

INTERGOVERNMENTAL RELATIONS IN DISASTER RELIEF:

A CASE STUDY OF THE LUBBOCK, TEXAS,

TORNADO OF MAY 11, 1970

by

JAMES CARROLL BURKE, B.S.

A THESIS

IN

GOVERNMENT

Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of

MASTER OF ARTS

Approved

May, 1971

803

803

803

T3

1971

No. 6

cop. 2

PREFACE

The occurrence of a disaster in an urban area disrupts the flow of municipal services and creates severe hardships for the residents. Unlike the resident of the rural area, the city-dweller is highly interdependent with the other members of his community. Without their cooperation, he cannot expect to fulfill even his most basic needs. He relies on his government to supply him with water, sanitation, law enforcement, and other municipal services. When these services are interrupted, urban life comes to a standstill.

In major disasters local governments must often seek outside assistance in order to restore the flow of municipal services. This study deals with the intergovernmental relations occasioned by the impact of the Lubbock tornado of May 11, 1970, which brought federal, state, and local officials, as well as private agencies, together to work out a disaster recovery program.

This study will seek to determine the nature and extent of the intergovernmental relations which the City of Lubbock experienced as a result of the tornado of May 11, 1970; the effectiveness of the city's Civil Defense and Disaster Preparedness program; how the city's council-manager form of government functioned under stress;

whether current legislation is adequate for assisting urban areas in disaster recover; and finally, to determine what steps can be taken to improve the response of all levels of government to urban disaster situations.

It is hoped that this study will both add to the general body of knowledge concerning intergovernmental relations and disaster relief and, at the same time, provide a useful guide for local officials in planning disaster recovery operations.

This study would not have been possible without the generous assistance provided by the many officials of both governmental and private agencies who made both their files and their thoughts available to the writer.

TABLE OF CONTENTS

PREFACE	ii
LIST OF TABLES	vii
LIST OF ILLUSTRATIONS	viii
I. INTRODUCTION	1
II. THE IMPACT OF DISASTER ON MUNICIPAL GOVERNMENT	15
Municipal Emergency Preparedness	16
The Disruption of Municipal Services	20
III. ORGANIZATIONAL RESPONSE	28
The Police and Disaster	29
The Fire Department	45
The Role of Other Municipal Departments	49
Outside Assistance	50
An Analysis of the Utilization of Outside Assistance	58
IV. RECOVERY PHASE OF DISASTER RELIEF	60
The Role of the Office of Emergency Preparedness	60
Rebuilding of Public Facilities	63
Lubbock, One Year Later	65
V. THE ROLE OF TWO PRIVATE AGENCIES	69
The American Red Cross	69
Mi-Casita	82

VI.	THE EFFECT OF THE DISASTER ON TWO UNITS OF LOCAL GOVERNMENT	87
	Lubbock County	87
	The Lubbock Independent School District	90
VII.	THE DEVELOPMENT OF A FEDERAL DISASTER RELIEF PROGRAM	97
	The Federal Disaster Act of 1950	99
	Disaster Relief Under Public Law 81-875	101
	The Disaster Act of 1950 and Urban Disaster	106
	Federal Disaster Relief in Lubbock	109
	Recent Expansion of Federal Disaster Relief Programs	112
	The Disaster Relief Act of 1969	116
	Congressional Action Following the Lubbock Tornado	118
	The Federal Disaster Relief Act of 1970	121
	The Politics of Disaster Relief	125
VIII.	CONCLUSION AND RECOMMENDATIONS	128
	An Evaluation of Intergovernmental Relations in Lubbock	129
	The Effectiveness of Disaster Preparedness Programs	133
	The Performance of the Council-Manager Form of Government	136
	The Adequacy of Current Legislation	138
	Recommendations for Improving Response to Urban Disaster	141

SELECTED BIBLIOGRAPHY

Public Laws	146
Public Documents	147
Books	149
Articles and Periodicals	151
Disaster Studies of the Disaster Research Group of the National Academy of Sciences-- National Research Council, Washington, D.C.	154
Research Reports and Monographs of the Disaster Research Center, The Ohio State University, Columbus, Ohio	155
Unpublished Ph.D. Dissertations	157
Other Unpublished Material	158
Interviews	159

LIST OF TABLES

Table	Page
1. Federally Funded Projects in Lubbock, March, 1971	68
2. Disaster Relief Operations Involving Five or More Families	73
3. Red Cross Expenditures: Lubbock Tornado	77
4. Federal Disaster Relief under Public Law 81-875, 1960-1969	102
5. Types of Disasters Declared under Public Law 81-875	102
6. Geographic Distribution of Disaster Relief Allocations, 1960-1969	103

LIST OF ILLUSTRATIONS

Figure	Page
1. Map of the City of Lubbock	4
2. Organizational Chart of the City of Lubbock	6
3. Geographical Distribution of Texas Tornadoes--1970	9
4. Path of Destruction--Lubbock Tornado, May 11, 1970	21
5. Texas Department of Public Safety, Regional Boundaries and District Lines	52

CHAPTER I

INTRODUCTION

Intergovernmental relations is a relatively new term used to describe the fact that within a federal system the various units of government are legally capable of having relations with one another concerning common problems.¹ This term came into use sometime after the discovery of a new federalism by Jane Perry Clark in 1938.² Two years later the American Academy of Political and Social Sciences devoted an entire volume of their Annals to this subject. W. Brooke Graves described the reasons behind the new interest in intergovernmental relations at that time as follows:

In earlier times, when life was relatively simple and government was geared to the needs of a predominately rural mode of life, relatively few problems of this character arose. Quite the opposite is the case today. On every hand, changes in political boundaries and new types of governmental machinery are being proposed or adopted, in an effort to accomplish the adjustments required if

¹William Anderson, Intergovernmental Relations in Review (Minneapolis: University of Minnesota Press, 1960), p. 3.

²Jane Perry Clark, The Rise of a New Federalism (New York: Columbia University Press, 1938).

government is to serve adequately the people of our time.³

Graves' observations concerning intergovernmental relations remain valid today for as America has become increasingly urbanized, more sweeping proposals have been made to enable government to meet the demands of an urban people. A quarter of a century later, Graves reviewed intergovernmental relations in one of the most extensive treatments of the subject available today and discovered that the subject had grown in complexity.⁴

This current study deals with the intergovernmental relations which were occasioned by the impact of a disaster in a metropolitan area. It will analyze the relations among the various governmental agencies that worked in the relief of a tornado which struck the center of Lubbock, Texas, on the night of May 11, 1970, cutting a broad path of destruction through several business and residential neighborhoods.

Lubbock is one of the fastest growing metropolitan areas in the nation.⁵ When it was incorporated in 1909,

³W. Brooke Graves, ed. "Intergovernmental Relations in the United States," The Annals of the American Academy of Political and Social Science, Vol. 207, January, 1940.

⁴W. Brooke Graves, American Intergovernmental Relations (New York: Charles Scribner's Sons, 1964).

⁵The U.S. Bureau of the Census estimated that Lubbock's growth rate for 1965-1975 would be 23.2 per cent. New York Times Encyclopedic Almanac, 1970, p. 206.

Lubbock had a population of less than 2,000; today, it is the eighth largest city in Texas.⁶ The 1970 census preliminary count put Lubbock's population at 146,379. The city is the seat of Lubbock County. It is also the central city of the Lubbock Standard Metropolitan Statistical area, which encompasses the entire county and has a population of 175,757.⁷ A map of the City of Lubbock is shown in Illustration No. 1.

The city's economy is largely based on agriculture and associated agribusiness in the surrounding High Plains Area of West Texas. Cotton, grain and livestock are among its chief products. More than 50 per cent of the county's farmland is irrigated from deep wells. The area also has a light industrial base. A major state university, Texas Tech University, which has an enrollment of 20,000 students, is located on a 1,839-acre campus in the city. Over fifty state and federal agencies are found in the Lubbock area. The largest of these, Reese Air Force Base, has an annual payroll in excess of

⁶For a comprehensive treatment of Lubbock's development see, Lawrence Lester Graves, ed., A History of Lubbock (Lubbock: West Texas Museum Association, 1962).

⁷U.S. Department of Commerce, Bureau of the Census, 1970 Census of Population, Preliminary Reports, Texas (Washington, D.C.: Bureau of the Census, August, 1970), pp. 3-5.

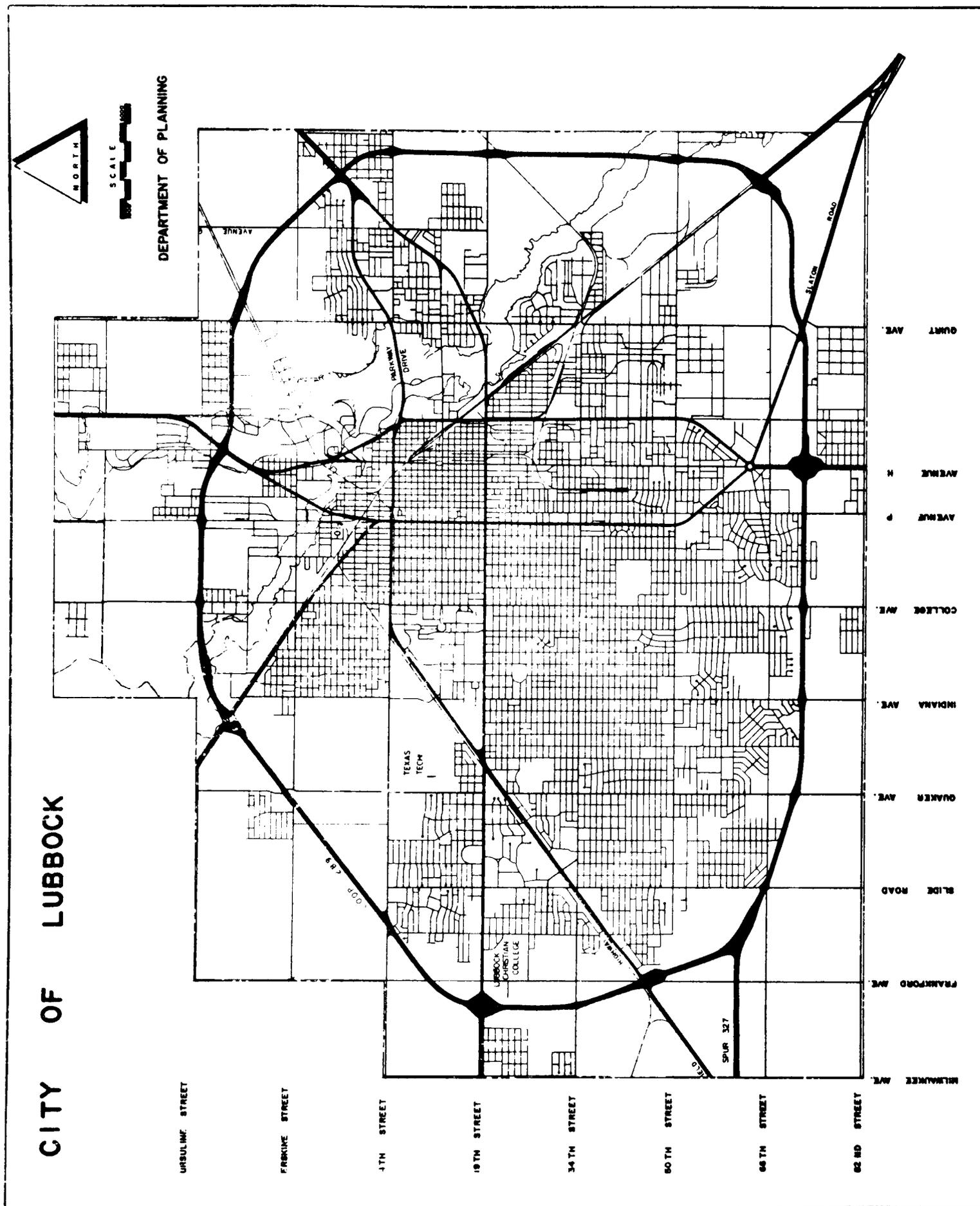


Illustration No. 1.--Map of the City of Lubbock

\$15 million.⁸

Since 1948, the city has been governed by a city council consisting of a mayor and four councilmen, while day-to-day administration has been supervised by a city manager.⁹ The city's organization framework is shown in Illustration Number 2. The manner in which the council-manager form of government operated during a disaster situation is an area of prime interest in this study.

Physically, the city of Lubbock is well laid out. Most of its streets are broad and straight. Over the years the city of Lubbock has followed a policy of annexing developing areas. As a result the city's boundaries, which encompass 75.8 square miles, include almost all of the urbanized areas in the vicinity.

Webster states that a disaster is a "sudden calamitous event producing great material damage, loss and

⁸Most of the statistical data concerning Lubbock was obtained from a recent municipal bond prospectus prepared by the First Southwest Company, "City of Lubbock, Texas, \$7,000,000 General Obligation Bonds, Series 1971" (Dallas, Texas, February, 1971).

⁹This form of government is utilized by approximately two-thirds of Home-rule cities and towns in Texas, which is considerably higher than the national average. Clifton McClesky, The Government and Politics of Texas (Boston: Little, Brown and Company, 1963), p. 246.

CITY OF LUBBOCK,
TEXAS
ORGANIZATIONAL CHART
OCTOBER 1, 1970

BUDGETED OPERATIONS
 FUNCTIONAL RESPONSIBILITIES

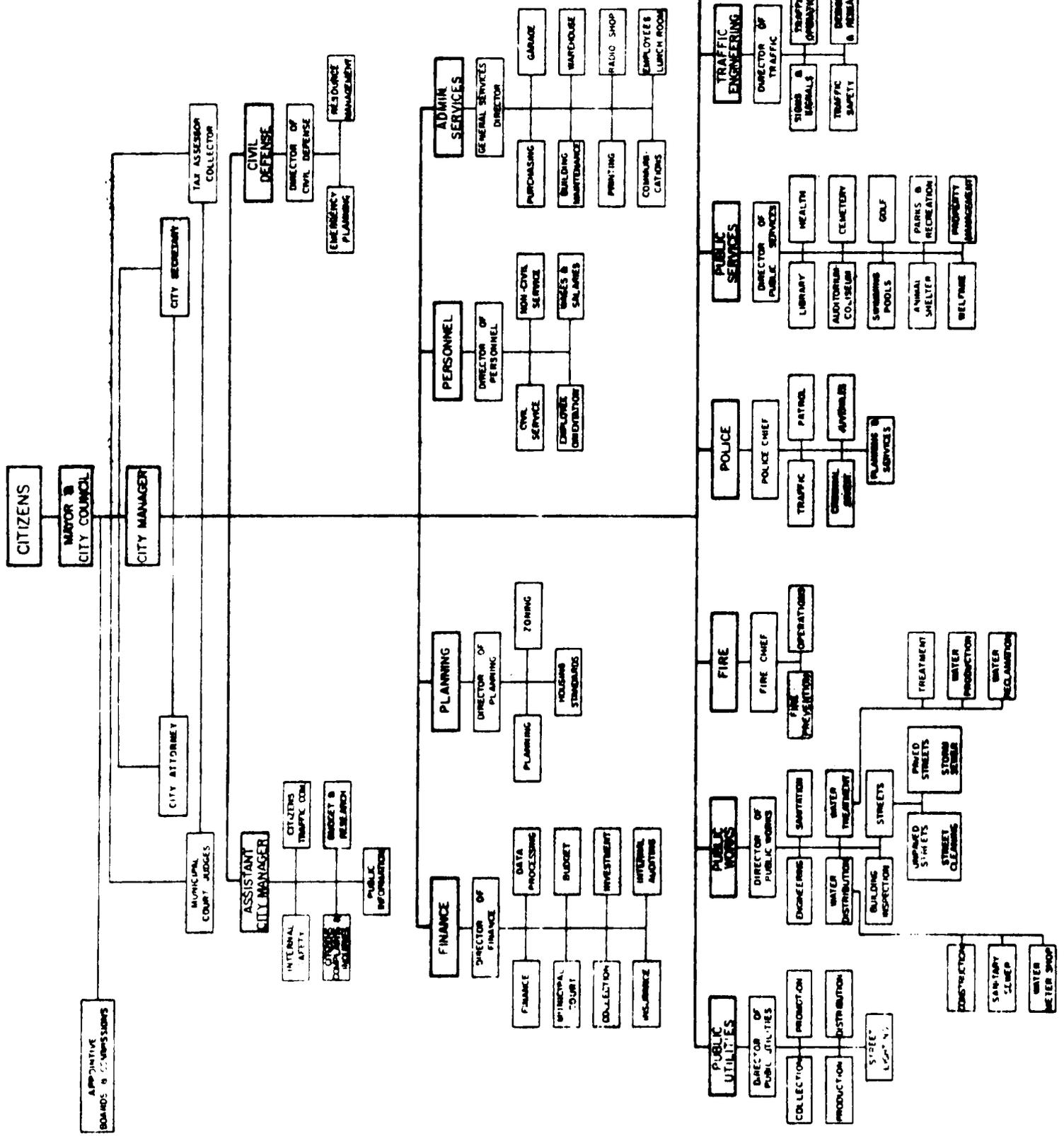


Illustration No. 2.--Organizational chart of the City of Lubbock, Texas

and distress."¹⁰ By any measure, the Lubbock tornado was a disaster of momentous proportions; 26 persons were killed, over 1,500 persons were injured, and property damage to 10,000 buildings has been estimated at \$135 million. Perhaps the most accurate term to describe the effects of the storm is Allen H. Barton's, "collective stress situation." Barton says that a "collective stress situation occurs when many members of a social system fail to receive expected conditions of life from the system."¹¹ In further refining his definition, Barton introduced other variables such as the nature and source of the disruptive agent, as well as a time element or the degree to which the social system anticipated the development of the collective stress situation. His definition covers a wide range of occurrences from the Biblical floods, to atomic warfare and even life in a black ghetto today. While this study deals with an externally imposed and naturally caused collective stress situation which was not anticipated, it is expected that the findings should prove to be relevant

¹⁰Webster's New Third International Dictionary of the English Language (Springfield, Massachusetts: G. and C. Merriam Company, 1961), p. 643.

¹¹Allen H. Barton, Communities in Disaster: A Sociological Analysis of Collective Stress Situations (New York: Doubleday and Company, 1969), p. 38.

to a wide range of the situations described by Barton.

The occurrence of a tornado in an urban area will usually bring about a collective stress situation because it is one of nature's most destructive forces. A tornado is "a violently rotating column of air, pendant from a cumulonimbus cloud, and nearly always observable as a 'funnel' or a 'tuba.'" On a local scale it is the most destructive of all atmospheric phenomena."¹² Tornadoes occur frequently in the United States. In 1968, for example, 660 tornadoes occurred in 40 states, killing 131 persons. Over 20 per cent of these storms occurred in Texas, making it the most frequently struck state.¹³ During 1970, the Texas Department of Public Safety confirmed the occurrence of 121 tornadoes in the state. The geographical distribution of these storms is shown in Illustration Number 3. Few of these storms caused extensive damage because most struck predominantly in rural areas. A tornado, however, which occurs within an urban area will cause extensive damage and will often disrupt the flow of municipal services to a wide segment of the community.

¹²Ralph E. Huschke, ed., A Glossary of Meteorology (Boston: American Meteorological Society, 1959), p. 585.

¹³"U.S. Tornadoes," New York Times Encyclopedic Almanac, 1970, p. 399.

TEXAS TORNADOES

DIVISION OF DEFENSE AND DISASTER RELIEF

YEAR 1970

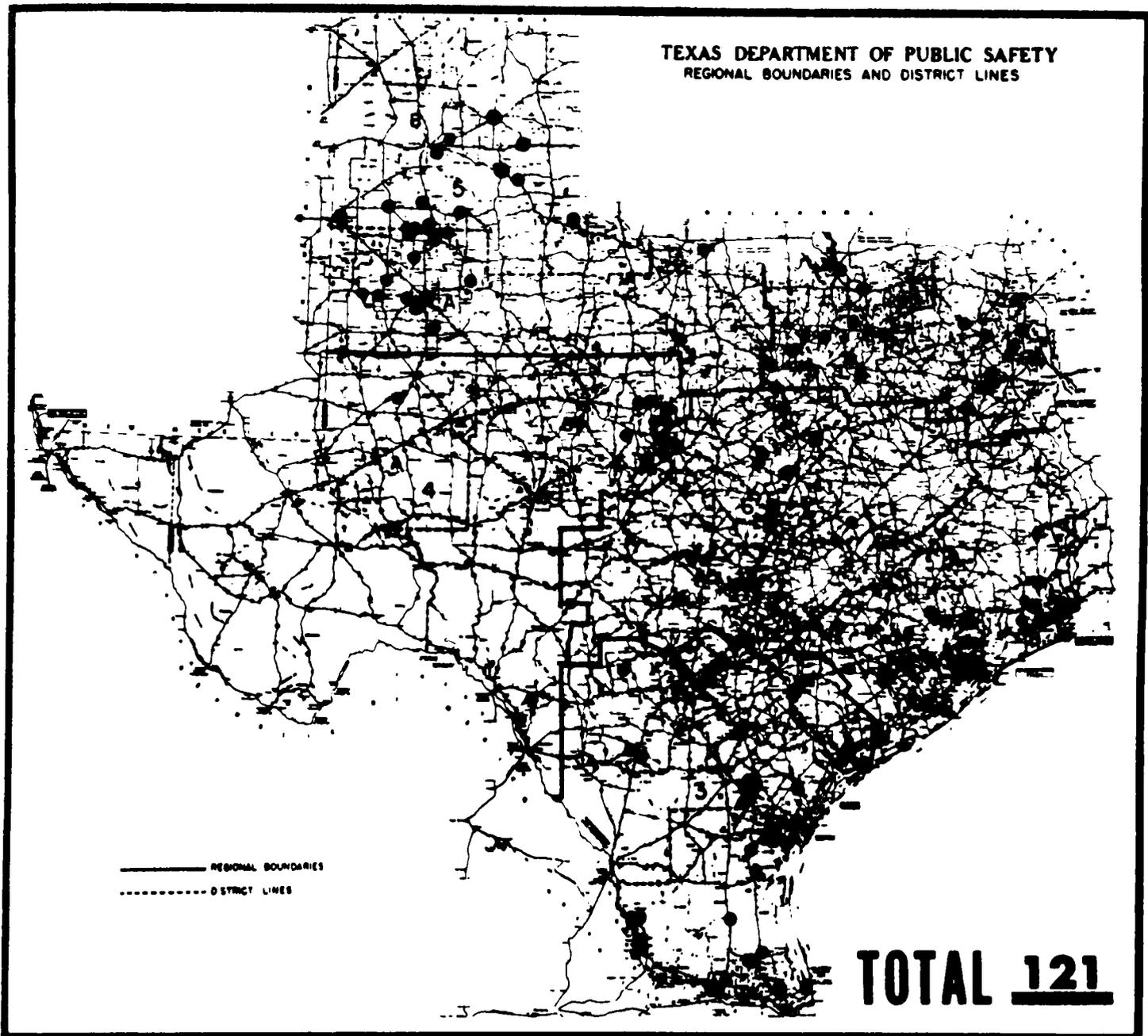


Illustration No. 3.--Geographical distribution of Texas tornadoes--1970.

