could cause problems. An improperly marked or unmarked material may be difficult to identify as the city Bio-Environmental Services Division does

not have immediate access to the required specialized equipment for detection.

Many hazardous materials pose a long term danger rather than an immediate threat to life. Some of these materials such as oil containing PCB's (a carcinogen) are being transported to and stored in Jacksonville for eventual disposal. A spill of this type of material could cause a long term health hazard.

Fire is another man-made hazard which could cause a disaster in Jacksonville, as in any community. Most fires are kept well under control, but a large scale fire, especially in a high-rise building filled with people could cause a disaster. Improvements over the years in building codes have made the new high-rise buildings very safe, in contrast to older buildings without sprinklers. Large forest fires approaching built-up sections of the city also have potential for loss of life and major structural damage.

SIMILARITIES OF DISASTERS

ALTHOUGH EVERY DISASTER IS UNIQUE IN A NUMBER OF WAYS, EACH CAN BE DESCRIBED BY A LIMITED SET OF DIMENSIONS AND EACH WILL HAVE SIMILAR EFFECTS ON THE PEOPLE. These dimensions and effects will determine which officials and agencies have the authority and responsibility to act.

A significant number of variables can be combined to describe a disaster and its effects. Each variable has implications for mitigation, preparedness, response and recovery activities.

The following table was adapted from an Ohio State University Disaster Research Center report. Any disaster can be described by this set of variables.

DIMENSIONS OF A DISASTER

1. Rate: frequency of occurrence
 - a. has never happened before
 - b. happens frequently
 - c. happens infrequently
2. Physical characteristics
 - a. wind, rain, etc. (climatic)
 - b. heat (fire), cold (weather)
 - c. silent
3. Speed of onset
 - a. rapid - avalanche, explosion
 - b. gradual - some floods, famine, drought, hurricane
 - c. repetitive - some earthquakes

4. Length of forewarning (difference from onset)
 - a. short - bomb attack, explosion
 - b. medium - hurricane
 - c. long - pollution buildup in food chain
5. Duration
 - a. short - explosion, etc.
 - b. medium - flood, some pollution
 - c. long - famine, pollution
6. Scope of Impact
 - a. one house, neighborhood
 - b. town, stadium
 - c. bio-region, nation
7. Destructive potential
 - a. high property damage, low life-risk (fire slow in spreading)
 - b. high life-risk, no property loss (chemical leak, air pollution radioactivity)
 - c. variable - both a + b
8. Gross Predictability
 - a. danger area can be predicted with some accuracy but not necessarily with a lot of time of forewarning (e.g., flood, hurricane, "down-wind accidents like chemical releases)
 - b. no predictability - no forewarning (terrorism, auto accidents, "freak accidents")
 - c. some forewarning, but no predictability (tornadoes, disease spread)
9. Gross controllability
(varies with speed of onset, nature, amount of warning, all of above)

All disasters have similar effects on the people, places and things as summarized below on a table from the State Bureau of Disaster Preparedness.

DIFFERING APPROACHES TO PLANNING

MANY CIVIL DEFENSE PROFESSIONALS RESIST THE NEWER, MORE PRACTICAL AND ECONOMICALLY JUSTIFIABLE "ALL HAZARDS" APPROACH TO DISASTER PLANNING. These professionals favor the more traditional approach, stressing nuclear attack planning. These two different philosophies determine how local civil defense directors approach disaster planning.

The philosophy of those favoring the traditional Civil Defense approach is that by planning for the ultimate (nuclear) disaster the city will be prepared and able to respond to any smaller more local or regional disaster (such as a hurricane). These professionals prefer to place emphasis on planning and preparation for nuclear disasters, believing that these plans will cover any of the smaller disasters.

The other basic philosophy of disaster planning states that we should work from the ground up on smaller more likely disasters and assumes that the nuclear disaster would be covered by these plans. This all hazards approach to emergency management has been used because of financial constraints by the state and some local governments for a number of years. Only recently have the Federal guidelines been changed to allow an all hazards approach.

Federal legislation during the Cold War era initiated civil defense programs in 1951. The purpose of the legislation was to provide a local mechanism to assist the population during a nuclear war. The Federal government provided monies for this nuclear civil defense with requirements for surveying fallout shelters, stocking them with supplies and radiological instruments and training people to cope with a nuclear attack. During these earlier days,

SUMMARY OF EFFECTS

	<u>People</u>	<u>Places</u>	<u>Things</u>
MENTAL	Disoriented, Confused Angry Frustrated Anxious, Concerned Frightened Upset, Nervous Die	Destroyed Damaged Use Limited Useless Contaminated	Lost Damaged Destroyed Use Limited Useless Value Reduced Value Lost
PHYSICAL	Injured, Sick Wounded Incapacitated Exhausted		
ATTITUDE	Positive/Negative		

Effects upon places and things sometimes increases the hazard and the effects upon people

peaking with the Cuban missile crisis in 1964, civil defense was well funded and directed solely at the threat of war.

The Federal government is the major funding source for all disaster preparedness activities. In the past its guidelines, which stressed civil defense, caused state and local governments to shield their all hazards approach under the umbrella of nuclear planning. Now, with recent amendments to the Civil Defense Act, Federal monies can legitimately be used for a comprehensive, all hazards approach to emergency management.

