Developing an Effective Emergency Communications Plan in the South Lake Communities

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CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used language, ideas, expressions, or writings of another.

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Communications is a key element to effective emergency preparedness. Having a communications plan that utilizes current technology and communicates effectively to internal and external customers is critical to disaster management. The purpose of the research is to attempt to identify ways to more effectively disseminate information to the residents of the South Lake communities during a significant local emergency or disaster. Seven questions were asked. 1) What type of information should be disseminated during an emergency? 2) What are the socially acceptable timelines for disseminating emergency communication information? 3) What current communications systems are available in the South Lake area to disseminate emergency communication information? 4) What current communications systems are in use in the regional area to provide emergency communications information? 5) What existing social networking resources are available that can be tapped at a cost effective manner that will aid in distributing information quickly and easily to residents? 6) Who are the key government stakeholders that would be involved in implementing an emergency communications plan? 7) How can the Excelsior Fire District and the associated emergency management professionals provide a more effective notification to the residents during an emergency situation? A descriptive research method was utilized. The 2009, 2010 and 2011 Excelsior Fire District (EXFD) response data was analyzed for the local significant event or disaster frequency. Three different surveys were sent to business owners/residents, local government agencies, and regional emergency management professionals. The actual frequency of local significant emergencies or disasters is .03% of all EXFD calls; yet, the severity of these events is high for the South Lake communities. A strong relationship was discovered that having an effective crisis communication system that is multi-media and redundant is an important component to having effective protection and notification
for your community. The personal perceptions of the EXFD administrative staff were similar to actual performance and research data. It was recommended that South Lake communities develop a redundant, multi-media crisis communications plan. Additional recommendations included utilizing local cable access television for the dissemination of pre-disaster education and emergency information, utilizing a phone messaging system to contact residents and businesses for the dissemination of emergency information, utilizing social media as a key component of the crisis communications plan, utilizing the South Lake communities/agencies web sites to include pre-disaster information and other emergency preparedness information, and developing education efforts for residents and businesses about the crisis communications plan and emergency preparedness planning.
TABLE OF CONTENTS

ABSTRACT ................................................................................................................................. 3

INTRODUCTION .......................................................................................................................... 6

BACKGROUND AND SIGNIFICANCE ....................................................................................... 7

LITERATURE REVIEW ............................................................................................................. 12

PROCEDURES ............................................................................................................................. 24

RESULTS ..................................................................................................................................... 27

DISCUSSION ............................................................................................................................... 43

RECOMMENDATIONS .............................................................................................................. 48

References ..................................................................................................................................... 52

Appendix A: Excelsior Fire District Significant Local Emergency/Disaster Data ....................... 57
Appendix B: Crisis Communications Survey for Businesses/Residents ...................................... 58
Appendix C: Crisis Communications Survey for Businesses/Residents Results ......................... 60
Appendix D: Crisis Communications Survey for Local Government Agencies ....................... 62
Appendix E: Crisis Communications Survey for Local Government Agencies Results ................ 65
Appendix F: Crisis Communications Survey for Regional Emerg. Mgmt. Agencies .................. 68
Appendix G: Crisis Communications Survey for Regional Emerg. Mgmt. Agencies Results ....... 70

List of Tables

Table 1 .......................................................................................................................................... 28
Table 2 .......................................................................................................................................... 29
Table 3 .......................................................................................................................................... 30
Table 4 .......................................................................................................................................... 30
Table 5 .......................................................................................................................................... 31
Table 6 .......................................................................................................................................... 31
Table 7 .......................................................................................................................................... 32
Table 8 .......................................................................................................................................... 33
Table 9 .......................................................................................................................................... 34
Table 10 .......................................................................................................................................... 36
Table 11 .......................................................................................................................................... 37
Table 12 .......................................................................................................................................... 38
Table 13 .......................................................................................................................................... 39
Table 14 .......................................................................................................................................... 41
INTRODUCTION

The fire service today has many challenges with “all-hazard” preparedness; however, the ability to communicate effectively in times of crisis is a cornerstone to effective emergency management. Although communications is a cornerstone, it is still one of the most difficult areas to master. Communities need to have the ability to disseminate critical information to their residents and business community in a timely and effective manner. Emergency managers must have the ability to share with residents what actions they should take in order to protect their health and safety. Difficult economic times, meeting customer expectations, and looking at the community as a whole are all factors that make the communications area challenging.

The problem addressed in this research project is that the South Lake communities do not have an effective emergency communications plan to disseminate information to residents and businesses during a significant local emergency or disaster. This has adversely affected the operations of the Excelsior Fire District (EXFD) and the overall public safety of the South Lake communities and has compromised the effective communications within the community, thus increasing the risk in life safety to both the residents and the public safety officials. The purpose of the research was to attempt to identify ways to more effectively disseminate information to the residents of the South Lake communities during a significant local emergency or disaster. A descriptive research methodology is employed in this project.

The research questions being addressed by this project are:

1) What type of information should be disseminated during an emergency?
2) What are the socially acceptable timelines for disseminating emergency communications information?
3) What current communications systems are available in the South Lake area to disseminate emergency communications information?

4) What current communications systems are in use in the regional area to provide emergency communications information?

5) What existing social networking resources are available that can be tapped at a cost-effective manner that will aid in distributing information quickly and in an easy format to residents?

6) Who are the key government stakeholders that would be involved in implementing an emergency communications plan?

7) How can the Excelsior Fire District and the associated emergency management professionals provide more effective notification to the residents during an emergency situation?

By utilizing survey feedback and having a common crisis communication plan to deliver effective notification to the public, goals and objectives can be developed to improve the quality of service that EXFD provides for its citizens, thus helping EXFD meet the U.S. Fire Administration’s Operations Objective of appropriately responding in a timely manner to emergent issues.

**BACKGROUND AND SIGNIFICANCE**

The “South Lake” community is comprised of the cities of Deephaven, Excelsior, Greenwood, Shorewood, and Tonka Bay. The South Lake community is very unique in that although we live in a suburban area of Minneapolis/St. Paul, approximately half of the current properties are urban with city sewer and water service with the remaining rural parcels comprised of 1, 2.5, and 5 acres or more that are developed but do not have access to such
services. Like many communities, the South Lake community is considered a bedroom
community for the Minneapolis/St. Paul metropolitan area, as most residents work outside of the
South Lake area during the day.

The South Lake community is mainly residential, has approximately 785 inspectable
businesses/occupancies and has a number of critical infrastructures such as, three water treatment
plants, the Excel Energy regional response service facility for electrical distribution in the
western metropolitan area, twelve educational facilities, three nursing homes and several assisted
living facilities. The area also has diverse transportation routes, including 5 bridges and one of
the largest lakes in the State of Minnesota, Lake Minnetonka, that is located within the South
Lake community, (EXFD Year in Review, 2011).

The South Lake community operates within a regional emergency management system
within Hennepin County. Hennepin County is the largest county of eighty-seven counties in the
State of Minnesota. The emergency management system utilizes a common emergency
operations plan and a common hazard mitigation plan. A risk analysis for the community
indicates that natural disasters (including tornadoes, floods, snow storms, etc.), fires, hazardous
materials events, and utility disruptions are the significant local emergency/disaster events with
the greatest frequency and severity. Emergency management personnel from law enforcement,
fire, public works, EMS, and city administration participate in emergency management training
and various types of emergency management exercises. The South Lake community hosts
multiple special events in the community. Special event plans are created for each of these
events. As a component to coordinating the emergency management system for the Hennepin
County region, a “Lake Area” regional emergency planning group exists. The South Lake
communities are a member of this local area planning group. This “Lake Area” planning group
meets monthly to discuss and evaluate mitigation, planning, preparedness, response and recovery areas. The South Lake communities have appointed the Police Chiefs from the South Lake Minnetonka Police Department (also a Joint Powers agency) and the Deephaven Police Department to serve as the emergency management directors for the communities. The South Lake Minnetonka Police Department Community Services Supervisor and the EXFD Fire Chief serve as emergency management coordinators within the emergency management system for the South Lake community. The South Lake Minnetonka Police Department Community Services Supervisor and the EXFD Fire Chief are certified as state and national emergency managers.

The Excelsior Fire District (EXFD), an ISO (Insurance Services Office) class 4/5 department was formed in January, 2000 as a Joint Powers organization of these five cities – Deephaven, Excelsior, Greenwood, Shorewood, and Tonka Bay. Located west of the City of Minneapolis in Hennepin County, the Fire District operates in an outer-ring, suburban community, population approximately 18,000, covering approximately fourteen square miles, (EXFD Year in Review, 2011). The Excelsior Fire District is a combination fire department composed of fifty personnel, a full-time Chief, a full-time Fire Inspector, a part-time Administrative Specialist and forty-seven paid-on-call firefighters. The paid-on-call firefighters also compose an Assistant Chief, two Battalion Chiefs, five Captains, and six program coordinators. The Excelsior Fire District operates two fire stations and responds to calls for service covering fire suppression, hazardous materials, emergency medical service, special rescue and disaster response. Because the current staffing model relies heavily on the volunteer workforce, it can be extremely difficult to predict staff availability which further complicates the department’s ability to effectively respond to a significant local emergency or disaster and also
keep clear lines of communication open within the community during these events. Additionally, the volunteers have homes and businesses in the community which may be impacted.

During a significant local emergency or disaster, such as a tornado or a large hazardous materials release, there are only outdoor warning sirens to alert the residents of imminent danger. The outdoor warning sirens currently only cover 75% of the South Lake community. Therefore, residents must rely on radio and television for primary information regarding imminent significant local emergency or disaster.

During a significant local emergency or disaster, there is not a defined means of communicating information to residents or businesses. There are no defined plans or processes to utilize the internet, phone systems, local cable access channels, or social media networks that would provide community specific information. Rather, the community must now rely on local media to provide information, which may be delayed, depending on the geographic implications of the disaster or the type of disaster or local emergency.