Historically, disaster relief was included among the responsibilities of local government because it was thought to relate strictly to the locality and under a strict Jeffersonian view of federalism, such matters are best handled at a level where every citizen could participate in government.¹⁴ Such a view was espoused by the Kestenbaum Commission on Intergovernmental Relations, which examined the role of the federal government in disaster relief with a rather harsh eye.¹⁵ It concluded that the federal role should be limited to those actions necessary to save life or property and to help make temporary repairs in order to restore the area to normal. The clearance of debris and the restoration of essential public services, such as communications, transportation, and law enforcement, were among the areas in which the Commission felt that the federal government could properly provide assistance. Permanent reconstruction was deemed to be completely the responsibility of state and local government authorities. The Commission felt that all too often, state and local authorities were turning to Washington for help when they had taken no precautions,

¹⁴Anwar Syed, The Political Theory of Local Government (New York: Random House, 1966), p. 39.

¹⁵Commission on Intergovernmental Relations, Report Submitted by a Sub-Committee on Natural Disaster Relief (Washington, D.C.: Government Printing Office, June, 1955).

made no allowances for disaster, and had not carried their share of the burden. It criticized the vagueness of the requirement for state expenditures under the Disaster Relief Act of 1950, which called for the Commissioner of the Federal Civil Defense Agency to determine that a reasonable amount of local funds had been expended.¹⁶ Texas came under particular attack for hiding behind an unrealistic state constitutional provision prohibiting both borrowing and transfer of funds for disaster relief. The Commission recommended that PL 81-875 be changed to require a minimum state cash expenditure, and any federal contribution should be limited to a certain per cent of total state expenditures ranging from 33 1/3 per cent to 75 per cent for states with the lowest and highest per capita incomes, respectively.¹⁷

The attitude of the Commission, however, indicates that it might have overlooked the full implications of disaster in a highly urbanized area. The restoration of municipal services in an urban area must be accomplished very rapidly because the resident of the metropolis is highly interdependent with other members of the community to supply him with the basic requirements of life. The

¹⁶The Disaster Relief Act of 1950, Public Law 81-875 (64 Stat. 1109), September 30, 1950.

¹⁷Commission on Intergovernmental Relations, Natural Disaster Relief, p. 5.

interruption of electric power in a small town may prove to be inconvenient, but the loss of electric power in a city may immobilize all phases of urban life. Permanent restoration of the urban area must be achieved rapidly, even if the costs are beyond the means of the local unit of government.

Particular attention will be paid to the role of the federal government in all phases of the Lubbock disaster relief operation in an attempt to determine how this role differed from the one suggested by the Advisory Commission on Intergovernmental Relations. An analysis of the federal role should prove valuable because in June, 1970, federal officials in Washington, D.C., announced that the coordinated relief system, which was first used in Lubbock, proved so successful that it would serve as the pattern for all future federal disaster relief operations.¹⁸ In December, 1970, Congress passed the Disaster Relief Act of 1970, which significantly expanded the scope of federal aid available to local governments.¹⁹ Since Congress was considering this new legislation at the time the Lubbock tornado occurred,

¹⁸Lubbock Avalanche-Journal, June 27, 1970, p. A-1.

¹⁹The Disaster Relief Act of 1970, Public Law 91-606 (84 Stat. 1744), December 31, 1970.

it will be interesting to see what effect the Lubbock experience had on Congressional thinking concerning the role of the federal government in disaster relief.

The ultimate objective will be to study how a local government functioned under stress and to see whether or not the disruption of normal operations occasioned new relationships with other levels of government.

Disaster situations provide a good test of a federal system because many other actors converge on the scene to offer assistance. Faced with the presence of federal agencies, state officials and other groups possessing strong organization and needed resources, it has not been uncommon in the history of disasters for local government to relinquish control of its recovery to one or more of these actors for some period following the disaster. An attempt will be made to isolate the factors behind Lubbock's ability or inability to function under stress and to determine to what extent it was able to control its own recovery. Because a disaster situation provides unprecedented opportunities for cooperation among all levels of government and allows interaction with a wide range of non-governmental organizations, it is a unique opportunity to study intergovernmental relations. As the various levels of government seek to relieve the collective stress and restore the normal flow of municipal services to the

urban area, their relations can be examined as in a laboratory experiment.

CHAPTER II

THE IMPACT OF DISASTER ON MUNICIPAL GOVERNMENT

Office of the Mayor, City of Lubbock,
Proclamation, Whereas: The City of Lubbock
has experienced a devastating tornado
inflicting injury, death and damage to a
degree which requires the immediate assist-
ance of all citizens of Lubbock and the
combined effort of all persons to work
together and help in giving relief to those
needing our aid now.

Now therefore, I, James H. Granberry,
Mayor of the City of Lubbock, do hereby
declare a STATE OF EMERGENCY now exists
in the City of Lubbock, as of 10:00 P.M.,
May 11, 1970; . . .¹

The key words in the Mayor's proclamation were
"combined effort." Disaster, by definition, implies a
degree of disorganization will exist following its impact.
The measure of success in a disaster relief operation is
how quickly local government is able to mobilize its
resources and to take command of the situation so that
these resources, along with others made available from
outside sources, can be effectively utilized. In order
to better understand the effect of the tornado, it will
be necessary to review the city's emergency planning
and then to analyze how the actual operation was carried
out.

¹City of Lubbock, Texas, Proclamation by Mayor
James H. Granberry (May 11, 1970).

Municipal Emergency Preparedness

Fortunately, Lubbock had a very strong emergency planning program headed by a full-time staff officer, William A. Payne, Director of Civil Defense. Payne, who reports directly to the City Manager, is responsible for both emergency planning and resources management. The goal of Civil Defense in Lubbock is to prepare the city to be able to function in any type of emergency situation, whether it is caused by enemy actions, man caused disasters, or natural disaster. Payne's office has an annual budget of approximately \$35,000.00, about 30 per cent of which is provided by the Office of Civil Defense, Department of the Army. The most important contribution of Lubbock's Civil Defense program was establishing the groundwork for emergency operations. The city had an Emergency Operations Plan which had been written over ten years before but had been updated periodically. The plan, which spells out the disaster role of each of the city's operating agencies, was in fact being revised at the time the tornado struck. Mr. Payne felt that the main task of the Civil Defense program has been getting the various department heads to think about their own department disaster role, to evaluate their resources with disaster relief potential, and to identify sources of additional resources that could be used in an emergency

situation. After this groundwork has been laid, disaster training was conducted regularly to ensure a smooth response in an actual stress situation.²

Perhaps the key factor in the initial phase of the relief effort was the successful activation of the city's Emergency Operations Center (EOC) located in the basement of City Hall. The Lubbock EOC is adequately supplied with a variety of communications equipment: two-way radios for the six frequencies used in the radio nets of various city, county and state agencies; direct "hot line" or radio links with the Texas Department of Public Safety, KFYO, Lubbock's Emergency Broadcast System radio station; and the National Weather Service; as well as Cable Television and individual telephones for various city officials.

The Civil Defense Director is responsible for activation of the Emergency Operations Center whenever threatening situations arise. Severe weather watches and warnings are frequent occurrences in the Lubbock area, especially during the spring, and it is usually necessary to activate the Emergency Operations Center completely several times a year. As a result, response to EOC activation calls has

² William A. Payne, Director of Civil Defense, City of Lubbock, Texas, Personal Interview, October, 1970.

become automatic.

On the night of May 11, 1970, Payne was presenting a film program to a local Optimist Club group as part of his office's community preparedness efforts when he was notified, at about 7:30 P.M., that the National Weather Service was about to issue a severe thunderstorm warning. The title of the film was, appropriately, "Tornado!" Payne excused himself from the Optimist group and departed for City Hall where he began preparations to activate the Emergency Operations Center. At 8:15 P.M. the Weather Bureau radar detected a hook formation in a thunderstorm, which indicated the presence of a tornado above ground level southeast of the city. Payne immediately activated the EOC by having the city switchboard contact the key department officials that he had previously alerted. Within fifteen minutes more than a dozen key city staff officials and KFYO personnel were at their stations in the EOC.

In accordance with established informal policy, the EOC staff bring their families to the basement cafeteria as they report. Although no one is sure how this procedure developed, it provides for a very effective disaster operation because a number of previous disaster studies have pointed out how initiation of disaster relief efforts were severely delayed as officials left their posts to

check on their families. One of the most dramatic instances of this was reported by Harry E. Moore in his study of a tornado which struck the city of Waco, Texas, on May 11, 1953, exactly seventeen years to the day before the Lubbock tornado. He pointed out how Waco's Civil Defense Director, like most city officials, was primarily concerned with the safety of his own family and immediately following the impact of the storm he took time to telephone his wife and then to travel to his home, which was located outside the stricken area, instead of attending to his duties.³

For the next hour the Emergency Operations Center staff watched as the threatening thunderstorm moved uneventfully across the city. Then attention shifted to an area southwest of the city where new thunderstorm activity had developed. Suddenly the EOC came alive with radio traffic and reports of a tornado. The Central Fire Station radioed "we been hit." The lights in the EOC went out and in the darkness a strong pressure change caused a ringing sensation in the ears of those present and they heard a loud roar, like a freight train passing over their heads. The massive tornado had formed above the heart of the city and had touched down at the

²²³ Harry Estill Moore, Tornadoes over Texas: A Study of Waco and San Angelo in Disaster (Austin: University of Texas Press, 1958), p. 11.

northeast edge of the Texas Tech University campus and had moved towards the northeast, cutting an eight and one-half mile long path of destruction across the city.

Although City Hall was severely damaged, the Emergency Operations Center remained operational. Seven seconds after the storm struck, the lights in the Emergency Operations Center came back on, powered by the emergency generator. The EOC remained the center of the relief operations for the next two weeks.⁴

The Disruption of Municipal Services

While there is still some disagreement whether one or more tornadoes struck the city, the path of destruction, as shown in Illustration Number 4 is quite clear.⁵ It appears that the storm remained on the ground for approximately twenty-seven minutes, moving slowly over a twenty-five square mile area. It is almost impossible to describe the destruction wrought by the tornado in this area in words alone.⁶ A characteristic feature of tornadic destruction is the explosion of residential and smaller non-

⁴Payne, Interview, October, 1970.

⁵Professor Tetsuya T. Fujita provides a technical discussion of this matter in his article "The Lubbock Tornadoes: A Study of Suction Spots," Weatherwise: The Magazine About Weather, Vol. 23, No. 4 (August, 1970).

⁶For comprehensive photographic coverage of the destruction see The Lubbock Tornado (Lubbock, Texas: Boone Publications Incorporated), June, 1970.

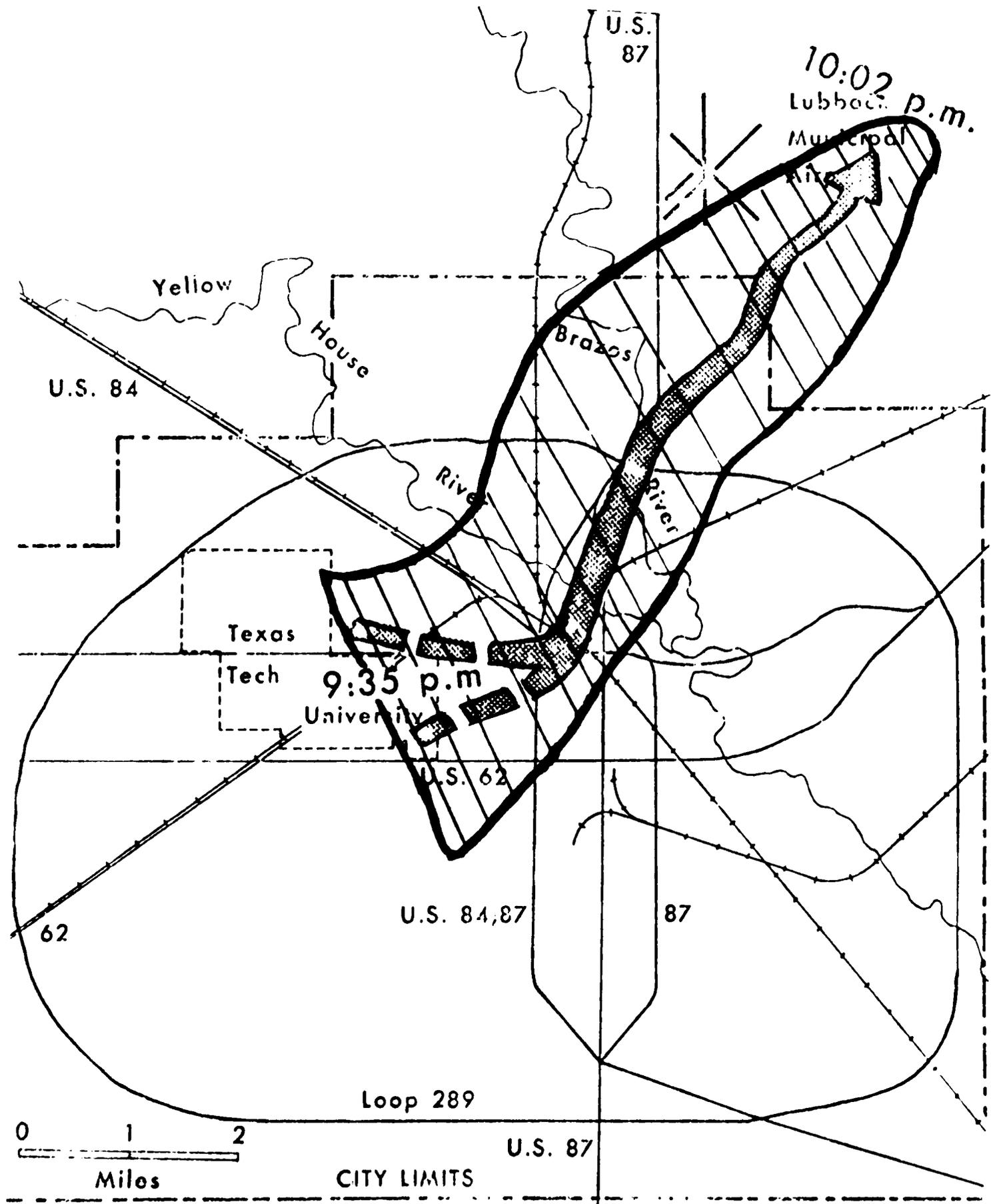


Illustration No. 4.--Path of destruction--Lubbock tornado, May 11, 1970.

residential structures caused by sudden pressure changes brought on by the storm. As the storm passes over a building, the outside air pressure drops rapidly by as much as 8 per cent, while unless there are several open doors or windows, inside air pressure drops more slowly. The result is a significant difference in air pressure which exerts a tremendous force against the roof and the exterior walls, often causing the roof and one or more exterior walls to blow out simultaneously.⁷ Residential units, stripped of their roofs and exterior walls, were a common sight in Lubbock following the storm. Commercial buildings fared only slightly better, depending on the nature of their construction.⁸ In general, however, none of the city's buildings incorporated any special precautions against storm damage. As a result, the Bureau of Standards concluded that the damage caused by the tornado could have been greatly reduced had currently accepted practice for the design and construction of

⁷ Louis J. Battan, The Nature of Violent Storms (Garden City: Doubleday and Company), pp. 82-83.

⁸ The National Academy of Engineering has published a comprehensive report of the various aspects of structural damage caused by the tornado, entitled The Lubbock Storm (Washington, D.C.: The National Academy of Sciences, 1970).

buildings against wind loads been used.⁹

One of the most vivid examples of the storm's force was its effect on Lubbock's tallest building. Winds, estimated as high as ninety-five miles per hour, bent the frame of the Great Plains Building at the fourth-story level, deflecting it approximately one foot from its plumb position. A detailed analysis of the damage to this building has been performed by the Civil Engineering Department of Texas Tech University.¹⁰

The following damage statistics, which were supplied by the Texas Department of Public Safety, appear to be in general agreement with those cited in other publications and supplied by other agencies:

Deaths	26 persons
Serious Injuries	255 persons
Minor Injuries	1,500 persons
Homes Destroyed	1,100
Homes Damaged	8,876
Property Damage	\$135,000,000

⁹U.S. Department of Commerce, National Bureau of Standards, Lubbock Tornado: A Survey of Building Damage in an Urban Area, by N. F. Somes, R. H. Dijkers, and T. H. Boone, NBS Technical Note 558 (Washington, D.C.: Government Printing Office, March, 1971).

¹⁰James R. McDonald, Structural Response of a Twenty Story Building to the Lubbock Tornado (Lubbock, Texas: Department of Civil Engineering, Texas Tech University, October, 1970).

Public Property Damage	\$7,500,000
Automobile Damage	10,000 sustained \$6,000,000 damage
Debris Removed	375,000 cubic yards ¹¹

An interesting sidelight of the damage statistics was the fact that no one agency would admit being responsible for the compilation of official damage statistics. Several governmental officials ascribed this responsibility to the Red Cross, but the Red Cross officials indicated that this was a governmental responsibility.¹²

The full extent of the tornado's destruction was not realized until sunrise on the twelfth of May. Municipal facilities had been particularly hard hit. City Hall, which also houses the police station, had been severely damaged; the central fire station had collapsed; the City-County Health Department facility was in ruins; and numerous smaller support facilities had suffered varying degrees of damage. Public utilities, including the city-owned electric power utility, were disrupted. Water pressure was lost when electric power to the main pump was cut.

¹¹M. A. Schlueter, Liaison Officer, Division of Defense and Disaster Relief, Region 5, Texas Department of Public Safety, Lubbock, Texas, Personal Interview, December, 1970.

¹²A. W. Voight, Executive Director, Lubbock County Chapter of the American Red Cross, Lubbock, Texas, Personal Interview, February, 1971.

As the full extent of the disaster became known, it was evident that massive effort would be required to restore the flow of municipal services and to rebuild the damaged areas. At the same time, a basic decision had to be made concerning the way to approach these problems. At this point the full value of the city's emergency planning came to be realized; the Emergency Operations Center (EOC) had automatically become the focal point of the disaster relief operations. Each city department had known what was expected of it and had proceeded to implement the key thesis of Lubbock's Civil Defense program: Civil Defense is local government operating in an emergency situation.

Under the city's Charter, the Mayor has extensive emergency powers which would have enabled him to take personal control of the relief effort and to draft citizens into a police force to combat the disaster.¹³

Mayor James H. Granberry, who had taken office only three weeks earlier, however, chose not to do this. Instead, he decided to allow the system of government normally employed in day-to-day operations, under which

¹³City of Lubbock, Texas, Code of Ordinances of the City of Lubbock, Texas, The Charter and General Ordinances of the City, Vol. I, Art. LX, Sec. 11 and 17.

the City Manager supervises the operating departments, to provide the framework for disaster operations. The Mayor and the City Council concentrated on the political and administrative details required to obtain outside help and on communicating with the citizenry, while the City Manager, William Blackwell, and his staff worked in those areas of the disaster relief operations which were related to their normal duties.¹⁴

Initial communication difficulties, caused by the loss of the main and backup radio antennae, as well as outgoing telephone lines and the link with the Emergency Broadcasting System at radio station KFYO, were overcome by a variety of measures. Radio-equipped vehicles were stationed at strategic points to relay messages, the Southwestern Bell Telephone Company brought in a mobile unit to restore telephone communications, and KFYO rigged up a make-shift system to broadcast from the Emergency Operations Center.

In the meantime, representatives of the various community organizations possessing disaster related resources started reporting to the Emergency Operations Center. Within two hours after the storm, adequate

¹⁴William R. Blackwell, City Manager, City of Lubbock, Texas, Personal Interview, March, 1971.

resources for coping with the disaster were at the control of the Emergency Operations Center staff.¹⁵

¹⁵Payne, Interview, October, 1970.

CHAPTER III

ORGANIZATIONAL RESPONSE

As the full extent of the disaster became known, elements of the community began to respond. First to respond were the organizations which were normally associated with disaster related activities or had a disaster role as part of their organizational aims. Dynes has described this type of group as a community emergency organization.¹ Such organizations may be characterized by their orientation towards the community and by their possession of personnel and material resources which are particularly relevant to an emergency. Included among these groups are governmental service agencies, public utilities, medical facilities, relief agencies, mass media, and coordinating groups of local government officials. Dynes also noted that the community organizations are often joined by other groups such as business and private organizations at a later time during the post impact phase. A third type of organization often associated with disaster relief operations is the emergent group which arises for the specific purpose of dealing

¹Russell R. Dynes, Organized Behavior in Disaster (Lexington, Massachusetts: D. C. Heath and Company, 1970), p. 17.

with the disaster and then fades out as the collective stress situation is relieved.²

Analysis of the organizational response will be limited to those key agencies of local government whose roles were particularly relevant to the overall purpose of the study. In specific instances, selected actions will also be analyzed and compared to examples taken from the literature of previous disasters. The fact that the contributions of the many individuals and organizations who worked for the recovery of Lubbock cannot be related should not be interpreted as a reflection on their accomplishments.

The Police and Disaster

The Police Department is perhaps the most effective disaster resource available to local government immediately following the impact of a disaster. There are three main reasons for this. First, the normal mission of the Police Department is emergency oriented. That is, police are trained to respond to emergency type situations, such as, traffic accidents, violent crimes and civil disturbances, all of which possess some of the attributes

²Arnold R. Parr, "Organizational Response to Community Crises and Group Emergence," American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), p. 423.

of disaster on a small scale. Second, the Police Department is organized to operate on an around-the-clock basis, which enables it to respond immediately upon the impact of a disaster. Third, the police possess transportation, communications, and other emergency resources which are very valuable during the impact phase of disaster relief. When a disaster strikes, however, the police must reorder their priorities in order to deal with the disaster. Paul M. Whisenand has provided a detailed analysis of twenty-nine police functions showing what degree of responsibility--major, limited, or none--each of these functions should receive in both normal and disaster situations.³ Vice control, for example, normally a major police function, becomes a limited responsibility during disaster operations, while damage assessment and rescue operations become new responsibilities of major importance.

The Lubbock Emergency Operations Plan recognizes that the nature of police work makes the department a key disaster resource. It also points out that the police may require assistance from other levels of government in carrying out their responsibilities in an emergency situation of unusual magnitude:

³Paul M. Whisenand, "Municipal Police Services in a Disaster Preparedness Program: A Role Analysis," Police, (January-February, 1969), p. 69.

Civil Defense police operations are closely associated with basic police duties. In times other than emergency, the local police agency is responsible for the security of the lives and property of the people, and for the preservation of law and order. Police functions in emergency conditions are basically the same except that the problems are multiplied. When local authorities advise the State Office of Civil Defense that a situation is beyond their control or when the magnitude of a situation is such that the local authorities are inadequate, the resources of the Department of Public Safety are available to bolster the Lubbock Forces. Upon request of the Manager and if the situation warrants such action, the Governor may call for additional help from units of the Texas National Guard and the Armed Forces of the United States.⁴

The Lubbock Police Department is organized in a quasi-military structure common to police organizations. Its force of approximately 200 officers is divided into five operational divisions: patrol, traffic, detective, juvenile, and a support services division. It operates on three eight-hour shifts so that at least fifty policemen are on duty at all times. The department has about fifty radio-equipped vehicles, several walkie-talkie units, and a mobile crime lab which can also serve as a field headquarters. The operation is normally directed from the police station in City Hall. There are no substations located in other areas of the city. The department's

⁴City of Lubbock, Texas, Emergency Operations Plan (Lubbock, Texas: City of Lubbock Civil Defense Office, 1968), p. 12.

resources are adequate for normal needs and its personnel are well trained so that the overall quality of the law enforcement service in the city would be rated as high on a national scale.⁵

The Lubbock Police Department does not have a disaster plan although its disaster role is outlined in the city's Emergency Operations Plan. This plan assigns the various divisions specific duties:

Patrol: search and rescue operations and the prevention of looting,

Traffic: establishing a security perimeter by blockading specified access roads,

Detective: control of looters and other unauthorized persons in the stricken area,

Support Services: gathering information on casualties and operating a pass system.⁶

The Emergency Operations Plan was not utilized as a guide which the Lubbock Police Department was forced to follow during the tornado operation, but the department performed all its tasks specified in the Plan.