The Florida legislature passed the State Disaster Preparedness Act in 1974, shifting the emphasis and requirements of civil defense activities to an all hazards approach called Comprehensive Emergency Management (C.E.M.). Many civil defense directors who were firmly entrenched in the more traditional civil defense activities were not enthusiastic about this new strategy.

Comprehensive Emergency Management requires the development of some type of system to prevent, mitigate, prepare for, respond to and recover from any natural or man-made hazard or hostile military action (including nuclear attack) which could result in damage, injury or loss of life and property. CEM divides the activities into four phases: prevention/mitigation, preparedness, response, and recovery.

Prevention/mitigation encompasses those activities which actually reduce the probability of a disaster's occurrence: examples might include hurricane-resistant requirements in the building code, a coastal construction setback line or a flood relocation program.

Preparedness activities include those actions which are necessary to the extent that mitigation measures have not, or cannot prevent disaster; examples include evacuation planning, installation of warning systems, and the formulation of intergovernmental and mutual aid agreements.

Response activities occur during and after an emergency and are designed to provide emergency assistance to people affected or threatened. Examples include evacuation, sheltering, emergency flood protection, and medical care.

Recovery activities follow response and continue until the population returns to a predisaster condition. Examples include the provision of housing for disaster victims and debris removal. Over a longer term, recovery activities include building replacement and reconstruction.

Most traditional disaster planning has emphasized the preparedness, response and recovery phases of a disaster. These phases are the more action oriented while mitigation is newer and more regulatory. Mitigation, because it is newer was selected for more detailed analysis.

MITIGATION

THE FEDERAL GOVERNMENT MADE MITIGATION A CONDITION OF DISASTER RELIEF ASSISTANCE, CAUSING A DRAMATIC INCREASE IN MITIGATION INTEREST AT THE STATE LEVEL. HOWEVER, LITTLE EMPHASIS IS PLACED ON MITIGATION LOCALLY.

Hazard mitigation activities are oriented toward long term prevention or reduction of a disaster resulting from natural or man-made emergencies.

The Federal government holds the state responsible for mitigation activities. However, most authority needed to mitigate disaster is not at the state level but at the local level.

Hazard mitigation can be viewed as long range planning to prevent persons and property from becoming vulnerable to the hazard in the first place. The local government can incorporate mitigation efforts in its comprehensive planning program and implement it through local tools such as:

- . building codes
- . zoning regulations
- . subdivision regulations
- . plan unit development requirements
- . public facility locations
- . coastal construction control lines (the state may implement these where the local government does not)
- . open space controls
- . preferential taxation
- . transfer of development rights
- . public acquisitions
- . relocation of existing structures
- . sand dune regulations
- . septic tank regulations
- . dispersing public information about hazards

While many local governments in Florida have building codes which take into account the forces generated by high waters and hurricane waves, Jacksonville does not have these provisions in its building code. The City of Jacksonville is the only coastal area in Florida which uses the National Building Code, one of three standard codes suggested for adoption by local governments. The National Building Code does not address the different hazards such as forces generated by high velocity water faced in

coastal areas. Jacksonville's code calls for minimum designs (about 100 mph) which might not withstand a hurricane's winds and wave action. The codes used in most other Florida coastal cities call for designs to withstand 120 mph winds and studies on the subject call for 140 mph protection.

Although Jacksonville has a flood plain ordinance required to qualify for the Federal government's flood insurance program, little emphasis is placed on local hazard mitigation activities.

COMMUNICATION

COMMUNICATION IS ONE OF THE MOST ESSENTIAL ELEMENTS OF DISASTER PREPAREDNESS, YET IT IS OFTEN THE LEAST COORDINATED AND PREPARED. Communications may be divided into three parts. The first, occurring before a disaster is anticipated, is the day-to-day meetings and telephone conversations among agencies in preparation and planning for a disaster. A second type, warnings, is directed at the general public from the responsible agencies. The final type of communications occurs among agencies and their staffs during the response and recovery stage.

Inter-agency Communication: Pre-Disaster

Communications among agencies prior to a disaster is an important aspect of preparing for an adequate response by a multitude of agencies during the disaster. Their communications are essential to keep disaster plans up-to-date with information such as correct names, telephone numbers, site locations and responsibilities of individuals. During a multi-agency response to any disaster situation, a much greater degree of cooperation and mutual understanding will occur if those responding have met previously and discussed, clarified and agreed upon their various responsibilities.

In Jacksonville, there is a great deal of ongoing communication and coordination among most of the agencies with primary disaster response functions. Under the auspices of the Department of Public Safety a series of meetings has been held to develop standard operating procedures. These ongoing meetings, attended by those who will actually be responding, can serve to anticipate problems and work out solutions prior to a disaster.

The most notable example of this type of communication is evident from the activities of the Department of Public Safety's Hazardous

Materials Team. During this ongoing series of meetings, staff from the Fire Division, Sheriff's Office, Bio-Environmental Services Division, U. S. Coast Guard, Red Cross, Civil Defense, and others have analyzed past responses and developed a specific standard operating procedure outlining the responsibility of each agency to insure safe and professional action in hazardous materials incidents.

In other areas of disaster response such as emergency communication, there is no ongoing committee to coordinate the emergency response and anticipate any problems.

Warnings

An effective warning system should consist of several stages. First, some individual or agency must determine the need to give a warning. Next, the warning must be disseminated by radio or television, warning devices (sirens, lights, etc.) or interpersonal interaction. Finally, the public must respond to the warning.