In the past three years significant local emergencies such as utility disruptions, snow storms natural disasters, and fires have occurred in the South Lake community. A subsequent cursory review of these incidents and lessons learned documents/training revealed that while emergency responders performed well throughout the events, there was insufficient and incomplete communications provided to residents by emergency and non-emergency responders as a result of the events. During the incidents the last three years there has been an effective response, but the incidents had insufficient and incomplete communications. Loss of electricity/power outages, have made it difficult to communicate with residents during these events. (L. Brown, personal communications, July 27, 2012). The South Lake community administrators/managers, emergency management directors and the EXFD Fire Chief engaged in
several informal discussions on what effective and redundant communications system plan could be implemented for future similar events. To date nothing has been created or implemented. (personal communications, August 15, 2012).

This applied research project sought to identify ways to more effectively disseminate information to the residents of the South Lake communities during a significant local emergency or disaster. The research will help to develop a multi-media and redundant crisis communications plan which would include utilizing social networking systems to communicate emergency information to the residents and businesses of the South Lake community during a disaster or significant local emergency.

There is a clear link between the problem in the South Lake community of not having an effective plan to communicate emergency information to residents and the Executive Analysis of Community Risk Reduction course. The manual describes how emergency services are viewed as a trusted and credible source of information. The authors discuss how decision makers and the general public depend on and expect emergency services to provide accurate information, be able to predict trends, and offer advice on how to protect the community from harm (FEMA, 2009, p. SM 5-1- SM 5-49).

The problem, or need, of the South Lake community to effectively communicate emergency information to its residents and businesses also relates to the United States Fire Academy goal numeral one to reduce risk at the local level. One of the operational objectives of this goal is to encourage local communities to develop strategies to reduce risk through mitigation and safety strategies (United States Fire Administration, Strategic Plan, 2010, p.18). As previously outlined, the dissemination and communication of critical information in an
emergency situation is a significant problem for the South Lake community as it impacts the health and safety of residents.

This paper will support two of the United States Fire Administration’s (USFA) operational objectives; the reduction of risk at the local level through prevention and mitigation, and the improvement of local planning and preparedness (USFA, 2010, p.B-1).

**LITERATURE REVIEW**

The literature review was conducted through a review of fire service periodicals, research papers, and text books in an attempt to discover what is done throughout the nation in relation to effective communication to residents in times of emergency. The internet was also used to search out on-line sources of information. A common theme noted in this research was that during times of major emergency or disaster, the general public wants factual information much quicker than what emergency officials are currently providing. This expectation continues to increase with the use of the internet and social media.

As outlined in *The Fire Chief’s Handbook* (2003) each community is unique and distinct as a result of demographics, culture, ethnicity, location, economics, environmental conditions, weather, local history, and social groups. Furthermore, while the east coast of the United States experiences hurricanes and cold weather emergencies, the west coast deals with earthquakes and wildfires. It is critical for emergency management officials to recognize their respective communities’ unique profile when performing risk analysis functions (Barr & Eversole, 2003).

The value of a strong emergency management program is hard to measure. There is not a recognized method to measure the number of disasters or significant local emergencies that are prevented by effective emergency planning and communications. It is difficult, if not impossible, to measure what has not happened; yet, the role of the community risk reduction and specifically
emergency management remains critical to the fire service. Over the past thirty years, greater demands have been placed on the fire service by a public that has come to expect more for less from government (Scott, 1997). Quality of life and a safe community are cornerstones to these demands.

The need for a strong prevention or emergency management program does not change the understanding of the general public. Specifically, the public understands the response or reactive part of the emergency management system much more that the preventive part of the emergency management system. A comprehensive emergency management program is about building relationships, developing trust, providing effective communications, and closing the knowledge gap to make safer communities. The important thing to remember is that a satisfied customer is the key to a successful organization. A positive customer service attitude projects an image that the customer is receiving the best possible service (Kemp, 2002).

The need for public and emergency management officials to disseminate accurate and timely information to the general public in times of significant emergency or disaster can not be overstated. Further, when the general public is given information that is incorrect or incomplete, there is a significant chance that this will result in poor self-preservation decisions on the part of individuals.

In his research paper Dalrymple (2009) states that the components of an effective communication and notification system include:

- Warning systems need to monitor and forecast changes in vulnerability, particularly at the local level.
- Warning systems need to be based on risk analysis.
• Warning systems need to demonstrate practices that can communicate advisory information to vulnerable groups.

• Warning systems should provide a variety of communication methods.

• Warning systems need to be generated and communicated at the local level.

In *The National Public Warning Crisis* it was found that when evaluating the results of emergency communications, research determined that warnings and emergency information provided at the local level is usually more influential, and therefore results in the desired outcome more often than those warnings issued at the regional or national levels (Ward, 2003).

“Obviously it is better to be prepared for an emergency rather than wish technologies and solution had been put into place,” Priest said. “It is irresponsible and negligent for city officials not to address these issues prior to a drastic event occurring” (Payne, 2011, p. 21).

The importance of ensuring accurate, factual, and timely information during times of crisis is further stated by former FEMA administrator R. David Paulison who wrote:

Mayors and county executives are responsible for information exchange during emergencies across each information pillar, rather than the traditional view, that only public safety radio networks are mission critical. They must ensure that citizens can communicate with their public safety and emergency management agencies not only through 9-1-1 systems but also through alerts and warnings. Each of these information exchange pillars can be improved by adopting and leveraging the technologies that citizens use every day and including citizens information as mission critical. (Paulison & Ward, 2011, p. 16).
According to the community warning systems manager for Contra County, California, Art Botterell, “When people get the same warning message multiple times from say the radio, the TV, and a telephone call, they begin to take the warning seriously” (McKay, 2007, p. 32).

Further literature review revealed that the National Fire Protection Association has developed Standard 1600 – Standard on Disaster/Emergency Management and Business Continuity Programs with the purpose of assisting private industry and municipalities with this issue. “Emergency communications and warning protocols, processes, and procedures shall be developed, periodically tested and used to alert people potentially impacted by an actual or impending emergency” (National Fire Protection Association [NFPA – 1600], 2004, 5.9.3).

It has been long believed that emergency telephone notification is an effective way to reach the most number of individuals in a pre-determined area as more than 90% of the citizens in the country have a land line telephone. Emergency telephone notification systems use physical address and telephone data from a pre-determined area and coordinate with GIS mapping software to send a recorded message to all residents within that area. However, it is critical that address and telephone data is accurate as this information must go through a regular quality assurance/quality control analysis (Fincher, 2003).

The explosive rate of growth in the cellular phone industry within the last ten years has caused many individuals to do away with their traditional (land line or hard wired) residential phone and only have access to cellular phones. These phone numbers need to be manually gathered and put into a database. This requires significantly more time and resources than the traditional hard-wired land line phone.
Joseph Bruno, commissioner of the New York City Office of Emergency Management indicates that “the future of public notification is through cell broadcasting”. (Steen, July/August 2012, p.29)

In Rowe’s research he uncovered four systems which have been tested and implemented across the United States. The notification systems that were noted include media based systems, outdoor warning sirens, computer based systems that utilize GIS and telephone interfaces and an all-hazard radio system. Based on his research, Rowe indicates that media based systems are rated the least efficient means of communicating during an emergency event. Outdoor warning systems are not as effective because people must do something following activation to determine what the siren means. A reverse 911 system allows public agencies to call citizens to notify them of events that could affect their safety, and all-hazard radio systems such as the National Oceanic and Atmospheric Administration (NOAA) weather radios can provide information to the general public. According to NOAA, 95% of Americans can be alerted with the NOAA weather radios system; yet, only approximately 13% actually own and all-hazard radio. (McCullough, 2003 pg. 13).

Further, the need to involve stakeholders in developing an emergency notification and communication system is a cornerstone to success. Throughout the National Fire Academy’s Executive Analysis of Community Risk Reduction course the need to engage and solicit the input of stakeholders was continuously discussed and examined in depth. Stakeholders in the area of community risk reduction include “people with an interest in the program; all the necessary partners; collaborators; and all those who have a shared interest” (FEMA, 2011, SM 2-10).
In order for stakeholders to be in support “alert systems must be designed and structured to meet these community expectations in order for appropriate and desired outcomes. Citizens need to have confidence and expect the system to deliver their desired result of timely information and ultimate safety from harm” (Dalrymple, 2009, p.13).

Progressive Emergency Notification Systems (ENS) should incorporate device compatibility (mobile, land line, SMS, e-mail) allow for geographically-targeted notifications, provide robust reporting, two-way response and confirmations, and not strain local network resources. Some key reasons for using an ENS system include: reaching thousands of people quickly and reliably, creating communications scenarios before a crisis occurs and implementing them at a moments notice, providing ongoing status updates before during and after a crisis, reaching constituents based on their geographic location, providing localized updates like road closures, gas leaks, power outages, etc., reporting communication effectiveness, discovering immediately who needs help through really time polling, and warning citizens of severe weather conditions through integration with major weather alerting services. Comprehensive Emergency Notification Systems (ENS) solutions help emergency managers seamlessly align their communications strategy with their ideal response plans (Ladin, 2009, p. 31-33).

In Marc Ladin’s article on Emergency Notification Systems (ENS) he indicates that emergency notification systems have become a vital component of emergency preparedness and response plans. Emergency response teams now realize the significance of communication in their overall preparedness plans. Since Hurricane Katrina, an estimated 25% of organizations in the Gulf Coast region have implemented some type of ENS solution. During the 2008 hurricane season, municipalities used ENS applications to reduce the impact and severity of the damage caused by Hurricanes Gustav and Ike. Providing time sensitive, important information to
residents of affected areas resulted in effective evacuation operations, reduction in the loss of lives, and more rapid response and recovery efforts as compared to other hurricane efforts in the decade. “In the past, we had to manually call over 1900 volunteers in our database, which took a dozen people 8-12 hours to complete. During Hurricane Gustav, the Everbridge system enabled us to notify our volunteers in several minutes and receive confirmation of their whereabouts in a fraction of the time,” sated Steve Pegramm branch chief, USCG Auxiliary (Ladin, 2009, p. 31-33).