As explained by the Assistant Police Chief, the operation was run as if it were day-to-day operations, using two shifts rather than

⁵Richard A. Moffitt, "Law Enforcement in Lubbock" (unpublished M.A. thesis, Texas Tech University, 1968).

⁶City of Lubbock, Emergency Operations Plan, Annex G, pp. 2-3.

three, therefore providing an increase of fifty per cent for each shift. It is felt of importance that although the plan was not used as a guide, and in fact was placed on the shelf during the operation, it does describe the actions taken by the Department. The fact that the operations were run as if day-to-day, and consideration had been given to emergency operations, explains why a written plan was not necessary to follow.⁷

A call to have all off duty policemen and firemen report for duty was broadcast on Radio KFYO shortly after the tornado struck the city, but most off duty policemen had already started reporting in. Since the police station was heavily damaged, the Emergency Operations Center became the center of police operations. The department's performance of the police disaster tasks is analyzed below.

An Analysis of the Lubbock Police
Department's Performance
of Disaster Tasks

A useful model or framework for examining the role of a police department in a disaster situation has been provided by Will C. Kennedy, who identified four police disaster tasks: warning and evacuation, search and rescue, traffic and crowd control, and the protection of life and

⁷Office of Civil Defense, Lubbock Tornado Report (Denton, Texas: Office of Civil Defense, Region 5, May, 1970).

property.⁸

Warning and Evacuation

Police units were acting as observation points on the perimeter of the city the night of May 11, 1970, as they normally do during severe weather warnings. At 8:10 P.M. the Weather Bureau issued a tornado warning for the Lubbock area.⁹ Police units were stationed about a mile apart observing thunderstorm activity surrounding the city, but the tornado apparently formed over the center of the city and touched down immediately. While this unusual development prevented exact warning, the use of police and fire units as spotters can provide considerable advance warning because tornadoes have been known to travel along the ground for many miles.

When the tornado struck, it destroyed the Central Fire Station's communications room before the city's siren system could be activated. Police units throughout the city turned on their sirens to alert the public to the danger.

⁸Will C. Kennedy, "Police Department: Organization and Tasks in Disaster," American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), p. 357.

⁹A Weather Bureau team reviewed the effectiveness of the weather warning and concluded that the warning system performed well. U.S. Department of Commerce, Environmental Science Services Administration, The Lubbock, Texas Tornado, May 11, 1970: A Report to the Administrator, National Disaster Survey Report 70-1 (Rockville, Maryland: Department of Commerce, July, 1970), p. 10.

Search and Rescue

Search and rescue operations were initiated immediately but they were hampered by a lack of communications and by debris blocked streets. Some observers noted that many problems were encountered and that there was some initial confusion in the coordination of this task.¹⁰ It was also reported that the Lubbock Police Department operation initially lacked overall direction:

The emergence of an organized disaster effort seemed to be inhibited by the lack of leadership with a system perspective. Decisions appear to be "event" oriented rather than directed towards general problem-solving. For example, the lack-of-data problem was subordinated to the perceived need for immediate aid to specific areas. We feel that it would have been more rational for the system to have performed an initial inventory of the entire situation by the entire force prior to engaging in the rescue operation.¹¹

This criticism of the Lubbock Police Department appears to be based on specific instances rather than the results of the overall disaster effort. The Office of Civil Defense reported that the search and rescue operation was very well carried out:

An unbelievable aspect of the search and rescue missions conducted by the Police and Fire Departments is the fact that all persons

¹⁰Carlton J. Whitehead, A City's Response to Disaster, May 11, 1970 (Lubbock, Texas: Texas Tech University, 1970), pp. IV 36-7 and V 4-6.

¹¹Ibid., IV 38.

found dead, except two, were found during eight hours of darkness following the disaster.¹²

The Police Chief also felt that the department had done an outstanding job in this area. Since the primary duty of the police is the protection of life, he felt that task could not be subordinated to gathering information, a task which could wait. He said that police vehicles transported many injured persons, most of whom were walking-injured, to hospitals because there were no ambulances available. These and other spontaneous police reactions were in response to the department's responsibility for protecting life. When this responsibility had been satisfied, police efforts were shifted towards accomplishing the less pressing tasks with the assistance of other agencies.

Traffic and Crowd Control

This function is very important because a major problem in disaster situations is convergence behavior. Charles E. Fritz and J. H. Mathewson made a very complete study of all aspects of this behavior in 1957. They described the problem in the following terms:

The ramifications of convergence are frequently overlooked in discussions of disaster. This

¹²Office of Civil Defense, Report, p. 18.

failure to recognize the significance of convergence may stem, in part, from the popular preoccupation with "divergence" behavior. The popular image of "disaster" brings to mind a picture of a highly fearful or "panicky" mass of survivors fleeing from the scene of destruction. Police and other control authorities who have never had experience in a major disaster often share this popular conception in believing that their major problems will occur in handling or restraining the "panicky" or "hysterical" behavior of the disaster-struck population itself. These persons are frequently surprised to find that the disaster survivors are much more passive, cooperative and subject to control than the persons who begin to converge from outside the disaster-struck area immediately following the disaster. As a large number of recent disaster studies have shown, the disaster-struck survivors themselves rarely constitute a control problem. On the contrary, the major problem of control, and the major hindrance to organized relief efforts, usually arises from the convergence of thousands of anxiety-motivated, help-motivated, curiosity-motivated, and occasionally, gain-motivated persons who enter the disaster-struck area from the outside, and thereby create overloads on transportation and communication facilities.¹³

Fritz and Mathewson identified three forms of convergence: personal, informational, and material. The police are mainly responsible for controlling the first type, personal convergence, which is the physical movement of persons either by foot or by automobile into the

¹³ Charles E. Fritz and J. H. Mathewson, Convergence Behavior in Disasters: A Problem in Social Control (Washington, D.C.: National Academy of Sciences, 1957), p. 3.

stricken area. Instances of personal convergence by air have been reported and for that reason, the flight of private aircraft over disaster areas is restricted by federal regulation.¹⁴

The control of personal convergence on the stricken area was accomplished by establishing a broad perimeter as the extent of the damaged area became known. There was some delay in accomplishing this due to the disruption of communications, the diversion of police resources to tasks which they felt were more pressing and probably to official convergence of outside assistance on municipal decision makers.

This task was accomplished by 2:00 A.M. with the help of the Department of Public Safety patrolmen and National Guard troops. While there was some delay in making decisions concerning the control of convergence behavior, it is significant that the decisions were made by officials of local government in the Emergency Operations Center rather than by officials of the outside agencies which provided the assistance.

Perhaps the most serious shortcoming in this task was in the setting up of a pass system. Initially, the police tried to issue passes from the police station

¹⁴Federal Aviation Administration, Federal Aviation Regulations, Vol. VI, 91-91a.

but since it was located in the center of the stricken area, this was not feasible. The criteria for controlling personal convergence were not well defined. It was reported that at one point, National Guard troops refused entry to employees of a utility company because they did not have police authorization to enter the area.¹⁵ A pass system was put into effect the next morning at several locations on the perimeter of the stricken area, but it was not completely effective. The Department subsequently realized that emergency passes, perhaps color coded for different areas, need to be stockpiled and that city employees should be issued identification cards.¹⁶ It would appear that the police should have been better prepared to operate a pass system since it is clearly spelled out as one of their responsibilities in the Emergency Operations Plan.¹⁷

A key factor in the city's overall success in limiting personal convergence behavior was the curfew which the City Council enacted shortly after the tornado

¹⁵Whitehead, City's Response, V-5.

¹⁶Office of Civil Defense, Report, p. 19.

¹⁷City of Lubbock, Emergency Operations Plan, Annex G, p. 2.

struck.¹⁸ The Police Chief felt that this official warning not to enter the area, which was backed up by a maximum fine of \$200, significantly curbed the instance of unauthorized entry into the stricken area. He also noted that while there were several arrests for violation of the curfew, the overall operation went very smoothly.¹⁹

The Protection of Life and Property

Kennedy mentioned two responsibilities under this heading: the identification of hazards in the area and the control of looting.²⁰ The first involves the observations by police of situations which present a danger to the public, such as, downed high voltage lines, leaking gas mains, or similar hazards. After the impact of the tornado, the police handled these problems by first warning nearby persons of the hazard and then calling in a report to the police dispatcher at the Emergency Operations Center, who then passed the message to the appropriate city department dispatcher. This dispatcher would then alert a repair crew to remove the hazard. In some cases, Police or Fire Department search

¹⁸City of Lubbock, Ordinance No. 5881 (1970).

¹⁹J. T. Alley, Chief of Police, Lubbock, Texas, Personal Interview, April, 1971.

²⁰Kennedy, "Police Departments," p. 358.

and rescue crews turned off gas lines to remove probable hazards.

The protection of property against looters is commonly assumed to be a major police responsibility in disaster operations. Fritz and Mathewson, who identified several types of "exploitive convergers," including looters, pilfers or souvenir hunters, relief stealers and profiteers. They concluded, however, that the problem of looting in natural disasters was frequently overstated. They noted disaster research has failed to reveal any pattern of widespread looting, although rumors of extensive looting frequently circulate in disaster areas.²¹ They also indicated that in some cases of reported looting, it was determined that the stealing was done by security personnel who were supposed to be guarding the area.²²

Another factor which accounted for the disappearance of items in disaster areas was souvenir hunting. This was not done by persons who sought private gain or who intended to deprive rightful owners of their property, but rather by people who wanted to get some proof that they had been present in the disaster area.²³

²¹Fritz and Mathewson, Convergence Behavior, p. 52.

²²Ibid., p. 53.

²³Ibid., p. 56.

Looting in disaster situations probably has continued to receive attention because of its prevalence in recent civil disturbances.²⁴ In the hours following the impact of the Lubbock tornado there were numerous unconfirmed reports of looting, which prompted the Mayor to issue a warning that looters were subject to being shot.²⁵ The Lubbock Police Department, however, did not file any specific charges of looting during the disaster operation. Most of the calls they answered were determined to be property owners checking on damage. The Police Chief felt that the Mayor's imposition of a curfew within the stricken area helped reduce the problems of both looting and convergence behavior in general.²⁶ He also noted that crime in all categories showed a decrease in the stricken area. He attributed this to the deterrent effect of a large police presence in the stricken area conducting other disaster operations as well as anti-looting patrols.²⁷ Chief Alley stated that the most serious difficulty which the department experienced was the loss of its communications

²⁴R. R. Dynes and E. L. Quarantelli, "What Looting Really Means," Trans-Action, Vol. 5 (May, 1968), pp. 9-14.

²⁵James H. Granberry, Mayor, City of Lubbock, Texas, "A Report on the Lubbock Tornado," mimeographed speech, dated October 14, 1970.

²⁶City of Lubbock, Ordinance 5881 (1970).

²⁷Alley, Interview, April, 1971.

capability when the police station's radio antennae were knocked out by the tornado. He also noted that there is a general shortage of two-way radios when more than one shift was operating at the same time. He said that several remedies had been discussed to correct this communications deficiency but that none had been implemented yet due to a lack of funds. He stated that the department could use a walkie-talkie for each patrolman and that this would increase the efficiency of the department in every-day operations as well as in disaster situations. Another measure which he felt would be very effective would be adoption of a new police vehicle system under which each policeman would be assigned a vehicle on a twenty-four hour basis. While the implementation of such a system would be expensive, it would increase the quality of law enforcement in Lubbock. Such a system would also eliminate the possibility that a significant portion of the department's resources would be destroyed if a disaster were to strike the municipal parking lot. He said that almost all of the patrol cars parked near City Hall during the tornado suffered at least glass damage. Chief Alley pointed out that such a system had been successfully implemented in Indianapolis, where it resulted in a decrease in crime.

The police chief stated that the federal government should take part in increasing the capability of police

departments to respond to natural disasters because of the high costs involved in meeting the technological needs of modern law enforcement agencies. He stated that although his department received only limited federal assistance prior to the tornado, it has since applied for several grants.²⁸

The Lubbock Police Department experienced a wide range of intergovernmental relations as they coordinated the police response to the disaster. Its contacts included the State Department of Public Safety, the Lubbock County Sheriff's Office and the National Guard, as well as municipal police departments from as far away as Tucumcari, New Mexico. The end result of their operation was that initial chaos, which is characteristic of every disaster situation, was brought under the control of the local government. It is extremely significant that local government retained control of the disaster relief effort, rather than allowing those who offered assistance to assume control of the city's recovery. The ultimate success of this operation proved Lubbock's definition of Civil Defense, that is, "local government operating in an emergency," was valid.

²⁸Ibid.

The Fire Department

The prime duty of a fire department is, of course, the suppression of fires, but urban fire departments often routinely respond to a wide range of non-fire emergencies such as, drownings, electrocutions, asphyxiations, and home or industrial accidents.²⁹ Because firemen are emergency trained and possess disaster related equipment, they are considered a community emergency organization.

The Lubbock Fire Department is a fully professional force of about 224 firemen. The Fire Department is headquartered at the Central Fire Station and has nine other stations located throughout the city. It is well equipped for its primary mission. The city's wide streets and well-spread homes do not present serious problems in the performance of the department's mission. The Emergency Operations Program assigns the Fire Department the secondary duties of operating the city's siren warning system, providing a radio communications link with the National Weather Service office and making its resources available for rescue operations and other purposes if

²⁹George J. Warheit, "Fire Departments, Operations During Major Community Emergencies," American Behavioral Scientist, Vol. 13, No. 3, p. 363.

required.³⁰

George J. Warheit has said that a major problem in non-fire disasters is avoiding tasks which limit a department's ability to perform its primary mission:

The most prevalent problem confronting fire organizations during emergencies created by tornados, earthquakes, and other so-called "natural disasters" is that of maintaining their organizational boundaries against the expectations and/or demands of community officials and other emergency organizations. As noted above, fire officials generally resist long-term involvement in nonfire-related disasters in order to keep their organization intact, and hence, ready to meet those demands associated with their normal functioning. Problems related to the demands for continuing participation, once the initial crisis is passed, are usually resisted successfully and rarely disrupt the structures of fire organizations.³¹

This did not appear to be a serious problem following the Lubbock tornado.³² It is also questionable whether it would be a consideration in any severe disaster situation when the community would look to all of its emergency organizations for whatever help was available. Form and

³⁰The disaster role of the Lubbock Fire Department in severe weather operations has been defined in a new Emergency Operations Plan which was revised in November, 1970, but its duties remain basically the same. City of Lubbock, Emergency Operations Plan (Lubbock, Texas: OCD, November, 1970), Part B, Annex 3, p. 1.

³¹Warheit, "Fire Departments," p. 365.

³²Bill Payne, Director of Civil Defense, Personal Interview, October, 1970.

Nosow gave an example of a volunteer fire department which assumed a wide range of tasks which were not related to its primary mission:

By dawn, the Department was beginning to function as an organization, but it was directing its efforts at immediate rehabilitation of the community. In fact, the Beecher Volunteer Fire Department became the focal symbol of community solidarity. Its rehabilitation efforts included: maintaining a first-aid station for community members and workers in the area, erecting a high tent across the street as a depot for clothing, cooking utensils, furniture, and other things that the victims might use, collecting money from sightseers to be used for relief and rehabilitation, and cleaning up the debris in the area. As a result of these activities, the reputation of the department in the community soared.³³

The Lubbock Fire Department's role in the disaster relief operation centered on search and rescue operations. During the night hours following the tornado, firemen worked with the police, the National Guard, and with fire units from other communities in search and rescue operations. The following morning, the fire chief organized a block-by-block search and rescue operation in the disaster area with the department's own resources and with vehicles from the National Guard and the city Parks Department. This search revealed only one body despite fears that there were many persons trapped in

³³William Hubert Form and Sigmond Nosow, Community in Disaster (New York: Charles Scribner's Sons, 1964), pp. 163-64.

damaged buildings or buried in debris. The Fire Chief later pointed out how important the assistance of other local fire departments were in these operations:

During this same period of time, Fire Departments from over 10 different towns within a 100 mile radius of Lubbock had responded, without being called, with men and equipment and went to work with our people in search and rescue operations.³⁴

An overall analysis of the role of the Lubbock Fire Department indicates that it provided a trained body of manpower to work with other city resources in disaster operations. In the absence of a threat requiring its normal services, it provided other needed services. Unlike the police, it was not faced with a need to reorder its priorities to cope with the disaster. The hypothetical problem of choosing between the primary and secondary mission is a false dilemma, because urban fire fighting is a technological task which involves the use of fire-fighting equipment by crews of trained men. Since there are several shifts of crews, there will always be surplus of firemen available to perform other disaster tasks, even when all of the department's fire-fighting equipment is in use.

³⁴W. Hershel Sharp, "A Tornado Strikes the Heart of My City," speech given to the Texas Fire Chief's Association, Ft. Worth, Texas, on October 26, 1970, p. 10.

The Role of Other Municipal Departments

All of the city's operating departments were assigned tasks by the Emergency Operations Plan and each of these departments played a role in the disaster relief effort.³⁵ Many of these departments had limited contact with other levels of government since they generally worked in their own areas of responsibility to restore normal operations.

The Public Works Department, for example, initially worked to clear the streets of debris with the help of crews and equipment from the county and the state. After four days, however, the Corps of Engineers took over the task and the Public Works Department returned to its normal tasks, such as, street maintenance, sanitation, and operation of the water and sewer systems, all of which had been affected by the tornado.

The Legal Department was responsible for coordinating the removal of debris from private lands by the Corps of Engineers, a task which involved taking applications and obtaining releases so that the work could proceed.

There was also a great degree of cooperation between the city and the various public utilities which were working to restore services in the city, but these contacts are beyond the scope of this study. The total response of

³⁵For a department by department description of the disaster relief role of the various city agencies see, Granberry, "Report."

all the city's agencies allowed the rapid restoration of services to the citizens.

Except in the two hardest hit neighborhoods, Guadalupe and the Country Club addition, the normal flow of all services was restored within three days to most undamaged businesses and residential units. Most of the families in the hardest hit areas were relocated in temporary housing made available under the Disaster Relief Act of 1969. About 700 families were relocated in vacant FHA and VA homes under liberal terms which included provision for three months' occupancy without payment of any rent and payments of \$45.00 to \$60.00 per month for rent thereafter.

Extensive private relief efforts provided many needy families with clothing, household goods, and other replacements for belongings lost in the tornado, so that much of the hardship caused by the tornado was mitigated within a short period.

Outside Assistance

In any major urban disaster, outside help becomes a critical necessity if the flow of municipal services is to be restored as soon as possible. Local governments generally look to three sources of assistance to supplement their own resources: other governmental agencies, usually at the state or national level, quasi-governmental or private relief agencies and the private sector, including

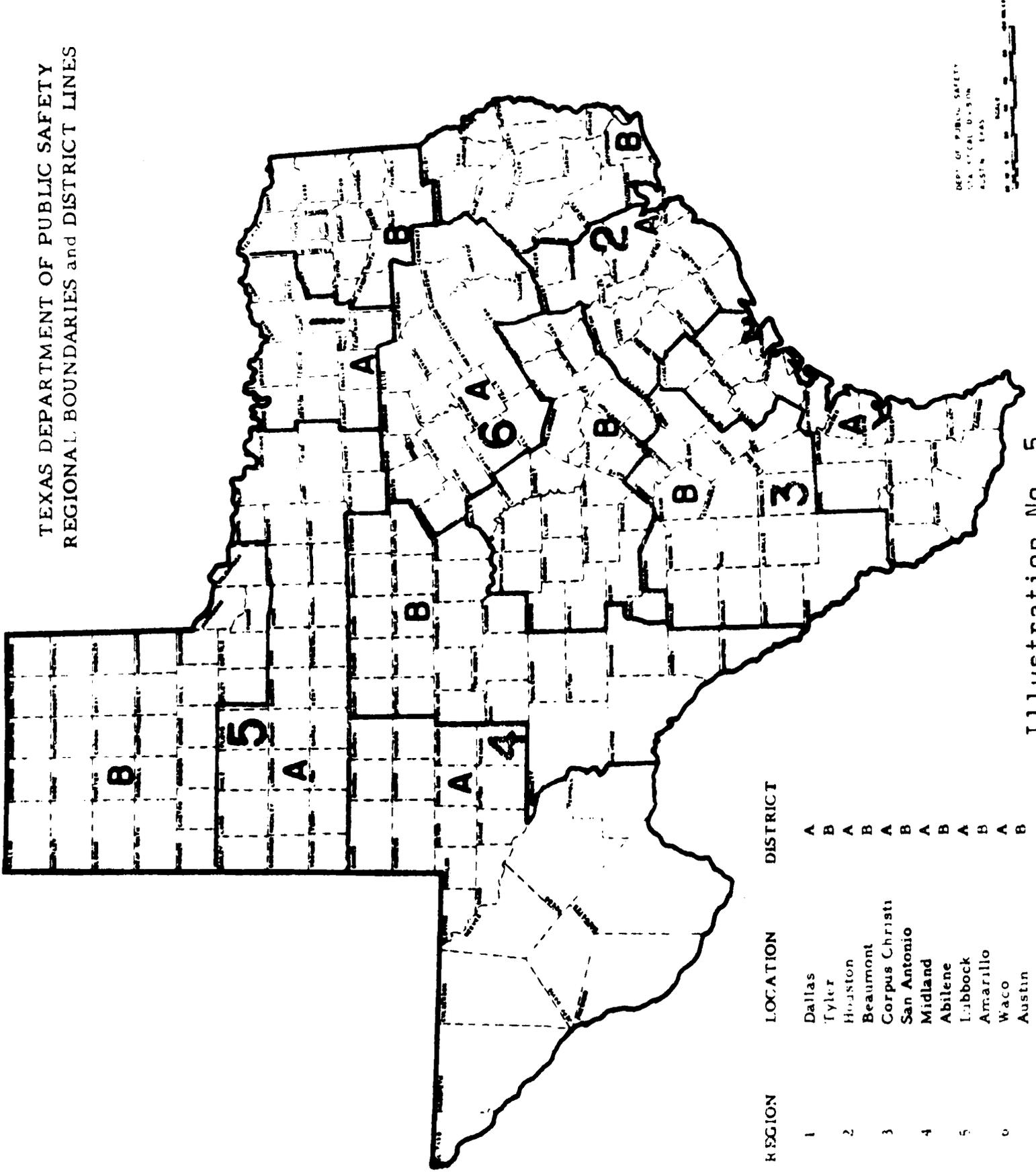
business organizations and the general public.

The Role of State Agencies

In Texas, assistance available from the state government is generally limited to aid in kind during the immediate post-impact period. The Texas Civil Protection Act of 1951 made the Governor responsible for the organization and coordination of a program of civil defense and disaster relief adequate to protect life and property in case of national disaster or enemy attack.³⁶ This responsibility has been delegated to the Division of Defense and Disaster Relief within the Texas Department of Public Safety. This division is not a separate agency in terms of possessing its own disaster relevant resources, but is a coordinating mechanism for mobilizing the entire resources of the state in case of disaster. A Division of Defense and Disaster Relief Coordinator is assigned to each of the six Department of Public Safety regions to assist local governments in planning matters. Illustration Number 5 depicts the Department of Public Safety regional boundaries and district lines. Each district also has a disaster committee which is composed of officials from the local offices of state agencies possessing disaster relevant resources, such as,

³⁶Texas, "Texas Civil Protection Act of 1951," Vernon's Annotated Civil Statute, Vol. 19, Art. 6889-5, Sec. 2.