Depending on the the type of threat, the warning can originate from a variety of agencies such as the weather service, the police department, civil defense, or individuals. These have a variety of mechanisms for obtaining information about the environment. An information network consisting of various types of radio, teletype, telephones and individual observation or experience is used to obtain this information. One example, the National Warning System (NAWAS), is a dedicated phone line connecting a national network of disaster-responding agencies. NAWAS would be used to forecast a nuclear threat or for weather warnings.

The passing of the warning to those individuals or groups who need to be informed, called the dissemination stage, uses commercial radio and television, National Oceanic and Atmospheric Administration (NOAA) weather radio, Muzak, and person-to-person interaction. The sirens previously used in Jacksonville were eliminated due to their age, the cost of maintaining them and the limited area they covered.

According to a recent research paper which reviewed literature on warnings, most people will seek verification from a credible source before responding to a warning. Most warning recipients will tend not to act until a message from one source is confirmed by two other sources. Most people will not respond to a warning unless it meets certain criteria. An effective warning message should:

- contain authority figures of three kinds (political, technical, uniformed).

- have all warning figures in agreement.
- go to the home, church, or other areas where families gather rather than the work place.
- appeal to families, since decision-makers will act more quickly to protect loved ones who depend on them rather than to protect themselves.
- contain an individually implementable action that will help the recipient to cope. The listeners will not retain the warning unless they feel empowered by the message.

In Jacksonville, the warnings for most disasters should be issued through the the media via the Emergency Broadcasting System, through Muzak and through the NOAA weather service radio broadcasts. The natural disaster plans call for the announcements to be made by the Civil Defense Director. The warnings are not packaged in any special way to encourage the greatest response by the recipients. An increasing percentage of the local population is made up of one and two person households who are least likely to heed warnings.

An apparent conflict in warning information can occur during hurricane reports. When a hurricane is offshore and moving towards land the position of the storm reported by the private weather services of the television stations may be in conflict with the official statement of the National Weather Service. The National Weather Service updates the position of the hurricane by reports every two hours (in the future this will be done every hour) from the National Hurricane Center in Miami. During the intervening time the storm may be moving and its position is being continually tracked by numerous private weather radars of the television stations. Thus, the reports will often give what appears to be contradictory information.

Panic is extremely rare in disasters. Research indicates that panic will not occur unless there is a perceived threat, partial entrapment, partial breakdown of escape routes and communication failure. The fear of creating panic may cause officials to delay giving warnings. However, a well prepared, early warning will prevent the preconditions of panic from forming.

Inter-agency Communication: Post Disaster

The final type of communication of major concern during a disaster is that among the responsible agencies during the response and recovery phases. A variety of radio frequencies are used by agencies who must work together in responding to a disaster.

After the Hurricane David experience in 1979 re-emphasized to local officials the need for effective communications, a system of dedicated phone lines with back up radio capability was installed to provide communication among the following groups during a disaster:

Mayor's Office	
Civil Defense	
Public Works	
Red Cross	
School Board	
Sheriff/Fire	
Jacksonville Electric Authority	
Jacksonville Transportation Authority	
Navy	
Urban Service Districts	
Atlantic Beach	Baldwin
Jacksonville Beach	Neptune Beach

The Office of the Sheriff and the Fire Protection Division share the most sophisticated communications system in the county. This system might be impaired in an extreme emergency

TYPES OF DISASTER COMMUNICATION

Inter-Agency Pre-Disaster	Warning	Inter-Agency Post-Disaster
<ul style="list-style-type: none"> • During Preparedness Stage • Planning • Among Staff 	<ul style="list-style-type: none"> • Directed to General Public • Should contain specific elements 	<ul style="list-style-type: none"> • Among all agencies and decision makers • During Response and Recovery stages

situation, but it is flexible enough to continue some communications during a disaster.

Other agencies with internal radio communications that would be used during a disaster include some divisions of the Public Works Department, the Jacksonville Electric Authority, the Jacksonville Transportation Authority, and the hospitals (through the Emergency Medical Radio System). Communications of these agencies can be coordinated at the command level. However, it is not possible for many of them to communicate among individuals working in the field. Some resource persons stated that this field communication was needed but most said that it would cause undue expense and confusion and that the system required communication only at the command level.

Additional disaster communication capability exists through the military, the American Radio Relay League (HAM) operators and the telephone company. The volunteer HAM operators are relied upon to provide emergency communications among some agencies during a disaster. The American Red Cross and the American Radio Relay League have organized to provide communications among the National Weather Service, Civil Defense, and the American Red Cross shelters. They also have a long range system to communicate messages to relatives in other areas when standard communications are not available. Southern Bell has designed its system to withstand most disaster situations. Even when the system is damaged it has the capability and plans for installing limited emergency communications immediately and restoring telephone communication in a short time following a disaster.

The complexities of the emergency communications system during the response and recovery phase of a disaster make it extremely difficult to evaluate. Because of the continual updating and changing of communications capabilities, there is presently no written plan outlining the various frequencies and responsibilities for communication. In addition, there is no ongoing committee to coordinate emergency communications among all of the private and public agencies.

EMERGENCY OPERATING CENTER

THERE IS SUBSTANTIAL AGREEMENT AMONG DISASTER PROFESSIONALS HERE AND IN OTHER COMMUNITIES THAT A CENTRAL EMERGENCY OPERATING CENTER WHICH HOUSES ALL DECISION AND POLICY MAKERS, AND COMMUNICATIONS IN ONE LOCATION IS ESSENTIAL FOR GOOD DISASTER MANAGEMENT. However, there are presently three Emergency Operating Centers (EOC) in the following locations: the Mayor's

Office in City Hall, the Civil Defense Office on Market Street and the Police Memorial Building.