Largely considered one-way communications tools, (emergency notification systems) ENS depends on citizens having and carrying cell phones. These systems can operate through and outside vendor or be maintained by a public safety department. This is a great method for alerting citizens to an immediate threat or emergency in which a very large number of people can be contacted simultaneously.

In his EFO research paper Gagnon (2008) reported that during the Hurricane Katrina disaster of August, 2005, FirstCall™ made over 900,000 emergency notifications to residents and businesses that were in the path of the storm.

For a mass notification system to be accessible during an emergency, it must be able to initiate a message multiple ways (i.e. internet and telephone); record and reformat messages multiple ways (i.e. voice or text message, live operators or system software); and accept messages from multiple initiators with authority if one is incapacitated. It must be accessible through a minimum of two widely separated physical locations in the event that one becomes unavailable in a region-wide disaster. And it needs to use redundant electrical power sources, communications carriers, and internet service providers to minimize that chance it will be inoperative (Stuver, 2006, p. 33-34).
With the advances in computer and communication technology “automated notification systems take only 15 minutes (on average) to actually reach 95% of the recipients” (D’Arcy, 2006, 46). Further, automated emergency notification systems are gaining significant momentum within the public safety world for obvious reasons; because of their ability to swiftly communicate important messages to emergency officials and the general public” (Levitan, 2004, p. 72).

In the last five to eight years there has been explosive growth in new information technology, cellular phones, smart phones, social networking, etc. According to Anderson this allows for more accurate information and quicker dissemination of this information that will improve safety.

Emerging technologies, such as location-based mobile, internet-protocol (IP) and global information system (GIS), applications provide more detailed up-to-the second weather information and precise targeting of severe weather events. These new technologies will enable the evolution of traditional alert systems. New developments in early warning systems allow emergency managers to better meet the public needs, and ultimately, to better protect residents at school, home, and on the go (Anderson, 2007, p. 16).

The FCC’s goal is to make the Emergency Alert System (EAS) capable of disseminating emergency information as quickly as possible to people who need it” (FCC. 2). With this goal in mind, the Federal Emergency Management Agency (FEMA) is now linked with the National Weather Service and state emergency management agencies so information is able to be transmitted efficiently at the state and regional level through the local television networks.
In addition to emergency notifications such as, boil water announcements, missing person advisories, barricaded subjects and dangerous criminal alerts, fire departments across the country are finding ways to use their ENS for non-emergency situations. These systems are helping them handle time-consuming events such as shift replacements, finding qualified personnel, providing status updates to top officials, and answering citizen’s questions. Technology used in notifications systems may include telephone calls, text messaging, loudspeakers, digital displays, desktop alerts and broadcast alerts. The trend in the industry today is to move toward what we call a “system of systems”; one that combines different delivery modes to maximize the effectiveness. Obtaining savings in manpower through the use of emergency communications systems takes effort and planning. Agencies must establish policies and procedures for the use of the mass notifications system. The payoff is not only in time and money savings, but also the knowledge that the system is ready to work when it is truly needed. (Corona & Wimberly, 2009, p. 46-48).

The use of the Internet by government agencies and private sector business to deliver information to the public is not new. However, the use of social media websites is relatively new with Facebook having been established only as recently as 2004 (Facebook, 2010). Many businesses looking to remain relevant in today’s information based environment have created links and pages on social media websites. Online social media marketing is now considered a staple of private sector business reaching potential customers. It is only reasonable that fire departments could and should leverage online social media to better achieve their missions. An online survey of 1,058 respondents by the American Red Cross in August of 2010 revealed that nearly 3 out of 4 people participate in at least one online community or social network with Facebook receiving by far the most usage with 58% participation (American Red Cross, 2010).
Military commanders have also presented social media as a tool to have better situational awareness. Social media also helps military commanders better understand potential threats and emerging trends within their area of responsibility, and assist them providing a “better, more credible, and agile” information source within their areas of responsibilities. The military believes that social media helps them to ensure that all resources within a theatre of operation are sharing the necessary information to work towards a common goal (Mayfield, 2011, p. 79-83).

A recent survey conducted by Public Technology Institute (PTI) asked city and county government IT professionals to what extent they were using social media now and planned to do so in the very near future. Nearly 72% replied that they were using or would be using Twitter; 72% said they were or would be developing their own Facebook page; and 75% are using or beginning to use RSS (really simple syndication) feeds. In addition, a whopping 43% have dabbled with blogs. Since most social media tools are free that make things a bit easier for municipalities in these tough budget times.

This past year such services as Gmail, Twitter and Facebook have experienced service disruptions or have been hacked into. “Free” comes with a price, because there is a cost to staff, train and maintain these sites and their content. Free can also mean there is no recourse for customers when there is a problem or loss of service quality. An individual can’t sue to get their money back when the service is free. Most city and county officials report that their plans for social media include multiple channels and media communications. ENS does not replace Twitter and Facebook, nor do Twitter and Facebook replace their websites or blogs. Finally, there is a question of measurement. How well are the sites performing? The good news is that a number of monitoring services and sites can provide instant access to what people are viewing, texting about, posting, or reading. (Shark, 2010, p. 48-51).
The use of social media is still in its infancy in many emergency management agencies. Public safety officials continue to recognize the benefits of and requirements for responding to new social media tools, as well as the increasing number of people using them. While the use of emergency notification and public information with social media continues to grow, the need for pro-active and clear agency policies regarding the use of social media is clear. Clear policies are necessary to protect both the employee and the employer for the potential negative consequences of poor decision making on behalf of the employee or organization.

Although e-mail is still the number one application, social networking sites, such as Facebook, Youtube, and Twitter have gained hundreds of millions of users worldwide. Youtube has more than 100 million videos—from purely ridiculous to serious training and educational files. The video conferencing, two-way video and free calling service Skype has more than 521 million user accounts. By 2010, Twitter was expected to surpass 50 million users worldwide. Facebook now has more than one billion users.

As prices continue to drop, features and applications have increased, and graphic capabilities, as well as sound and video, have dramatically improved. Wireless penetration in the U.S. has risen to 89%, with nearly 280 million subscribers.

As stated in the 2007 edition of the National Fire Protection Association (NFPA) Emergency Evacuation Guide for people with disabilities, alternative methods of notification need to be put into emergency evacuation plans for people with hearing impairments so they can get all the information they need to evacuate in a timely manner. These same people need this information to ensure they take the right actions in response to any emergency. Mass Notification Systems (MNS) has already become the norm in all Department of Defense facilities where all fire alarm systems now have capability to transmit the sound of a human voice and may serve as
combination fire alarm systems and MNS. Using visual messages on scrolling signboards, television screens, computer screens, and personal devices such as cell phones and pagers offers the only truly viable way to provide content rich information and instructions to the hearing impaired. The message must include the following:

- Information on the hazard and danger
- Guidance on what people should do
- Description of the location of the risk or hazard
- An idea of when they need to act
- The name of the source of the warning – who is giving it

Messaging options should be specific, consistent, certain, clear, and accurate. Clear and available for all types of emergencies to ensure that these same people get the proper information to ensure that they take the right actions in response to any emergency (Moore, 2010, p. 42+).

Research uncovered systems that are successfully being used across the nation for community notification. Depending on the systems, there are costs associated with the implementation and continued maintenance. Other departments or agencies could utilize these systems for their benefit, possibly sharing costs.

This literature review reveals the need for local emergency managers to understand the demographics and culture of their community and have knowledge of the potential risks that their communities are potentially exposed to. In addition, it focused on the criticality that information which is distributed in emergency situations is timely, accurate, and credible. It also focused on the types of notification tools and the various methods to distribute emergency notification information. The dynamic changes in the technology area require the crisis
communication user to stay up to date on the appropriate multi-dimensional technology needed to deliver an effective and quality emergency notification.

**PROCEDURES**

*General Procedures*

The Excelsior Fire District participates in the emergency management system in the South Lake community. The EXFD uses Microsoft 2003 programs and an overall organization network server to record and store all information. The data was queried from the EXFD NFIRS reporting system (Firehouse Enterprise v7.5.59). The summary data from this information is found in Appendix A.

All of the data used in the analysis was manually entered by the EXFD Fire Chief or the Administrative Specialist into Microsoft Excel 2003 for data manipulation. The data was validated for address, including city and fire jurisdiction.

A questionnaire/survey was developed utilizing Survey Monkey on the existing communications efforts from local government in the South Lake area (Appendix B) and was distributed to the local governments in the South Lake area via a local government e-mail distribution list with the Survey Monkey link attached. A total of 10 local governments/local agencies were surveyed and a total of 10 surveys were returned by the agencies (Appendix C).

The gathering of this information has allowed for the analysis of how the South Lake governments/agencies, consumers and distributors of crisis communications, view the current and future needs of crisis communications and provided input to determine the keys areas for development of a crisis communications plan in order to improve the emergency management system of the South Lake area. The survey looked at how agencies receive information on a day to day basis, how agencies send information on a day to day basis, how information is currently
received about a crisis/emergency, and how information is sent about a crisis/emergency as background information. The survey also asked what current communications systems are available to provide crisis/emergency information, what is a reasonable timeline for receiving crisis/emergency information, what is a reasonable timeline for sending crisis/emergency information, what type of information should be disseminated during a crisis/emergency, does the agency currently use social media, and if the agency uses social media, the survey asked for a specific list of the social media utilized.

A questionnaire/survey was developed utilizing Survey Monkey on the existing communications efforts in the South Lake area (Appendix D) and was distributed to the residents and businesses in the South Lake area via a local business and local government e-mail distribution list with the Survey Monkey link attached. A total of 350 residential and business contacts were surveyed and a total of 86 surveys were returned by the residents/businesses (Appendix E).

The gathering of this information has allowed for the analysis of how the South Lake area residents and businesses view the current and future needs of crisis communications and provided input to determine the keys areas for development of a crisis communications plan in order to improve the emergency management system of the South Lake area. The survey looked at where the respondents lived or worked in the South Lake area, if they have a home or business phone, if they have a working mobile or cellular phone, and if they have internet access at home or at the business as background information. The survey also asked if the respondent utilized social media, if social media is utilized - which sites are used, how often social media sites are visited, if the respondent has the capability to receive text messages or e-mails on the cell phone,
if social media sites are accessed on mobile or cell phones, and if the opportunity was offered would the respondent elect to receive crisis/emergency communications messages.

