# 2013 Lubbock Emergency Warning Task Force
## Final Report

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Resolution No. 2013-R0188
June 13, 2013
Item No. 6.5

RESOLUTION

WHEREAS, recent tornados in Oklahoma and other states caused catastrophic property damage and loss of life; and

WHEREAS, early notifications and warnings to citizens of severe weather and tornados are important factors in saving lives; and

WHEREAS, the City and County have a joint Emergency Management Plan; and

WHEREAS, the City Council finds it to be in the public interest to evaluate the City of Lubbock’s current notification and warning procedures and systems to alert citizens of tornados; and

WHEREAS, the City Council desires to appoint a task force, as set forth herein, to study and evaluate the current notification and warning procedures and systems and make recommendations to the City Council to address what improvements or upgrades may be required, if any, to establish an effective warning system; NOW THEREFORE,

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LUBBOCK:

SECTION 1. THAT the Tornado Warning Task Force is hereby created to study and evaluate the issue of notification and warning procedures and systems to effectively alert and warn citizens of impending catastrophic weather events, including tornados.

SECTION 2. THAT the Tornado Warning Task Force be composed of nineteen (19) members as follows:

1. Lubbock Mayor Glen C. Robertson
2. County Judge Tom Head
3. City Manager Lee Ann Dumbauld
4. Sheriff Kelly Rowe
5. Assistant City Manager and Chief Information Officer Mark Yearwood
6. Fire Chief Mike Kemp
7. Emergency Management Coordinator Jay Parchman
8. Chief of Police Roger Ellis
9. Wolfforth Mayor Charles Addington, II
10. Texas Department of Public Safety Region V District Coordinator Colleen O’Neal
11. National Weather Service Office Meteorologist in Charge Justin Weaver
12. Lubbock Independent School District representative Chief Jody Scifres
13. Lubbock-Cooper Independent School District representative Rick Saldana
14. Frenship Independent School District representative Danny Miller
15. Texas Tech University System Managing Director of Risk Management and Emergency Management Steve Bryant
16. Texas Tech University Professor and President of National Storm Shelter Association Dr. Ernie Kiesling
17. American Red Cross South Plains Chapter Board Chairman Bill Curnow
18. Lubbock Power & Light Substation Operations Supervisor Paul Leonard
19. University Medical Center Vice President Jeff Hill

SECTION 3 THAT the City Council herein appoints all the members of the Tornado Warning Task Force as set forth in Section Two, above, and the Chairperson of the Task Force shall be the Emergency Management Coordinator of the City of Lubbock, Texas.

SECTION 4. THAT the Tornado Warning Task Force shall present its recommendations on the issue to the City Council for its review no later than October 1, 2013.

Passed by the City Council on June 13, 2013

GLEN C. ROBERTSON, MAYOR

ATTEST:

Rebecca Garza, City Secretary

APPROVED AS TO CONTENT:

Glen C. Robertson, Mayor

Karen Gibson, Mayor Pro Tem

APPROVED AS TO FORM:

Chad Weaver, Assistant City Attorney

vw:ccdocs/RES.Tornado Warning Task Force
June 5, 2013
2013 TORNADO WARNING TASK FORCE

CREATED:
June 13, 2013

RECOMMENDATIONS DUE:
No later than October 1, 2013

CHARGE:
To study and evaluate the current notification and warning procedures and systems and make recommendations to the City Council to address what improvements or upgrades may be required, if any, to establish an effective warning system.

TASK FORCE MEMBERS:

<table>
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<tr>
<th>Addington</th>
<th>Charles</th>
<th>Mayor, City of Wolfforth</th>
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<tr>
<td>Bryant</td>
<td>Steve</td>
<td>Managing Director, TTU System Risk Management, EMC</td>
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<td>Curnow</td>
<td>Bill</td>
<td>Past President of American Red Cross South Plains Chapter</td>
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<td>Ellis</td>
<td>Roger</td>
<td>Chief of Police, City of Lubbock</td>
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<td>Head</td>
<td>Tom</td>
<td>County Judge, Lubbock County</td>
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<td>Hill</td>
<td>Jeff</td>
<td>Vice President, University Medical Center</td>
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<td>Kemp</td>
<td>Mike</td>
<td>Fire Chief, City of Lubbock</td>
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<td>Kiesling</td>
<td>Ernie</td>
<td>TTU Professor and Executive Director of National Storm Shelter Association</td>
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<td>Leonard</td>
<td>Paul</td>
<td>Operations Manager, Lubbock Power &amp; Light</td>
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<td>Loomis</td>
<td>James</td>
<td>City Manager, City of Lubbock</td>
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<td>Miller</td>
<td>Danny</td>
<td>Designated Emergency Management Coordinator, Frenship ISD</td>
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<td>O'Neal</td>
<td>Colleen</td>
<td>District Coordinator, TX Dept of Public Safety, Division of Emergency Management</td>
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<td>Parchman</td>
<td>Jay</td>
<td>Director, Office of Emergency Management</td>
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<td>City of Lubbock</td>
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<td>Robertson</td>
<td>Glen C.</td>
<td>Mayor, City of Lubbock</td>
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<td>Rowe</td>
<td>Kelly</td>
<td>Sheriff, Lubbock County</td>
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<td>Saldana</td>
<td>Rick</td>
<td>Chief of Police, Designated Emergency Management Coordinator,</td>
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<td>Lubbock-Cooper ISD</td>
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<td>Scifres</td>
<td>Jody</td>
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<td>Lubbock ISD</td>
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<tr>
<td>Weaver</td>
<td>Justin</td>
<td>Meteorologist-in-Charge, Lubbock ISD</td>
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<td>National Weather Service Lubbock</td>
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<td>Yearwood</td>
<td>Mark</td>
<td>Assistant City Manager, CIO, City of Lubbock</td>
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**TASK FORCE COMMITTEES AND CHAIRS:**

**Communications Committee** Chairs: Bill Curnow and Danny Miller

Communications Sub-Committees:

**Functional Needs** Chair: Rachel Dolan, Coordinator, City of Lubbock Public Health Emergency Preparedness

**Public Information** Chair: Jeff McKito, City of Lubbock Public Information Officer

**Maintenance Committee** Chairs: Paul Leonard and Jody Scifres

**Public Safety Committee** Chairs: Roger Ellis and Justin Weaver

**Technology Committee** Chairs: Kelly Rowe and Mark Yearwood

**Warning Systems Committee** Chairs: Steve Bryant and Rick Saldana
“A TORNADO STRIKES THE HEART OF MY CITY

It was a pretty day-------- no mention of rain in the early forecasts. About nine in the morning five construction men were hurt in an accidental fall from the Court Place Building in the heart of the city. An elevator had collapsed. Walter Ruther, the Labor Leader, died in a plane crash the night before as a thousand students and war veterans gave an appreciation dinner in Los Angeles for Ross Perot and the Lubbock paper noted that Julia and Tricia Nixon had given candy to their mother in observance of mother’s day. At 7:00 P. M., the Lubbock Fire Fighters Association held their annual banquet for the News Media. At 7:30 P. M. that evening, the Lubbock Weather Bureau amended the forecast to include a 30 percent chance of rain.

At 9:46 that night all the electric clocks in Lubbock stopped. As time stood still, the most devastating tornado in history ravaged huge portions of my city.

The tornado moved in along a path that ranged from one-fourth to one and one-half miles wide and eight and one-half miles long. The death toll reached 26 and over 1,500 were injured. It wiped out 1,046 family units and damaged 8,876 more. Property damage is believed to have exceeded $135 million.

Central Station was heavily damaged, the roof had collapsed on top of the Snorkel, the doors were jammed and the other apparatus could not move out. The alarm office was a shamble and the dispatcher on duty lost an eye from flying glass. All telephone and radio communications were gone.

City Hall received extensive damage and the E. O. C. in the basement lost all radio contact and for a time only one telephone trunk line from the outside was in service. The Police Station, at City Hall, also received extensive damage and was without radio contact as their antenna had gone down.

In any large scale emergency communications becomes critical. Ours was even more so as the base stations of all the city radio frequencies were knocked out. Until some time the next day when temporary antennas could be raised, we had to depend on mobile units and walkie-talkies, and messages had to be relayed as many as 3 times to get in to the E. O. C.

By some strange fate, Radio Station KFYO our Emergency Broadcasting System Station remained on the air and broadcast emergency messages throughout the night and for several days after. It was by this mean that the Police Chief and I were able to call in our off-duty personnel.
CIVIL DEFENSE IN LUBBOCK IS LOCAL GOVERNMENT OPERATING IN AN EMERGENCY.