The Civil Defense Emergency Operating Center uses an old building predating the 1901 Jacksonville fire. Civil Defense facilities occupy the second floor with offices of the other Public Safety Divisions in the remainder of the building. The roof of this building holds an array of rusty old antennas which do not appear to be prepared to withstand any wind. In addition, the windows in the EOC do not have adequate protection. Though the Civil Defense Division has worked to make this building into an effective EOC, funds have not been available to do an adequate job. In a major disaster, plans call for the building to house 120 people and serve as the central location for coordination and control of all disaster response activities.

In 1979 when hurricane David threatened to strike Jacksonville, the Mayor established and operated from an emergency communications center in his 14th floor office in City Hall. Though the need for coordination and communication during hurricane David made the City Hall location appropriate, it may not be appropriate for future disasters. The wind broke windows in some high-rise buildings during Hurricane Frederic in Mobile, in 1979, and caused the interior walls to collapse. Also, the ground floor of City Hall may be flooded during a storm cutting off this facility.

There is a modern EOC located at the Police Memorial Building adjacent to the room containing the main communications center used regularly for police and fire communications. This center has most of the facilities (radio and phone) of the Civil Defense Center with the addition of a more modern and versatile communications system. During a disaster a command level officer will be sent to Civil Defense to coordinate with other organizations, and not duplicate the center.

The Civil Defense Director from Harrison County, Mississippi, who has extensive experience in disasters including the super-hurricane, Camille, in 1969, maintains that Jacksonville's Civil Defense EOC is inadequate. He said that one location for all the required decision makers with the tools necessary to get the job done is essential for a good coordinated response to a disaster.

LEARNING FROM A DISASTER

DISASTERS IN OTHER AREAS WITH SIMILAR CHARACTERISTICS TO JACKSONVILLE CAN SUPPLY VALUABLE INFORMATION ON WHAT TO EXPECT FROM A

MAJOR DISASTER. When Hurricane Camille struck the Mississippi Gulf Coast it left 132 people dead and destruction more comparable to a nuclear blast than to previously recorded storms.

In the aftermath of the storm, water, power, communications, transportation, food distribution and fuel were completely cut off. There were 33,460 homes with significant damage and 6,820 homes totally destroyed. Some of the recovery problems encountered and recommended solutions used in Harrison County, Mississippi are outlined below:

- . A rumor control center was set up in the District Attorney's office to check out and prosecute anyone engaging in price gouging, looting, or hoarding emergency supplies. No looting or hoarding cases were confirmed following the disaster.
- . The absence of electrical power following the storm created numerous additional problems. Without electricity many pumps could not be operated to provide sewage disposal, water or fuel. Refrigeration and ice became scarce. (Ice was critical for preservation of food and medical supplies).
- . Several of the hospitals were unable to function. Hospitals in low lying areas were also rendered useless in severe flooding by limited access and destruction of auxiliary power. Lack of power to pump sewage can also force the shutdown of some hospitals.
- . The most critical need, as previously mentioned, was for one central EOC to guide recovery efforts. A complex management system to distribute food, water and medical supplies and coordinate recovery must be developed.
- . A rigid public release policy by the chief executive is needed to eliminate conflicts in press releases.
- . The distribution of goods by charitable organizations was not coordinated, causing inequities in the amounts some people received. This essential service was very welcomed but could have been better organized.

NUCLEAR WAR

PLANS FOR THE PROTECTION OF THE URBAN POPULATION IN A TARGET AREA DURING A NUCLEAR ATTACK ARE DEEMED UNREALISTIC EVEN BY THOSE RESPONSIBLE FOR DISASTER PLANNING. Policy-making for the pro-

tection of the civilian population during a nuclear attack (nuclear civil protection planning) is the backbone of civil defense activity and comes from the Federal Emergency Management Agency. This Civil Defense planning is based on the assumption that the United States cannot protect the majority of the urban population from nuclear blasts, making evacuation into rural areas (where fallout protection can be provided) imperative. This protection will be provided by expedient shelters (basically holes in the ground with log and dirt covers).

These plans assume that the United States will be given advance notice (over three days) of any nuclear attack. The presumption is made that the Soviets will evacuate their cities prior to attacking. The Joint Chiefs of Staff maintain that there will be two weeks notice before a nuclear attack, due to the increase in international tension and this Soviet evacuation activity. This evacuation plan is labeled crisis relocation planning.

Duval County is considered to be a target risk area in the event of an attack. As they live in a target area, the population would be expected to move out of the city into 12 neighboring counties which are not considered to be targets. These rural counties surrounding Jacksonville do not have enough shelter for their own population, much less for the Duval population. Statewide, this evacuation policy calls for removing approximately 5.5 million of the state's 7.5 million population from the cities to areas without shelter or any system for supplying basic living necessities.

Local, regional and state civil defense personnel all indicated a skepticism about the viability of this crisis relocation planning. The relocation alternative was probably chosen because it costs less than any other nuclear civil defense alternative.

A second type of nuclear civil defense calls for sheltering the population locally. This method was the favored national policy when civil defense funding was higher back in the 60's. The buildings in Jacksonville were surveyed by the Corps of Engineers to determine their suitability as fallout shelters. At the time, many of these shelters were stocked with provisions and marked with signs.