A questionnaire/survey was developed utilizing Survey Monkey on crisis communications plans (Appendix F) and was distributed to the regional emergency management agencies in the area via a regional emergency services e-mail distribution list with the Survey Monkey link attached. A total of 250 emergency management agencies were surveyed and a total of 44 surveys were returned by the regional emergency management agencies (Appendix G).

The gathering of this information has allowed for the analysis of how similar agencies utilize crisis communications plans, what types of communications systems are utilized, and answers the question of benchmarking against similar organizations. The survey looked at population size and who is responsible for emergency management as background information. The survey also asked if the community/agency has a crisis communication plan, what current systems are available to provide crisis/emergency information, if a timeline for disseminating crisis/emergency information exists, what is a reasonable timeline for sending crisis/emergency information, what type of information is disseminated, if social media is currently utilized, and if social media is currently utilized-which sites are used.

The main limitations to the questionnaires were the fact that the population was not selected in a scientific manner. The population in the questionnaires does have a vested interest in the results of the questionnaires. In addition there was no control to keep two or more people from the same organization from completing the surveys and there was no way to verify or validate the information gathered as factual. Therefore, the information has to be accepted at face value and has to be analyzed as is or discarded and not analyzed at all. With these limitations
there is still enough confidence in the information to look at it for improvement in the emergency management system in the South Lake area.

General Limitations

Some of the specific limitations to the study have been identified above. In addition, one of the initial assumptions was that the literature would provide information on current crisis communications plans in other communities and agencies and therefore in-depth observations and collection of similar factors would not be necessary locally. These assumptions present potential limitations to this study, as much of the data in the literature is not scientifically based. Another limitation associated with this study is the fact that much of the analysis used data from 2009, 2010, and 2011 which was not randomly selected and the process used to sort and clean the data may not have identified all sources of errors.

RESULTS

During the period under study, January 1, 2008 – December 31, 2011, the South Lake area experienced a limited number of significant local emergencies and zero disasters. Based on the South Lake area response protocols, the EXFD would respond to any significant local event or disaster. Significant local emergencies included 9 fires, 6 summer severe weather events, and 2 searches/missing person events. There were 0 winter severe weather events or hazardous materials events that occurred in this time period. While EXFD is just one public safety agency in the South Lake area, during this same time period of 2009 – 2011 the EXFD responded to an average of 680 total calls per year (Year in Review, 2011). These significant local emergencies account for .02% of the overall calls for service for the EXFD.

Table 1 summarizes the significant local emergencies or disasters that have occurred in the South Lake communities during the period 2009 – 2011.
Table 1

*Summary of significant local emergencies and disasters in the South Lake community*

<table>
<thead>
<tr>
<th>Event Type</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Natural Disaster – Summer Weather</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Natural Disaster – Winter Weather</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hazardous Materials</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Search / Missing Person</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

The results indicate that residential/commercial fires occur the most frequently. This directly corresponds with the most significant local emergency that the EXFD responds to on an annual basis. The types of significant local emergency or disasters that would require activation of a crisis communication plan occur with little frequency in the South Lake community. Natural disasters and hazardous materials would be the most likely events to utilize the crisis communications plan; however, the frequency is the least in the South Lake community.

Three different questionnaires/surveys were conducted with this research. The first questionnaire/survey was conducted with the government of the South Lake area. A total of 100% of the surveys were returned. However, it is unknown if all agencies were represented or if some agencies had multiple respondents. Background questions in the questionnaire/survey included how the government agency currently receives and sends day to day information, and how the government agency currently receives and sends crisis/emergency information. The summary results are shown in Table 2.
Table 2

**Summary of local government information dissemination**

<table>
<thead>
<tr>
<th>Question</th>
<th>Day to Day Information receive</th>
<th>Day to Day Information send</th>
<th>Crisis Information receive</th>
<th>Crisis Information send</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>5</td>
<td>8</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Cable TV</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Social Media</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Newsletter</td>
<td>3</td>
<td>5</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Face to Face</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Local Media</td>
<td>7</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Don’t Receive</td>
<td>1</td>
<td>N/A</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Don’t send</td>
<td>N/A</td>
<td>0</td>
<td>N/A</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

The results show that on a day to day basis the local media is used most frequently to receive day to day community operations information, while the internet is used most frequently to send day to day community operations information. The respondents indicated that in a crisis/emergency the internet is used most frequently to send and receive the crisis/emergency information. The respondents also indicated that 4 respondents did not send any crisis/emergency information. This data correlates with no current written crisis communication plan for the South Lake area.

The second questionnaire/survey was conducted with the regional emergency management agencies. A total of 25% of the surveys were returned. Background questions in the questionnaire/survey included population of the area served, who is responsible for emergency management and do they currently have a crisis/emergency communications plan. The summary results are shown in Table 3, Table 4 and Table 5.
Table 3

*Summary of regional emergency management agency population served*

<table>
<thead>
<tr>
<th>Question</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5,000</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>5,000 – 10,000</td>
<td>8</td>
<td>18.2</td>
</tr>
<tr>
<td>10,000 – 20,000</td>
<td>6</td>
<td>13.6</td>
</tr>
<tr>
<td>20,000 – 30,000</td>
<td>3</td>
<td>6.8</td>
</tr>
<tr>
<td>30,000 – 40,000</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>40,000 – 50,000</td>
<td>6</td>
<td>13.6</td>
</tr>
<tr>
<td>Greater than 50,000</td>
<td>17</td>
<td>38.6</td>
</tr>
</tbody>
</table>

The results show that 13.6% of the regional emergency management agency respondents surveyed are in the same population category as the South Lake area. 86.4% of the respondents have a population greater than the South Lake area.

Table 4

*Summary of regional emergency management responsibility in the community*

<table>
<thead>
<tr>
<th>Question</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Department</td>
<td>17</td>
<td>38.6</td>
</tr>
<tr>
<td>Police Department</td>
<td>17</td>
<td>38.6</td>
</tr>
<tr>
<td>Public Works</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>City Administration</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Other</td>
<td>9</td>
<td>20.5</td>
</tr>
</tbody>
</table>

The results show that 38.6% of the regional emergency management agency respondents surveyed have the fire department or police department responsible for emergency management in their community. These are the same disciplines responsible for emergency management in the South Lake area.
Table 5

Summary of regional communities that have a crisis/emergency communications plan

<table>
<thead>
<tr>
<th>Question</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>32</td>
<td>74.4</td>
</tr>
<tr>
<td>No</td>
<td>11</td>
<td>25.6</td>
</tr>
</tbody>
</table>

The results show that 74.4% of the regional emergency management agency respondents surveyed currently have a crisis/emergency communications plan. The South Lake area currently would be placed in the 25.6% of the respondents noting that they do not currently have a crisis/emergency communications plan.

The third questionnaire/survey was conducted with the residents/businesses in the South Lake area. A total of 17.6% of the surveys were returned. Background questions in the questionnaire/survey included the community that they live or work in, if they have a home or business phone, if they currently have a working mobile or cellular phone, do they currently have access to internet in their home or business, and if they currently use social networking websites. The summary results are shown in Table 6 and Table 7.

Table 6

Summary of South Lake community lived in or worked in

<table>
<thead>
<tr>
<th>Question</th>
<th>Resident/Business Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deephaven</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td>Excelsior</td>
<td>22</td>
<td>27.2</td>
</tr>
<tr>
<td>Greenwood</td>
<td>3</td>
<td>3.7</td>
</tr>
<tr>
<td>Shorewood</td>
<td>8</td>
<td>9.9</td>
</tr>
<tr>
<td>Tonka Bay</td>
<td>46</td>
<td>56.8</td>
</tr>
</tbody>
</table>
The results show that 56.8% of the respondents were from Tonka Bay, 27.2% of the respondents were from Excelsior, 9.9% of the respondents were from Shorewood, 3.7% of the respondents were from Greenwood and 2.5% of the respondents were from Deephaven.

Table 7

*Summary of South Lake community communications information*

<table>
<thead>
<tr>
<th>Question</th>
<th>Home or Business Phone</th>
<th>Cell Phone</th>
<th>Internet access Home or Business</th>
<th>Social Network Site Use</th>
<th>Text Page Ability on Cell Phone</th>
<th>Social Media Access on Cell Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>77</td>
<td>84</td>
<td>86</td>
<td>59</td>
<td>74</td>
<td>37</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>27</td>
<td>11</td>
<td>49</td>
</tr>
</tbody>
</table>

The results show that 89.5% of the respondents have a home or business phone compared to 10.5% that do not have a home or business phone. 97.7% of the respondents have a cellular or mobile phone compared to 2.3% that do not have a cellular or mobile phone. 100% of the respondents indicated that they have internet access in their home or business. 68.6% of the respondents indicated that they use social networking sites compared to 31.4% that do not use social networking sites. 87.1% of the respondents noted that they have text message capability on their cell phone, compared to 12.9% of the respondents that did not have that capability. 43% of the respondents indicated that they currently access social media on their mobile or cell phone, while 57% of the respondents indicated that they do not access social media on their mobile or cell phone.

Research question one: What type of information should be disseminated during an emergency?
The questionnaires/surveys conducted with the government agencies of the South Lake area and with the regional emergency management agencies utilized questions that would help answer this question.

A total of 100% of the surveys were returned from the local government agencies and a total of 25% of the surveys were returned from the regional emergency management agencies. When evaluating what information local government agencies and regional emergency management agencies disseminate during an emergency the most common component of information disseminated was the event type. Table 8 summarizes the results of the information disseminated during a crisis/emergency.