Each department in the city simply expand their normal function to meet the situation at hand.

We have an excellent Emergency Operating Center in the basement of City Hall. The E.O.C. consists of a large staff room with maps, telephone extensions, and a T. V. set that can be tuned to a local weather channel that utilizes the weather radar of one of the T. V. Stations. We also have a Radio Room where all the city radio frequencies (6) have a remote transceiver and a Shortwave Set. We also have the capability of monitoring the D. P. S. and Sheriff’s Department. The City Hall switchboard is located adjacent to the radio room. There is an ESSA weather teletype in the Civil Defense Directors Office together with a remote unit of the Emergency Broadcasting System Radio Station. There is also desk space and telephones for the news media in an office adjacent to the staff room.

Our City Manager, Bill Blackwell is well versed in emergency operations having served in Freeport and Galveston and experienced in handling several of the hurricanes that hit those cities. After coming to Lubbock he saw that all directors and department heads updated their emergency operations plan. In other words he gave us the leadership to organize and plan for emergencies. For the past four years the E. O. C. has been activated on a limited or full scale basis an average of 20 to 25 times a year on weather alerts and other emergencies. With this experience the staff and directors had become an active, efficient operating team aware of each other’s capabilities and resources.

Before going on with a discussion of our operations that night, I would like to explain one other policy of our City Manager that I feel contributed a great deal to our success during the storm. Severe weather is a way of life in West Texas during the spring and summer months and a number of our citizens have storm shelters, Mr. Blackwell feels that the staff can and will operate more efficiently if they know their families are safe. He has encouraged the staff to bring their families to the E. O. C. when it is activated. The Coffee Shop is opened up and they visit while the staff is working. This surely worked on May11.

When severe weather is reported over the ESSA Weather Wire the City Hall switchboard operator notifies the Police Department, Fire Department, and the Civil Defense Director. The Civil Defense Director then activates the E. O. C. on a limited or full scale basis depending on the situation. When the E. O. C. is activated on a limited basis the following are notified and report to the E. O. C. - Civil Defense Director, Police Chief, Fire Chief, Electric Distribution, Internal Safety Director who is the Warning Officer and the Communications Supervisor together with Radio Operators for the remote units • On full activation, the Manager’s Staff and all the Department Directors report to the E. O. C.

The emergency plan for the Fire Department calls for me to report to the E. O. C. The Deputy Chief reports to Central and assumes command of the
field forces. The Chief Training Officer reports to the Weather Station at the Airport where we have a two-way radio on the fire department’s frequency. The Captain in the Training Division reports to the E. O. C. and mans our radio. The Fire Marshal remains in the field and acts as a visual observer. All Fire Stations are alerted and call in weather observations from their stations.

I will not attempt to give you a blow by blow description of the events leading up to the time the storm hit, but will only touch the high points.

At 7:00 P. M., I was attending the Banquet for the News Media given by our Fire Fighters Association. In attendance were representatives of all the radio and T. V. Stations, the Newspaper, the Regional Commander and Captain of the Department of Public Safety, Sheriff and his Chief Deputy, Local Commander of the Salvation Army, Executive Director of the Red Cross Chapter, and City Manager, Bill Blackwell. Our Civil Defense Warning Officer was part of the program. We had the majority of key people in one spot about one and one-quarter miles north of City Hall.

While we were waiting for the dinner to start, we experienced a little rain and some small hail at our location. About 7:30 P. M., I received a call from the City Hall that the weather bureau had issued a severe thunder storm warning for Lubbock and Lubbock County. I relayed this information to those at the dinner. City Manager, Blackwell said a few words of greeting and excused himself to report to the E. O. C. and said he would call back as soon as he could ascertain the extent of the storm. In just a few minutes he called me and said the storm appeared to be building and to notify those in attendance and for me to report to the E. O. C.