It is now commonly acknowledged that economically feasible shelters cannot provide protection against the blast, heat, intense radiation, and mass fires that would probably occur in densely populated regions. Shelters could save lives only in places that were subject to nothing more than modest amounts of fallout. Those in a target area when a bomb is detonated will not

survive the blast. This does not mean that a nuclear war is not survivable, but that it is not survivable in a densely populated area that is attacked.

The rate of survival of the population increases with their distance from the blast site. The all hazards approach to disaster planning offers methods to reduce the population loss and respond to the disaster outside this impact area.

PREPAREDNESS ORGANIZATIONS

ALMOST ALL GOVERNMENTAL AGENCIES (FEDERAL, STATE, AND LOCAL) AS WELL AS AUTHORITIES, UTILITIES AND MANY PRIVATE ORGANIZATIONS ARE INVOLVED IN SOME ASPECT OF DISASTER PREPAREDNESS. In a major disaster everyone in the community may be affected directly or indirectly. All local resources as well as numerous resources from outside the area may be required. The organizations which have the responsibility for disaster management have the tasks of:

- . minimizing any negative effects
- . coping with negative effects during and immediately following a disaster,
- . working to coordinate response and recovery

These agencies plan, prepare for and provide a variety of services to disaster victims. Services include:

- . Evacuation
- . Protection
- . Shelter
- . Medical Care
- . Food
- . Clothing
- . Damage Repair
- . Financial Assistance
- . Debris clean-up

Federal

The Federal Emergency Management Agency (FEMA) is an independent agency of the Federal Government whose director is appointed by the President and confirmed by the Senate. FEMA was organized in 1979 to consolidate the several Federal level agencies with disaster preparedness, hazard mitigation, emergency response and disaster recovery responsibilities. It combined those agencies with responsibilities for Civil Defense as well as peacetime disasters.

Over the years there has been a lack of continuity in Federal disaster programs and policies. The Federal agency responsible for disaster planning changed its name eight different times in recent years due to changes in legislation and administration.

FEMA is not a first responder during a disaster because the only resources immediately available to a local community during a disaster are those located within the community. FEMA's resources can be brought to the disaster site to help the local government only after the disaster has ended.

FEMA works with states in developing operating plans for most emergency contingencies. It conducts training programs in each state and assist the state in developing disaster plans. After the disaster, FEMA staff can be used to assist in preparing the damage assessment necessary before Presidential assistance is requested. Every Federal agency and substantial Federal funds are at the President's disposal to assist in the recovery efforts if an area is declared a disaster by Presidential Proclamation.

The procedure for declaring a disaster begins with the local government using or committing all of its resources and calling the governor for assistance. Once the local government and the state government have committed (not used) all of their resources, the governor prepares a request for Federal assistance. The request, including a damage assessment justified by FEMA employees, is sent to the President. After the President proclaims the disaster, a wide variety of programs become available to individuals in the area.

There are 32 hazard mitigation programs of the Federal government that provide assistance, direct construction aid, training or grants to the state, regional and local agencies. These hazard mitigation efforts are aimed at reducing property damage and loss of life from both man-made and natural disasters via everyday decisions including land use planning, coastal zone protection and other long term development regulations. Federal programs for disaster mitigation are available from:

- . U.S. Department of Agriculture
- . U.S. Department of Commerce
- . U.S. Department of Defense
- . U.S. Department of Health and Human Services
- . U.S. Department of Housing and Urban Development
- . U.S. Department of the Interior
- . U.S. Department of Transportation
- . Environmental Protection Agency
- . Federal Emergency Management Agency

FEMA is the primary funding source for state and local disaster related activities. Some FEMA funds can be released only by Presidential proclamation, while others are disbursed yearly to the states and local government for disaster preparation.

State

The responsibility for disaster preparedness for the State of Florida lies with the Bureau of Disaster Preparedness in the Division of Public Safety, Planning and Assistance in the Department of Veteran and Community Affairs. The emergency management programs of the State of Florida exist to deal with any threat for which there is not an existing permanent structure to maintain the health, safety, and welfare of the population. Because of this, state disaster responsibilities range from the contamination of water and the Cuban refugee crisis to historical responsibilities such as hurricanes and nuclear attacks.

The Federal government holds the state responsible for mitigation activities. The state disaster mitigation responsibility includes:

- . Providing technical assistance to local governments
- . Developing general mitigation policy guidelines
- . Bringing those policies in line with the actual hazards in areas where the state has responsibilities (i.e. coastal construction control lines)

The state preparedness responsibilities include establishing standards for local programs and preparing state plans designed to provide intergovernmental coordination. During the response phase of a disaster, the state provides assistance at the request of the local government. However, if a disaster occurs with an overriding public safety issue requiring the immediate response of both the state and local resources, the governor has the authority and the responsibility to intervene.

When the state goes into the comprehensive emergency management mode, the governor has the authority to call on all state agencies to provide assistance. Historically, the governor does not make a local disaster decision (such as an evacuation) without consulting the local chief elected official (in Jacksonville this is the Mayor).

Recovery after the disaster is probably the weakest part of the state program. Florida law states that funds shall always be available for recovery. However, there is little money available from the state for disaster recovery. There is no effective mechanism for the state to

provide assistance to Jacksonville in a recovery operation except with Federal funds.