Table 8

Summary of dissemination information during a crisis/emergency

<table>
<thead>
<tr>
<th>Question</th>
<th>Local Government Response Count</th>
<th>Response Percent</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Type</td>
<td>9</td>
<td>100</td>
<td>41</td>
<td>95.3</td>
</tr>
<tr>
<td>Area Affected</td>
<td>9</td>
<td>100</td>
<td>36</td>
<td>83.7</td>
</tr>
<tr>
<td>Timeline</td>
<td>7</td>
<td>77.8</td>
<td>27</td>
<td>62.8</td>
</tr>
<tr>
<td>Actions to be taken</td>
<td>8</td>
<td>88.9</td>
<td>33</td>
<td>76.7</td>
</tr>
<tr>
<td>Evacuation information</td>
<td>8</td>
<td>88.9</td>
<td>30</td>
<td>69.8</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>14</td>
</tr>
</tbody>
</table>

The results show that 100% of the local government respondents surveyed believe the event type and area affected are important components in emergency communications. 88.9% of the respondents noted that actions to be taken and evacuation information should be disseminated and 77.8% of the respondents feel a timeline is important to be disseminated.

The results show that 95.3% of the regional emergency management agency respondents surveyed stated the event type is an important component in emergency communications. 83.7%
of the respondents stated the area affected is communicated in their communications plan, 76.7% of the respondents stated that the actions to be taken is communicated, 69.8% of the respondents stated that evacuation information is disseminate and 62.8% of the respondents noted that a timeline is shared.

Research question two: What are the socially acceptable timelines for disseminating emergency communications information?

The questionnaires/surveys conducted with the government of South Lake area and with the regional emergency management agencies utilized questions that would help answer this question.

A total of 100% of the surveys were returned from the local government agencies and a total of 25% of the surveys were returned from the regional emergency management agencies. When evaluating the timelines for how local government agencies and regional emergency management agencies disseminate emergency notification information the most frequently utilized time was less than 15 minutes. Table 9 summarizes the results for the dissemination of information by local South Lake agencies and regional emergency management agencies.

Table 9

Summary of timelines for dissemination of information during a crisis/emergency

<table>
<thead>
<tr>
<th>Question</th>
<th>Local Government Response Count</th>
<th>Local Government Response Percent</th>
<th>Regional Response Count</th>
<th>Regional Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 5 minutes</td>
<td>0</td>
<td>0</td>
<td>8</td>
<td>18.6</td>
</tr>
<tr>
<td>Less than 15 minutes</td>
<td>5</td>
<td>50</td>
<td>15</td>
<td>34.9</td>
</tr>
<tr>
<td>Less than 30 minutes</td>
<td>2</td>
<td>20</td>
<td>4</td>
<td>9.3</td>
</tr>
<tr>
<td>Less than 45 minutes</td>
<td>1</td>
<td>10</td>
<td>1</td>
<td>2.3</td>
</tr>
<tr>
<td>Less than 1 hour</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>11.6</td>
</tr>
<tr>
<td>Less than 2 hours</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>20</td>
<td>7</td>
<td>16.3</td>
</tr>
</tbody>
</table>
The results show that 50% of the local government respondents surveyed believe emergency information should be disseminated in less than 15 minutes. 20% of the respondents noted emergency information should be disseminated in less than 30 minutes or had another reply. 10% of the respondents believe emergency information should be disseminated in less than 45 minutes and none of the respondents noted the emergency information should be disseminated in less than 1 or 2 hours.

The results show that 34.9% of the regional emergency management agency respondents surveyed believes emergency information should be disseminated in less than 15 minutes, 18.6% of the respondents noted emergency information should be disseminated in less than 5 minutes, 16.3% of the respondents had an “other” reply (other replies include; depends on the severity of the event, not specified in the plan, weather might have a tighter timeline than a criminal event, faster the better, but circumstances may dictate communication), 11.6% of the respondents believe emergency information should be disseminated in less than 1 hour, 9.3% of the respondents believe emergency information should be disseminated in less than 30 minutes, 7% of the respondents noted emergency information should be disseminated in less than 2 hours and 2.3% of the respondents noted the emergency information should be disseminated in less than 45 minutes.

Research question three: What current communications systems are available in the South Lake area to disseminate emergency communication information?

The questionnaire/survey conducted with the government agencies of the South Lake area utilized questions that would help answer this question. Table 10 summarizes the results for
the communications systems that are available to disseminate emergency information to the local South Lake area.

Table 10

Summary of communications systems available in the South Lake area

<table>
<thead>
<tr>
<th>Question</th>
<th>Local Government Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>9</td>
<td>90</td>
</tr>
<tr>
<td>Reverse 911 system</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Cable TV</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>Social Media</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Newsletter</td>
<td>6</td>
<td>60</td>
</tr>
<tr>
<td>Face to Face</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Local Media</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The results show that 90% of the local government respondents surveyed stated that the internet is available to provide crisis/emergency information, 70% of the respondents stated that social media, face to face, and local media are available to provide crisis/emergency information, 60% of the respondents stated that a newsletter is available to provide crisis/emergency information, 40% of the respondents stated that cable TV is available to provide crisis/emergency information, 10% of the respondents stated that a reverse 911 system is available to provide crisis/emergency information, and none of the respondents stated other methods for crisis/emergency communications.

Research question four: What current communications systems are in use in the regional area to provide emergency communication information?

The questionnaire/survey conducted with the regional emergency management organizations utilized questions that would help answer this question. Table 11 summarizes the
results for the communications systems that are available to disseminate emergency information to in the regional area.

Table 11

Summary of communications systems available in the regional area

<table>
<thead>
<tr>
<th>Question</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>38</td>
<td>86.4</td>
</tr>
<tr>
<td>Reverse 911 system</td>
<td>20</td>
<td>45.5</td>
</tr>
<tr>
<td>Cable TV</td>
<td>35</td>
<td>79.5</td>
</tr>
<tr>
<td>Social Media</td>
<td>30</td>
<td>68.2</td>
</tr>
<tr>
<td>Newsletter</td>
<td>27</td>
<td>61.4</td>
</tr>
<tr>
<td>Face to Face</td>
<td>31</td>
<td>70.5</td>
</tr>
<tr>
<td>Local Media</td>
<td>40</td>
<td>90.9</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>13.6</td>
</tr>
</tbody>
</table>

The results show that 90.9% of the regional emergency management agency respondents surveyed stated that local media is available to provide crisis/emergency information, 86.4% of the respondents stated that the internet is available to provide crisis/emergency information, 79.5% of the respondents stated that cable TV is available to provide crisis/emergency information, 70.5% of the respondents stated that face to face communication is available to provide crisis/emergency information, 68.2% of the respondents stated that social media is available to provide crisis/emergency information, 61.4% of the respondents stated that a newsletter is available to provide crisis/emergency information, 45.5% of the respondents stated that a reverse 911 system is available to provide crisis/emergency information, and 13.6% of the respondents stated other methods were available to provide crisis/emergency communications. “Other” methods include calling patient families directly, “Notify me” on city web site, 800 mhz radios, and “Swift Reach”.
Research question five: What existing social networking resources are available that can be tapped at a cost-effective manner that will aid in distributing information quickly and in an easy format to residents?

The literature review and the questionnaire/survey conducted with the government agencies of the South Lake area utilized questions that would help answer this question. Table 12 summarizes the results for the use of social media by local South Lake area.

Table 12

*Summary of social media use in the South Lake area and regional Area*

<table>
<thead>
<tr>
<th>Question</th>
<th>Local Government Response Count</th>
<th>Response Percent</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>1</td>
<td>11.1</td>
<td>21</td>
<td>48.8</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>88.9</td>
<td>22</td>
<td>51.2</td>
</tr>
</tbody>
</table>

The results show that only 11.1% of the local government agencies surveyed indicated that they currently use social media for crisis/emergency communications, while 48.8% of the regional emergency management agency respondents surveyed stated that they currently use social media for crisis/emergency communications. 88.9% of the local government agencies surveyed noted that they do not currently use social media for crisis/emergency communications, while 51.2% of the regional area respondents stated they do not use social media for crisis/emergency communications. Table 13 indicates the summary results of the various social media used.
Table 13

Summary of social media use in the South Lake area and the regional area

<table>
<thead>
<tr>
<th>Question</th>
<th>Local Government Response Count</th>
<th>Response Percent</th>
<th>Regional Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook</td>
<td>6</td>
<td>75</td>
<td>19</td>
<td>86.4</td>
</tr>
<tr>
<td>Twitter</td>
<td>2</td>
<td>25</td>
<td>14</td>
<td>63.6</td>
</tr>
<tr>
<td>MySpace</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nexile</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Linkedin</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4.5</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>25</td>
<td>5</td>
<td>22.7</td>
</tr>
</tbody>
</table>

The results show that 75% of the South Lake area government agency respondents stated that they currently use Facebook, while 86.4% of the regional emergency management agency respondents surveyed stated that they currently use Facebook. 25% of the South Lake area government agency respondents stated that they currently use Twitter, while 63.6% of the regional area respondents utilize Twitter. 25% of the South Lake area government agency respondents stated that they currently use an “other” social media application, while 22.7% of the regional respondents use an “other” social media application. “Other” social media applications included Nixle, e-mail, In Touch, city connections, Youtube, and the city intranet). None of the South Lake area government agency respondents stated that they currently use Nexile or Linkedin, while 4.5% of the regional respondents use Nexile or Linkedin, and none of the South Lake agencies or regional respondents use MySpace for crisis/emergency communications.

Research question six: Who are the key government stakeholders that would be involved in implementing an emergency communications plan?

The need to involve key stakeholders is a cornerstone to putting in place and maintaining an emergency communications plan. Every community is unique and the stakeholders are unique
in the need to be involved in putting together an emergency communications plan. As previously outlined, effective emergency communication and notification systems require “substantive involvement of stakeholders at the local and national levels” (Dalrymple, 2009). This involvement helps to ensure that alerting, communication, and information systems are designed and structured to meet the expectations and needs of the stakeholders.