Our Emergency Operations Plan was initiated and all personnel reported to assignments according to plan. At this time, the major activity was south and south-east of the city. The reports we had from the field indicated that the major part of the storm would miss most of the city. About 8:30 P. M. this severe thunderstorm had moved on to the north east out of our area of responsibility. Events had slowed down, we had no major electrical outages, police units reported no flooding and no fires were reported. About this time the radar indicated thunderstorm activity southwest of the city. Mobile units were moved into the southwest part of the city to make visual observations as it appeared this storm would move into the city. None of the units observed any significant activity. There were reports of marble size hail and rain in the northwest sector. The first report we had of a tornado on the ground was from a citizen at 206 Sherman Avenue. At the same time this call was coming in a police unit in the northwest sector reported a funnel on the ground moving eastward. The City Manager gave the order to sound the sirens. As I was moving to carry out this order (the control for the Civil Defense Sirens are located in our alarm office 3 blocks north of City Hall) we received a radio message that “Central Station has been hit”. A roar was heard in the E. O. C. and the lights went out. In just a few seconds the emergency generator picked up the load.
What actually happened to the City organization when the tornado struck is amazing. It functioned and functioned very well. I hope you can realize the severity of the operation from an organizational point of view. We have an E. O. C. of very minimum design. It has operating space for about 24 people and a very small radio room which contains six remote control units for the city base radio transmitters and also four units which have the same six frequency capabilities. The KFY0, EBS remote pickup unit is located in my office adjacent to the Conference Room.

When the tornado hit, we lost the antennas on our back up radio units in the radio room. We lost the base station remote control telephone lines to our six base stations. We lost the KFY0 EBS remote pickup unit antenna. We have 40 telephone lines coming into the City Hall switchboard, which is adjacent to the E. O. C. We lost the ability to dial out; we could take incoming calls. We could call out for the first few minutes after the tornado struck.

IN A MATTER OF SECONDS:
1. The Police Station, located in the City Hall complex, was severely damaged.
2. The Central Fire Station, three blocks north of City Hall, sustained heavy damage. The Fire Department lost their complete command and control center.
3. We lost our primary water pump station. It had been tied to three sources of electrical power. We lost all three sources of power to the pump station.
4. We lost two major electric power generating stations with a generating capacity of 83 million watts.
5. We lost our city-county health unit building.
6. We lost our city warehouse, which carries stock for a six month operating period.
7. Our electric utility distribution offices were heavily damaged.
8. The Fire Department training building roof was torn off.
9. We lost our vehicle service center.
10. We lost our Traffic Engineering maintenance building.
11. City Hall sustained heavy damage. City government operated from the E. O. C. for four days, until electrical power was restored and emergency repairs were completed to the building.

The E. O. C. was in 24 hour operation for ten days. During this time it was the focal point for all operations. The city staff and other support
agency representatives were on duty straight through the first 72 hours of operation.

Emergency recovery operations began just moments after the tornado had struck. It seemed with each minute the operation became more complex, and after the passage of an hour or two, we had an operation going of such magnitude that it was impossible for any one person to know all the details of the operations that were underway. To describe this complex operation, I would like to give you a few details about selected areas of operations.

Key staff members of the city were in the E. 0. C. when the tornado struck. Although we had lost our communications, these men, either using walkie talkies, message-runners, or radios in their vehicles, started to get their divisions operating. They got overviews of what their situations were and gave status reports to management within minutes, I have nothing but praise for all the city staff, and especially for the leadership shown by Mr. Blackwell, the City Manager, in these first few minutes. We just had a tremendous operation going.

The Emergency Broadcast System Station, KFYO radio performed the modern day classic of radio broadcasting. Sometime in the future we will look back and realize the value of the public service performed by KFYO radio. They lost their E. 0. C. equipment. They kept their studios across the street from City Hall operating on emergency power. They cannibalized and rigged up a broadcast capability for the E. 0. C. which city government used to communicate with the people. We lost our city water system and anticipated that 18 hours would be required to get this system back into normal operation. This information was broadcast, we pleaded with people to conserve water. KFYO was used to ask policemen, firemen and other city employees to report to work. A telephone line from KFYO to radio station KRLD in Dallas was our link to the world for public information. The Avalanche-Journal newspaper staff moved into the KFYO studios. They input their news articles into the KFYO system and their sister publishing firm in Amarillo printed the first newspaper distributed in the Lubbock area after the tornado. All official notices of City Council meetings and the passage of emergency ordinances were broadcast over KFYO. KFYO was truly the voice of government.

Southwestern Bell Telephone Company responded in a matter of minutes after the tornado hit. The Telephone Company representative who usually services the city was in the E. 0. C. for the first 72 hours of operations.

The district disaster medical group Director and his assistant moved into the E 0. C. within a few minutes. We worked very closely with these people planning emergency medical operations. We were anticipating more deaths and injuries than actually occurred. We do not have a medical radio communication system. City vehicles, with a control unit outside of City Hall, were dispatched to the medical facilities and utilized to obtain medical status reports from the hospitals.