The Federal government requires that the state and local governments pay 25% of all eligible recovery costs with the Federal government paying 75%. The reconstruction following a disaster might not be completed due to the inability of the local and state governments to furnish the required 25%.

The Florida legislature is considering legislation for a State Disaster Relief Trust Fund to make this matching money available. The state would provide half and the local government would provide half. If necessary, the state would loan the local government the money for the local share. The legislation calls for an initial trust fund of \$10 million dollars enough to cover most disasters but not enough to cover a major hurricane striking a large city.

Legislation providing for disaster preparedness activities in the State of Florida created the Bureau of Disaster Preparedness, and authorized the creation of local organizations for disaster preparedness. It conferred emergency powers on the governor and local officials, provided for mutual aid agreements and set up the purposes and means by which disaster preparedness activities could be accomplished.

Local

The Civil Defense Division of the Public Safety Department of the City of Jacksonville is charged with disaster mitigation, preparedness, response, and recovery responsibilities. Its primary purpose is to coordinate the plans and regulations of the Federal and state and other local disaster preparedness agencies.

A local ordinance established the Civil Defense Planning Council to coordinate and direct the disaster preparedness activities of all agencies in the city. This planning council consists of:

- . The Mayor as Chairman
- . Director of Department of Public Safety, City of Jacksonville as Vice-Chairman
- . Director of Department of Health, Welfare, and Bio-Environmental Services
- . Director of Department of Public Works, City of Jacksonville
- . Sheriff
- . Chief Judge of the IV Judicial Circuit
- . Chairman of Jacksonville Electric Authority
- . Chairman of Duval County Hospital Authority
- . Chairman of the Jacksonville Port Authority
- . Chairman of the Jacksonville Transportation Authority
- . Commanding Officer of the Naval Air Station Jacksonville

- . Commanding Officer, Mayport Naval Station
- . Commanding Officer, Cecil Field Naval Air Station
- . Mayor, Jacksonville Beach
- . Mayor, Atlantic Beach
- . Mayor, Neptune Beach
- . Mayor, Baldwin
- . Administrator, District IV, Florida Department of Health and Rehabilitative Services
- . Chapter Manager of American Red Cross
- . Administrative Supervisor, Southern Bell Telephone and Telegraph Company
- . Director of Civil Defense Division, Department of Public Safety, City of Jacksonville

This planning council must recommend to the City Council a civil defense plan conforming with state and Federal guidelines and mutual aid agreements and interjurisdictional agreements with appropriate agencies. The Planning Council also conducts a continuing study of the need for amendments to and improvements in the civil defense plans.

The members of the planning council represent each of the city agencies having responsibilities during a disaster. The type of disaster and its dimensions determine what role each agency will play and which agency has primary responsibility for each aspect of the disaster. Usually the designated members of this planning council do not attend its meetings, but send representatives specialized in the areas under discussion.

The city's disaster ordinance temporarily modifies the city governmental structure when the mayor declares a disaster. The mayor, assisted by the Director of Public Safety, controls this organization to execute the civil defense plan. The mayor is the head of the civil defense organization and is responsible for the prompt, efficient execution of the civil defense plan as necessary to:

- . Reduce the vulnerability of the people and the city to damage, injury and a loss of life and property.
- . Prepare for and execute rescue, care and treatment of persons victimized or threatened by disaster.
- . Provide a setting conducive to the rapid and orderly start of restoration and rehabilitation of persons and property affected by a disaster.

The Civil Defense Division coordinates the disaster plans of the city's departments, the

Authorities, the Office of the Sheriff, and other local organizations with disaster responding roles. Each organization is charged with developing its annex to the overall plan and with working on joint plans when required. The disaster plans are designed to make use of existing employees in appropriate activities. The type of disaster determines which organizations are called upon and which one is in charge.

The city's disaster ordinance designates the mayor as the ultimate authority in the reorganized governmental structure during a disaster. However, the sheriff does not answer to the mayor, because he is a constitutional officer of the State and is responsible to the Governor. Both the sheriff and mayor are elected officials answerable directly to the people. Nevertheless, in an emergency situation the mayor's office acts as the major coordinating body and a command level member of the sheriff's office is sent as liaison with Civil Defense.

Private Sector

The American Red Cross is the major private responder to disasters in Jacksonville. By Congressional Charter, the mission of the American Red Cross in the time of natural disaster is to provide for needs of the people. More specifically, the American Red Cross' role is to provide needy disaster victims with food, clothes, shelter, and medical care.

The Jacksonville Area Chapter of the American Red Cross has a pool of 300 trained volunteers, and 16 Red Cross professionals. When appropriate it can seek support from the hierarchy (regional and national levels) in its organization. The disaster preparedness team of Red Cross has persons trained as doctors, nurses, heavy equipment operators, cooks, engineers, clerks, and radio operators.