In general terms, stakeholders are identified as people with an interest in the program, all the necessary partners, collaborators, those affected by the program and all those that have a shared interest (FEMA, 2011, SM 2-10). Specifically, stakeholders that should be involved in developing a crisis communications plan include:

- Elected officials (city councils, joint powers boards)
- Appointed officials (Administrators/manager, public works directors, communications staff)
- Public safety officials (fire administration, police administration)
- Public health officials
- Public utility officials
- School district officials
- Business owners and employers within the community
- South Lake area residents

The benefits of involving the previously listed stakeholders will create a sense of ownership in the crisis communications plan and provide a wide variety of participants for the purpose of planning, organizing, and implementing a crisis communications plan for the South Lake area. In order to best meet the needs of the residents and businesses in the South Lake area
and better protect the stakeholders, it is imperative that all who have a shared interest are represented in the process.

Research question seven: How can the Excelsior Fire District and the associated emergency management professionals provide more effective notification to the residents during an emergency situation?

The Excelsior Fire District and the emergency management professionals in the South Lake area utilize different means to notify residents and businesses of emergency situations. However, as previously outlined, in the background and significance section of this document there is not a defined crisis communications plan. The need to involve key stakeholders and develop a multi-media and redundant crisis communications plan that utilizes current technology and has the ability to expand in the future to new technology and newly identified crisis communications pathways is important. Utilizing multi-dimensional technology to meet the needs to the business and residential community is critical. 88.4% of the respondents to the resident/business survey indicated that they would elect to receive important crisis/emergency communications via their social networking page or a text message on their mobile device for emergency notifications in times of a crisis or disaster such as a tornado, winter storm, electric emergency, fire, or criminal problem. The results are noted below in Table 14.

Table 14

<table>
<thead>
<tr>
<th>Question</th>
<th>Resident/Business Response Count</th>
<th>Response Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>76</td>
<td>88.4</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>11.6</td>
</tr>
</tbody>
</table>
The results show that 88.4% of the South Lake area residents/business respondents would
elect to receive crisis/emergency notification information via their social networking page, or
mobile device in times of crisis or disaster. 11.6% of the South Lake area residents/business
respondents would not elect to receive crisis/emergency notification information via their social
networking page, or mobile device in times of crisis or disaster.

As defined in the literature, the utilization of mass notification devices such as the
Reverse 911™ system could provide enhanced crisis communications and enhance the health
and safety protection of the residents. Use of cost effective media such as social network sites is
also an important component to a well rounded and effective crisis communications plan. The
use of non-traditional communications such as temporary or permanent electronic sign boards,
pre-disaster training, and community posting locations should also continue to be considered. In
my meetings with the city administrators/mangers and police chief’s they have reinforced the
need for a multi-level approach to crisis communication and alert (personal communication,
January 18, 2012).

It is critical that the South Lake area have a more effective notification system in place
during significant local emergencies or disasters. This system must include a variety of ways to
disseminate information which will provide redundancy should one or more of the other
dissemination devices fail. It is also notable that the residents and businesses utilize many
different communications devices to send and receive day to day information and
crisis/emergency information. The increasing use of cell phones, text messaging, e-mail, internet
and social media networks, are important components to an effective long term crisis
communications plan. These various communications methods allow the opportunity to
communicate at cost effective means with different demographics of the South Lake area. The Excelsior Fire District and area emergency management officials must also continue to examine and update traditional communication methods such as local media, radio, television, and newsletters. Local preparedness efforts, including pre-disaster education, to improve notification methods is important. There is significant room for improvement in the South Lake area.

**DISCUSSION**

The primary purpose of this research was to identify the issues involved with communicating emergency information to the residents of the South Lake area communities. The literature review, interviews, and questionnaires/surveys clearly reveal that crisis communications during times of a significant local emergency or disasters is a significant challenge for both emergency officials and the public that we serve (Arnold, 2006). According to the public safety officials and the general public in the Massachusetts area, the ice storms of December, 2008, in central Massachusetts, information dissemination was lacking and needed improvement (Pauley, 2011). The literature review clearly articulates the critical nature of accurate and timely information distribution in times of significant local emergency or disaster. The literature review and research also suggest that a multi-faceted crisis communications plan is important in order to communicate as effectively as possible.

It is essential that the public have confidence in the public safety officials and emergency responders, particularly in times of crisis. This confidence translates into the credibility of the response agency and will have positive effects on the short term emergency response and the subsequent long term recovery efforts (Thorburn, 2011). In these challenging economic times, decision making for these types of notification services is tough.
The South Lake area is not immune from significant local emergencies or disasters. It is clearly not “if”, but “when” the next crisis will occur. It is clear from the hazard analysis that natural disasters, hazardous materials events, fires, crashes, water emergencies, utility disruption, school violence, and terrorism events could occur. Although the frequency is not high for these events, the severity is high when they do occur. Having an effective multi-media crisis communications plan that utilizes redundant systems to provide timely crisis information to residents and businesses is critical to protect the health and safety of the community.

The South Lake area currently has three methods for disseminating emergency information in crisis situations; those being the local media, outdoor warning sirens, and door to door contact. Although these methods are available and other methods may be considered, there is no written crisis communication plan for significant local emergencies or disasters for the communities within the South Lake area.

As has been repeated throughout this document the need for a multi-faceted and redundant approach to the issues of communication is absolutely required (Thorburn, 2011). This redundancy applies to both the overall communication plan and the actual telephone notification system itself (Stuver, Keene, and Carlisle, 2004). The crisis communication plan also needs to meet the current technology demands. Based on the emergency response variability, this researcher believes a communications plan needs to have adaptability and flexibility with the audience and the event. Based on the information obtained from the literature review and the corresponding information obtained in the surveys, the need to use mobile technology such as cell phones, text messaging, and social media is critical to a successful crisis communications plan.
With respect to the types of emergency notification methods used in similar sized communities, there are a number of options that emergency management officials can choose from. These methods range from robust, highly technical telephone notification systems (such as CodeRed™, Reverse 911™, etc.), to the previously mentioned door to door canvas of neighborhoods. As a result of this research, it is reasonable to conclude that in order for an emergency notification plan to be pro-active and truly effective, it must include the modern technology and a multiple pathway approach so that recipients can receive time sensitive and accurate information through a variety of means including land line phone, cell phone, e-mail, and internet (Stuver, 2011). The use of social media is an important consideration in today’s society when writing a crisis communications plan. According to the literature review and the questionnaires/surveys, Facebook, and Twitter are used most frequently and provide important and timely information.

Emergency management officials also cannot underestimate the need for and value of, the older and more traditional methods of emergency notification, inclusive of outdoor warning sirens, door to door contacts, informational brochures, newsletters, and public address on emergency vehicles (Armstrong, 2006).

The need for stakeholder involvement in putting together a crisis communications plan can not be overstated. There must be substantive involvement of stakeholders at the local and national levels (Dalrymple, 2009). Further, it is more beneficial to develop relationships with stakeholders before a disaster occurred rather than during it (National Center for Food Protection and Disease, 2004). The need for stakeholder involvement in the development of a crisis communications plan and the consideration of the various components in the notification system is paramount. Everyone at the local and regional level needs to work together collectively,
towards the common goal of solving the problem. The stakeholders in the South Lake area are identified as elected and appointed officials, public safety officials, school officials, residents and business owners in the communities.

This research confirms the fact that those who are responsible for releasing emergency information, such as emergency managers, must be well versed in all aspects of disaster preparedness and management.

The Excelsior Fire District and the South Lake area have an excellent opportunity to provide more effective emergency notification as a result of the findings in this research. As a result of the findings in this research, this researcher has a better and more in depth understanding as to the methods of enhanced emergency notification. One of the first actions will be to seek additional information from the regional emergency management professionals on various components to a notification system including the use of social media. Accordingly, this researcher will be seeking information from some of the emergency notification companies identified in this paper as to the services they provide. The researcher will seek information on redundancy, quality assurance, options, costs of service, etc. for possible implementation in the South Lake area.

Further, outreach will be made with the manager of the local cable access television station, to record and televise pre-emergency disaster preparedness information. In addition, more effective notification will attempt to be achieved through the use of the South Lake communities’ web pages.

The implications for the South Lake area with respect to this study are very apparent. This project identified issues and challenges involved with communicating emergency information to the South lake area residents and businesses. In addition, through research several
possible solutions to these issues and challenges have been identified. In order to maintain its credibility as a competent emergency response agency the Excelsior Fire District and the South Lake area must act on these issues and challenges, implementing the changes and improvements that are needed (Ward, 2003). The South Lake area has an obligation to provide high quality emergency communications to residents and businesses in the South Lake area. Failure to do so will have a negative impact on the professionalism and credibility of the emergency management organization.

Public Safety agencies and 9-1-1 centers no longer just react to emergencies; they are now the voice of warning situations like the California wildfires. They must alert residents in harm’s way, provide safety instructions, and communicate with them before, during, and after a crisis unfolds. This was never more evident than when the San Diego County Sheriff’s Department (SDCSD) used proactive communications to uphold public safety (Fuller, 2011).

The literature and research suggested that there are many technical factors in emergency notification. The research suggests that the issue of crisis communications is not just about equipment, but also about people. Their individual values, individual perceptions, individual technology capabilities, and individual technology comfort. The literature often speculated that there were substantial human or behavioral components to the emergency notification process. Behavioral components appear to have a substantial affect on emergency notification. A formal campaign to increase crisis communications can be initiated that focuses on behavioral factors. As stated by Heifetz and Linsky (2002), this campaign will look very different than addressing technical aspects and should establish a clear understanding of expectations, a focus on key elements that motivate individual performance, and effective reward system, and continual
evaluation (Ivancevich & Matterson, 1999). If we can’t change our own personal attitudes, then organizational attitudes and behaviors will never progressively change. (Miller, 2010, p. 82)

The Excelsior Fire District and South Lake area struggle with the same issues as other communities in the areas of crisis communication. Other municipalities are seeking strategies to deal with crisis communication in times of local emergencies or disasters.

The research suggests that having a crisis communications plan that is multi-dimensional and redundant is critical to the health and safety of the community. Currently the South Lake area operates under an effective Emergency Operations Plan; however, there is not a defined crisis communications plan. Additionally, there is a lack of emergency notification equipment for utilization in the South Lake area.

By utilizing customer input and stakeholder involvement to develop a crisis communications plan and enhance the overall emergency notification system in the South Lake area, goals and objectives can be developed to improve the quality of service that EXFD and the overall communities within the South Lake area provides for its citizens, thus helping EXFD meet the U.S. Fire Administration’s Operations Objective of appropriately responding in a timely manner to emergent issues.