The Red Cross, as always, performed yeoman service. We had a representative in the E. 0. C. working closely with the Salvation Army, who was also in the E. 0. C. These agencies worked together harmoniously. They handled all health and welfare related problems, interacting with our Director
of Public Services, who has that area of responsibility assigned to him in the plan. These agencies stayed with us through the ten days of continuous E. O. C. operations. Local civic groups responded. We assigned these people to the Red Cross and Salvation Army.

The amateur radio operations moved in and set up communications equipment which was very useful. Nearby communities responded with support. Fire Department Operations during the next two hours were uncoordinated due to lack of communications, however, individual companies responded in their districts performing search and rescue operations. It is with great pride that I can report that without a Central Control the officers and men went into action with their search and rescue operations with efficiency. All the fatalities except one were discovered before daylight.

Within two hours, the Deputy Chief was able to get his car out at Central and set up a Command Post in the driveway under City Hall. The off-duty personnel were told to report there and the Deputy assigned search parties and areas. We used every type vehicle obtainable. Some of our people rode in patrol cars with police. Some of the men were detailed to assist the police in keeping traffic out of the damaged area. During this period of time the National Guard Personnel started reporting in and some of our people were assigned to work with them. By daylight the next morning the National Guard had brought in a number of Jeeps and Trucks from Amarillo. 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. I want to digress just a moment to point out a change in my thinking since our storm. I have always operated under the assumption that if any of my neighboring departments needed or wanted help, they would call and ask for it. Now I know that sometimes you may not have time or the means to call for help. You will never know what a load was lifted from me when I went up to the driveway and saw all those neighboring departments there with men and equipment. I vowed to myself right then if I was ever aware of my neighbors in trouble I would load up a crew of the best men and equipment I had and go to them. If they needed us we could go to work, if not we would come back home.

Our department maintains two ambulances in standby condition and these were put in service as almost immediately we started getting calls for transportation for the injured. Ambulances from as far away as Clovis and Hobbs, New Mexico arrived during the night and early the next day. Search and rescue operations continued on throughout the night. At 3:00 A. M. we released the off-duty personnel to go home, get some dry clothes and report back to the command post at 7:00 A. M. to make a complete and systematic search of the entire damaged area during daylight. From reports we had received and plotted during the night, we estimated that severe damage had occurred from 19th St. on the South, Indiana Ave. on the West and to the city limits on the north and east. This estimate later proved to be fairly accurate, however, some minor damage occurred as far south as 50th Street. Working with the National Guard Captain and the Parks Director, I was able to obtain commitments from them for a number of Jeeps, Pick-ups, and Trucks to be used for search and rescue. After determining the number of vehicles at my disposal and the extent of the area to be
covered, we assigned specific planning units to each crew to make a house by house and block by block search. By 11:00 A. M. all search units had reported back in and only one fatality was found. Because of persistent rumors of persons still missing, I had my Training Chief with his class of Rookies and a Truck Co. make another search of the larger buildings and the numerous motels that were heavily damaged. No additional bodies were recovered.

Throughout the storm period and for several days after we had no fires of any consequence. We answered a number of calls for arcing wires. We had one problem that tied up some men and equipment for about 72 hours. Until we could get some pump stations back into operation, we had to transport water in tankers and pump into the water systems at 3 hospitals. We also had to supply some water to a cold storage warehouse to keep it in operation.

Some of the problems we encountered were: Insufficient portable lighting equipment, large amounts of natural gas in the damaged areas from broken pipes, debris that blocked streets, numerous flats on cars and pumpers, and the vast area of damage that had to be covered.

I’m extremely proud to be a part of the team of City Employees who functioned so well in time of stress. I cannot praise enough the officers and men of my department for the courage and initiative they displayed in meeting and conquering a challenge I hope your department never faces. Thank you for giving me this opportunity to share my experience with you.”