A primary function of the Red Cross is to provide shelter for disaster victims. Shelter facilities consist chiefly of public schools scattered in convenient locations. Agreements with the School Board make these immediately available in the event of a disaster. The Red Cross also has secured the promise of shelter facilities in church buildings, clubs and hotels in the event of a greater need. Other Red Cross disaster activities include:

- . Assessing damage
- . Acquiring food
- . Supplementing public and private health agencies in supplying medical aid and nursing care

- . Obtaining and distributing clothing as needed to disaster sufferers (this function is also performed by the Salvation Army)
- . Coordinating news releases
- . Providing communications service
- . Providing transportation
- . Assisting in voluntary evacuation and rescue

Although the various public and private organizations mentioned previously have responsibilities for assisting the public with disasters, each individual is responsible for his own disaster and evacuation plans. Exceptions to this include some handicapped and persons in licensed group care facilities. Handicapped individuals who responded to a survey mailed out with utility bills will receive evacuation assistance during a disaster (via JTA buses) through the Handicap Evac program. Evacuation plans for group care facilities such as nursing homes and hospitals are the responsibility of the operators of the facilities. Individuals living in multi-unit housing (i.e. high-rise buildings at the beach) that are not licensed group care facilities are responsible for their own plans. However, many people are not aware that this is their responsibility.

Military

The extent of military involvement in a local disaster depends on the dimensions of the disaster. Depending on these dimensions, the Navy, Army, National Guard, and/or Coast Guard may become involved in civilian operations.

The Navy has a good neighbor policy with local governments and will attempt to help in any local emergency requiring its assistance. When an immediate threat to life exists, the local Commanding Officer can immediately assist the City. However, as long as the Navy is not specifically needed to save lives or property it is restricted by higher directives from assisting in civilian disaster. The primary disaster plans of the Navy are for Naval person-

nel and facilities, not for civilians. The dependent population is the responsibility of the local government during a disaster.

When the governor proclaims a state of disaster emergency, he may call up the National Guard to respond to the disaster. The local government may request assistance with communications, transportation or emergency electricity generation from the National Guard.

In the most severe situation, such as a military attack, the President can federalize the National Guard into the active Army and call on this Army to respond to local disaster needs. It is the Army, not the Navy, that is charged with assisting Civil Defense and local governments in the event of a major disaster. The First Army, covering the Eastern portion of the United States, would take charge if called upon for assistance. In this extreme situation all of the resources of all military branches would be made available and coordinated through the Army.

If the situation requires it, the President can declare martial law. Under martial law the military command comes in and takes over the entire operation of city government including police, fire, garbage collection, etc. The military are usually the last to recommend martial law. Declarations of martial law are rare and most professionals recommend against them.

The U.S. Coast Guard has a statutory authority to look after the public health and welfare of any maritime or marine related problem. The Coast Guard's regulatory authority over hazardous material in the port serves as a hazard mitigation activity. From the Coast Guard's point of view, the major potential for a disaster in Jacksonville is a hurricane. Its role prior to a hurricane includes checking all waterfront facilities and vessels to determine if they might pose a threat and requiring their removal during a hurricane, as well as the role of search and rescue.

Both the Navy and Coast Guard personnel regularly change duties. This policy prevents continuity among the staff with disaster responsibilities. Staff with expertise in Jacksonville's disaster response system may be transferred to another city before replacements can become familiar with local disaster professionals.

CONCLUSIONS

Conclusions express the value judgment of the committee, based on the findings.

1. The citizens and officials have limited or no experience in Jacksonville with major disasters such as hurricanes and thus are less prepared than those living in areas with more frequent disasters.
2. There is a great need for people to become educated about the dangers from and preparation needed for disasters. However, people generally do not pay attention to such information until a crisis is imminent.
3. A hurricane is potentially the greatest natural hazard faced in Jacksonville yet people do not realize the danger. During and immediately after a major hurricane the city could expect:
 - . Just hours before the storm the weather may be clear and the wind light.
 - . In a severe hurricane such as Camille, a wall of water or storm surge up to 20 feet in height would come ashore capable of destroying any buildings on the beach in its path. This surge could pass over the entire barrier island from the beach to the Intercoastal Waterway.
 - . Depending on the wind direction, tides and direction of the hurricane, water backed up in the rivers and estuaries could cause extensive inland flooding covering roads and cutting off many low lying areas.
 - . A large percentage of the residences at the beaches would be damaged or destroyed. All of them could be uninhabitable due to lack of power, water, sewage disposal.
 - . Electrical power would be disrupted all over the city. Without this power, pumps could not operate to provide fuel, water, or sewage disposal. Refrigeration would not operate to preserve food and medical supplies.
 - . Inland flooding would damage and render unusable many low lying buildings along the waterways of the county. This could mean that several hospitals could not be used and that access would be cut off from most governmental offices downtown.
 - . Trees, powerlines and other windblown debris would make most roads impassable and hinder rescue and restoration efforts.
4. Because of the movement of a hurricane between the periodic NOAA weather reports and the continual tracking of the radar at television stations, apparent contradictions occur about the location of hurricanes from the local stations and the National Weather Service.
5. Routing certain materials around the city rather than directly through the urbanized areas would minimize the hazard of a disastrous accident to population centers.
6. The professionals charged with responding to disasters in Jacksonville are well organized and appear well prepared to respond to most small incidents (fires, hazardous materials accidents, etc.) which might threaten the city.
7. Although many professionals with disaster responsibilities meet regularly, some do not. All specialized professionals responsible for disaster response need to have ongoing meetings with those others who share responsibility.
8. More local emphasis on hurricane hazard mitigation now would save lives and property when a major storm strikes Jacksonville. A strong building code is an effective mechanism for local hazard mitigation. Jacksonville's Building Code does not require withstanding hurricane forces as do the codes of other coastal cities.
9. An effective system of communications is required before a disaster is anticipated, during the warning announcement and during the response and recovery stages.
 - . Most of the agencies sharing disaster responsibilities in Jacksonville do not meet and plan regularly in preparation for various types of disaster. In many areas such as emergency communications there is no ongoing communication to coordinate and anticipate problems in responding to an emergency.