**RECOMMENDATIONS**

The research provided valuable information to the South Lake area. For the most part it affirmed assumptions that our current crisis communications methods are lacking and need further development. From the research obtained, it is apparent that we were able to ascertain resident and business feedback indicating that the South Lake area needs to improve its emergency notification system so that the general public is better informed during disasters or
significant local emergencies. Based on this research the following recommendations can be made.

1) *Develop a multi-media crisis communications plan.* The ability to evaluate and develop a significant local emergency and crisis communications plan is important for the day to day emergency management system as well for overall emergency management system improvements. Additionally, continuous feedback from the customers should be conducted with the goal of constant improvement in the overall emergency management system with a specific goal to effectively disseminate information to residents and businesses of the South Lake area during times of disaster or significant local emergency. This project should be coordinated by the Lake Area Emergency Management planning group.

2) *The crisis communications plan must be redundant and utilize multi-media efforts.* In this age of instant communications and advancing technology, the plan must include provisions to utilize technology with local government, local media, social media, text messaging, and other web-based technology. The South Lake communities should also consider the use of specialized local communication needs and opportunities such as community meeting locations, specialized business contacts, community contact points, print media, and social media sources. This project should be led by the South Lake area emergency management directors.

3) *Utilize local cable access television for the dissemination of emergency information during pre-disaster times and in times of significant local emergency or disaster.* Engage the Lake Minnetonka Communications Commission (LMCC) to clearly articulate the desired emergency management goal of providing pre-disaster communications and
education along with timely crisis communications to the residents and businesses of the South Lake area during times of significant local emergency or disaster. The EXFD Fire Inspector is already working with the LMCC on current fire prevention efforts. Therefore, the EXFD Fire Inspector should lead this effort.

4) **Utilize a phone messaging system to contact residents and businesses in times of significant local emergency and disaster for dissemination of emergency information.**

Engage the Hennepin County Emergency Management department to clearly articulate the desired emergency management goal of providing timely crisis communications to the residents and businesses of the South Lake area during times of disaster or significant local emergency. An effective system should be regional and must include a provision for cellular, mobile, texting, and email applications. The EXFD Fire Chief is already engaged with the Hennepin County Emergency Management strategy council on overall county emergency management efforts; therefore, the EXFD Fire Chief should lead this effort.

5) **Utilize Social Media as a key component to the Crisis Communications plan.** Develop a partnership with local schools and local public information officers in order to clearly articulate the use of social media in the South Lake area. Develop social media sites specific to South Lake communities for use in day to day operations and in times of significant local emergency or disaster. Create operating policies and procedures in order to protect the employees and organizations while using social media sites. This project should be led by the South Lake area emergency management directors.

6) **Utilize the South Lake communities web sites to include pre-disaster information and other emergency preparedness information as well as significant local emergency and disaster communications.** According to the survey results, 100% of the respondents
indicated that the South Lake area residents and businesses have internet access. This access should be utilized to provide pre-event emergency preparedness information and to provide timely updates in times of significant local emergency or disaster. This project should be led by the South Lake area emergency management directors.

7) *Develop education efforts for residents and businesses for crisis communications planning.* The residents and businesses within the South Lake area are not under the direct management of EXFD or any other local government agency. Informing and educating the public will be vital to gaining stakeholder buy-in and making the crisis communications plan successful. Developing a long term education plan to include emergency and disaster preparedness for the residents and businesses for crisis communications. This education plan should aim to assist in identifying obstacles to the crisis communications process and providing recommendations for improvement is critical to mitigation, preparedness, response, and recovery. This may best be accomplished by utilizing the existing work groups through the South Lake Chamber and local emergency planning groups. The EXFD Fire Inspector and the South Lake Minnetonka Police Department Community Service Supervisor are already working with residents and local businesses on other community prevention activities. Therefore, the EXFD Fire Inspector and the South Lake Minnetonka Police Department Community Service Supervisor should lead these efforts.
REFERENCES


Moore, W.D. (2010). Emergency mass notification and fire alarm systems for all: both the hearing and those who are hearing impaired must receive the same message, and it must be specific, consistent, certain, clear, and accurate. *Occupational Health & Safety, 79*(9), 42+.


## Appendix A

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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</thead>
<tbody>
<tr>
<td>Fire</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Natural Disaster – Summer Weather</td>
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<td>3</td>
<td>3</td>
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<tr>
<td>Natural Disaster – Winter Weather</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Hazardous Materials</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Search / Missing Person</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>5</strong></td>
<td><strong>6</strong></td>
<td><strong>6</strong></td>
</tr>
</tbody>
</table>
Appendix B

Excelsior Fire District Resident/Business Community Crisis Communications Survey

The Excelsior Fire District is conducting a survey of our community to determine how we can improve communications in times of crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.). We are looking for data from our “residents and business community” to help us better identify strengths and weaknesses. Please find the link to the survey for completion if you desire. You can complete the attached survey on line at the link noted below. The responses you provide in survey monkey area anonymous. Additionally, the data provided will be used in an Applied Research Project for the Executive Fire Officer program at the National Fire Academy in Emmitsburg, Maryland.

Please feel free to contact me directly at 952-960-1650 or sgerber@excelsiorfire.org if you have any questions or concerns.
Scott Gerber, Fire Chief

1. What South Lake Community do you live or work in?
   □ Deephaven
   □ Excelsior
   □ Greenwood
   □ Shorewood
   □ Tonka Bay
   □ Other (please specify)

2. Do you have a home or business phone?
   □ Yes
   □ No

3. Do you currently have a working mobile or cell phone?
   □ Yes, I do
   □ No, I do not

4. Do you currently have internet access in your home or business?
   □ Yes
   □ No

5. Do you currently use social networking websites?
   □ Yes
   □ No

6. If you use social networking, which sites do you use? Please check all that apply
   □ Facebook
   □ MySpace
   □ Twitter
   □ Nexile
   □ Linkedin
   □ Other – please specify
7. How often do you visit social networking websites?
   - Extremely often
   - Very often
   - Moderately often
   - Slightly often
   - Not at all often

8. Do you have the capability to receive text messages or emails on your cell phones?
   - Yes
   - No

9. Do you currently access social media on your mobile or cell phone?
   - Yes
   - No

10. If offered the opportunity, would you elect to receive important crisis/emergency communications via your social networking page or your mobile device for emergency notification in times of disaster (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
    - Yes
    - No
Appendix C

Excelsior Fire District Resident/Business Community Crisis Communications Survey Results

<table>
<thead>
<tr>
<th>Number of Surveys Distributed</th>
<th>350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Surveys Returned</td>
<td>86</td>
</tr>
</tbody>
</table>

1. What South Lake Community do you live or work in?
   - □ Deephaven 2
   - □ Excelsior 22
   - □ Greenwood 3
   - □ Shorewood 8
   - □ Tonka Bay 46
   - □ Other (please specify) 4
     - Shorewood home
     - Schools in a few of the cities
     - Minneapolis
     - Chanhassen – right by Shorewood/Excelsior

2. Do you have a home or business phone?
   - □ Yes 77
   - □ No 9

3. Do you currently have a working mobile or cell phone?
   - □ Yes, I do 84
   - □ No, I do not 2

4. Do you currently have internet access in your home or business?
   - □ Yes 86
   - □ No 0

5. Do you currently use social networking websites?
   - □ Yes 59
   - □ No 27

6. If you use social networking, which sites do you use? Please check all that apply
   - □ Facebook 59
   - □ MySpace 0
   - □ Twitter 11
   - □ Nexile 0
   - □ Linkedin 35
   - □ Other – please specify 3
     - There may be others, you can see them all on our website
     - Have but don’t use much
     - I don’t personally have the capability, but others would be able to get mobile alerts
7. How often do you visit social networking websites?
   □ Extremely often 2
   □ Very often 7
   □ Moderately often 25
   □ Slightly often 22
   □ Not at all often 22

8. Do you have the capability to receive text messages or emails on your cell phones?
   □ Yes 74
   □ No 11

9. Do you currently access social media on your mobile or cell phone?
   □ Yes 37
   □ No 49

10. If offered the opportunity, would you elect to receive important crisis/emergency communications via your social networking page or your mobile device for emergency notification in times of disaster (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
    □ Yes 76
    □ No 10
Appendix D

Excelsior Fire District Local Government Community Crisis Communications Survey

The Excelsior Fire District is conducting a survey of our community to determine how we can improve communications in times of crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.). We are looking for data from our “government and non-profit” to help us better identify strengths and weaknesses. Please find the link to the survey for completion if you desire. You can complete the attached survey on line at the link noted below. The responses you provide in survey monkey area anonymous. Additionally, the data provided will be used in an Applied Research Project for the Executive Fire Officer program at the National Fire Academy in Emmitsburg, Maryland.

Please feel free to contact me directly at 952-960-1650 or sgerber@excelsiorfire.org if you have any questions or concerns.
Scott Gerber, Fire Chief

1. How do you currently receive information about day to day operations of the south lake communities or other south lake agencies on a normal basis?
   - Internet
   - Cable TV
   - Social Media
   - Newsletter
   - Face to Face
   - Local Media
   - I do not receive information
   - Other (please specify)

2. How do you currently send information about day to day operations of the south lake communities or other south lake agencies on a normal basis?
   - Internet
   - Cable TV
   - Social Media
   - Newsletter
   - Face to Face
   - Local Media
   - I do not receive information
   - Other (please specify)

3. How do you currently receive information about crisis/emergency incidents (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) occurring in the south lake communities?
   - Internet
   - Cable TV
   - Social Media
   - Newsletter
   - Face to Face
4. How do you currently send information about crisis/emergency incidents (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) occurring in the south lake communities?