W. Hershel Sharp
2008
Outdoor Warning System Task Force

City/County of Lubbock:
Judge Tom Head .......................................................... 775-1087
Mayor David Miller .................................................... 775-2023
Kevin Overstreet ....................................................... 775-2002
Kathleen Finley .......................................................... 775-2280

National Weather Service:
Jody James & Justin Weaver ........................................ 745-4926

News Channel 11
John Robinson & Bennie Sneed ..................................... 762-4246

Fox 34
Jeff Klotzman ............................................................ 748-9303
Laura Thomas .......................................................... 786-7806

Channel 13/28
Russ Poteet, Matt Laubhan & Ron Roberts ..................... 745-2345
Greg Varitoff ............................................................ 698-5221
Kendall Stanaland ...................................................... 778-0944
DATE: April 4, 2008

TO: David A. Miller, Mayor
    Kevin Overstreet, EMC

FROM: Kathleen Finley

SUBJECT: Outdoor Warning System Task Force Update

At the March 12, 2008 meeting, we discussed what methods the City of Lubbock currently has in place for public notifications during a tornado or severe weather. At this time, the City has the following capabilities for notifications:

1. We have NOAA weather radios at all warning points - City Hall, EOC, FD, PD;
2. The Office of Emergency Management has the capability to carry out a media break-in at any time;
3. The Lubbock Police Department has both the reverse 911 and DCC system that allows for a call to be made to citizens alerting them of the situation and instructing them of what steps to take.
4. The Lubbock FD currently has 14 trained storm spotters;
5. The Lubbock Police Department has several on-duty officers with vehicles, along with any available off-duty officers, investigators and others with PD vehicles that are available to carry out notifications, via siren and PA systems.

We also discussed ways to improve our ability to notify citizens and came up with the following:

1. Expand the Lubbock Police Department’s DCC system to include a registry for cell phones: I have spoken with Lt. Mark Long at the PD and he is checking in to the possibility of this;
2. Set up meetings with LUNA to give emergency preparedness presentations for families and business: Since it is very difficult to get all of their members together, they suggested that we provide them with an article for their monthly newsletter. I have written the article, and once Kevin has approved it, I will submit it to them. They will
provide our office contact information to those that wish to have individual neighborhood meeting presentations.

3. *Create statement stuffers to be placed in LP&L bills*: I am working with LP&L on these.
EMERGENCY PUBLIC INFORMATION AND WARNING GOALS

1. Inform all affected segments of society by all means necessary, including accessible tools, of critical lifesaving and life-sustaining information to expedite the delivery of emergency services and aid the public to take protective actions.

2. Deliver credible messages to inform ongoing emergency services and the public about protective measures and other life-sustaining actions.

3. Facilitate the transition to recovery. Reach all populations within the community with effective recovery-related public information messaging and communications, protect the health and safety of the affected population, help manage expectations, and ensure stakeholders have a clear understanding of available assistance and their roles and responsibilities.

4. Support affected populations and stakeholders with a system that provides appropriate, current information about any continued assistance, steady resources for long-term impacts, and monitoring programs in an effective and accessible manner.
TYPES OF EMERGENCY SITUATIONS WHICH MAY WARRANT MASS NOTIFICATION OR PUBLIC WARNINGS

- Active Shooter
- Any Imminent Threat as may be Identified by Public Safety Officials [Chief of Police, Fire Chief, Director of the Office of Emergency Management, or Emergency Management Director (Mayor)]
- Boil Water Notice
- Bomb Threat
- Emergency Evacuations
- Emergency Road Closure
- Hazardous Materials Incident
- Public Health Emergencies
- Terrorism/Terrorist Act
- Severe Weather
- Wildfires
Traditional Dissemination Vehicles

- Tornado Warning
- Commercial Television and Radio
- NOAA Weather Radio
- Public
Modern Dissemination Vehicles

- Tornado Warning
  - TV and Radio
  - NOAA Weather Radio
  - Social Media
  - Mobile Devices

- Internet

- Public
Functional Needs Survey Results

Rachel Dolan
Public Health Emergency Preparedness Coordinator

Functional Needs sub-committee members

- American Red Cross
- City of Lubbock (OEM, PHEP, PIO)
- DARS Division for Blind Services
- Frenship ISD
- Life/Run Center
- Lubbock Community Services for the Deaf
- STARCARE Specialty Health System
- TTUHSC Garrison Institute on Aging
- Veterans Administration
324 total surveys were tallied.