- . The method of warning the population and obtaining the desired response has not received adequate attention in Jacksonville. Warnings should contain specific elements in order to be effective.
 - . Conflicting sources of information in a warning confuse the public and reduce the chance of obtaining the desired response.
 - . The lack of interagency coordination has made the system less effective than it might be.
10. Jacksonville does not have a single adequately equipped and staffed emergency operating center designed to hold all decision and policy makers and communications facilities necessary for effective recovery from a major disaster. Jacksonville's Civil Defense Division Emergency Operating Center is inadequate due to its small size, poor layout, and physical condition.
 11. As the name Civil Defense Division suggests, the primary emphasis on disaster planning in Jacksonville is for a nuclear attack. A more realistic approach would be to use an all hazards approach and stress hurricane planning.
 12. The ongoing rotation of local Coast Guard and Navy staff precludes the continuity needed to adequately coordinate with local disaster workers.
 13. One coordinated information source and a rumor control mechanism is needed for a disaster.
 14. Currently, there is no adequate protection from a nuclear attack in an impact area. In addition, there is no realistic way to evacuate the entire population of Jacksonville into the surrounding counties as planned. However, the all hazards approach will offer plans to respond to a limited nuclear disaster. Real protection from nuclear attack can come only from national and international policy changes designed to reduce the threat of nuclear war.
 15. Local and state recovery funds required by FEMA to partially match Federal disaster assistance are not available. Thus, damage from a major disaster is unlikely to be fully restored due to lack of these matching funds.

RECOMMENDATIONS

Recommendations are the committee's specific suggestions for change, based on the findings and conclusions.

1. The Jacksonville Civil Defense Division should provide an all hazards approach to disaster planning covering all types of disasters with emphasis on hurricanes. The name should be changed to the Jacksonville Emergency Management Division (or something similar) of the Department of Public Safety.
2. The Civil Defense Division, American Red Cross, and National Weather Service should work with the local media to improve the education of the general public on what to expect from a disaster, especially a hurricane and how they should prepare for it. There should be an ongoing effort to take the message to all segments of the public.
3. All of the designated members of the Civil Defense Planning Council should meet at least once a year for a staff briefing on the officials' responsibilities, their location during the disaster, and with whom they will be directly working, including an overview of the likely disasters faced and expected effects faced by Jacksonville.
4. The Mayor should require a staff level committee representing each of the members of the Civil Defense Planning Council to meet quarterly to coordinate and update disaster plans and communications.
5. The local news media and National Weather Service should develop an agreement to pool information on weather bulletins to avoid conflicts in warning of the location of severe weather.
6. The Civil Defense Division should prepare a specific plan for a more effective warning package to include specifics of who should give the warning and its wording.
7. The Mayor should develop a plan for a single source, rigid public release mechanism to provide a consistent source of official information during and after a disaster, including a rumor control mechanism.

nism adequate for the entire population.

8. The Mayor should develop, for the City Council's approval, regulations with regard to the routing of hazardous materials around rather than through the city.
9. The City's Building and Zoning Division should examine the local building codes to see if they are adequate to cover a probable hurricane in the Jacksonville area. Special emphasis should be placed on construction in the beach areas.

10. The Mayor, through the Public Safety Division and in Cooperation with the Office of the Sheriff, should recommend to the City Council the establishment of a single adequately equipped emergency operating center designed to hold all decision and policy makers and communication facilities during and after a major disaster.
11. The local military should designate a civilian employee to act as a disaster liaison to provide continuity with local disaster agencies.

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COMMITTEE MEMBERSHIP AND WORK

The committee met weekly from November 1981 through early May 1982, hearing from a variety of knowledgeable resource persons and receiving additional written materials researched by JCCI staff. The conclusions and recommendations were discussed in March or April.

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THE JACKSONVILLE COMMUNITY COUNCIL, INC.

The Jacksonville Community Council, Inc. (JCCI) was formed to anticipate, identify and address the complex issues of urban life. JCCI is a community-based nonpartisan, nonprofit organization providing the vehicle for in-depth, objective, citizen analysis of community problems and issues. It seeks broader community awareness and understanding of the issues and provides Jacksonville a diverse citizen forum reaching across the traditional dividing lines of a complex and diverse urban community.

The primary goal of JCCI is a better quality of life in Jacksonville through positive change. It has a short but impressive record for the quality, objectivity, clarity, and practicality of its studies of community problems, and its advocacy for the solutions it develops. Jacksonville has experienced the benefits of numerous improvements growing from these citizen studies.

Other JCCI goals grow largely from its focus on positive change. High on the list are the education and dialogue the studies themselves provide to participants. The work of JCCI strengthens citizen competence and awareness, provides for ongoing dialogue among diverse elements of the community, and serves as a catalyst for bringing together decision-makers.

JCCI is founded on a deep faith in the ability of citizens to set aside their differences and join together to learn and reason about problems of mutual concern. Its growth and success offer renewed hope for this basic democratic concept as a means of addressing the complex issues of modern urban communities.

JCCI receives funding from the United Way of Jacksonville, the City of Jacksonville, corporations, and individual members. Occasional grants have been obtained for specific projects or conferences.

The JCCI membership now exceeds 500 citizens representative of all parts of the Jacksonville community.

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