TEXAS DEPARTMENT OF PUBLIC SAFETY
REGIONAL BOUNDARIES and DISTRICT LINES



DEPT. OF PUBLIC SAFETY
STATE CAPITAL DIVISION
AUSTIN, TEXAS



REGION	LOCATION	DISTRICT
1	Dallas	A
	Tyler	B
2	Houston	A
	Beaumont	B
3	Corpus Christi	A
	San Antonio	B
4	Midland	A
	Abilene	B
5	Lubbock	A
	Amarillo	B
6	Waco	A
	Austin	B

Illustration No. 5

the Highway Patrol, the State Highway Department, and the State Health Department. The Chairman of the District 5A Disaster Committee, Captain Carpenter, said that the purpose of this committee is to mobilize all local resources in the event of a disaster and then to act as a communications channel to request aid from the Division of Defense and Disaster Relief at Austin should local resources prove inadequate.³⁷ Captain Carpenter said that in case of a major disaster, the Division of Defense and Disaster Relief will take over coordination of the relief operation directly, but that during the immediate post-impact phase, the District Committee is supposed to act as the state coordinating body.

Captain Carpenter felt that the biggest problem during the Lubbock tornado relief operation was the loss of communications capability, which the city experienced during the first several hours following the impact of the tornado. Radio communications at the Lubbock Regional Office of the Department of Public Safety were also interrupted when an antenna was blown down. This lack of communications prevented rapid assessment of the damage and delayed the coordination

³⁷ Captain Ferman Carpenter, Commander of the Highway Patrol, Region 5, Texas Department of Public Safety, Lubbock, Texas, Personal Interview, March, 1971.

of the relief effort several hours. Carpenter stated that the Lubbock Regional Office of the Department of Public Safety notified the State Capital shortly after the tornado struck and that the state EOC, which is located below the Department of Public Safety Headquarters building in Austin, was activated. Regional state officials forwarded requests for assistance, which could not be met locally, to the center where the State Defense and Disaster Relief Council, which is composed of representatives of state agencies and federal liaison personnel, allocated available resources to combat the disaster.

While the State of Texas does not provide cash grants to its political subdivisions for disaster relief, it makes significant contributions of manpower and equipment for immediate post impact relief activities. State assistance to Lubbock consisted mainly of a contribution in manpower and equipment, which was supplied by approximately 430 National Guard troops, 150 uniformed Department of Public Safety personnel, and 175 employees of the State Highway Department. Colonel Jesse Ward, Resources Management Officer of the Division of Defense and Disaster Relief, said that it is difficult to place a monetary value on the state contribution because the state does not expend any additional money as a result of disaster

relief operations. This is because the National Guard is paid from previously appropriated training funds and because there is no provision for paying overtime to state employees.³⁸ Thus, disaster relief operations are handled by the state solely by diverting existing resources.

The second phase of the state's role in disaster relief is that it provides the official channel of communication with the federal disaster relief apparatus. Under Public Law 81-875, federal assistance must be requested by the governor of the state on behalf of local government. In reality, the Division of Defense and Disaster Relief acts as an intermediary between local and federal agencies in the matter of federal aid. After an area has been declared eligible for federal assistance, the local government sends its claims to Austin, where they are reviewed and forwarded to the Office of Emergency Preparedness regional office at Denton, Texas. Any federal assistance which is approved comes back to the state and is passed on to the local governmental unit in the form of a state check. This procedure was written into the state law in 1953 in order to clarify the procedures for the acceptance of outside aid by political subdivisions of the state.

³⁸ Colonel Jesse Ward, Resources Management Officer, Division of Defense and Disaster Relief, Texas Department of Public Safety, Austin, Texas, Telephone Interview, April, 1971.

During 1970 the Division of Defense and Disaster Relief administered claims for federal assistance totaling over \$11,000,000.00 on behalf of eleven counties, twenty-three cities, and twenty-five other units of local government in three major disaster situations. These claims were for the San Marcos flood, \$116,027.00; the Lubbock and High Plains tornadoes, \$3,283,222.00; and Hurricane Celia, \$7,807,097.00.³⁹

The chairman of the District 5A State Civil Defense and Disaster Committee, Captain Carpenter, stated that the overall disaster relief operation during the Lubbock tornado went very smoothly. He noted, however, that there were a few minor procedural problems involved in requesting outside assistance; for example, local officials sometimes bypassed the Department of Public Safety in requesting outside aid. He stated that local officials should request aid through local Department of Public Safety channels because state officials at Austin require district and regional Department of Public Safety officials to evaluate the adequacy of local resources before committing additional state resources or requesting federal assistance in a disaster relief operation. Carpenter said that while Lubbock had workable emergency operations

³⁹ Texas, Department of Public Safety, Division of Defense and Disaster Relief, Texas Defense Digest, Vol. 19, No. 2 (February-March, 1971), p. 9.

plans, many units of local government do not. He mentioned, however, that significant progress in emergency planning had been made by local governments in the Region 5 area since the Lubbock tornado.⁴⁰

Other Sources of Outside Assistance

Assistance was also received from a number of federal agencies during the post impact phase. Fourth Army Headquarters provided two helicopters so that damage could be assessed from the air by government officials.

Reese Air Force Base, which is located about ten miles west of the city, provided relief supplies and equipment, and many Air Force personnel acted as volunteer relief workers.⁴¹

After President Nixon declared Lubbock a major disaster area on May 13, 1970, all forms of federal assistance were coordinated by the Office of Emergency Preparedness from its disaster center. This procedure streamlined the relations between the city and the numerous federal agencies which provided relief.

Lubbock County provided limited assistance in the areas of law enforcement and debris clearance. A number of surrounding communities also provided various forms of

⁴⁰Carpenter, Interview, April, 1971.

⁴¹"Acts of Mercy from Reese Uncounted After Storm," Lubbock Avalanche-Journal, May 25, 1970, p. A-11.

help to the city.

The combination of outside assistance and local resources was adequate to meet all the disaster caused needs of Lubbock during the initial phases of the relief operation.

An Analysis of the Utilization
of Outside Assistance

One of the most unique features of the outside aid picture is that in every case this aid was fully coordinated and/or integrated with the city's own emergency resources and controlled from the Emergency Operations Center. The National Guard troops, for example, were utilized to assist the police in traffic control and security and to augment Fire Department personnel in search and rescue operations. They did not decide on their own initiative which services they should perform, but those decisions were made by city officials. This was unique because in many past disaster situations, local government has failed to function. Form and Nosow reported in their analysis of the Flint-Beecher tornado how the Michigan State Police became the key disaster coordinating agency after civilian authorities failed to assume this role:

At midnight, the Governor named the State Police as the formal authority in the area and placed the National Guard under its

direction. . . . By 2 A.M. full recognition of State Police Control was acknowledged by all other agencies. State and local governmental and organizational officials gathered at disaster headquarters either to receive or give orders.⁴²

Moore also cited a similar situation in which the civilian authorities of Waco, Texas, asked the Air Force to take complete control of a disaster relief operation. Lacking authority for such an action, Air Force officers drew up an operations plan which assigned various tasks to appropriate civilian officials and this solved the problem.⁴³

In Lubbock, local government accepted considerable help from outside sources, but it still managed to maintain control of the disaster relief effort. This allowed local officials who knew Lubbock intimately to set priorities in the relief effort. As a result, the citizens of Lubbock benefited from relief received from all sectors of government, while their interests were protected by their own elected officials.

⁴²Form and Nosow, Disaster, pp. 141-42.

⁴³Harry Estill Moore, Tornadoes Over Texas: A Study of Waco and San Angelo in Disaster (Austin: University of Texas Press, 1958), p. 15.

CHAPTER IV

RECOVERY PHASE OF DISASTER RELIEF

It is often hard to separate the immediate relief activity from recovery-related activities. In a major disaster, however, one of the first milestones is a Presidential Declaration of a major disaster in accordance with Public Law 81-875. President Nixon declared Lubbock a major disaster area on May 13, 1970.¹

The Role of the Office of Emergency Preparedness

The Office of Emergency Preparedness (OEP) is the executive agency which administers the federal disaster relief program. OEP maintains eight regional offices throughout the United States which provide disaster services to state and local governments. These regional offices are co-located with the Department of the Army's Office of Civil Defense Regions, but since 1963, OEP's activities have been administratively separate from

¹President Nixon's declaration also included nine other Texas counties which had suffered tornado damage on April 17, 1970, and the San Marcos, Texas, area which suffered flood damage during the same period of time. "Nixon Acts to Provide Aid: City Declared Disaster Area," Lubbock Avalanche-Journal, May 13, 1970, p. A-1.

Civil Defense functions.²

The main task of OEP is bringing together available resources from the more than twenty federal agencies which have disaster responsibilities under 100 different programs.³ In Lubbock OEP used the concept of "one-stop service" for the first time in providing disaster assistance.⁴ Under this concept individual disaster victims could go to the federal disaster relief center, which had been set up in a vacant office building, and receive advice and assistance from several federal agencies simultaneously, as well as from Red Cross officials who monitored the relief available from private sources. Under the Disaster Relief Act of 1969 or their own statutory authorities, the Small Business Administration, the Farmers Home Loan Administration, the Corps of Engineers, the Veterans Administration, the Office of Education, the Defense Electric Power Administration, the Fourth Army, and the Office of Economic Opportunity, all can provide

²Executive Office of the President, Office of Emergency Preparedness, Federal Disaster Assistance Handbook for Government Officials (Washington, D.C.: Government Printing Office, 1969).

³U.S. Congress, House, Committee on Public Works, Disaster Assistance Legislation, Hearings, before a subcommittee of the Committee on Public Works, House of Representatives on H.R. 17518 and Related Bills, 91st Cong., 2nd sess., 1970, pp. 27-8.

⁴Ibid., p. 30

assistance to individual disaster victims.⁵ The concept of "one-stop service" is of great value to local government because it streamlines the intergovernmental relations in obtaining federal assistance. In a disaster situation, local officials are often pressed for time and the necessity to deal with a large number of federal agencies to determine what aid is available for each one, presents a severe administrative problem. This was not a problem in Lubbock, however. Mr. William R. Blackwell, the Lubbock City Manager, provided the following evaluation of OEP's "one-stop service" following the Lubbock tornado:

We learned a great deal in our disaster experience about the team approach, the coordinating role, and the "one-stop center" idea that was first employed by a Federal agency in the Lubbock Operations. Perhaps the key points that contributed most to the success of the "one-stop center" and the team approach were: (1) a single Federal agency, the Office of Emergency Preparedness, was responsible for coordinating the efforts of all agencies; (2) all Federal agencies were housed at one location where inter-departmental problems could be worked out without delay . . . and without jealousies between agencies being permitted to develop; (3) status reports and internal communications flowed freely between OEP and the City of Lubbock; resources of the Federal agencies were coordinated and communicated by OEP and the City Manager's staff coordinated and communicated the needs for assistance to OEP; and (4) OEP and the other Federal agencies were on the ground

⁵ The Disaster Relief Act of 1969, Public Law 91-79 (83 Stat. 125), October 1, 1969.

in Lubbock, Texas, to get a first-hand view of the problems.⁶

The City Manager's only reservation concerning the role of the federal government during the Lubbock disaster was that he was not able to find the same degree of cooperation and coordination in everyday federal programs.⁷

Rebuilding of Public Facilities

As was previously mentioned, municipal facilities were particularly hard hit by the Lubbock tornado. The city, however, made excellent progress in restoring its damaged facilities. During the early phase of the recovery operation there was some uncertainty as to what amount of aid would be forthcoming from the federal government. Mayor Granberry made the following statement concerning this uncertainty during the early phase of the recovery operation:

Public Law 875 provides national relief to public entities, state or political subdivisions. The initial intent of the law was to provide emergency repair and temporary replacement for facilities. This is a very narrow interpretation, as a city can get back in

⁶William R. Blackwell, City Manager, Lubbock, Texas, "Federal Coordination, Who Needs It?" Speech delivered to the Bureau of Outdoor Recreation Meeting at Denver, Colorado, January 7, 1971. (Typewritten.)

⁷William R. Blackwell, City Manager, Lubbock, Texas, Personal Interview, March, 1971.

business with a few sheets of plywood and some tar paper on the roof. But it would be a long way from being restored. So even within that framework, this agency gives a lot of discretion to the Regional Directors, in deciding if they will go along with the cities in repairing the facilities back to the condition which existed. The City of Lubbock does not know, nor will it until about a year from now, how much will be reimbursed.⁸

The job of preparing the city's application for federal assistance was assigned to the Finance Department. The Director of Finance, Sterling K. Miller, and his staff, originated a unique accounting procedure for keeping track of all recovery-related expenditures made by the various city departments. This involved the use of a general work order for all tornado expenses. This work order was assigned an easy to remember number, GWO-4000, and instructions were circulated to all city employees concerning the nature of expenditures eligible for federal reimbursement, and directions for documenting these expenditures. The Finance Department's internal auditor was assigned the job of monitoring the grants requested under the federal disaster program. This involved comparing all the items submitted under General Work Order 4000 with the damage estimates made by federal inspectors on OEP forms 164. Had the normal accounting

⁸James H. Granberry, Mayor, City of Lubbock, Texas, "A Report on The Lubbock Tornado," Lubbock, Texas, October 14, 1970. (Mimeographed.)

procedures been followed for disaster-related expenses, proper documentation of the city's claims for federal assistance would have been an extremely difficult job since these expenditures would have been buried among the routine expenditures of the city's departments and hundreds of individual work orders.⁹

OEP regulations require that all disaster recovery work for which federal funding is used must be completed within one year after the disaster. The City of Lubbock managed to complete the rebuilding of all its municipal facilities within this deadline except for two small projects, a traffic-signal improvement program and the replacement of airport buildings, both of which should be eligible for extensions.

Lubbock, One Year Later

Although scars of the tornado will remain in the city for many years to come, Lubbock has made an amazing recovery since the disaster struck. Perhaps the most significant occurrence in the city has been a shift in the attitude of both the citizen and the local officials towards the role of the federal government in providing aid to urban areas. In the three years which preceded the tornado, the city accepted assistance under only five

⁹ Sterling K. Miller, Director of Finance, City of Lubbock, Texas, Personal Interview, March, 1971.

federal programs totaling less than \$2½ million. Most of these programs involved small sums for projects, such as, parkland acquisition, health programs, the purchase of library books, and sewage treatment. The only sizable grant involved improvement of airport runway facilities for which a little over \$1 million was received in 1969.

The City Manager and his staff had frequently proposed that the city make greater use of available federal grants-in-aid but several City Council members who reflected the general attitude of the public, opposed accepting federal assistance on the grounds that the city should maintain its independence. Since the tornado, however, the city has applied for federal assistance in over a dozen programs.¹⁰ The changed public attitude toward federal assistance was demonstrated by the passage of a \$13.6 million Disaster Recovery Bond Package in August of 1970. Included in the package were urban renewal, neighborhood development, a recreation program, and a number of other programs designed to help the city rebuild its stricken areas. It was estimated that the \$13.6 million investment would bring \$36.8 million in federal and state funds into the city, thus providing

¹⁰ Miller, Interview, March, 1971.

over \$50 million for the recovery effort.¹¹

Rebuilding in the private sector has been accomplished fairly rapidly in all areas of the city, except for two residential areas, the Guadalupe and Country Club neighborhoods, which were all but wiped out by the tornado. The city estimates that the net loss of taxable property in the city will be approximately \$17 million, which will result in an assessed valuations loss of about \$10 million. However, the Tax Assessor's Office is of the opinion that additions to the tax roles, resulting from new construction, will more than offset this loss. The city also estimated that approximately \$100 million in insurance payments had been received by property owners in the city.¹²

While it is still too early to determine the long range effects of the tornado on the city, it is apparent that if all the recovery programs currently pending are successfully completed, the city may succeed in improving its pre-disaster condition significantly. Table I shows some of the recovery projects which the city has initiated with federal assistance since the tornado.

¹¹"Others Ready Aid in Recovery Move," Lubbock Avalanche-Journal, August 3, 1970, p. A-10.

¹²Sterling K. Miller, Director of Finance, City of Lubbock, Texas, "The Lubbock Tornado: City of Lubbock Financial Implications," Lubbock, Texas, March, 1971. (Typewritten.)

TABLE 1
 FEDERALLY FUNDED PROJECTS
 IN LUBBOCK, MARCH, 1971

Project	Federal Share	City Share
Memorial Civic Center	\$10,916,091.00	\$10,043,046.00
Regional Airport Facility	6,345,000.00	14,000,000.00
Neighborhood Development	3,705,000.00	1,035,000.00
Community Renewal	138,000.00	69,227.00
Urban Planning Program.	40,000.00	13,000.00
Project Main Stream	331,100.00	-
Housing Counseling	162,380.00	-
Youth Summer Recreation	48,000.00	-
Water System Improvement	990,000.00	1,010,000.00
Air Pollution Lab	38,000.00	-
Mass Transportation Study	32,000.00	16,000.00
Economic Development	100,000.00	-

Source: Sterling K. Miller, Director of Finance, City of Lubbock, Lubbock, Texas, Personal Interview, March, 1971.

Unfortunately, there is no program which can mitigate the suffering of the numerous families which experienced personal losses as a result of the tornado, but through a coordinated disaster relief program local government can effectively relieve collective stress situations in urban areas with the help of all levels of government.

CHAPTER V

THE ROLE OF TWO PRIVATE AGENCIES

The varied nature of intergovernmental relations was demonstrated in Lubbock by the roles played by two private agencies in the recovery effort. The first is the Red Cross, a quasi-governmental agency which worked with the city government in accordance with a written memorandum of understanding which designates it as an official relief agency for disaster situations. The second is Mi-Casita, a private agency which received a federal grant to assist victims in relocating following the tornado by providing counseling services to displaced families. Both of these agencies acted as intermediaries between the federal and local levels of government in various ways, thus contributing to the coordinated intergovernmental recovery effort.

The American Red Cross

For over a century the Red Cross has been active in relieving the suffering caused by war and natural disasters. Since 1900 it has acted in this capacity as a quasi-official agency of the federal government under congressional charter.¹ The Red Cross has defined its

¹Charles Hurd provides an interesting review of these activities in The Compact History of the American Red Cross (New York: Hawthorn Books, Incorporated, 1959).

mission in the following terms:

The American Red Cross is the instrument chosen by the Congress to help carry out the obligations assumed by the United States under certain international treaties known as the Geneva or Red Cross conventions. Specifically, its congressional charter imposes upon the American Red Cross the duties to act as the medium of voluntary relief and communication between the American people and their armed forces, and to carry on a system of national and international relief to prevent and mitigate suffering caused by disasters. All the activities of the American Red Cross and its chapters support these duties.

Nationally and locally the American Red Cross is governed by volunteers, most of its duties are performed by volunteers, and it is financed by voluntary contributions.²

The organizational structure and aims of the American Red Cross are spelled out in its current congressional charter which was enacted in 1905.³ Congress also provided for a measure of federal control in the operation of the Red Cross by requiring annual reports to include federal audits of finances on Red Cross activities and by providing for governmental representation in its governing body. Under the law, the Red Cross is governed by a board of fifty men, eight of whom, including the chairman, are appointed by the President. The other seven governors

²American National Red Cross, "Disaster Action," ARC Pubn. No. 1591 (Washington, D.C., American Red Cross, 19669), p. 10.

³An Act to Incorporate the American National Red Cross, Public Law 58-4 (33 Stat. 599), January 5, 1905.

appointed by the President are required to be officials of departments and agencies whose "positions and interests are such as to qualify them to contribute towards the accomplishment of Red Cross programs and objectives."⁴ In 1970, for example, the presidential appointments consisted of the Secretaries of Labor and Health, Education and Welfare as well as Undersecretaries of State and Treasury and three officials of the Department of Defense.⁵ The remainder of the board consists of thirty governors elected by the local chapters and twelve-at-large governors chosen by the board itself.

Red Cross Disaster Services

Under its charter, the Red Cross must respond to a wide range of disasters, from fires destroying a single home to hurricanes which devastate areas in several states simultaneously. In the fiscal year 1970, for example, 21,100 disaster situations affecting 74,600 families were reported.⁶ Total Red Cross disaster relief expenditures for this period exceeded \$32,000,000. It is not necessary

⁴Ibid., Section 5 (a).

⁵American National Red Cross, Annual Report for the Year Ended June 30, 1970, ARC Pubn. No. 501 (Washington, D.C.: American Red Cross, 1970), p. 32.

⁶Ibid., p. 29.

that a disaster involve five families before the Red Cross will provide assistance; it will assist in any disaster situation where it is needed, but for its own administrative purposes it maintains special statistics on those disasters involving five or more families.⁷

An analysis of Red Cross disaster relief operations for 1970 involving five or more families, as shown in Table 2, reveals that while only 688 of these disasters were reported during the fiscal year, they accounted for over 58 per cent of the total number of families aided. On the other hand, it is evident--as E. R. Stoddard noted--that the Red Cross must make vast expenditures for relief in small unsensational disasters, while being faced with a need to raise funds for all its disaster activities on the basis of its work in a few sensational disasters.⁸ This practical requirement to initiate fund drives upon the occurrence of a disaster might have been the cause of the many unfounded but frequent claims that the Red Cross sought repayment for its disaster activities in a community. In recent literature, however, this has

⁷A. W. Voight, Executive Director, Lubbock County Chapter, American Red Cross, Lubbock, Texas, Personal Interview, February, 1971.

⁸Ellwyn R. Stoddard, "Some Latent Consequences of Bureaucratic Efficiency in Disaster Relief," Human Organization, Vol. 28, No. 3 (Fall, 1969), p. 187.

TABLE 2

DISASTER RELIEF OPERATIONS INVOLVING
FIVE OR MORE FAMILIES

Type of Disaster Operation	Number of Relief Operations*	Chapter in Relief Operations	Dwellings Destroyed or Damaged	Persons Killed	Persons Injured	Persons Given Emergency Mass Care	Families Assisted in Recovery
Hurricanes	5	47	54,780	272	9,062	260,300	29,600
Tornadoes	48	59	6,954	78	2,521	34,000	2,200
Other storms	14	13	3,971	3	22	3,700	200
Floods	88	145	33,852	51	783	66,200	7,400
Fires	498	138	367	165	461	14,100	3,900
Explosions	7	7	300	7	162	1,100	31
Transportation mishaps	10	16	8	98	42	9,100	19
All other	18	14	50	19	36	9,400	50
Grand total	688	376(Net)	100,282	693	13,089	397,900	43,400

*Relief operations were conducted in 44 states, the District of Columbia, and Puerto Rico.

Source: American National Red Cross, "Annual Report for the Year Ended June 30, 1970, ARC Pubn. 501 (Washington, D.C.: American Red Cross, 1970), p. 29.

ceased to appear as a problem, perhaps because of a de-emphasis on this type of fund raising.⁹

Because of its quasi-governmental character and because of its wide-ranging responsibilities, the Red Cross must operate in an efficient administrative manner. Thus, it must verify a victim's need before it can provide relief. This requirement, which private relief agencies need not observe, has caused some criticism of the Red Cross by the public. E. R. Stoddard has concluded that the requirement for efficiency results in a negative evaluation of the organization by recipients of aid.¹⁰

Crane pointed out, over ten years ago, that some of the unjust criticisms leveled at the Red Cross might have been due to the fact that the organization had underemphasized the role it played in the restoration and rehabilitation phase of disaster relief. In recent public relations efforts, the Red Cross has pointed out that only about 10 per cent of its total disaster relief goes for mass care which includes shelter, food, clothing, and emergency medical care, while over 82 per cent of its disaster expenditures are for permanent rehabilitation in the form of aid to restore housing, replace furnishings,

⁹Voight, Interview, February, 1971.