“Other” responses included: Seizure disorder, no vehicle, dementia, mental health issues, small children
Social Media

“Other” responses included: Instagram, MySpace, not specified

Current Notification Methods

“Other” responses included: observation, text message, internet
Preferred Notification Method by Age

“Other” responses included: television, radio, none, family/friends
“Other” responses: None/not sure, library, church, under home’s pier and beam foundation, trailer park shelter
PROS AND CONS OF MODERN DAY DISSEMINATION VEHICLES

**Media:**

*Pros:*
- Almost every person owns at least one TV/Radio
- People know and trust local TV weather personalities
- Visual Aids (TV)
- Battery backup (Radio)
- Portability (Radio)

*Cons:*
- Power outages affect both broadcast (station) and receive (home TV) ends
- “Cable” TV and satellite radio have no local weather information

**Sirens:**

*Pros:*
- Immediately command attention
- Can be heard outside and some locations inside (proximity)
- Battery backup

*Cons:*
- Can be confusing
- Can be activated/tested too frequently
- Not always audible indoors (proximity)
- On-Going annual maintenance costs

**Mass Notification Systems:**

*Pros:*
- Can be utilized on multiple devices (computer, cell phone, tablet, etc)
- Can reach many people quickly
- Can provide detailed information

*Cons:*
- Will fail if communication systems fail
- May not be able reach entire affected population if given a short warning lead time
**NOAA Weather Radio:**

**Pros:**
- Can activate an alarm to wake you up if asleep
- Can provide detailed information
- Battery backup
- Portable
- Provides information directly from the warning source (NWS)

**Cons:**
- Most people don’t have one
- Confusing to program
- Many owners turn them off because of too frequent alarms
- Can fail if communications fail

**Social Media:**

**Pros:**
- Can reach many people very quickly
- Pictures can be huge attention grabbers

**Cons:**
- Have to be utilizing social media to get the message (pull technology)
- Will fail if communications fail
CURRENT TORNADO WARNING CAPABILITIES

1. The City of Lubbock is served by multiple media outlets that have the ability to provide timely tornado warnings to the public via television or radio broadcast.

2. The City of Lubbock is served by multiple media outlets that have the ability to provide timely tornado warnings to the public via their mass notification systems.

3. The National Weather Service Office in Lubbock has the ability to provide timely tornado warnings to the public via the NOAA weather radio network and the Emergency Alert System.

4. The City of Lubbock Police Department has the ability to provide timely tornado warnings to the members of the public who have registered to receive those alerts via Nixle, a mass notification system.

5. The City of Lubbock has the ability to interrupt local media outlets broadcast and issue timely tornado warnings to the public via the Emergency Alert System.

6. Texas Tech University, Lubbock Christian University, and Wayland Baptist University have the ability to provide tornado warning alerts to their subscribers via their mass notification systems.

7. Texas Tech University has 7 (seven) sirens which can be used to alert persons who are outdoors at most locations on the main campus.

8. The Lubbock Independent School District, Lubbock Cooper Independent School District, and the Frenship Independent School District have the ability to provide tornado warnings to their subscribers via their mass notification systems.

9. The City of Lubbock has limited ability to provide warnings to the public who have land based telephone service via the “Reverse 9-1-1” system.

10. The City of Lubbock Public Health Emergency Preparedness Office has the ability to push timely tornado warnings to members of the public who have functional or special needs who have registered for those alerts via the NXT Communicator system.

11. The City of Lubbock has the ability to program the Texas Department of Transportation digital signage on Loop 289 with warning language.

12. The City of Lubbock has the ability to broadcast timely tornado warnings to City staff members via email.

13. The American Red Cross has a free-to-the-public tornado app for mobile phones.
TASK FORCE RECOMMENDATIONS SUMMARY

WHAT WE NEED:
The ability to improve public safety through the rapid dissemination of emergency messages to as many people as possible over as many pathways as possible.

In order to meet this need, we recommend a multi-layered approach, consistent with the guidance outlined by National Fire Protection Association, Federal Emergency Management Agency guidelines, lessons learned, and the recommendations of the individual Task Force members.

The multi-layered approach includes:

- **Emergency Alert System**
  Delivered to all Radio and TV AM FM; Digital, Analog, Cable and Satellite
  We recommend upgrading this capability in order to be able to activate the system from multiple points. We believe this can be accomplished through the “Updated Mass Notification System”

- **Reverse 9-1-1**
  Emergency alerts and warnings delivered to traditional land lines within small geographic areas
  We recommend upgrading this capability in order to be able to activate the system from multiple points. We believe this can be accomplished through the “Updated Mass Notification System”

- **NOAA Weather Radio**
  We recommend that the City of Lubbock partner with the National Weather Service to study viable methods to ensure that the NOAA Weather Radio repeater has the capability to function properly with or without the current analog phone line.
  We recommend upgrading this capability in order to be able to activate the radios through the “Updated Mass Notification System”.