- Internet
- Cable TV
- Social Media
- Newsletter
- Face to Face
- Local Media
- I do not receive information
- Other (please specify)

5. What current communications systems are available to provide crisis/emergency information to the community?

- Internet
- Reverse 911 System
- Cable TV
- Social Media
- Newsletter
- Face to Face
- Local Media
- Other (please specify)

6. What is a reasonable timeline for receiving crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?

- Less than 5 minutes
- Less than 15 minutes
- Less than 30 minutes
- Less than 45 minutes
- Less than 1 hour
- Less than 2 hours
- Other (please specify)

7. What is a reasonable timeline for sending crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?

- Less than 5 minutes
- Less than 15 minutes
- Less than 30 minutes
- Less than 45 minutes
- Less than 1 hour
- Less than 2 hours
- Other (please specify)
8. What type of information should be disseminated during a crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
   □ Event type
   □ Area affected
   □ Timeline
   □ Actions to be taken
   □ Evacuation information
   □ Other (please specify)

9. Do you currently use social media (e.g., Facebook, Twitter, etc.) for receiving crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) communications?
   □ Yes
   □ No

10. If you would use social media for crisis/emergency communications, please list which social media you utilize?
    □ Facebook
    □ Twitter
    □ MySpace
    □ Nexile
    □ Linkedin
    □ Other – please specify
Appendix E

Excelsior Fire District Local Government Community Crisis Communications Survey Results

<table>
<thead>
<tr>
<th>Number of Surveys Distributed</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Surveys Returned</td>
<td>10</td>
</tr>
</tbody>
</table>

1. How do you currently receive information about day to day operations of the south lake communities or other south lake agencies on a normal basis?
   - [ ] Internet      5
   - [ ] Cable TV     1
   - [ ] Social Media  2
   - [ ] Newsletter   3
   - [ ] Face to Face  6
   - [ ] Local Media  7
   - [ ] I do not receive information 1
   - [ ] Other (please specify)   2
      • Email
      • Email, phone call

2. How do you currently send information about day to day operations of the south lake communities or other south lake agencies on a normal basis?
   - [ ] Internet      8
   - [ ] Cable TV     1
   - [ ] Social Media  3
   - [ ] Newsletter   5
   - [ ] Face to Face  5
   - [ ] Local Media  4
   - [ ] I do not receive information 0
   - [ ] Other (please specify)   2
      • Email
      • Email

3. How do you currently receive information about crisis/emergency incidents (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) occurring in the south lake communities?
   - [ ] Internet      8
   - [ ] Cable TV     6
   - [ ] Social Media  0
   - [ ] Newsletter   0
   - [ ] Face to Face  4
   - [ ] Local Media  5
   - [ ] I do not receive information 0
   - [ ] Other (please specify)   2
      • Weather radio

• Email
• Email, phone call
• Email, phone call

4. How do you currently send information about crisis/emergency incidents (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) occurring in the south lake communities?

- Internet 6
- Cable TV 3
- Social Media 4
- Newsletter 2
- Face to Face 4
- Local Media 3
- I do not receive information 4
- Other (please specify) 0

5. What current communications systems are available to provide crisis/emergency information to the community?

- Internet 9
- Reverse 911 System 1
- Cable TV 4
- Social Media 7
- Newsletter 6
- Face to Face 7
- Local Media 7
- Other (please specify) 0

6. What is a reasonable timeline for receiving crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?

- Less than 5 minutes 1
- Less than 15 minutes 5
- Less than 30 minutes 2
- Less than 45 minutes 0
- Less than 1 hour 0
- Less than 2 hours 0
- Other (please specify) 2

- Depends on emergency: tornado, fire immediate
- Varies, depends on the emergency

7. What is a reasonable timeline for sending crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?

- Less than 5 minutes 0
- Less than 15 minutes 5
- Less than 30 minutes 2
- Less than 45 minutes 1
- Less than 1 hour 0
- Less than 2 hours 0
- Other (please specify) 2
• Depends on emergency: tornado, fire immediate
• Varies, depends on the emergency

8. What type of information should be disseminated during a crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
   □ Event type  9
   □ Area affected  9
   □ Timeline  7
   □ Actions to be taken  8
   □ Evacuation information
   □ Other (please specify)  0

9. Do you currently use social media (e.g., Facebook, Twitter, etc.) for receiving crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) communications?
   □ Yes  1
   □ No  8

10. If you would use social media for crisis/emergency communications, please list which social media you utilize?
    □ Facebook  6
    □ Twitter  2
    □ MySpace  0
    □ Nexile  0
    □ Linkedin  0
    □ Other – please specify  2
       • none
       • email
Appendix F

Excelsior Fire District Regional Crisis Communications Survey

The following questions will provide a basis for analyzing issues involved with communicating crisis / emergency information to residents of the South Lake communities. As part of my Executive Fire Officer program, I am conducting research on crisis communications in emergency management. Your responses to these questions will be very beneficial to that effort, as well as provide future guidance and direction to the organization. Your answers to the questionnaire are anonymous and the data provided will be used in an Applied Research Project for the Executive Fire Officer program at the National Fire Academy in Emmitsburg, Maryland.

Thanks you for taking the time and the effort to complete the survey and thanks for providing honest feedback.

Please feel free to contact me directly at 952-960-1650 or sgerber@excelsiorfire.org if you have any questions or concerns.

Scott Gerber, Fire Chief

1. What is the population of the area you serve?
   - □ Less than 5,000
   - □ 5,000 – 10,000
   - □ 10,000 – 20,000
   - □ 20,000 – 30,000
   - □ 30,000 – 40,000
   - □ 40,000 – 50,000
   - □ Greater than 50,000

2. Who is responsible for emergency management in your community?
   - □ Fire Department
   - □ Police Department
   - □ Public Works
   - □ City Administration
   - □ Other (please specify)

3. Do you have a crisis/emergency communications plan?
   - □ Yes
   - □ No

3. What current communications systems are available to provide crisis/emergency information to your community?
   - □ Internet
   - □ Reverse 911 System
   - □ Cable TV
   - □ Social Media
   - □ Newsletter
   - □ Face to Face
   - □ Local Media
   - □ Other (please specify)
5.  Do you have a timeline for disseminating crisis/emergency information?
   □ Yes, if yes please provide the standard or a description of the standard
   □ No

6.  What is a reasonable timeline for sending crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?
   □ Less than 5 minutes
   □ Less than 15 minutes
   □ Less than 30 minutes
   □ Less than 45 minutes
   □ Less than 1 hour
   □ Less than 2 hours
   □ Other (please specify)

7.  What type of information is disseminated during a crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
   □ Event type
   □ Area affected
   □ Timeline
   □ Actions to be taken
   □ Evacuation information
   □ Other (please specify)

8.  Do you currently use Social Media for crisis/emergency communications?
   □ Yes
   □ No

9.  If yes, please indicate which social media site(s) you utilize?
   □ Facebook
   □ Twitter
   □ MySpace
   □ Nexile
   □ Linkedin
   □ Other – please specify
Excelsior Fire District Regional Crisis Communications Survey Results

Number of Surveys Distributed: 250
Number of Surveys Returned: 44

1. What is the population of the area you serve?
   - Less than 5,000: 2
   - 5,000 – 10,000: 8
   - 10,000 – 20,000: 6
   - 20,000 – 30,000: 3
   - 30,000 – 40,000: 2
   - 40,000 – 50,000: 6
   - Greater than 50,000: 17

2. Who is responsible for emergency management in your community?
   - Fire Department: 17
   - Police Department: 17
   - Public Works: 0
   - City Administration: 1
   - Other (please specify):
     - All of the above, county EM and local EM
     - Multiple cities served, we have an internal EM
     - City Administrator and Police Chief and Fire Chief
     - Public Safety Director – Emergency Services Commander
     - I'm answering for Maple Grove Hospital Specifically. Emergency Management Coordinator
     - Police, Fire, EMS, Hospitals
     - Deputy Fire Marshal
     - County Emergency Management with Metro Coordination
     - Emergency Management

3. Do you have a crisis/emergency communications plan?
   - Yes: 32
   - No: 11

4. What current communications systems are available to provide crisis/emergency information to your community?
   - Internet: 38
   - Reverse 911 System: 20
   - Cable TV: 35
   - Social Media: 30
   - Newsletter: 27
   - Face to Face: 31
   - Local Media: 40
5. Do you have a timeline for disseminating crisis/emergency information?
   □ Yes, 5
   if yes please provide the standard
   or a description of the standard
   □ No 37

6. What is a reasonable timeline for sending crisis/emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.) information?
   □ Less than 5 minutes 8
   □ Less than 15 minutes 15
   □ Less than 30 minutes 4
   □ Less than 45 minutes 1
   □ Less than 1 hour 5
   □ Less than 2 hours 3
   □ Other (please specify) 7
   • Depends on the severity of the event
   • Not specified in our plan
   • Not our responsibility / No defined standard
   • A tornado warning has a tighter time line than a criminal communication. Weather – 15 minutes. Criminal – 2 hours.
   • Not sure
   • That is hard to specifically answer. Ideally the faster the better, but there may be a variety of circumstances that prohibit immediate communication.
   • Weather related/initial information prior to event. Others as soon after initial incident assessment has been completed i.e. damage/impact.

7. What type of information is disseminated during a crisis /emergency (i.e. tornado, winter storm, electric emergency, fire, criminal problem, etc.)?
   □ Event type 41
   □ Area affected 36
   □ Timeline 27
   □ Actions to be taken 33
   □ Evacuation information 30
   □ Other (please specify) 6
   • Any information that our staff or patient families would need
• Reporting area in case everything is gone, Fire station, neighbors fire station? Etc.
• Not our responsibility / No defined standard
• We are not presently doing this
• Also depends on which group(s) this is going to. You can be more detailed with your command and general staff for ICS.
• Appropriate caution notes related to the event

8. Do you currently use Social Media for crisis/emergency communications?
   □ Yes 21
   □ No 22

9. If yes, please indicate which social media site(s) you utilize?
   □ Facebook 19
   □ Twitter 14
   □ MySpace 0
   □ Nexile 1
   □ Linkedin 1
   □ Other – please specify 5
     • Nixle and email systems
     • InTouch
     • City Connections…
     • Our intranet and internet sites
     • U Tube