¹⁰Stoddard, "Latent Consequences," p. 187.

and assist victims with those disaster-caused needs that are beyond their own resources. Included in the latter type of aid are extended medical treatment and replacement of tools or equipment necessary to gain a livelihood.¹¹

The Lubbock County Chapter

The Lubbock County chapter of the Red Cross consists of about 600 volunteer workers and three professional staff members. The Executive Director, A. W. Voight, a paid professional, is responsible for the day-to-day administration of the chapter's activities, while the chapter Chairman, Floyd Stumbo, is an elected volunteer.

Initial chapter reaction to the tornado of May 11, 1970, was extremely rapid. Within fifteen minutes after the tornado struck, Red Cross volunteers were manning emergency facilities ready to aid in the rescue, sheltering, and feeding of victims. The provision of emergency first aid services was typical of the role of the Red Cross in the first phase of the Lubbock disaster. Within three hours after the disaster occurred, all seven of the chapter's first aid units were functioning. Both mobile units and a fixed-medical-aid station at the Lubbock Municipal Auditorium were employed to supplement the

¹¹American National Red Cross, "Disaster Services," ARC Pamphlet No. 1157 (Washington, D.C.: American Red Cross, April, 1969).

normal hospital facilities available in the community. A comprehensive report of the medical aid rendered by the Red Cross at the Lubbock Municipal Auditorium was prepared by the chapter medical advisor, Dr. C. Basil Moss, concerning the injuries of the 587 persons who received treatment at the station.¹²

The Lubbock chapter spent three quarters of a million dollars for tornado relief in Lubbock, as shown in Table 3. About 14 per cent of these funds were raised locally while the balance, \$646,696 was provided by the National Headquarters. It is evident from this table that most of the Red Cross expenditures were recovery related rather than for immediate post impact relief operations. Perhaps the most important factor in understanding the role of the Red Cross in the recovery phase of disaster relief is the nature of its casework with individual families.

Typically, Red Cross casework begins with a formal application for disaster assistance from a family. A caseworker gathers information from the family concerning the extent of its losses and the nature and extent of its resources, along with a statement of immediate needs for food, clothing, and maintenance. These immediate needs

¹²C. Basil Moss, "Report of Red Cross Medical Aid Administered at the Lubbock Municipal Auditorium," Lubbock, Texas, May, 1970. (Mimeographed.)

are covered by Red Cross cash grants that the family can use to purchase food, buy a supply of clothing and locate a furnished apartment.

TABLE 3
RED CROSS EXPENDITURES: LUBBOCK TORNADO

Item	Amount
Mass Care	\$ 44,125.89
Food, Clothing, and Maintenance	125,140.43
Building and Repair	158,273.03
Household Furnishings	177,595.16
Medical and Nursing	38,312.52
Occupational Supplies	7,166.15
Administration, Casework, Welfare Inquiries, Transportation, and Salaries	136,000.00
Deferred Cases	20,000.00
Contingencies	<u>44,000.00</u>
Total	\$750,000.00

Source: A. W. Voight, Executive Director, Lubbock County Chapter, American Red Cross, Lubbock, Texas, Personal Interview, February, 1970.

Additional immediate help may also be provided by local church or private relief organizations with whom the Red Cross has working agreements to prevent duplication of

effort. In Lubbock, The Seven Day Adventist Church provided initial issues of clothing on a very efficient basis because it maintains stocks of repaired and laundered clothing carefully sized to permit rapid distribution to needy disaster victims. After the initial needs have been met, the caseworker will determine what long-term recovery needs are beyond the resources of the family by analyzing financial data provided by the family and considering insurance proceeds and other aid available to the family. Coordination with appropriate agencies involved in disaster relief assures maximum benefits being awarded. For example, while the Red Cross does make outright grants for home repair or complete rebuilding, it may be more beneficial to secure low interest government loans for this purpose since, under a grant, repairs can only be made to restore the victim's home to pre-disaster condition. In some cases, it may be desirable to improve on the pre-disaster condition of a family's housing by rebuilding entirely. During the Lubbock disaster, loan officials of the Small Business Administration were housed in the local Red Cross Chapter office to provide advice and assistance in such matters.

A unique instance of intergovernmental cooperation was the Lubbock Red Cross Chapter's coordination of its disaster relief operations with an urban renewal program

in the stricken area sponsored by federal and municipal agencies. As an example of this, Mr. Voight cited the case of a family which suffered near total loss of their home, which was located in one of the most heavily damaged areas of the city. This area was subsequently selected for urban renewal and the family was able to sell their damaged home, which had been located on a sub-standard sized lot, to the city and to purchase a new standard sized lot in the same area. They were then eligible for the maximum urban renewal re-location grant of \$5,000.00. The cost of rebuilding a home to fit their needs, however, was approximately \$7,000.00. Since they had lost all their other assets in the tornado, the Red Cross made available a \$1,800.00 disaster relief grant, which enabled the family to rebuild their home. Approximately twenty-two families in the urban renewal area received grants of this type from the Red Cross to supplement their own resources and urban renewal grants, thus enabling them to rebuild their homes.

Another type of Red Cross aid, which dramatizes the importance that the Red Cross places on permanent recovery, is the replacement of occupational supplies and equipment. Under this category, grants are made to enable victims to replace disaster-destroyed means of earning a livelihood, such as the tools and test equipment used by a

self-employed television repairman. In those cases where victims can no longer engage in their old occupations due to permanent disability, a program of vocational rehabilitation will often be arranged by the Red Cross, in conjunction with other agencies such as the Texas Rehabilitation Commission. The maximum grant made to an individual family by the Lubbock Chapter was \$10,735.00, and it involved the rehabilitation of a family in which the father was killed and the mother permanently disabled. In this case, the woman is currently receiving medical aid and training through the Texas Rehabilitation Commission, while the bulk of the Red Cross grant went towards rebuilding her home and meeting the immediate needs of the family.¹³

The end result of Red Cross disaster activities was a well-rounded program of coordinated assistance which restored many individual families to a level within reach of their pre-disaster standard of living. Mr. Voight advised that no serious problems arose during the administration of disaster aid in Lubbock. No complaints of discrimination have arisen from the Lubbock operation. He was unable to provide any information concerning the ethnic background of the recipients of the Red Cross aid since the Red Cross does not record race or national

¹³Voight, Interview, February, 1971.

origin in its disaster relief records.¹⁴

The only suggestion for the future that Mr. Voight has is to expand the coordinating role of the Red Cross among volunteer organizations. This procedure, which worked well in Lubbock, Texas, allows maximum use of private resources to supplement those of government. In this regard he indicated that the provisions of the Disaster Relief Act of 1970, calling for direction of private relief agencies by the federal coordinations officer of the Office of Emergency Preparedness, might create some problems because of the "mixture" of highly paid bureaucrats and unpaid volunteers.¹⁵ Volunteers, to be effective over any extended period, must feel that their efforts are essential and not duplicative of resources that can be provided by the government. Also, volunteer groups, including the Red Cross, function on locally generated funds and are expected to maintain local control over the expenditure of the resources. As such, they would be wary of any type of federal coordination which would remove the setting of priorities from local hands.

¹⁴Ibid.

¹⁵The Disaster Relief Act of 1970, Public Law 91-606 (84 Stat. 1744), December 31, 1970.

Mi-Casita

The Mi-Casita Home Counseling Service is a private management organization which was organized at the request of the Roman Catholic Archdiocese of Amarillo, Texas, to provide counseling services to low income families participating in a home-ownership program. This original program involved the purchase of seventy-five homes in the Lubbock area by the Panhandle and South Plains Development Corporation, which is directed by the Archdiocese of Amarillo, under the provisions of Section 235 of the National Housing Act of 1968. This program is designed to enable low-income families, who could not normally meet the credit requirements of the Federal Housing Administration, to purchase homes through the Panhandle and South Plains Development Corporation. During the first year, a low income family makes the payments to the development corporation and receives financial counseling so that they will be able to accept the responsibility of home ownership at the end of this period. If it is determined that the family will be able to manage their financial affairs and be able to meet the mortgage payments, the Corporation will transfer the house to the family under a regular Federal Housing Administration loan with a local bank

As a result of the tornado of May 11, 1970, approximately 780 families received temporary housing under the

Federal Disaster Relief Act of 1969.¹⁶ Most of these families were housed in vacant homes owned by the Federal Housing Administration and the Veterans Administration in East Lubbock. For many of the poorer families, the temporary housing which they received was superior to the homes which they had lost in the tornado. The Office of Emergency Preparedness arranged for the City of Lubbock to receive a \$160,000.00 grant from the Department of Housing and Urban Development in order to provide counseling for families displaced by the tornado. The purpose of this counseling was to enable low income families to find the best possible solution in seeking permanent housing.

On July 2, 1970, the City Council awarded this grant to Mi-Casita on a contract basis, based on Mi-Casita's previous experience in family home counseling.¹⁷

The program is monitored by the city's Director of Public Services, who also serves as an ex officio member of the seven-member board which the City Council appointed to oversee the counseling service. The administration procedures involved in funding the counseling service are quite complicated. Mi-Casita submits its budgets to

¹⁶The Disaster Relief Act of 1969, Public Law 91-79 (83 Stat. 125), October 1, 1969.

¹⁷"Counseling Service Contract Awarded," Lubbock Avalanche-Journal, July 2, 1970, p. A-1.

the City of Lubbock which, in turn, submits the requests for funds to the Federal Housing Administration, the Department of Housing and Urban Development and, finally, the Office of Emergency Preparedness.

Mr. Jack McGraw, the Executive Director of Mi-Casita, stated that the organization employed as many as ninety-six staff workers at the height of the tornado relief operation.¹⁸ He said that about fifty of these employees were hired under a Neighborhood Youth Corps program and that his permanent staff has averaged about twenty members. He said that total funding will probably only be around \$120,000.00 since not all of the money originally authorized has been made available. McGraw stated that Mi-Casita recorded 49,000 contacts in the period between the tornado and March, 1971. At the end of April, 1971, approximately 360 families were still living in temporary housing; 145 families had purchased either FHA or VA homes; 22 families had rebuilt homes in the Guadalupe Urban Renewal area; and approximately 100 families had left Lubbock permanently. The remainder of the 780 families were financially self-sufficient and relocated or rebuilt their homes in other areas of the city.

¹⁸ Jack McGraw, Executive Director, Mi-Casita Home Counseling Service, Lubbock, Texas, Personal Interview, April, 1971.

McGraw stated that when the current contract with OEP expires, at the end of May, 1971, Mi-Casita will continue to work in the area of home counseling through a number of federally sponsored projects being administered by the Panhandle and South Plains Development Corporation. Included in these projects are the original home ownership program, a rental housing project and, hopefully, a similar project for public housing.

Mi-Casita's Director of Housing and Social Action, Sister Regina E. Foppe, suggested that there was one problem in the temporary housing program for disaster victims under the Disaster Relief Act of 1969.¹⁹ The victims were eligible for three months' occupancy without payment of rent and nine months' occupancy at rents between \$40 and \$60, according to their financial resources. She said that when the Disaster Relief Act of 1970 was passed, it was retroactive to the Lubbock disaster and the free rent provision was extended to one year. She felt that the provision of free housing did not contribute to the permanent rehabilitation of the families, since it placed them in a position of having to adjust to paying rent once again at the end of the one year period. She stated

¹⁹Sister Regina E. Foppe, Director of Housing and Social Action, Mi-Casita Home Counseling Service, Lubbock, Texas, Personal Interview, April, 1971.

that it would be more effective to require rental payments for the temporary housing but then to make these payments available, as a grant, for establishing permanent housing for the family at the end of the one year period.

Mi-Casita provides an example of a private agency being involved in the intergovernmental relations of disaster relief. Through this program, the City of Lubbock was able to provide disaster victims with a means of permanently improving their living conditions. As an outgrowth of the program, the city will purchase about 300 houses located throughout the city for use as public housing for the poorest families which are unable to find any other type of housing. The counseling provided by Mi-Casita will enable these families, which had always lived in sub-standard housing, to live in decent homes in residential neighborhoods throughout the city.

CHAPTER VI

THE EFFECT OF THE DISASTER ON TWO UNITS OF LOCAL GOVERNMENT

The Lubbock Standard Metropolitan Statistical Area contains nineteen individual units of government: five municipalities, eight school districts, five special districts and the county government.¹ Of these, only three local governments were seriously affected by the tornado. The city of Lubbock, of course, bore the brunt of the storm, but both the county and the Lubbock Independent School District received damage.

Lubbock County

The county is governed by a commissioner's court, which is composed of four elected precinct commissioners and a county judge, who is elected from the county-at-large. While the county judge is a judicial figure, his duties are more concerned with the administration of the county.² The county commissioner's court is responsible for collecting county taxes, operating the county government, and

¹U.S. Department of Commerce, Bureau of the Census, Census of Governments 1967, Vol. 7, State Report, No. 43, Texas, p. 40.

²Clifton McCleskey, The Government and Politics of Texas (Boston: Little, Brown and Company, 1963), p. 258.

supervising elections.

Under the state Civil Defense program there are provisions for county defense councils composed of the county judge and the mayors of all the incorporated municipalities in the county.³ Each county and municipality can establish a local Civil Defense program by designating a Civil Defense director, either by county court order or by municipal ordinance. Once a local unit has established a Civil Defense organization, it is then eligible to receive certain federal surplus property for Civil Defense use and to apply for federal 50 per cent matching grants to supplement local expenditures for Civil Defense.⁴ Lubbock County does not have a formal county defense council or a special Civil Defense program. The Lubbock County Judge felt that such a program was unnecessary since 85 per cent of the county's population lives within the city limits of Lubbock and, as such, is served by the city's Civil Defense program. He said that the commissioner's court had designated one of the commissioners as the county Civil Defense director but that the county had no plans to appropriate any funds

³Billy Gene Crane, "Intergovernmental Relations in Disaster Relief in Texas" (unpublished Ph.D. dissertation, University of Texas, 1960), p. 49.

⁴M. A. Schlueter, Regional Liaison Officer, Texas Department of Public Safety, Region 5, Lubbock, Texas, Personal Interview, December, 1970.

for Civil Defense purposes. The County Judge stated that Civil Defense needs could be met through periodic liaison with the city's Civil Defense director.⁵

Lubbock County has only limited resources for responding to disaster. Each of the four county precincts has its own road repair crews and equipment and the Lubbock County Sheriff's office has about forty-four employees and eleven radio equipped vehicles. The County Health Department program is administered by the city in a joint City-County Health Department.

The county suffered only about \$42,000.00 damage to its various facilities during the tornado of May 11, 1970. Insurance payments totaling \$16,098.00 covered less than half the damage suffered by county facilities.

The Lubbock County Auditor said that his office has submitted a claim for \$18,415.00 under Public Law 81-875, but this claim is still pending. He said that all tornado damage has been repaired. He also noted that under the Disaster Relief Act of 1970, the county may be eligible for federal assistance to replace lost tax revenues caused by the disaster's effect on the county's tax base. He said, however, that the extent of any loss to the tax

⁵Roderick L. Shaw, County Judge, Lubbock County, Texas, Personal Interview, April, 1971.

base had not been determined.⁶

If the disaster had struck in the county area, it is doubtful that the county government would have been able to cope with the disaster. While outside assistance would have been available from other local units of government, and from state and federal agencies, it could not have controlled its own recovery.

The Lubbock Independent School District

The Lubbock Independent School District is the largest of the eight school districts located within the Lubbock Standard Metropolitan Statistical Area.⁷ It is organized for the purpose of providing primary and secondary education, as well as a variety of adult educational programs. It is governed by a seven-member elected school board. The district encompasses an area of 87.5 square miles which extends slightly beyond the Lubbock city limits. During the 1970-1971 school year it served 33,514 students with a staff of 1,745 teachers and had a total operating budget of approximately \$24,000,000.00. The district operates 55 schools and owns facilities which are valued at over \$47,000,000.00.⁸

⁶Royal Ferguson, County Auditor, Lubbock County, Texas, Personal Interview, April, 1971.

⁷Department of Commerce, Census, p. 40.

⁸The Lubbock Independent School District, News and Views, Vol. 17, No. 2 (March 1, 1971), p. 2.

Federal Disaster Relief to Public Schools

Prior to 1965, public school districts came under the general provisions of Public Law 81-875, along with all other units of state and local government.⁹ Under this law federal aid was available for making "emergency repairs to and temporary replacement of public facilities." Federal funds, however, could not be used under the interpretations of this law made in 1953, to provide permanent repairs, or to rebuild disaster-damaged school facilities. The impracticability of this limitation became apparent during the Waco and San Angelo, Texas, tornadoes of May 11, 1953. Harry E. Moore says in Tornadoes Over Texas that attorneys of the Federal Civil Defense Administration (FCDA) originally ruled that none of the federal funds available under Public Law 81-875 could be used for the restoration of a badly damaged school. In view of the degree of destruction to the school in question, temporary repairs would have been neither safe nor economically practicable, and this insistence by federal officials caused considerable dissatisfaction among local officials.¹⁰

The matter was finally settled by a FCDA administrative

⁹The Disaster Relief Act of 1950, Public Law 81-875 (64 Stat. 1109), September 30, 1950.

¹⁰Harry E. Moore, Tornadoes Over Texas: A Study of Waco and San Angelo in Disaster (Austin: University of Texas Press, 1958), p. 71.

ruling which allowed the school district to use the amount of federal funds that would have been authorized to make temporary repairs towards the cost of permanent repairs. While this ruling allowed a more practical approach to the problem of restoring educational services, it still placed the major share of the burden on local school districts with limited resources.

In 1965, these restrictions were removed when Congress enacted Public Law 89-313.¹¹ This law transferred the responsibility for aiding disaster stricken schools from the Office of Emergency Planning to the Commissioner of Education in the Department of Health, Education and Welfare. It significantly broadened the scope of federal disaster assistance by authorizing the Commissioner of Education to provide financial assistance under certain conditions for repair or rebuilding of damaged facilities, and for the operation of public elementary and secondary schools in areas affected by major disasters.¹² This law authorized the use of federal funds to provide

¹¹An Act to amend Public Laws 815 and 874 to provide financial assistance in the construction and operation of public elementary and secondary schools in the areas affected by a major disaster . . . and for other purposes, Public Law 89-313 (79 Stat. 1158), November 1, 1965.

¹²Department of Health, Education and Welfare, Office of Education, Nineteenth Annual Report of the Commissioner of Education on the Administration of Public Laws 81-874 and 81-875 (Washington, D.C.: Government Printing Office, June 30, 1969), p. 25.

permanent, rather than temporary, replacement of school buildings destroyed in a disaster. The act also allowed continuing assistance for a period of up to five years to provide current operating expenses. Under this provision, minor repairs can be made, equipment and supplies can be repaired or replaced, and temporary school facilities provided while permanent replacement or repairs are being made. Special assistance is also provided for public schools which accept additional students from private schools that are damaged in a disaster and to make up the revenue losses resulting from the destruction of the tax base of a school district by a major disaster.

This authority was further broadened in 1968 by Public Law 90-247 which eliminated the requirement that the Commissioner of Education determine that a reasonable effort had been made by the local government to raise funds for disaster repairs through taxes. It also authorized assistance in "pinpoint disasters," that is, localized disasters which are not declared major disasters by the President under Public Law 81-875.¹³ During the fiscal year 1969, this authority was used to provide assistance of \$3,263,070.41 for 128 school disasters in 14 states which

¹³An Act to amend Public Laws 81-815 and 81-874 and authorizing further Disaster Assistance to Public Schools Public Law 90-247 (81 Stat. 783), January 2, 1968.

experienced major disasters and assistance of \$776,726.00 to two school disasters which suffered "pinpoint disasters."¹⁴

Tornado Damage to Lubbock Schools

The Lubbock Independent School District sustained approximately \$800,000.00 damage to its facilities as a result of the tornado on May 11, 1970. Twenty-one buildings received heavy to moderate damage and fourteen received light damage. Only twenty of the district's school buildings were not damaged by the tornado.¹⁵ Mr. Linus Wright, the business manager, had reviewed the district's commercial insurance coverage on May 1, 1970, less than two weeks before the tornado. As part of this review, Wright had inventoried all the district's property and valuable equipment and had updated or revised the commercial insurance coverage where it was required. As a result, \$768,664.12 of the total loss sustained by the district was reimbursed by insurance proceeds less than two weeks after the tornado. By the time school reopened in the Fall of 1970, most of the scars of the

¹⁵Lubbock Independent School District, "Reported Storm Damage as of May 24, 1970," Lubbock, Texas, May, 1970.

tornado had been healed.¹⁶

Federal officials, headed by Murphy Mears of the Dallas region of the Office of Education, extended immediate assistance to the officials of the school district in assessing tornado damage and in determining the district's eligibility for federal aid. This assessment revealed that the district was not eligible for federal aid, since its uninsured losses were less than the minimum required before federal aid can be made available, that is, less than six-tenths of 1 per cent of the annual operating budget of the district. The district was also eligible for federal aid to cover any tax revenue loss caused by destruction of the district's tax base as a result of tornado damage to taxable property throughout the district. It was estimated that the district would experience a \$65,000.00 loss in revenue for 1971, but later tax assessment figures indicated that this loss will be offset by new building. The district does not intend to file a claim for federal aid.¹⁷

Intergovernmental relations between the school district and the Office of Education were well coordinated. Proper planning was perhaps the key factor in the rapid recovery

¹⁶Linus Wright, Assistant Superintendent for Business Affairs, Lubbock Independent School District, Lubbock, Texas, Personal Interview, January, 1971.

¹⁷Ibid.

of the school district. All the school district's inter-governmental relations concerning disaster relief were with federal officials. It had no significant contact with the state government or with the other units of local government in the Lubbock area concerning tornado relief.

CHAPTER VII

THE DEVELOPMENT OF A FEDERAL DISASTER RELIEF PROGRAM

The federal government has historically provided assistance to state and local governments to relieve the suffering caused by disasters. The first recorded instance of federal disaster relief occurred in 1803 when Congress extended the time for discharging custom house bonds for sufferers of a fire in Portsmouth, New Hampshire. Between that time and World War II, Congress enacted on the average of one law per year to provide some type of relief for both foreign and domestic disasters, in addition to numerous special acts granting relief to specified individual disaster victims, or rewarding persons who worked to alleviate suffering in disasters.¹ The size of appropriations made by Congress during this period varied from \$2,000.00 for the relief of sufferers in an explosion at the Washington arsenal in 1864, to \$2,500,000.00 for the purchase and issue of subsistence, quartermasters supplies, and medical material to sufferers of the San Francisco earthquake

¹For a listing of the Congressional Acts dealing with disasters between 1803-1943, see U.S. Congress, House, Representative Harold C. Hagen speaking for Disaster Assistance Legislation, H.R. 8396, 81st Cong., 2nd sess., August 7, 1950, Congressional Record, XCVI, part 9, p. 11900.

in 1906. Interestingly, Congress was quite generous with appropriations to relieve foreign disasters; for example, it authorized a \$200,000,000.00 expenditure from funds of the United States Grain Corporation for food for the people of Russia in 1922.²

The Great Depression of the 1930's demonstrated the need for a program of some type so that the federal government could assist the states and localities in disaster relief efforts which were beyond their own limited abilities. Following the Second World War, Congress sought methods to provide a permanent mechanism for disaster relief. Public Law 80-233, the Surplus Property Disaster Act of 1947, authorized the transfer of surplus property from the War Assets Administration to state and local governments for the relief of major disasters.³ The effectiveness of this law was encumbered by rather involved administrative procedures, and as surplus property stocks were exhausted, it became even less effective. Between 1947-1950, Congress gradually replaced this aid in kind with cash grants and established a specific fund from which the President could draw for the relief of major disasters.⁴ This method of

²Ibid., pp. 11900-02.