- **Wireless Emergency Alerts**
  Delivered to all Cell Phones in the affected area
  We recommend that this capability be upgraded to function with the Integrated Public Alert and Warning System using Commercial Mobile Alert System technology which is a part of the “Updated Mass Notification System”.

- **Web Browser’s, Widgets, Web Sites, Social Media (e.g. Facebook, Twitter)**
  We recommend upgrading and expanding these capabilities in order to be able to activate them through the “Updated Mass Notification System”.

- **Outdoor Warning Sirens**
  In terms of actual dollar costs, this is by far, the most expensive of the delivery systems contained in our multi-layered proposal.
We recommend that, if the citizen’s and/or their elected representatives choose to support the purchase and implementation of a siren network throughout the City, a serious commitment be made for on-going maintenance and upgrades for the useful life of the system.

We recommend the sirens be used for tornado warnings only. We recommend that the system have the capability to be silently tested on a regular basis.

We recommend that full activation test be limited so as to avoid the public being de-sensitized to the sirens sounding.

We recommend the siren system have the capability for activation from multiple points.

We recommend the network include the ability to activate all or parts of the siren network.

We recommend the siren system include the capability for activation through the “Updated Mass Notification System” and include public address capability.

And we recommend that every aspect of the system (activation, controllers and sirens) be engineered and built with primary and back-up power in the event that primary power is lost.

![Updated Mass Notification System]

To be used for all any and all hazard warnings as may be appropriate

We recommend the system be Integrated Public Alert and Warning System compatibility using Commercial Mobile Alert System technology capable.

The successful vendor must have completed a Memorandum of Agreement with the Federal Emergency Management Agency for the purpose of gaining access to the Integrated Public Alert and Warning System test environment and be capable of Public Alerting and exchanging information between Collaborative Operating Groups.

The system must have throttle capability.

The system must have the ability to activate any or all of the integrated system capabilities.

The system must include the capability of activation from multiple points.

We recommend that they City enter into an agreement with another city or agency so that in the event that we should lose activation capability, the system can still be activated.

And we recommend that every aspect of the system be engineered and built with primary and back-up power in the event that primary power is lost.
IPAWS Architecture

Standards based alert message protocols, authenticated alert message senders, shared, trusted access & distribution networks, alerts delivered to more public interface devices.

Alerting Authorities
- Local
- State
- Territorial
- Tribal
- Federal* (includes NOAA)

Alerting Authorities
- IPAWS OPEN
- Alert Aggregator/Gateway
- IPAWS compliant CAP Alert Origination Tools

Alert Diseminators (public alerting systems)
- Emergency Alert System
- Commercial Mobile Alert System (CMAS)
- NOAA HazCollect
- Internet Services
- State / Local Unique Alerting Systems
- Future Technologies

Amerigán People
- All Radio and TV
  AM/FM, Digital, Analog, Cable, and Satellite
  Wireless EMERGENCY ALERTS CAPABLE
  cell phones
  web applications, widgets, web sites, social media
  Digital Signage
  Siren
  FM/RBDS
  ETN
Public Awareness and Education Campaign
We recommend a public awareness and education campaign designed specifically for informing and educating the public on how they can utilize both the established and any new warning and alert systems that the City Council and/or the citizens of Lubbock may deem prudent to meet our stated objective.
UPGRADED MASS NOTIFICATION SYSTEM UTILIZING IPAWS/CMAS ARCHITECTURE

Tornado Warning

EAS - TVs/Radio

NOAA Weather Radio

Social Media

Cell Phones Mobile Devices

Land Based Phones

Digital Signs

Sirens

iPAWS/CMAS

ROBUST INTERNET

Public
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<tr>
<td>Acoustics Technology Inc.</td>
<td>Vendor</td>
<td>Warning Systems</td>
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<tr>
<td>Addington, Christopher</td>
<td>Commander, South Plains Regional HazMat Team</td>
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<td>BlackboardConnect</td>
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<td>Davis, Judy</td>
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<td>Landin, Rose</td>
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<td>Nelson, Garett</td>
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## CONTRIBUTORS AND CONSULTANTS TO TORNADO WARNING SYSTEM TASK FORCE

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