³The Surplus Property Disaster Act of 1947, Public Law 80-233 (61 Stat. 422), July 27, 1947.

⁴Billy Gene Crane, "Intergovernmental Relations in Disaster Relief in Texas" (unpublished Ph.D. dissertation, University of Texas, 1960), pp. 25-6.

handling disaster relief proved effective and it was soon incorporated into the first comprehensive national program to deal with disasters, the Disaster Relief Act of 1950.⁵ During the Congressional debates on this proposed federal disaster relief program, testimony was introduced which showed the magnitude of the natural disaster problem in the United States. Between 1920-1949, over 4,000 recorded disasters occurred, including 40 hurricanes, 949 tornadoes, 853 floods, and 1,503 fires. Texas ranked first among the states in frequency of disaster, suffering approximately 10 disasters each year, while Delaware, on the other hand, suffered only 7 during the entire 30-year period.⁶

The Federal Disaster Act of 1950

On September 30, 1950, President Harry S. Truman signed Public Law 81-875, and thereby firmly placed the federal government on the road to an enlarged role in disaster relief. Billy Gene Crane has pointed out how proposed provisions for authorizing federal aid of a much broader scope were excluded from the bill on the grounds that the role of the federal government should be limited

⁵The Disaster Relief Act of 1950, Public Law 81-875 (64 Stat. 1109), September 30, 1950.

⁶U.S. Congress, Disaster Assistance, Congressional Record, XCVI, p. 11903.

to assistance in the stage of disaster when lives and property were in danger.⁷ The burden of permanent restoration was thereby placed on local government. Public Law 81-875 provided the federal government with a mechanism for responding to disaster which would be utilized without major change for almost two decades. Under this law, the President was authorized to determine if a catastrophe, occurring in any state, was of sufficient magnitude to require federal assistance. The procedure established by the Act required that local governments present their needs to their state governor, who would certify the need for federal assistance and assure that a reasonable amount of state, local, and other funds would be expended for relief of the disaster. The governor would then request a presidential declaration of a major disaster. Once the President declared a major disaster, the following types of assistance could be provided by federal agencies:

1. Utilizing or lending with or without compensation, equipment, supplies, facilities, personnel, and other resources;

2. Distributing through the American National Red Cross, or otherwise, medicine, food, and other consumable supplies;

⁷Crane, "Intergovernmental Relations," p. 28.

3. Donating surplus supplies and equipment;

4. Performing or making contributions for work on public or private lands essential to the preservation of life and property, clearing debris and making emergency repairs to or temporary replacement of public facilities.

The Act further provided the President with the authority needed to coordinate federal effort in accomplishing these aims and appropriated a \$5,000,000.00 revolving fund for carrying out these aims. Congress also directed that the President report annually on the use of this fund.

Disaster Relief Under Public Law 81-875

Public Law 81-875 provided the basic framework for federal assistance to local governments which had suffered disasters for twenty years. During this period an average of fifteen major disasters occurred every year, and approximately \$800,000,000.00 was allocated to the states for the relief of about 300 occurrences which the President had declared as major disasters.⁸

Tables 4, 5, and 6 provide an analysis of the situations which the President declared as major disasters

⁸U.S. Congress, House, Committee on Public Works, Disaster Assistance Legislation, Hearings, before a subcommittee of the Committee on Public Works, House of Representatives on H.R. 17518 and Related Bills, 91st Cong., 2nd sess., 1970, p. 66.

TABLE 4
FEDERAL DISASTER RELIEF UNDER PUBLIC LAW 81-875
1960-1969

Year	Number of Disasters	Total Allocations
1960	12	\$111,197,546.00
1961	15	122,501,941.86
1962	22	158,975,959.69
1963	28	181,056,743.55
1964	30	231,282,020.48
1965	34	352,729,254.96
1966	23	425,729,215.57
1967	15	39,035,000.00
1968	25	29,327,110.37
1969	29	148,970,000.00

Source: U.S. Congress, Hearings on H.R. 17518, pp. 66-71.

TABLE 5
TYPES OF DISASTERS DECLARED
UNDER PUBLIC LAW 81-875
1960-1969

Type	Number of Disasters
Floods	154
Hurricanes	24
Industrial Accidents	3
Volcanic Disturbance	1
High Tides and Tidal Damage	7
Fires	5
Severe Weather	139
Tornadoes	21
Earthquakes	5
Droughts	12
Total	371

Source: U.S. Congress, Hearings on H.R. 17518, pp. 66-71.

TABLE 6
 GEOGRAPHIC DISTRIBUTION OF DISASTER
 RELIEF ALLOCATIONS 1960-1969

State	Number of Disasters	Funds Allocated
Alabama	2	\$ 1,025,000.00
Alaska	3	48,250,000.00
Arizona	1	2,120,000.00
Arkansas	7	2,700,000.00
California	11	160,975,000.00
Colorado	2	4,119,700.00
Connecticut	-	-
Delaware	1	4,500,000.00
Florida	7	17,664,000.00
Georgia	3	2,525,000.00
Hawaii	4	2,410,000.00
Idaho	6	4,330,800.00
Illinois	6	7,800,000.00
Indiana	4	3,660,000.00
Iowa	7	10,790,000.00
Kansas	4	7,850,000.00
Kentucky	6	5,875,000.00
Louisiana	4	25,420,000.00
Maine	-	-
Maryland	1	2,025,000.00
Massachusetts	-	-
Michigan	1	1,450,000.00
Minnesota	5	19,475,000.00
Mississippi	3	12,122,000.00
Missouri	5	4,360,000.00
Montana	2	8,000,000.00

TABLE 6--Continued

State	Number of Disasters	Funds Allocated
Nebraska	6	4,750,000.00
Nevada	4	2,251,000.00
New Hampshire	-	-
New Jersey	3	21,225,000.00
New Mexico	1	2,400,000.00
New York	4	4,290,000.00
North Carolina	4	3,250,000.00
North Dakota	4	5,775,000.00
Ohio	5	5,662,000.00
Oklahoma	2	675,000.00
Oregon	3	5,910,000.00
Pennsylvania	1	1,375,000.00
Rhode Island	-	-
South Carolina	-	-
South Dakota	4	2,836,000.00
Tennessee	2	1,300,000.00
Texas	10	20,465,000.00
Utah	-	-
Vermont	3	633,000.00
Virginia	3	5,720,000.00
Washington	4	7,235,000.00
West Virginia	7	5,570,000.00
Wisconsin	2	775,000.00
Wyoming	1	300,000.00

Source: U. S. Congress, Hearings on H.R. 17518, pp. 66-71.

during the 1960's.⁹ Examination of these tables reveals that floods are the most frequent natural disaster followed by the general category of severe weather.

It is also apparent that disaster does not occur with uniform frequency or intensity throughout the nation. California and Texas both suffered on the average of one major disaster a year, but California's monetary losses were about eight times higher than those in Texas. On the other hand, five of the New England states did not experience any major disasters during this period.

A reasonable assumption based on the experience of the 1960's would be that major disasters requiring federal assistance will occur frequently and that the total allocations for disaster relief will continue to rise.

The only area where some progress might be expected in reducing the effect of the natural disasters' destruction is flood control. In 1969, for example, the Office of Emergency Preparedness (OEP) monitored "Operation Foresight," a flood prevention program. OEP estimated that the \$20,000,000.00 spent for flood dikes and levees prevented untold human suffering and \$200,000,000.00 in damages.¹⁰

⁹Early allocations cannot be compared to current allocations without making significant adjustments for inflation. This matter is covered by Douglas C. Dacy and Howard Kunreuther in The Economics of Natural Disasters: Implications for Federal Policy (New York: The Free Press, 1969), pp. 3-31.

¹⁰U.S. Congress, Hearings on H.R. 17518, p. 29.

The Disaster Act of 1950
and Urban Disaster

The first test of Public Law 81-875 in a metropolitan disaster situation occurred on May 11, 1953, when tornadoes struck the heart of Waco, Texas, a city of 85,000 people, destroying a two square mile area of the business district, and interrupting most essential municipal services. On the same day, another tornado also struck San Angelo, Texas, causing less extensive damage. Response to the Waco tornado by all levels of government was inadequate. As Crane put it: "The Waco disaster is still cited among national, state, and local officials as the classic example of how not to conduct disaster activities."¹¹ One of the key problems which he identified was the lack of local disaster preparedness. He also pointed out a serious delay in establishing a disaster headquarters to coordinate relief activities. This was particularly distressing in view of the fact that Waco had a well-equipped Emergency Operations Center, which had been dedicated less than a year previously, but which was not activated because it was on the edge of the city and was thought to be too remote from the center of the disaster area. Moore also noted, in his Tornadoes Over Texas, the failure to use this facility, and stated that the fact that it was removed from the

¹¹Crane, "Intergovernmental Relations," p. 256.

disaster area would have made it all the more effective as a central relief coordination point.¹²

Among the problems that arose in the area of inter-governmental relations, the most serious dealt with the interpretation of Public Law 81-875 itself. Moore provided the following view of a Waco city official as illustrative of this point:

We didn't try to interpret the law. We said to the federal officials, 'Look, you tell us what to apply for--we surely don't know.' We took advice and interpretations from any and all of them, but they couldn't always agree among themselves. There were a lot of arguments.¹³

The most difficult problems of interpretation centered on the nature of repairs that could be made and on the requirement for a "reasonable" local contribution to the disaster relief effort. The requirement for a reasonable contribution in Waco became a problem because both the city and the state were seemingly unable to respond with cash outlays for disaster relief. In Texas state agencies provide aid-in-kind for disaster relief, but there is no provision in the state law for making grants to political subdivisions for this purpose. The city, on the other hand, was already operating under a deficit budget and,

¹²Harry E. Moore, Tornadoes Over Texas: A Study of Waco and San Angelo in Disaster (Austin, Texas: University of Texas Press, 1958), p. 10.

¹³Ibid., p. 69.

likewise, had no cash available. The local contribution, therefore, consisted mainly of manpower, supplies, and equipment, which were diverted from their normal tasks, to assist in disaster relief. The only state appropriation was \$25,000.00 for the pay and rations of the National Guard, although the state estimated its costs and contributions for disaster activities in both Waco and San Angelo were close to \$100,000.00.¹⁴ While the problem in Waco was eventually resolved in favor of considering the contributions in kind of the local governments as satisfying the requirement of the law, it appears to have created some bitterness towards the federal government among local officials and residents.

The nature of the repairs that could be made with federal funds was also a source of irritation, because federal officials insisted that certain types of public facilities, such as the water system and a city owned market where local farmers rented stalls to sell produce, were ineligible because they were revenue producing facilities. This distinction, which allowed federal aid to repair sewers but not water pipes, failed to recognize the realities of urban life.

The Waco-San Angelo Disaster also pointed up deficiencies

¹⁴Ibid., p. 77.

in pre-disaster planning, coordination of disaster relief activities, and administrative procedures. There was excessive "red tape" involved in obtaining federal assistance. Moore mentioned an incident where the San Angelo School District application for aid required eighteen copies of the forty-one page contract under which the school had originally been erected.

Such seemingly senseless administrative requirements and the varying opinions as to their eligibility for aid, which they received from federal authorities, re-enforced the anti-federal attitudes existing in the San Angelo area. In the end, the San Angelo School District applied for and received a \$10,000 grant but later returned the entire amount to the federal government saying it was not needed.¹⁵

Federal Disaster Relief in Lubbock

Relations between federal officials and the city of Lubbock showed no signs of the strain often visible in previous relief operations. The city's Finance Director attributed this to the fact that the federal inspectors were quite liberal in their interpretation of PL 81-875 as it concerned the restoration of municipal facilities.¹⁶

¹⁵Ibid., p. 74.

¹⁶Sterling K. Miller, Director of Finance, Personal Interview, March, 1971.

For example, the only restrictions placed on rebuilding were that, wherever possible, the use of unnecessarily expensive building materials be avoided. When the firehouse was rebuilt with federal assistance, Office of Emergency Preparedness officials would not allow the complete refinishing of the interior of the building with ceramic tile as it had existed before the tornado. When the building was reconstructed the walls were partially tiled using salvaged materials. This change did not cause any loss in utility. Another example of this was the rebuilding of a pump station located in a residential neighborhood. At first, federal officials would not allow the use of brick veneer on the water pumping station, but when city officials pointed out that the structure should blend in with the surrounding residential construction, they permitted the use of brick veneer. In some cases, the city was allowed a grant-in-lieu towards the rebuilding of superior facilities to replace outmoded structures which had been destroyed in the storm.

The administrative procedures involved in obtaining assistance under Public Law 81-875 have been significantly streamlined since the law's inception. The basic document involved is OEP form 164 which is used to estimate the damage and record the inspections which must be made by state and federal officials before a claim can be paid.

This form is easy to complete and it allows quick processing of claims for assistance. Federal officials no longer make unrealistic distinctions between revenue producing and other municipal property. A large percentage of the federal assistance which Lubbock received went towards restoring the facilities of Lubbock Power and Light, the largest municipally owned public utility in Texas. This city-owned electric company normally supplies approximately 50 per cent of Lubbock's power and provides considerable profits for the city's general operating fund.

The city also benefitted in several ways under the provisions of PL 91-79, the Disaster Relief Act of 1969.¹⁷ Most of this assistance, however, was in the form of direct benefits to individual disaster victims rather than aid to governmental units.

The history of federal assistance to localities in time of disaster is the story of a "practical federalism." By "practical federalism" it is meant that the overriding consideration in intergovernmental relations is which level of government can most effectively get the job done. In disaster situations there is no time to argue about which functions are the responsibility of a particular

¹⁷The Disaster Relief Act of 1969, Public Law 91-79 (83 Stat. 125), October 1, 1969.

level of government if that level does not have the means to perform the function. Yet for many years, the concept voiced by the Commission on Intergovernmental Relations in 1955, that permanent reconstruction following disaster was completely the responsibility of local government, represented the national policy. In effect, as with many urban problems, the burden fell on the unit which had the least ability to respond to the financial demands of the problem. The Disaster Relief Act of 1970 represents a codification of the practical federalism which worked so well in Lubbock following the disaster of May 11, 1970.

Recent Expansion of Federal Disaster
Relief Programs

Senator Ralph Yarborough, who visited Lubbock the day after the tornado struck the city, expressed the inadequacies of existing federal disaster legislation to the Senate upon his return to Washington, as follows:

I have just returned from a tour of the devastation in Lubbock, and I am sad to report it is one of the worst natural disasters that I have ever seen. The problems confronting the people of the area cry out for fast and effective remedies. Local, State, and Federal authorities are on the scene and are doing what they can within the limitation of the law. Unfortunately, our present disaster laws do not afford the means to do all that

should be done in natural disasters of this magnitude.¹⁸

Senators Ralph Yarborough and John Tower originally attempted to provide emergency relief for their constituents through the introduction of a special bill authorizing relief for Lubbock. Later, however, they decided to work for the passage of a new act which would permanently broaden the federal role in disaster relief and to have this act made retroactive so that the Lubbock disaster would be covered by its provisions.

As mentioned previously, Congress had frequently enacted special disaster relief measures since the early nineteenth century following major disasters. The Federal Disaster Relief Act of 1950 was intended to replace this haphazard method of disaster relief with a uniform system but, as we have seen, this law was insufficient for coping with extensive disasters in urban areas. During the 1960's the role of the federal government in disaster relief began a slow expansion as Congress again turned to the use of special legislation to provide additional aid for specific disasters. In most cases, the additional aid was provided by expanding the existing statutory

¹⁸U.S. Congress, Senate, Senator Ralph Yarborough, introducing a bill to provide emergency relief for eleven Texas counties affected by the Lubbock and Plainview tornadoes, S. 3848, 91st Cong., 2nd sess., May 18, 1970, Congressional Record, p. 7286.

authority of various federal agencies.

The Alaska earthquake of March, 1964, was a key point in this expansion of the federal disaster role, as Douglas Dacy and Howard Kunreuther noted in their recent study of the federal disaster relief program: "From a legislative point of view, the Alaska earthquake in March 1964 must signal a change in federal relief attitudes, for it triggered a wave of congressional action that has not yet been consummated."¹⁹ The Alaska earthquake was not an exceptionally destructive disaster, but it received unprecedented amounts of federal relief. In fact, almost 50 per cent of the total Alaskan loss of approximately \$149,000,000.00 was covered by federal grants to local governments or by loans to businesses and individuals.²⁰

An amendment to the Alaskan Omnibus Act provided extensive relief for the victims of the earthquake, including:

1. Thirty-year low-interest, Small Business Administration (SBA) loans;
2. Authority for writing off certain federally held mortgage loans; and
3. Special loans to allow repayment of outstanding

¹⁹Dacy and Kunreuther, The Economics of Natural Disasters, p. 53.

²⁰Ibid., p. 53.

mortgages before rebuilding damaged or destroyed homes.²¹

This special legislation set a precedent which Congress used over the next five years to justify other special disaster laws. Included among these were: The Pacific Northwest Relief Act of 1965,²² and The Southeast Hurricane Disaster Relief Act of 1965.²³ These acts provided relief to individual disaster victims and to businesses as well as to local governments by permitting existing federal agencies to provide special types of assistance. For example, under Public Law 89-339, the Small Business Administration was given authority to write off amounts up to \$1,800.00 on disaster loans granted under its existing statutory authority. This amounted to a program of direct grants to disaster victims which had some precedent in the nineteenth century but which had generally been the responsibility of the Red Cross or other private relief agencies in this century.

The expanded aid available to public schools under Public Law 89-313 has been discussed in Chapter VI, where it was noted that all requirements for local contributions

²¹An Act to Amend the Alaskan Omnibus Act of 1964, Public Law 88-451 (78 Stat. 505), August 19, 1964.

²²The Pacific Northwest Relief Act of 1965, Public Law 89-41 (79 Stat. 131), June 17, 1965.

²³The Southeast Hurricane Disaster Relief Act of 1965, Public Law 89-339 (79 Stat. 1301), November 8, 1965.

towards relief efforts were removed and the restriction on making permanent repairs with federal funds was eliminated.

A year later, in the Federal Disaster Relief Act of 1966, some of the above provisions which had been applicable to specific disasters were made a permanent part of the federal disaster program.²⁴

The Disaster Relief Act of 1969

In 1969, the United States suffered one of the worst hurricanes it had ever experienced when Hurricane Camille devastated areas in five gulf coast states. Congress reacted by passing the Disaster Relief Act of 1969, which was a temporary measure designed to provide additional assistance for the reconstruction of damaged areas.²⁵

Among the special relief measures authorized by this law were:

1. Fifty per cent matching federal grants for permanent repair of public roads;
2. Special relief to timber sales contractors;
3. Liberalized Small Business Administration and Farmer's Home Loan Administration loan policies, including

²⁴The Federal Disaster Relief Act of 1966, Public Law 89-769 (80 Stat. 1316), November 6, 1966.

²⁵Public Law 91-79, Sec. 1.

an extension of the \$1,800.00 forgiveness feature and allowing the refinancing of outstanding mortgages on damaged or destroyed property.

While the measures mentioned above had some precedent in earlier special disaster relief acts, Congress went further and authorized additional aid to individuals. For example, the Director of the Office of Emergency Preparedness was given authority to provide temporary housing to disaster victims by using unoccupied federal housing, arranging with Public Housing Authorities for the use of unoccupied public housing units, by leasing private housing and by acquiring mobile homes or other readily fabricated housing. Special assistance was also allowed for families experiencing economic hardship as a result of the disaster by making them eligible to receive federal food coupons and unemployment insurance benefits. OEP was also given authority to arrange for the clearing of debris from privately owned lands or waters.

Public Law 91-79 contained provision for appointing a federal coordinating officer, who was to coordinate all federal disaster relief programs in a disaster area. The coordinating officer was charged with establishing field offices and assisting local citizens and local officials in promptly obtaining any federal assistance to which they were entitled.

The law also authorized the President to make grants up to \$250,000.00 which any state could use on a matching basis to develop emergency plans and programs. Only fourteen states took advantage of this planning grant during the fiscal year 1970 and the average grant was about \$32,000.00.²⁶

Congressional Action Following
the Lubbock Tornado

When the tornado struck Lubbock, Texas, ways to further formalize and expand the federal role in disaster relief were being considered in Congress. In fact, bills had been proposed in both the House and the Senate to permanently expand the federal disaster relief program.²⁷

General George Lincoln, the Director of the Office of Emergency Preparedness, appeared before committees in both Houses to explain OEP's functions and to ask for broader authority in providing relief. The Senate version of the new legislation originally contained a proposal for combining the disaster relief functions of both the Office of Civil Defense (OCD) and the Office of Emergency Preparedness (OEP) into a new office of disaster assistance. Both agencies, OEP and OCD, have responsibilities which

²⁶U.S. Congress, Hearings on H.R. 17518, p. 71.

²⁷"Senate Group Seeks New Approach to Disaster Relief," Congressional Quarterly Weekly Report, February 6, 1970, p. 357.

are common to both natural disaster and wartime planning, but the proposal to combine these functions was dropped from the final version of the bill at the request of administration officials.²⁸

Federal Disaster Insurance Proposals

The second major revision in the Senate version was the elimination of Title IV, which would have established a National Major Disaster Insurance Program. The proposal was dropped at the request of Senate Committee on Banking which indicated its intention to study the matter further.²⁹ In 1956, Congress passed a Federal Flood Insurance Act which allowed the creation of a Federal Flood Indemnity Administration which was to provide flood insurance in areas where commercial insurance was not available because of the high risks involved.³⁰ No funds were ever appropriated, however, to implement this program because the Chairman of the House Appropriations Committee was opposed to the program as an untried scheme.³¹ After the Alaska earthquake, the proposal for

²⁸U.S. Congress, Senate Report No. 91-1157, p. 6.

²⁹Ibid., p. 7.

³⁰The Federal Flood Insurance Act, Public Law 84-1016 (70 Stat. 1078), August 7, 1956.

³¹Robert C. Ely, "The Prospects for a Federal Disaster Program," The Insurance Law Journal, No. 525 (October, 1966), pp. 599-600.

federal disaster insurance was raised again. This time it had considerable support. Senator Ralph Yarborough of Texas, compared the proposal to the Federal Hail Insurance Program of the 1930's which was so successful that it induced private companies to write crop insurance against hail losses for the first time. D. C. Dacy and H. Kunreuther recently examined the federal role in disaster relief and concluded that a federal disaster insurance program was required to replace the current system of grants and loans which is both inefficient, because it encourages building in hazardous areas, and inequitable because it favors "imprudent" individuals who are often better off after receiving disaster relief than they were before the disaster struck.³²

The only other major changes in the proposed senate disaster legislation were:

1. The elimination of a 50 per cent matching local funds requirement for aid to rebuild public facilities;
2. The extension of certain provisions of the bill back to August, 1969, to cover Hurricane Camille; and
3. The extension of certain provisions back to April, 1970, to cover the Lubbock tornado.

It should also be noted that Congress rejected the

³²Dacy and Kunreuther, The Economics of Natural Disasters, pp. 254-54.

idea of combining all existing disaster legislation into one omnibus bill. The final version of the new law contained many new provisions, but left much of the older legislation concerning relief to individuals intact.

The Federal Disaster Relief Act of 1970

President Nixon signed the Federal Disaster Relief Act of 1970 into law on December 31, 1970, thereby making 1971 a major milestone in the history of federal disaster relief.³³

Section 101 A of this law provides insight into the changing Congressional attitude on the proper scope of federal disaster relief.

The Congress hereby finds and declares that
(1) because loss of life, human suffering, loss of income, and property loss and damage result from major disasters such as hurricanes, tornadoes, storms, floods, high waters, wind-driven waters, tidal waves, earthquakes, droughts, fires, and other catastrophes; and
(2) because such disasters disrupt the normal functioning of government and the community, and adversely affect individual persons and families with great severity;
special measures, designed to assist the efforts of the affected States in expediting the rendering of aid, assistance, and emergency welfare services, and the reconstruction and rehabilitation of devastated areas, are necessary.

It is the intent of the Congress, by this Act, to provide an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their

³³Disaster Relief Act of 1970, Public Law 91-606
(84 Stat. 1744-5), December 31, 1970.

responsibilities to alleviate the suffering and damage which result from such disasters by--
(1) revising and broadening the scope of existing major disaster relief programs;
(2) encouraging the development of comprehensive disaster relief plans, programs and organizations by the States; and
(3) achieving greater coordination and responsiveness of Federal major disaster relief programs.³⁴

The Federal Disaster Act of 1970 contains many new provisions and substantial revisions of previous policies among which the following are most illustrative:

1. The Director of OEP is authorized to enter into agreements coordinating the disaster relief roles of the Red Cross and any other disaster assistance organizations and to utilize, with their consent, their personnel and facilities for restoration of community services and facilities;

2. The Director is authorized to establish temporary communications and public transportation systems in a disaster area to enable the community to resume its normal pattern of life as soon as possible;

3. The Director is authorized to provide temporary housing for disaster victims and to provide federal assistance for the payment of rental or mortgage payments for persons who face eviction as a result of financial hardship caused by the disaster;

³⁴Ibid., Sec. 101.

4. Loans of several types are to be made available to individuals and businesses under reduced interest rates and flexible terms by the Small Business Administration, Farmers Home Administration and Veterans Administration. Up to \$2,500.00 of the principal can be canceled and repayment can be suspended for three years on these loans.

5. A stricken enterprise which constituted a major source of employment for an area is eligible for a federal loan under liberal terms in whatever amount is necessary to enable it to resume operations and thereby restore the economic stability of the area;

6. Food coupons or surplus commodities will be made available to low income families as required;

7. The Director shall assure that adequate legal services are made available to low income individuals who need legal advice as a consequence of the disaster;

8. The President is authorized to provide unemployment compensation for persons unemployed as a result of a disaster.

9. Contributions may be made to state and local governments to repair, restore, reconstruct, or replace any public facility, except that the federal contribution is not to exceed 100 per cent of the net cost of repairing, restoring, reconstructing, or replacing the facility on

the basis of the pre-disaster design of the facility. Under this provision, full flexibility is allowed to local governments in deciding what type of restoration will be made.

10. The President is authorized to make grants to a community to replace tax revenues lost because a disaster has reduced the community's tax base.

These provisions have greatly magnified the role of the federal government in disaster relief. Under this authority the Office of Emergency Preparedness should be able to provide local governments with all the assistance they need to cope with urban disaster.

It remains to be seen how this authority will be used by the federal government. President Nixon appears disposed to be liberal in his interpretation of what constitutes a major disaster. During February, 1971, he declared five major disasters and made initial allocations to enable the Office of Emergency Preparedness to assist local governments in recovery efforts. These allocations covered disaster situations in several states:

February 9	California	Earthquake	\$1,000,000
February 9	Washington	Heavy rains, melting snows, and flooding	500,000
February 13	Oregon	Storms and flooding	300,000

February 22	Mississippi	Storms and tornadoes	\$ 500,000
February 23	Nebraska	Severe storms and flooding	500,000 ³⁵

The Politics of Disaster Relief

While this study has not dealt directly with the politics of disaster relief, it would be well to point out that in severe urban disaster situations, such as the Lubbock tornado, political considerations may be temporarily set aside. This does not mean that disaster relief is apolitical because, as was pointed out earlier, Lubbock's elected officials used political means to influence changes in federal disaster legislation so that Lubbock would be eligible for additional recovery assistance from the federal government.

There is some evidence, however, that voters may not consider disaster a political issue for which elected officials will be held responsible. For example, F. Glen Abney and Larry B. Hill examined the effect of Hurricane Betsy on a municipal election in New Orleans, Louisiana, and concluded that the political repercussions of the disaster were not detrimental to the re-election of an incumbent mayor, even though his opponent had tried

³⁵Office of Emergency Preparedness, "Major Disaster Declarations 1953-1971," Washington, D.C., March, 1971. (typewritten list.)

to capitalize on the city's lack of preparedness for the hurricane.³⁶ Abney and Hill discovered that the mayor's administration was able to neutralize the stress induced by the hurricane on the political system because the community consistently held favorable attitudes towards the office of mayor, because the current mayor and his administration pursued a vigorous program of post impact relief activities and, finally, because the voters did not consider the hurricane a political issue for which the mayor should be held responsible, but rather as the act of an inscrutable God.

There is no reason to believe that the response of Lubbock's officials will be a significant political variable in future elections. There is less room for political considerations in urban disaster situations because the tasks required to relieve the collective stress are usually quite evident.

In less clearly defined disaster situations this may not be the case. A recent example of this is the request made by Governor Smith of Texas for a disaster declaration covering drought stricken areas of Texas. Governor Smith attempted to generate political pressure

³⁶F. Glen Abney and Larry B. Hill, "Natural Disasters as a Political Variable: The Effect of a Hurricane on an Urban Election," American Political Science Review, Vol. LX, No. 4 (December, 1966), p. 980.

in the matter by writing a letter to President Nixon requesting that he declare 175 Texas counties as major disaster areas. A month earlier, Smith had made a similar request for 50 Texas counties which had not been acted on by the federal government. The Governor released copies of his letter to the press and made public statements indicating that the presidential proclamation would make Texas farmers eligible for federal relief, including such things as a \$2,500.00 loan that could be forgiven under certain circumstances. Texas Senator John Tower accurately described the probable result of a presidential declaration covering so broad an area and dealing with a situation which would be hard to define as a genuine collective stress situation, when he said it would open a "Pandora's box" of troubles.³⁷

³⁷"Drought Aid Plea Renewed," Lubbock Avalanche-Journal, April 23, 1971, p. A-1.

CHAPTER VIII

CONCLUSION AND RECOMMENDATIONS

Disaster relief has become a cooperative effort between all levels of government in recent years. The impact of a major disaster in an urban area disrupts the flow of municipal services and induces a collective stress situation which must be relieved rapidly because of the interdependence of the city dweller with the other members of his community and of his dependence on his government to supply him with many of his basic needs.

Often in major urban disasters the timely restoration of services required to permit the return of the normal operation of the community is beyond the capability of local resources. While temporary relief measures may be necessary, the logistics of meeting the needs of an urban population are so involved that permanent restoration of the damaged municipal service system is more feasible than attempting stop-gap measures. The procedures which the American federal system has developed to deal with disaster rely on intergovernmental relations between all levels of government to achieve a corporate solution for relieving the collective stress situation.

An Evaluation of Intergovernmental
Relations in Lubbock

Federal-Local Relations Prior to
May 11, 1970

In evaluating the intergovernmental relations which the City of Lubbock experienced as a result of the Lubbock tornado, it is necessary to consider the general climate of intergovernmental relations existing before May 11, 1970. As was indicated earlier, local governmental officials in Texas have historically expressed a reluctance to accept federal assistance because their strong states-rights outlook led them to believe that the "strings attached" to federal money would impinge on their sovereignty. Crane noted the case of a Texas governor who made the statement that "The only thing we want from the federal government is to be left alone."¹ This statement was made only a year after the federal government had assisted the city of Waco considerably in its recovery at his request. As was noted earlier, the City of Lubbock's participation in federally sponsored programs prior to 1970 was quite limited because elected officials felt that local problems should be handled with local resources. ✓

¹Billy Gene Crane, "Intergovernmental Relations in Disaster Relief in Texas" (unpublished Ph.D. dissertation, The University of Texas, 1960), p. 293.

Federal-Local Relations After
May 11, 1970

Following the tornado, however, there was no indication of reluctance on the part of local officials in Lubbock in accepting federal disaster assistance. In fact, they viewed the availability of federal aid as a right. None of these officials felt that "strings were attached" to the federal money. Lubbock's attitude towards acceptance of federal assistance changed considerably and the city is currently participating in over a dozen federal programs.

Perhaps the best explanation for this changed outlook on the question of federal aid was the fact that Lubbock's Emergency Operations Plan worked so well. At no point during the disaster recovery operation did local officials have reason to believe that they were not in full control of the situation. This allowed them to take both credit for the progress made towards recovery and gave them no cause to blame any of the agencies who made assistance available to Lubbock for any shortcomings in the recovery program.

Practical Federalism in Lubbock

The disaster relief operation in Lubbock is an excellent example of what was defined earlier as "practical federalism." Under "practical federalism" each of the three levels of government took part in getting the job done. Disaster relief in Lubbock was a cooperative effort.

The Federal Role

The federal government's role consisted primarily of providing needed resources. This is a proper role because of the three levels of government, it is best able to meet unexpected financial needs of the magnitude required to restore urban services. It should also be pointed out that a strong Civil Defense program existed in Lubbock because federal funding had been made available for equipping the Emergency Operations Center and for providing approximately one-third of the city's annual Civil Defense budget.

The State Role

The state role, on the other hand, consisted of providing immediate post impact aid-in-kind and of coordinating the requests for assistance between the city and the federal government. This role, as an intermediary, is important because it relieves federal officials of the administrative burden of determining the relative seriousness of the thousands of disasters occurring annually throughout the United States. The requirement that the state governor determine that a valid need exists for federal assistance is important to the smooth functioning of the federal disaster relief program.

The Local Role

The role of the local government in Lubbock was being aware of its resources and having workable plans which would allow it to function under stress. Lubbock's government was able to cope with the stresses imposed by the disaster because its normal pattern of operation was not altered to deal with the crisis. In order for local government to be able to function in this manner, two conditions must be observed:

First, the disaster tasks assigned the various community emergency organizations should parallel their every day duties. In this way they will be familiar with what is expected of them during emergency operations. Personnel, whose normal duties are not disaster related, should be assigned to assist other departments under the direction of these other departments' supervisors, rather than attempting to perform unfamiliar tasks on their own.

Second, the Civil Defense resources should serve dual purposes. That is, emergency resources should be designed so that they are also useful in normal operations. For example, rather than set up a separate Civil Defense communication system, which will lie idle until the emergency, existing systems should be supplemented or planned in such a way that they can be drawn on in

emergency situations and yet, meet valid normal operating needs. The application of this principle permits governmental personnel to become familiar with the emergency resources and allows local officials to justify expenditures of scarce funds for resources for which an immediate need cannot always be demonstrated.

The employment of a "practical federalism" in Lubbock allowed city officials to work effectively with many different federal, state, and private agencies in the recovery program. There is no evidence that any major disagreements arose between the city and the outside agencies which provided assistance, and from the standpoint of inter-governmental relations, the Lubbock disaster relief operation will be remembered as an example of how the various units of a federal system can work in harmony.

The Effectiveness of Disaster Preparedness Programs

The effectiveness of a Civil Defense and Disaster Preparedness program can be judged by two criteria, first whether or not stated plans were followed and, second, by the resulting response to disaster.

The Implementation of the Emergency Operations Plan

Under the first criterion, the Lubbock Civil Defense program must be judged as very effective. The city defined

its Civil Defense program as local government operating in an emergency. The key to the program was the Emergency Operations Plan which specified procedures for responding to threatening situations.

The fact that the Emergency Operations Center was activated according to this plan two hours before the tornado struck was a major accomplishment. Lubbock had not experienced a major disaster in this century, although severe weather constantly threatens the city. In spite of the frequent false alarms, officials from each of the city's departments responded to a routine alert. Had these officials not believed strongly in the Civil Defense program, the EOC might have been empty when the tornado struck and the city's government might not have been able to organize itself following the impact of the tornado in sufficient time to take control of the relief effort.

The tasks assigned in the Emergency Operations Plan were generally accomplished as intended. This can be attributed to the fact that the tasks assigned to the various departments paralleled their normal duties, or involved assisting other departments in critical areas. Under this system operational decisions were made by supervisors who were familiar with the nature of the various emergency tasks, had a knowledge of available resources, and knew the stricken areas intimately.

The Response to the Disaster

The second criterion is harder to apply because there is a tendency to compare the actual response to a hypothetical ideal response. There is no doubt that there were many mistakes made in the initial phase of the disaster relief effort and that some aspects of the long-term recovery program, such as urban renewal, have been delayed. However, if this criterion is applied against the record of previous disaster relief operations in relieving collective stress situations, Lubbock's performance must be rated high.

By making extensive use of the assistance that was made available from many sources, Lubbock was able to restore essential services to the community within a few days. Individual victims were provided with the means to rehabilitate themselves through the Red Cross, Mi-Casita, and the many other private agencies which worked with government officials. This rehabilitation process has enabled many of the victims to completely recover from the tornado. / The completion of the long term tornado recovery programs which the city has initiated with federal assistance, such as urban renewal and neighborhood development, should raise the standard of living in some of the city's poorer areas, such as the Guadalupe neighborhood.

Utilization of a News Media "Hot Line"

Since May 11, 1970, the city's disaster preparedness has been improved to correct deficiencies which were noted during the tornado operation. One of the most noteworthy improvements was the installation of a "hot line" in the Lubbock Emergency Operations Center. This "hot line" consists of direct telephone links with all of the city's news media. By picking up a single telephone receiver, a city official can simultaneously announce warnings and other Civil Defense instructions to all of the city's mass media, for relay to the public. Had such a system been available during the tornado operation, it would have greatly assisted the city government in keeping the public informed concerning the disaster.

The Performance of the Council- Manager Form of Government

Lubbock's council-manager system of government functioned very well during the disaster situation. The method of government under which an elected City Council makes policy decisions and an appointed City Manager makes operational decisions functioned very smoothly. Mayor Granberry and the Council declared a state of emergency, passed emergency ordinances and made the official requests for outside aid. The political efforts of Lubbock's Mayor and City Council were instrumental in the success of the

city's congressional representatives in having parts of the Disaster Relief Act of 1970 made retroactive to include the Lubbock tornado.

The Decision to Employ the System of
Government Normally Used in Daily
Operations for the Relief
Operation

The administration of the relief and recovery programs was delegated by the City Council to the City Manager and his staff. It appears that this was a wise decision because these officials have established day-to-day working relationships in accomplishing the normal tasks of city government. A change of authority relationships during a period of crisis and severe stress would have impeded the performance of relief operations. The council-manager form of government allowed the important operational decisions to be made by the City Manager who deals on the operational level on a daily basis. This was important because the mayor and the councilmen are not deeply involved in the daily operation of the city. They also must remain more attuned to the political implications of their actions than the City Manager. In Lubbock, this situation which is common to the council-manager form of government was particularly pronounced. The Mayor, who had been elected only three weeks earlier, was a dentist who had served one two-year term as a councilman. The City Manager, on the

other hand, was a professional administrator who had occupied his post for several years and had had previous experience with disaster operations in 1961, when he was City Manager of Freeport, Texas, during Hurricane Carla

The performance of the council-manager form of government following the tornado proves that it is an efficient method of handling involved urban problems which require a delicate mixture of political accumen and administrative expertise.

The Adequacy of Current Legislation

The provisions of Public Law 81-875 were inadequate in that they did not allow enough assistance for the permanent restoration of urban services. Fortunately for Lubbock, the law was not strictly interpreted and considerable permanent restoration was permitted with federal funds. This loose interpretation of Public Law 81-875, however, could lead to unequal treatment of local governments under the federal disaster relief program, depending on the way the law is applied by regional federal officials.

The Federal Disaster Relief Act of 1969 provided some additional assistance, but this law was a temporary measure which was due to expire on December 31, 1970.

In a letter to the Lubbock City Manager on June 2, 1970, Senator Ralph Yarborough told how he felt that his testimony on the Lubbock tornado before the Special Sub-

committee on Disaster Assistance increased Senate concern for the many problems caused by the tornado.² It is apparent that the Lubbock tornado was a factor in the passage of the Disaster Relief Act of 1970, which gave the federal government a much more extensive role in disaster relief.

The provisions of Public Law 91-606, which were previously enumerated, enabled the federal government to assist local governments in relieving most elements of disaster imposed collective stress situations. This new legislation also allows unprecedented, direct assistance to individual disaster victims. The extent of the federal participation could hardly be broadened further without impinging on the traditional role of local government and private organizations in disaster relief.

Proposals for a Disaster Insurance Program

It was noted previously that Congress has considered the adoption of a Federal Disaster Insurance Program at times. In view of the increased federal role authorized by Public Law 91-606 adoption of such a program, which would be nearly impossible to administer, except in

²Letter, Ralph W. Yarborough to William R. Blackwell, June 2, 1970, City of Lubbock, Texas, Finance Department, Lubbock Tornado File.

areas of extremely high and continuing risk, does not appear desirable at this time. Some proponents of such a program appear to be motivated by a desire to see federal assistance be made available in proportion to the extent of a victim's loss, rather than by his need. This criticism that disaster relief tends to level differences between classes which existed prior to a disaster, is not new to the history of disaster relief. Alan H. Barton pointed out how this was an important issue in the relief operation in Holland following a serious flood.³ He also noted an instance in Louisiana where a local relief fund was set up to help persons whom the Red Cross had found possessed sufficient resources to help themselves.⁴

Determining if such social conflict existed in Lubbock was beyond the scope of this study, as was any investigation of the possibility that aid was not made available equally to all the victims of the tornado. It is still appropriate to conclude, however, that disaster relief should be made available solely on the basis of need. If the purpose of disaster relief is to remove a collective stress situation so that the members

³ Allen H. Barton, Communities in Disaster: A Sociological Analysis of Collective Stress Situations (Garden City, New York: Doubleday and Company Incorporated, 1969), p. 308.

⁴ Ibid., p. 315

of a community may receive expected conditions of life from the system, it should not be important to what degree their basic needs were being met before the disaster struck. The initiation by the city of a wide variety of recovery programs does not indicate that the city and the relief agencies considered anything but need as they worked to relieve the collective stress situation.

The success of the Lubbock disaster relief operation raises the question of why intergovernmental relations has not worked so well in relieving the collective stress situations existing on a permanent basis in the decaying central cities of many of the nation's metropolitan areas. Consideration should be given to applying some of the concepts which have proved successful in the intergovernmental relations of disaster relief to the less dramatic collective stress situations existing in our society. Barton has suggested that recent urban riots could be interpreted as a call for this type of action: ". . . the residents of American ghettos have taken to creating their own physical disasters as a means of attracting attention to their own plight."⁵

Recommendations for Improving Response
to Urban Disaster

Perhaps the key deficiency which this study revealed

⁵Ibid., p. 208.

is that the degree of disaster preparedness varies greatly among local governments. The primary responsibility for disaster preparedness lies with local government, but the impetus for planning should come from state government. Local governments which face shortages of funds for normal operations are often reluctant to make expenditures for contingencies which might never occur. The federal government, on the other hand, cannot provide sufficient flexibility in planning assistance to localities because the nature of the threats posed by various kinds of disasters varies so greatly throughout the United States.

The Role of the States in Disaster Planning

Under the Disaster Relief Act of 1970, the federal government has encouraged the states to promote disaster planning by allowing \$25,000.00 one time grants and \$25,000.00 annual grants on a matching basis for developing and maintaining:

. . . comprehensive plans and practicable programs for preparation against major disasters and for relief and assistance for individuals, businesses and local governments following such disasters. Such plans should include long-range recovery and reconstruction assistance plans for seriously damaged or destroyed public and private facilities.⁶

⁶The Disaster Relief Act of 1970, Public Law 91-606 (84 Stat. 1744), December 31, 1970, Sec. 206 (a).

The states should utilize these grants to assist local governments in increasing their preparedness for disaster. The university can provide valuable assistance to state Civil Defense officials in this task by conducting research on local response to disaster and by making the results of such research available directly to local government in the form of research reports and training programs conducted in concert with state Civil Defense officials.

The Coordination of Civil Defense at the Local Level

Civil Defense efforts at the local level should be coordinated between units of government facing common threats. Such coordination can be facilitated by more vigorous liaison action on the part of state officials. The combination of county and municipal Civil Defense functions may be feasible and desirable in many areas. All local governments in the High Plains area of West Texas, for example, face a similar tornado threat. The smaller municipalities and unincorporated communities require Civil Defense programs tailored to their needs, but they cannot afford to employ professional Civil Defense advisors. Joint county and city Civil Defense organizations should be established to serve this need. Interlocal cooperation should be increased in the entire

area served by the warning systems of the various local offices of the National Weather Service.

At the national level, the functions of the Office of Emergency Preparedness and the Office of Civil Defense should be combined into one Office of Disaster Preparedness.

A single federal agency could provide assistance to state and local governments without the duplication involved in the current system where both OEP and OCD have contact with state and local agencies which are responsible for both civil defense and disaster preparedness functions simultaneously.

The importance of defining Civil Defense as local government operating in an emergency cannot be over-emphasized. The military and para-military organizations of all levels of government have a role to play in providing resources for Civil Defense, but decision making in this area is a civilian function which must remain as close to the people as possible because, as Samuel H. Prince pointed out over fifty years ago in his study of the Halifax explosion, disaster relief can be a tremendous force for social change.⁷ It is in the interests of the community that such decisions be made by their elected officials.

⁷Samuel H. Prince. "Catastrophe and Social Change," Studies in History, Economics and Public Law, Vol. 94, No. 1 (January, 1920), pp. 121-133.

Under a system of "practical federalism" all levels of government can participate in disaster relief in a manner which will assure the speedy relief of the collective stress situations imposed by disasters, while allowing decisions which have an important bearing on the future of the community to be made at the local level.

SELECTED BIBLIOGRAPHY

Public Laws

- Lubbock, Texas. Code of Ordinances of the City of Lubbock, Texas. The Charter and General Ordinances of the City. Vol. I (1970).
- Texas. "Texas Civil Protection Act of 1951." Vernon's Annotated Civil Statutes, Vol. 19, Art. 6889-4, 1951.
- Texas. "Interstate Civil Defense and Disaster Compact." Vernon's Annotated Civil Statutes, Vol. 19, Art. 6889-5, 1961.
- U.S. Congress. An Act to Incorporate the American National Red Cross. Public Law 58-4, 58th Cong., 1st sess. (33 Stat. 599), January 5, 1905.
- U.S. Congress. The Surplus Property Disaster Act of 1947. Public Law 80-233, 80th Cong., 1st sess. (61 Stat. 422), July 27, 1947.
- U.S. Congress. The Disaster Relief Act of 1950. Public Law 81-875, 81st Cong., 2nd sess. (64 Stat. 1109), June 30, 1950.
- U.S. Congress. An Act to Allow States During Major Disasters to Use or Distribute Certain Surplus Equipment and Supplies of the Federal Government. Public Law 83-134, 83rd Cong., 1st sess. (67 Stat. 180), June 17, 1953.
- U.S. Congress. The Federal Flood Insurance Act. Public Law 84-1016, 84th Cong., 2nd sess. (70 Stat. 1078), August 7, 1956.
- U.S. Congress. An Act to Amend the Alaskan Omnibus Act of 1964. Public Law 88-451, 88th Cong., 2nd sess. (78 Stat. 505), August 19, 1964.
- U.S. Congress. The Pacific Northwest Relief Act of 1965. Public Law 89-41, 89th Cong., 1st sess. (79 Stat. 131), June 17, 1965.
- U.S. Congress. An Act to Amend Public Laws 81-815 and 81-874 to Provide Financial Assistance in the Construction and Operation of Public Elementary and Secondary Schools in the Areas Affected by a Major Disaster . . . and for Other Purposes. Public Law

89-313, 89th Cong., 1st sess. (79 Stat. 1158),
November 1, 1965.

U.S. Congress. The Southeast Hurricane Disaster Relief Act of 1965. Public Law 89-339, 89th Cong., 1st sess. (79 Stat. 1301), November 8, 1965.

U.S. Congress. The Federal Disaster Relief Act of 1966. Public Law 89-769, 89th Cong., 2nd sess. (80 Stat. 1316), November 6, 1966.

U.S. Congress. An Act to Amend Public Laws 81-815 and 81-874 and Authorizing Further Disaster Assistance to Public Schools. Public Law 90-247, 90th Cong., 1st sess. (81 Stat. 783), January 2, 1968.

U.S. Congress. The Disaster Relief Act of 1969. Public Law 91-79, 91st Cong., 1st sess. (83 Stat. 125), October 1, 1969.

U.S. Congress. The Disaster Relief Act of 1970. Public Law 91-606, 91st Cong., 2nd sess. (84 Stat. 1744), December 31, 1970.

Public Documents

Lubbock, Texas. Emergency Operations Plan. Lubbock, Texas: City of Lubbock Civil Defense Office, (undated).

Lubbock, Texas. Emergency Operations Plan. Lubbock, Texas: City of Lubbock Civil Defense Office, November, 1970 (Revised edition).

Lubbock, Texas. Office of the Mayor of the City of Lubbock. Proclamation Declaring a State of Emergency as of 10:00 P.M., May 11, 1970, by Mayor James H. Granberry. Lubbock, Texas: Office of the Mayor, 1970.

Lubbock Independent School District, Office of the Assistant Superintendent for Business Affairs. Reported Storm Damage as of May 24, 1970. Lubbock, Independent School District, 1970. (mimeographed report.)

Texas. Department of Public Safety, Civil Defense and Disaster Relief Planning; A Manual for Local Governments. Austin: Texas Department of Public Safety, 1961.

- Texas. Texas Department of Public Safety, Division of Defense and Disaster Relief. Texas Defense Digest, Vol. 19, No. 2, February-March, 1971. Austin: Texas Department of Public Safety, 1971.
- U.S. Commission on Intergovernmental Relations. Report Submitted by a Sub-Committee on Natural Disaster Relief. Washington, D.C.: Government Printing Office, June, 1955.
- U.S. Congress. House. Committee on Public Works. Disaster Assistance Legislation, Hearings, before a subcommittee of the Committee on Public Works, House of Representatives on H.R. 17518 and Related Bills, 91st Cong., 2nd sess., 1970.
- U.S. Congress. House. Representative Harold C. Hagen speaking for Disaster Assistance Legislation. H.R. 8396, 81st Cong., 2nd sess. August 7, 1950. Congressional Record, XCVI, Part 9, pp. 11900-03.
- U.S. Congress. Senate. Senator Ralph Yarborough introducing S. 3848, a Bill to provide emergency relief for 11 Texas counties affected by the Lubbock and Plainview tornadoes. 91st Cong., 2nd sess., May 18, 1970, Congressional Record, pp. S7286-90.
- U.S. Congress. Senate. Committee on Public Works, Disaster Assistance. S. Rept. 91-1157 to Accompany S.3619, 91st Cong., 2nd sess., August 30, 1970.
- U.S. Department of Commerce. Environmental Services Administration. The Lubbock, Texas, Tornado May 11, 1970, A Report to the Administrator, Natural Disaster Survey Report 70-1. Rockville, Maryland: Department of Commerce, July, 1970.
- U.S. Department of Commerce. National Bureau of Standards. Lubbock Tornado: A Survey of Building Damage in an Urban Area, by N. F. Somes, R. D. Dikkers, and T. H. Boone. NBS Technical Note 558. Washington, D.C.: Government Printing Office, March, 1971.
- U.S. Department of State. United States Treaties and Other International Agreements, Vol. XIX, Part 1, pp. 4812-3. "Mexico-Disaster Assistance," TIAS No. 6481, May 3, 1968.

- U.S. Department of Health, Education and Welfare. Office of Education. Nineteenth Annual Report of the Commissioner of Education on the Administration of Public Laws 81-874 and 81-815. Washington, D.C.: Government Printing Office, June 30, 1969.
- U.S. Department of the Army. Office of Civil Defense, Region Five. Lubbock Tornado Report. Denton, Texas: Office of Civil Defense, May, 1970.
- U.S. Department of the Army. Office of Civil Defense, Region Five. "Lubbock Tornado Spotlights Civil Defense Preparations." Sign of the Times, Vol. 8, No. 2, July, 1970. Denton, Texas: Office of Civil Defense, 1970.
- U.S. Executive Department. Office of the Vice President. The Vice President's Handbook for Local Officials: A Guide to Federal Assistance for Local Governments. Washington, D.C.: Government Printing Office, November 1, 1967.
- U.S. Executive Office of the President. Office of Economic Opportunity. Catalog of Federal Assistance Programs. Washington, D.C.: Government Printing Office, June 1, 1967.
- U.S. Executive Office of the President. Office of Emergency Preparedness. Federal Disaster Assistance Handbook for Local Government Officials. OEP circular 4000.7A. Washington, D.C.: Office of Emergency Preparedness, 1969.

Books

- American Red Cross. Annual Report for the Year Ended June 30, 1970. Washington, D.C.: American Red Cross, 1970.
- American Red Cross. Lubbock County (Texas) Chapter. Disaster Relief Plan. Lubbock, Texas: American Red Cross, 1958.
- American Red Cross. The Fifties, A Decade of Disasters A Report to the Nation on Red Cross Disaster Services. Washington, D.C.: American Red Cross, 1960.
- Baker, George Walter, and Chapman, Dwight W., editors. Man and Society in Disaster. New York: Basic Books, 1962.

- Barton, Allen H. Communities in Disaster: A Sociological Analysis of Collective Stress Situations. Garden City, New York: Doubleday and Company, Incorporated, 1969.
- Battan, Louis J. The Nature of Violent Storms. Garden City, New York: Doubleday and Company, Incorporated, 1961.
- Cotter, Corneilus P. Jet Tanker Crash: Urban Response to Military Disaster. Kansas: Lawrence University Press, 1958.
- Dacy, Douglas C., and Kunreuther, Howard. The Economics of Natural Disasters: Implications for Federal Policy. New York: The Free Press, 1969.
- Downey, Fairfax Davis. Disaster Fighters. New York: G. P. Putnam's Sons, 1938.
- Dulles, F. R. The American Red Cross: A History. New York: Harper and Brothers, 1950.
- Dynes, Russell R. Organized Behavior in Disaster. Lexington, Massachusetts: D. C. Heath and Company, 1970.
- Form, William Hubert, and Nosow, Sigmond. Community in Disaster. New York: Harper and Brothers, 1958.
- Graves, W. Brooke. American Intergovernmental Relations. New York: Charles Scribner's Sons, 1964.
- Hauptmann, Jerry, ed. The County and Intergovernmental Relations. Kansas City, Missouri: Park College Press, 1968.
- Hewitt, Ronald. From Earthquake, Fire and Flood. New York: Charles Scribner's Sons, 1957.
- Hurd, Charles. A Compact History of the American Red Cross. New York: Hawthorn Books Incorporated, 1959.
- Lynch, Dudley. Tornado-Texas Demon in the Wind. Waco: Texian Press, 1970.
- McClesky, Clifton. The Government and Politics of Texas. Boston: Little, Brown and Company, 1963.

- McDonald, James R. Structural Response of a Twenty-Story Building to the Lubbock Tornado. Lubbock, Texas: Texas Tech University, 1970.
- Moore, Harry Estill. Tornadoes Over Texas: A Study of Waco and San Angelo in Disaster. Austin: University of Texas Press, 1958.
- Whitehead, Carlton J. A City's Response to Disaster, May 11, 1970. Lubbock, Texas: Texas Tech University, 1970.

Articles and Periodicals

- Abney, F. Glen, and Hill, Larry B. "Natural Disasters as a Political Variable: The Effect of a Hurricane on an Urban Election." American Political Science Review, Vol. LX, No. 4 (December, 1966), 975-81.
- Adams, David. "The Red Cross: Organizational Sources of Operational Problems." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 392-403.
- Anderson, William A. "Social Structure and the Role of the Military in Natural Disaster." Sociology & Social Research, Vol. 53, No. 1 (January, 1969), 246-53.
- Anderson, William A. "Military Organizations in Natural Disaster: Established and Emergent Norms." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 415-22.
- Barton, Allen H. "The Emergency Social System." Man and Society in Disaster. Edited by George W. Baker and Dwight W. Chapman. New York: Basic Books, Inc., 1962, pp. 222-67.
- Bunker, Ellsworth. "The Voluntary Effort in Disaster Relief." Disaster and Disaster Relief, The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 107-17.
- Burgess, Carter L. "The Armed Forces in Disaster Relief." Disasters and Disaster Relief, The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 71-80.

Congressional Quarterly Weekly Report. February 6, 1970,
pp. 357-62.

Drabek, Thomas E. "Methodology of Studying Disasters: Past Patterns and Future Possibilities." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 331-41.

Dynes, Russell R. "Organizational Involvement and Changes in Community Structure in Disaster." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), pp. 430-39.

Dynes, Russell R., and Quarantelli, E.L. "Group Behavior under Stress: A Required Convergence of Organizational and Collective Behavior Perspectives." Sociology & Social Research, Vol. 52 (July, 1968), 416-29.

Ely, Robert C. "The Prospects for a Federal Disaster Insurance Program." Insurance Law Journal, No. 525 (October, 1966), 598-605.

Kennedy, Will C. "Police Departments: Organization and Tasks in Disaster." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 354-61.

Leet, L. Don. "Earthquakes." Disasters and Disaster Relief, The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 36-41.

Lubbock Avalanche-Journal. May 11-31, June 27, July 2, August 3, 1970; April 23, 1971.

Martin, Tom. "Natural Disaster...May 12, 1970." Texas Town and City, November, 1970, pp. 14-15.

McGill, William L. "How a State Prepares for Disaster." Disaster and Disaster Relief, The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 23-35.

Overman, Edwin S. "The Flood Peril and the Federal Flood Insurance Act of 1956." Disaster and Disaster Relief, The Annals of the American Academy of Political and Social Sciences, Vol. 309 (January, 1957), pp. 98-106.

- Parr, Arnold R. "Organizational Response to Community Crises and Group Emergence." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 423-29.
- Personett, Mel J. "Police Planning for Natural Disasters." Police, Vol. 12 (July-August, 1968), 6-12.
- Peterson, Val. "Co-ordinating and Extending Federal Assistance." The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 52-64.
- Prince, Samuel H. "Catastrophe and Social Change." Studies in History, Economics and Public Law, Vol. 94, No. 1 (January, 1920), 121-33.
- Reichelderfer, F. W. "Hurricanes, Tornadoes and Other Storms." Disaster and Disaster Relief, The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 23-35.
- Roth, Robert. "Cross-Cultural Perspectives on Disaster Response." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 440-51.
- Ross, James L. "The Salvation Army: Emergency Operations." American Behavioral Scientist, Vol. 3, No. 3 (January-February, 1970), 404-14.
- Stiles, William W. "How a Community Met a Disaster: Yuba City Flood, December, 1955." The Annals of the American Academy of Political and Social Science, Vol. 309 (January, 1957), 160-219.
- Stoddard, Ellwyn. "Some Latent Consequences of Bureaucratic Efficiency in Disaster Relief." Human Organization, Vol. 28, No. 3 (Fall, 1969), 177-89.
- Thompson, James D., and Hawkes, Robert W. "Disaster, Community Organization, and Administrative Process." Man and Society, edited by George W. Baker and Dwight W. Chapman. New York: Basic Books, Inc., 1962, pp. 268-304.
- Warheit, George J. "Fire Departments: Operations During Major Community Emergencies." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 362-68.

Whisenand, Paul M. "Municipal Police Services in a Disaster Preparedness Program: A Role Analysis." Police (January-February, 1969), 65-73.

Yutzy, Daniel. "Priorities in Community Response." American Behavioral Scientist, Vol. 13, No. 3 (January-February, 1970), 344-53.

Disaster Studies of the Disaster Research
Group of the National Academy of
Sciences--National Research
Council, Washington, D.C.

Barton, Allen H. Social Organization Under Stress: A Sociological Review of Disaster Studies. Disaster Study No. 17. Washington: National Academy of Sciences--National Research Council, 1963.

Bakst, H. J.; Berg, R. L.; Foster, F. D.; and Raker, J. W. The Worcester County Tornado--A Medical Study of the Disaster. Washington: National Academy of Sciences--National Research Council, 1955.

Clifford, R. A. The Rio Grande Floods: A Comparative Study of Border Communities in Disaster. Disaster Study No. 7. Washington: National Academy of Sciences--National Research Council, 1956.

Danzig, E. R.; Thayer, P. W.; and Galanter, Lila R. The Effects of a Threatening Rumor on a Disaster-Stricken Community. Disaster Study No. 10. Washington: National Academy of Sciences--National Research Council, 1958.

Fritz, C. E.; and Mathewson, J. H. Convergence Behavior in Disasters: A Problem in Social Control. Disaster Study No. 9. Washington: National Academy of Sciences--National Research Council, 1957.

Killian, L. M., and Rayner, Jeannette, F. An Assessment of Disaster Operations Following the Warner Robins Tornado. Washington: National Academy of Sciences--National Research Council, Committee on Disaster Studies, 1953.

Killian, L. M., and Rayner, Jeannette F. A Study of Response to the Houston, Texas, Fireworks Explosion. Disaster Study No. 2. Washington: National Academy of Sciences--National Research Council, 1956.

- Killian, Lewis M. An Introduction to Methodological Problems of Field Studies in Disaster. Disaster Study No. 8. Washington: National Academy of Sciences--National Research Council, 1956.
- Moore, H. E.; Bates, F. L.; Layman, M. V.; and Parenton, V. J. Before the Wind: A Study of the Response to Hurricane Carla. Disaster Study No. 19. Washington: National Academy of Sciences--National Research Council, 1963.
- Nicholson, G. E., Jr., Blackwell, G. W. Game Theory and Defense Against Community Disaster. Washington: National Academy of Sciences--National Research Council, 1959.
- Wallace, A. F. C. Tornado in Worcester: An Exploratory Study of Individual and Community Behavior in an Extreme Situation. Disaster Study No. 3. Washington: National Academy of Science--National Research Council, 1956.

Research Reports and Monographs of
the Disaster Research Center,
The Ohio State University,
Columbus, Ohio

- Adams, David S. Emergency Actions and Disaster Reactions: An Analysis of the Anchorage Public Works Department in the 1964 Alaska Earthquake. Columbus: Disaster Research Center, The Ohio State University, 1969.
- Adams, David S. "The Minneapolis Tornadoes May 6, 1965: Notes on the Warning Process." Disaster Research Center Report Number 16. The Ohio State University, September 15, 1965.
- Anderson, William A. Disaster and Organizational Change: A Study of the Long-Term Consequences in Anchorage of the 1964 Alaska Earthquake. Columbus: Disaster Research Center, The Ohio State University, 1969.
- Brouillette, John R. "A Tornado Warning System: Its Functioning on Palm Sunday in Indiana." Disaster Research Center Report Number 15. The Ohio State University, January 27, 1966.

- Brouillette, John R. "Impressions of the Community Response in the Jonesboro, Arkansas Tornado." Disaster Research Center Report Number 22. The Ohio State University, June 8, 1968.
- Drabek, Thomas E. Disaster in Aisle 13: A Case Study of the Coliseum Explosion at the Indiana State Fairgrounds, October 31, 1963. Columbus: College of Administrative Science, The Ohio State University, 1968.
- Drabek, Thomas E. Laboratory Simulation of a Police Communication System Under Stress. Columbus: College of Administrative Science, The Ohio State University, 1970.
- Dynes, Russell R.; Haas, J. Eugene; and Quarantelli, E. L. "Some Preliminary Observations on Organizational Response in the Emergency Period after the Niigate, Japan Earthquake of June 16, 1964." Disaster Research Center Report Number 11. The Ohio State University, December 1, 1964.
- Kennedy, Will C. "Some Preliminary Observations on a Hospital Response to the Jackson, Mississippi Tornado of March 3, 1966." Disaster Research Center Report Number 17. The Ohio State University, February 10, 1967.
- Quarantelli, E. L. "The Vaiont Dam Catastrophe: A Case Study of Extracommunity Responses in a Massive Disaster." Disaster Research Center Report Number 24. The Ohio State University, August, 1970.
- Yutzy, Daniel. "Authority, Jurisdiction and Technical Competence: Interorganizational Relationships at Great Falls, Montana, During the Flood of June 8-10, 1964." Disaster Research Center Report Number 10. The Ohio State University, September 25, 1964.
- Yutzy, Daniel, with Anderson, William A., and Dynes, Russell R. Community Priorities in the Anchorage, Alaska, Earthquake, 1964. Columbus: Disaster Research Center, The Ohio State University, 1969.

Unpublished Ph.D. Dissertations

- Anderson, William Averette. "Disaster and Organizational Change: A Study of Some of the Long Term Consequences of the March 27, 1964, Alaska Earthquake." Unpublished Ph.D. dissertation, The Ohio State University, 1966.
- Crane, Billy Gene. "Intergovernmental Relations in Disaster Relief in Texas." Unpublished Ph.D. dissertation, The University of Texas, 1960.
- De Grove, John M. "The Central and Southern Florida Flood Control Project: A Study in Intergovernmental Cooperation and Public Administration." Unpublished Ph.D. dissertation, The University of North Carolina at Chapel Hill, 1958.
- Diamond, Alfred Eugene. "The Establishment of a State Civil Defense Structure: A Problem in Government Responsibilities and Intergovernmental Relationships." Unpublished Ph.D. dissertation, The Ohio State University, 1961.
- Fogleman, Charles Willard. "Family and Community in Disaster: A Socio-Psychological Study of the Effects of a Major Disaster Upon Individuals and Groups Within the Impact Area." Unpublished Ph.D. dissertation, Louisiana State University, 1958.
- Parr, Arnold Richard. "Group Emergence Under Stress: A Study of Collective Behavior During the Emergency Period of Community Crises." Unpublished Ph.D. dissertation, The Ohio State University, 1969.
- Reynolds, Thomas Hedley. "American Red Cross Disaster Services, 1930-1947." Unpublished Ph.D. dissertation, Columbia University, 1954.
- Rosow, I. L. "Conflict of Authority in Natural Disaster." Unpublished Ph.D. dissertation, Harvard University, 1955.
- Shappee, Nathan O. "A History of Johnstown and the Great Flood of 1889: A Study of Disaster and Rehabilitation." Unpublished Ph.D. dissertation, University of Pittsburgh, 1940.

- Stoddard, Ellwyn Reed. "Catastrophe and Crisis in a Flooded Border Community: An Analytical Approach to Disaster Emergence." Unpublished Ph.D. dissertation, Michigan State University of Agriculture and Applied Science, 1961.
- Warheit, George Jay. "The Impact of Major Emergencies on the Functional Integration of Four American Communities." Unpublished Ph.D. dissertation, The Ohio State University, 1968.
- Williams, H. B., Jr. "Communication in Community Disasters." Unpublished Ph.D. dissertation, University of North Carolina, 1956.

Other Unpublished Materials

- Blackwell, Bill. City Manager, City of Lubbock, Texas. "Federal Coordination, Who Needs It? Local Government Views." Remarks at meeting sponsored by Bureau of Outdoor Recreation, Denver, Colorado, January 7, 1971. (Typewritten.)
- City of Lubbock, Texas. Finance Department. Lubbock Tornado File.
- Granberry, James H. Mayor, City of Lubbock, Texas. "A Report on the Lubbock Tornado." Lubbock, Texas, October 14, 1970. (Mimeographed.)
- Miller, Sterling K. Director of Finance, City of Lubbock, Texas. "Disaster Recovery." Lubbock, Texas, Undated. (Typewritten.)
- Miller, Sterling K. Director of Finance, City of Lubbock, Texas. "The Lubbock Tornado: Financial Implications." Lubbock, Texas, March 15, 1971. (Typewritten.)
- Moss, Doctor C. Basil. Lubbock County Chapter, American Red Cross. "Report of Red Cross Medical Aid Administered at the Lubbock Municipal Auditorium." Lubbock, Texas, May, 1970. (Mimeographed.)
- Office of Emergency Preparedness. "Major Disaster Declarations, 1953-1971." Washington, D.C., March, 1971. (Typewritten.)

Payne, Bill. Director of Civil Defense, Lubbock, Texas. "A Tornado Strikes Lubbock, Texas." Remarks made to U.S. Civil Defense Council Nineteenth Annual Conference, Fort Worth, Texas, October 4, 1970. (Typewritten.)

Sharp, W. Hershel. Chief, Lubbock Fire Department. "A Tornado Strikes the Heart of My City." Remarks to the Texas Fire Chiefs Association. Fort Worth, Texas, October 20, 1970. (Typewritten.)

Interviews

Alley, J. T. Police Chief, Lubbock Police Department. City of Lubbock, Texas, April, 1971.

Blackwell, William R. City Manager. City of Lubbock, Texas, March, 1971.

Carpenter, Captain Ferman. Highway Patrol Commander, District 5A, Texas Department of Public Safety, Lubbock, Texas, April, 1971.

Ferguson, Royal. County Auditor, Lubbock County, Texas, April, 1971.

Foppe, Regina E., Sister. Director of Housing and Social Action, Mi-Casita Home Counseling Service. Lubbock, Texas, April, 1971.

Looney, E. V. Internal Auditor, Finance Department. City of Lubbock, Texas, March, 1971.

McGraw, Jack. Executive Director, Mi-Casita Home Counseling Service. Lubbock, Texas, April, 1971.

Miller, Sterling. Director of Finance. City of Lubbock, Texas, March, 1971.

Payne, William A. Director of Civil Defense. City of Lubbock, Texas, October, 1970.

Schlueter, M. A. Liaison Officer, Division of Defense and Disaster Relief, Region 5, Texas Department of Public Safety, Lubbock, Texas, December, 1970.

Shaw, Roderick L. County Judge, Lubbock County, Texas, April, 1971.

- Voight, A. W. Executive Director, Lubbock County Chapter, American Red Cross, Lubbock, Texas, February, 1971.
- Wahl, Samuel W. Director of Public Works. City of Lubbock, Texas, February, 1971.
- Ward, Colonel Jesse. Resources Management Officer, Division of Defense and Disaster Relief, Texas Department of Public Safety, Austin, Texas, December, 1970.
- Wright, Linus. Assistant Superintendent for Business Affairs, Lubbock Independent School District, Lubbock, Texas, January, 1971.

